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The

Official Year Book

of

New South Wales.

1912.



J. B. TRIVETT.

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Bureau of Statistics,
Sydney,

Sir,

I have the honor to forward the attached publication, which has just been issued by me, and of which I ask your acceptance.

Kindly sign and return the annexed form, on receipt of which your name will be duly noted in respect of future issues.

I am,

Sir,

Your obedient Servant,

JOHN B. TRIVETT,

Government Statistician,

THE
OFFICIAL YEAR BOOK
OF
NEW SOUTH WALES.
1912.



JOHN B. TRIVETT, F.R.A.S., F.S.S.,
GOVERNMENT STATISTICIAN.

PUBLISHED BY AUTHORITY OF THE GOVERNMENT OF
NEW SOUTH WALES.

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1913.

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PREFACE.

THE contents of this volume have been published already in the form of periodic chapters, which have been issued as they became available from the printer, in order to render them of immediate service to the public.

Great delay has occurred in the publication of the various parts, on account of the congestion experienced by the Government Printer through enormous increase of work in his Department.

As in previous years, the text includes the latest information concerning all the activities of the State, together with full notes as to changes in legislation. Consequently the legislator, the student, or the ordinary reader, will have at his disposal the most recent records relating to the State of New South Wales on all matters of public interest.

Special attention has been given to the chapters on "Social Condition" and "Employment and Industrial Arbitration"; so that much additional and interesting matter has been prepared on these subjects, which are of especial import to a large proportion of the community.

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

The "Monthly Statistical Bulletin" also is issued from this Bureau, and provides the latest available statistics, each month, upon the more important subjects of general interest.

Bureau of Statistics,
Sydney, 24th July, 1913.

JOHN B. TRIVETT,
Government Statistician.

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CHRONOLOGICAL TABLE

OF

Events in the History of British Settlement in New South Wales (Australia).

- 1770 Captain Cook landed at Botany Bay, 28th April, 1770.
- 1774 Discovery of Norfolk Island by Captain Cook.
- 1788 "First Fleet" arrived in Botany Bay, 18th-20th January; formal possession taken of Sydney Cove, Port Jackson, 26th January; 1,035 persons debarked—Divine Service performed by Rev. Richard Johnson, Chaplain of the Colony, 27th January—Governor Phillip formally proclaimed the Colony, 7th February—Norfolk Island established as a dependency—La Perouse visited Botany Bay—Earthquake shocks—Lord Howe Island discovered by Lieutenant Ball—First settlement at Rose Hill (afterwards Parramatta)—Observatory established at Dawes' Point—First Criminal Court—First cultivation of Wheat and Barley—Settlers asked for by Governor Phillip—Pittwater, Brisbane Water, Hawkesbury River discovered.
- 1789 Hawkesbury River explored—First harvest (maize) reaped at Parramatta—Hurricane at Norfolk Island—Disease (small-pox) among aborigines—Nepean River discovered—First colonial-built boat, "Rose Hill Packet," launched.
- 1790 Second Fleet arrived with New South Wales Corps, Lieutenant John Macarthur (Founder of sheep-breeding in Australia)—"Sirius" lost at Norfolk Island—First brick store erected—Scarcity of provisions—Signal Station established at South Head, Port Jackson—Population of Colony, 1,713; of Norfolk Island, 524.
- 1791 Lieut.-Governor King brought Territorial Seal and Royal Authority to grant pardons—First store at Rose Hill, now Parramatta—Settlements at Prospect Hill and The Ponds—Third Fleet arrived—Corps of Marines relieved by New South Wales Corps—Whaling and sealing first colonial industries—First grants of land to settlers—First grape vines planted.
- 1792 Governor Phillip resigned—First Foreign Trading Vessel "Philadelphia" arrived—Population of Colony, 3,077.
- 1792-5 Military administration by Major Grose and Captain Paterson pending appointment of Governor.
- 1793 First free immigrants arrived in the "Bellona" and settled at Liberty Plains, afterwards migrating to Hawkesbury River—Exploration of Blue Mountains attempted—First surplus of 1,200 bushels maize sold by settlers to Government at 5s. per bushel—First place of public worship built in Sydney.
- 1794 Hawkesbury River settlements—Lieut.-Governor Grose left for England.
- 1795 Hawkesbury River agricultural settlements flooded—Governor Hunter arrived—First printing press erected—Strayed cattle found at Cow Pastures, Nepean River—Serious damage to crops by hailstorms—First important civil action at law.
- 1796 Port Hacking explored by Bass and Flinders—Duck River Bridge built—First theatre opened—Bass tried to cross Blue Mountains—Coal found at Port Stephens—Population of Colony, 4,016—First school opened at Parramatta.

- 1797 Coal discovered at Illawarra and Coal (Hunter) River—Bass discovered Twofold Bay, Bass Strait, Western Port, &c.—Merino sheep brought from Cape of Good Hope—Tuggerah Lakes discovered—Granary at Sydney completed—Conflict with blacks at Parramatta.
- 1798 Town Clock set up—First Church (Rev. Richard Johnson's) burned down—Severe hailstorms—Insularity of Van Diemen's Land (Tasmania) established by Bass and Flinders—First drought recorded—Churches founded, St. John's, Parramatta, and St. Phillip's, Sydney.
- 1799 Bass and Flinders returned from Van Diemen's Land—Flinders explored North Coast—Wilson reached Lachlan River—Hawkesbury floods—Two whaling ships arrived in Port Jackson with a Spanish prize vessel which they had captured off coast of Peru—Population of Colony, 5,088.
- 1800 Governor Hunter recalled; superseded by Governor King—First export of Coal—Customs House established—Import duties first levied—The first Volunteer Force for defence raised at Sydney—Population of Colony, 5,217.
- 1801 First issue of Copper Coin—Hunter River coal mines worked.
- 1802 Port Phillip discovered—First book (General Standing Orders) printed in Sydney.
- 1803 First sample of Wool taken to England by Macarthur—Caley attempted to cross Blue Mountains—Battery at George's Head completed—First Roman Catholic services, Rev. W. Dixon, celebrant—First newspaper (*Sydney Gazette and New South Wales Advertiser*) published in Sydney—First settlement established in Van Diemen's Land—New South Wales Corps reduced to peace footing—Yarra River, Melbourne, discovered.
- 1804 Newcastle settlement—"George III flock of merinos" arrived—Dutch merchant ship "Swift" taken prize by English whaler "Policy" in Malay Archipelago and brought to Sydney.
- 1805 Macarthur began sheep farming at Camden with imported Spanish Merinos—Population of Colony, 8,542.
- 1806 Governor Bligh arrived—"March Floods" on Hawkesbury and South Creek—Famine; Wheat 80s. bushel.
- 1807 Evacuation of Norfolk Island contemplated—Rum currency forbidden—First parcel of wool (245 lbs.) exported to England.
- 1808 Macarthur's trial—Governor Bligh's deposition—Major Johnston assumed Government.
- 1809 Governor Macquarie arrived—Free school established—Street Regulations—George-street, Charlotte Square, Macquarie Place, and Hyde Park named—First Post Office under Isaac Nichols.
- 1810 First Horse Races—Sydney streets re-named and planned—Toll-gates erected—Police Fund established—Windsor (formerly Green Hills) and Liverpool named—New South Wales Corps left for England—Market regulations issued.
- 1811 Public Pounds established—Lieut.-Col. Johnston court-martialled and cashiered—Sydney Hospital foundation laid—Tank Stream bridge enlarged—Sydney Common land designated—Burial grounds consecrated—Illicit distillation prevalent.
- 1812 Creation of Governor's Court and Supreme Court—Sunday closing of shops—First crop of hops gathered—Select Committee of House of Commons appointed to inquire into condition of New South Wales—Great scarcity of coin; private money, orders, or promissory notes allowed to be issued—Population of Colony, 10,523.
- 1813 Blaxland, Lawson, and Wentworth crossed Blue Mountains—Deputy-Surveyor Evans discovered Bathurst Plains and Lachlan River—Foundation stone laid, Sydney Lighthouse—Botanic Gardens commenced—"Holey Dollar" and "Dump" issued for local currency—Watermen appointed to ply in Sydney Cove—Public vehicles ordered to be numbered and named.
- 1814 Charter of Justice published—Civil Courts created—Hume explored Berrima and Goulburn Districts—First Judge (J. H. Bent) arrived and was recalled—New road to Liverpool opened—Committee formed to promote civilisation of aborigines—Institution for Aboriginal children opened at Parramatta—Naval stores erected at Circular Quay.

1815. Lapstone Hill and Mount Victoria Road to Bathurst completed—Bathurst planned by Governor Macquarie—First Wesleyan Minister arrived—First steam engine in Sydney—First sitting of Supreme Court—Evans discovered Macquarie River—Grounds allotted to sixteen aboriginal families at George's Head.
1816. Conferences instituted with aboriginals—Allen Cunningham and Judge Advocate Wylde arrived—Sydney Hospital opened.
1817. Oxley's first journey inland—Meehan and Hume discovered Lakes George and Bathurst, and Goulburn Plains—Bank of New South Wales established—Captain King's coastal explorations—Hyde Park Barracks built—New Territorial Seal.
1818. Oxley's second journey to the Macquarie; discovered Hastings and Manning Rivers—Free immigration stopped—Great Western Road completed to Emu Ford—Benevolent Society established—Rose Hill packet boat service instituted.
1819. Commissioner Bigge's inquiry into laws and administration of Colony—St. James' Church commenced—Savings Bank opened at Sydney—County of Westmoreland designated—The Governor given power to impose Customs duties on spirits, tobacco, &c.
1820. Murrumbidgee and Clyde Rivers discovered—Russian exploration ships arrived—Burial-ground (Town Hall) closed—Sir Joseph Banks died—Campbelltown surveyed—Hunter River Floods—Grape-vines introduced—Government row-guard boats established—Influenza epidemic—W. C. Wentworth published in England an account of Australia.
1821. Governor Sir Thos. Brisbane arrived—Ten ships despatched with Australian produce for England—Foundation stone of St. Mary's (R.C.) Cathedral—Philosophical (now Royal) Society founded—Throsby tour of discovery inland—Settlement formed at Port Macquarie.
1822. Agricultural Society established—First Colonial Attorney admitted—Bees introduced—St. James' Church opened—Sale of Australian tobacco—Road from Richmond to Wallis Plains (Newcastle) opened—Settlement formed at Wellington Valley—Parramatta Observatory erected.
1823. First Australian Legislature granted; a Council to consist of from five to seven persons, with limited legislative power—Cunningham's explorations—Dr. Lang arrived—Oxley discovered Tweed and Brisbane Rivers—Free settlers encouraged—Squatting commenced—"Particles of gold" found at Fish River, near Bathurst, by Assistant Surveyor McBrien—Monaro Plains discovered.
1824. Freedom of Press assured—First Criminal Sessions with trial by jury—First Land regulations—Hume and Hovell overland expedition to the South—Charter of Justice proclaimed—First Executive Councillors appointed—First meeting of Australian Legislature—Currency Act; first Act of Parliament in Australia—Sugar-cane grown on Hastings River—Australian Agricultural Company formed—Moreton Bay founded—New Supreme Court of Criminal Jurisdiction established—Settlement at Melville Island—Bills of Exchange and Promissory Notes payable in dollars legalised—Court of Requests commenced—First Court of Quarter Sessions.
1825. Governor Darling arrived—Sydney Chamber of Commerce established—Van Diemen's Land separated from New South Wales—Dr. Halloran's Grammar School—Liquor licenses granted—Bushrangers at Bathurst—Attempt to colonise New Zealand from Sydney—La Pérouse monument placed at Botany Bay—First Mounted Police—Act of Parliament "to regulate the postage of letters in N.S.W."
1826. River Darling discovered by Captain Sturt—Cunningham's explorations—Church and School Corporation formed—Bank of Australia established—Australian Subscription Library founded—Illawarra settlement—Land Board appointed—Orphan School Estates vested in trustees of Church and School Lands—Darling Mills at Parramatta opened—Dollar system of currency abolished—Influenza prevalent—Commercial panic caused by extensive operations of Australian Agricultural Company—"Warspite," first line of battleship to enter Port Jackson, arrived—Rumker gazetted first Government Astronomer.

- 1827 Colony self-supporting—Heavy Land and Stock speculations—*Sydney Gazette*, the first daily newspaper—Water Supply Scheme (Botany Swamps) initiated—Hume discovered new road to Bathurst—Cunningham explored Upper Darling and pastoral district of Darling Downs—Regular mail services instituted—Petition for civil rights of trial by jury and representative legislature—Customs organised and established; naval officership superseded thereby—Office of Lieutenant-Governor abolished.
- 1828 Sturt's expeditions and discovery of Darling and Murray Rivers—Legislative Council enlarged to fifteen members—First Census, population 36,598—Letters of Denization—Western Plains Settlers return—Clarence and Richmond Rivers discovered—"Australian" newspapers under the libel law of 1827—Whooping-cough epidemic—Stirling's expedition to Western Australia—General post-office communication established, and postage rates fixed (minimum 3d.).
- 1829 First Land Grant to the Church and School Corporation—First Act of Council, establishing trial by jury in civil cases—Settlement established in Western Australia—St. Mary's Cathedral founded—Gunpowder first made in Australia—Sturt's expedition down Murrumbidgee River to mouth of Murray; discovery of Darling River—Archdeacon Broughton arrived in Sydney—First Circuit Court—"Holey Dollar" ceased as currency.
- 1830 Bushrangers Act passed in one day—Sturt's overland journey—Scarcity of labour; immigration proposed—Dr. Lang's Scotch mechanics introduced—Licensing Act—Road to Hunter River formed—Beef shipped to England, and horses to India—Water Police established in Sydney.
- 1831 Governor Bourke arrived—Lord Ripon's Land Regulations for Auction Sales—Land Grants abolished—Mitchell's explorations north of Liverpool Plains—First immigrant ship arrived—Government Domain opened—Australian Steam Conveyance Co. formed—Lang's Australian College founded—First steamer, "Sophia Jane," arrived at Sydney—First contract for conveyance of mails—First Colonial-built steamer launched—*Sydney Morning Herald* published—Small-pox amongst aborigines at Port Macquarie—Busby imported grape-vine plants from France and Germany.
- 1832 First appropriation of Public Funds for Immigration—Church and School Corporation Charter revoked—King's School, Parramatta, opened—*Government Gazette* first published—Sydney Theatre opened—Savings Bank of New South Wales instituted—Legal proceedings first reported in Press.
- 1833 Sydney Mechanics' School of Arts established—Appellate jurisdiction of Privy Council extended to Colony—Census, population 60,794—Public meetings: petition for representative assembly and protest against appropriation of revenue except for local purposes—Australian Steam Navigation Company formed.
- 1834 Commercial Banking Company established—First Friendly Society formed—Trouble at Norfolk Island—Settlement at Twofold Bay.
- 1835 Mitchell established Fort Bourke on the Darling River—Bank of Australasia founded—First Roman Catholic Bishop (Dr. Polding) arrived—Sydney College Grammar School opened—Public Meeting petitioned "representation" in Parliament—Cunningham killed by aborigines—Road to Illawarra commenced.
- 1836 Mitchell in the South (Australia Felix)—Squatting formally recognised—First Anglican Bishop (Dr. Broughton) consecrated—Bishopric of Australia separated from Diocese of Calcutta—Act passed for maintenance of ministers of religion—Australian Museum founded—Fall of snow in Sydney—Census, population 77,096—South Australia proclaimed a separate Colony.
- 1837 Select Committee on Transportation appointed in London—Great snow fall near Sydney—Foundation stone of St. Andrew's Cathedral re-laid—Australian Gas Light Company founded—Water Supply, tunnel from Botany Swamps, completed—Prepayment of postage by stamped covers—Fort-nightly mail, Sydney-Melbourne.
- 1838 Drought; crops failed—Assignment of Convicts system ceased—Speculation mania—Governor Gipps arrived—Botanic Gardens opened to the public—Reporters allowed in Legislative Council Chambers—Sale of Port Phillip Land at Sydney—Australian Club founded—Recruiting for the army commenced.

- 1839 Squatting Act passed—Strzelecki found gold near Hartley—Mr. (Sir) Alfred Stephen, Judge of Supreme Court—Military juries ceased—Church Act established religious equality.
- 1840 Monetary crisis—Strzelecki's expedition to Western Port—Mt. Kosciusko named—Abolition of transportation of convicts—Land Revenues appropriated to public works and immigration—Wine industry established—Benjamin Boyd, founder of Boyd Town, Twofold Bay, arrived in Sydney.
- 1841 Rev. W. B. Clarke found grains of alluvial gold near Bathurst—First Public (Immigration) Loan—Immigration Committee appointed—New Zealand proclaimed a separate colony—Sydney lit with gas—Site purchased for first permanent Synagogue—Census, population 116,731—Darlinghurst Gaol opened—First outbreak of scarlatina.
- 1842 Sydney Municipal Corporation established—Insolvency Law passed—Bank crisis—Crown Land Sales Act—Richmond River discovered—Tobacco first manufactured—Moreton Bay settlement proclaimed—First statue in Australia (Governor Bourke) unveiled at Sydney.
- 1843 Second Constitution Act; twelve Crown nominees and twenty-four elected members of Legislative Council—Incorporation of Suburban and City Towns—Bank of Australia Lottery—First General Election—Representative Assembly meets—First "Bciling down" of sheep.
- 1844 Exports exceeded imports—First District Court held—Pastoral Association formed—Norfolk Island annexed to Van Diemen's Land—Leichhardt explored from Moreton Bay to Port Essington—Synagogue opened in Sydney.
- 1845 Mitchell explored Barcoo—Responsible Government discussed.
- 1846 Governor Fitzroy arrived—Railroad agitation—Sydney Tram and Rail Company formed—Public protests against renewal of transportation—Imperial Act giving fourteen years' lease to squatters in unsettled districts—Census, population 154,205.
- 1847 Crown Land Leases Act—Australian Agricultural Co. abandoned Coal monopoly—Proposed German immigration—First overland mail between Sydney and Adelaide—Pacific Islanders introduced—Parramatta Observatory closed—Iron smelting (Fitzroy Iron Works), opened near Berrima.
- 1848 Chinese immigration—Kennedy's last exploring expedition—Railway Commissioner appointed—National and Denominational School Boards—Carcoar copper mines discovered—Leichhardt set out on last expedition—Order in Council of 1840 terminating transportation to New South Wales revoked.
- 1849 Exodus of population to Californian gold-fields—Australian Mutual Provident Society formed—Uniform twopenny postage instituted—Contract for conveyance of English mails—Anti-transportation meetings—Last convict ships "Hashemy" and "Randolph" arrived.
- 1850 First sod of first Australian railway turned at Sydney—University of Sydney incorporated—Anti-transportation league formed—Scarcity of water in Sydney—Nepean scheme proposed—Postage stamps introduced.
- 1851 Hargraves discovered payable gold near Bathurst—Gold proclaimed Crown property—Gold Commissioner appointed—Mineralogical and Geological survey of New South Wales by Surveyor Stutchbury—Colony of Victoria. (Port Phillip District) separated from New South Wales—Imperial Act authorised preparation of constitution for New South Wales—Telegraph first used—First railway contract signed—Discovery of tin in Snowy Range by Clarke—Census, population 182,424.
- 1852 Gundagai floods (seventy-seven lives lost)—Gold revenue allocated to Colonial Legislatures—First P. & O. mail steamer ("Chusan") arrived from England—Inauguration and formal opening of Sydney University—Framing of Constitution.
- 1853 Australian Joint Stock Bank incorporated—Newcastle-Maitland Railway Company formed—First steamer on the Murray—Sydney City Corporation dissolved—Australian Museum (founded 1836) incorporated—Defence works of Port Jackson commenced—First Sewerage works in Sydney—Constitution Bill passed—Loan account commenced.
- 1854 Russian War scare—Volunteer Forces enrolled—Fitzroy Dock commenced—University affiliated colleges established.

- 1855 Railway, Sydney to Parramatta, opened—Governor Denison arrived—Gold-fields control scheme—Royal Sydney Mint established—New Constitution inaugurated—First Australian gun-boat ("Spitfire") launched at Sydney—Operative masons obtained eight-hour working-day concession.
- 1856 First elective Parliament and responsible Ministry—First registration by Government officers of Births, Deaths, and Marriages—Sydney Observatory established—Pitcairn Islanders placed on Norfolk Island—Norfolk Island transferred to jurisdiction of Governor of New South Wales—Iron pillar letter receivers erected in Sydney—Census, population 252,640.
- 1857 Floods—Wrecks of "Dunbar" (119 lives lost) and "Catherine Adamson" (21 lives lost) at Sydney Heads—Select Committee on Federation—First gold register issued—Sydney Exchange opened—P. & O. and Royal Mail Company's services inaugurated—Gold-field regulations—Electoral lists and rolls printed—Corporation of Sydney restored—Newcastle and Maitland connected by rail—Fitzroy Dock finished.
- 1858 Manhood suffrage and vote by ballot enacted—Telegraphic communication, Sydney to Melbourne—Royal Charter to Sydney University—Drought—Macarthur's sheep flocks dispersed—General Election—Chinese Restriction Bill defeated by Upper House—Legislation to establish District Courts and Country Municipalities—Alpacas introduced—Murrumbidgee River navigated by steam as far as Gundagai.
- 1859 Queensland (Moreton Bay) separated from New South Wales—Parliamentary Elections—Cadel's ascent of Darling River in steamer for 500 miles.
- 1860 Floods, Shoalhaven and Araluen—Kiandra gold-field rush—Cumberland disease in cattle—Rifle Association formed—Glebe Abattoirs—Deaf and Dumb and Blind Institution founded—Volunteer movement commenced—Troops sent from New South Wales to New Zealand (Maori war).
- 1861 Governor Sir John Young arrived—Lambing Flat gold rush—Anti-Chinese riots at Lambing Flat and Burrangong gold-fields—Sir John Robertson's Land Act; free selection before survey—Constitutional crisis—Restriction of Chinese immigration—Emigration Commissioners, Parkes and Dalley, appointed to visit the United Kingdom—Pitt-street, Sydney, Tramway opened—Census, population 350,860—Sydney and Brisbane connected by telegraph.
- 1862 Drought—Lachlan (Eugowra) gold escort robbed of £14,000—State aid to religion abolished—Real Property (Torrens) Act—Railway opened to South Creek—Free selection of land first came into operation.
- 1863 Outlaw Gilbert's robbery, Bathurst and Canowindra "held-up"—Agent-General appointed—Northern Territory separated and annexed to South Australia—Money Order Office established—Naval Brigade organised.
- 1864 Darling River floods—Fretrade Association of New South Wales formed.
- 1865 St. Mary's Cathedral burned—Border Duties Conference—Stamp Duties imposed.
- 1866 Public Schools Act, of (Sir) Henry Parkes; Council of Education replaced National and Denominational School Boards—General Post Office, Sydney, commenced.
- 1867 Industrial Schools established—Municipalities Act—Diamonds found at Mudgee—First Volunteer Land Order issued.
- 1868 Governor Lord Belmore arrived—Duke of Edinburgh's visit—His attempted assassination at Clontarf—Foundation Sydney Town Hall laid—Game Act came into operation—Great tidal wave in Port Jackson—First issue of bronze coin by Sydney Mint.
- 1869 Eskbank Iron Company established—Old Australian Subscription Library converted into Free Public Library—Foundation of Captain Cook's monument laid by Duke of Edinburgh—Belmore Markets opened—Tender for rolling stock (£60,000) of Australian manufacture accepted by Government—Railway to Goulburn opened.

- 1870 Bush Fires—Intercolonial Exhibition at Sydney, celebrating Centenary of Cook's landing, Monument erected at Kurnell, Botany Bay—Gold-fields Commission—Imperial troops withdrawn from New South Wales.
- 1871 Forest Reserves established—Permanent military force raised—National Art Gallery founded—Census, population 503,981—Inauguration of annual celebration by four Eight-hour trade unions.
- 1872 Governor Sir Hercules Robinson arrived—International Exhibition at Sydney—Death of William Charles Wentworth—Government (Post Office) Savings Banks established—Public Works expansion—Sydney Meat Preserving Co.'s Works established—Cable to England completed—Tin-fields opened.
- 1873 Intercolonial Conference, Sydney—First Volunteer encampment—Great activity on gold-fields—San Francisco Company mail service established—Miners' strike, Newcastle—Matrimonial Causes Act—Newspaper Postage Repeal Act and Friendly Societies Act.
- 1874 Triennial Parliaments—Intercolonial Conference—General Post Office opened—Volunteer Land Orders abolished.
- 1875 New Land Act, "Dummying" restricted—Postcards introduced—Sydney Town Hall opened.
- 1876 Telegraphic Cable, Sydney-Wellington (N.Z.), completed—Railway to Bathurst opened—Deniliquin-Moama Railway opened.
- 1877 Conference of Free Selectors—Hargraves pensioned for gold-fields discovery—Rail to Orange and Cootamundra—Tolls abolished.
- 1878 Seamen's strike—Forestry and Timber regulations—Technical College instituted in connection with Sydney Mechanics' School of Arts—Free Public Library and Museum opened on Sundays—Formation of Sydney Yacht Squadron—Rail to Wagga—Whooping-cough epidemic—Prince Alfred Hospital opened—Pioneer vessel (ss. "Garonne") of Orient S.N. Co. arrived from London.
- 1879 Governor Loftus arrived—Royal Zoological Society founded—International Exhibition at Garden Palace, Sydney—Captain Cook's Statue unveiled in Sydney—First Steam Tramway in Sydney—Copyright Act—National Park dedicated—Technological Museum opened—First issue silver coin from Sydney Mint—Artesian water found on Kallara Run, near Paroo River.
- 1880 Public Instruction Act and Electoral Act passed—Temora Gold-field—Sydney streets wood-paved—Country Towns Water Supply and Sewerage Act—Telephones established in Sydney—Solitary Island Lighthouse opened—Railway communication Sydney to Melbourne established.
- 1881 Colonial Sugar Refining Company's mill erected, Richmond River—Chinese Immigration restricted—Women admitted as students for degrees at Sydney University—Rail to Dubbo, Albury, and Darlington Point—Trade Unions Act—State Children's Relief Board established—Census, population 751,468—Prince Albert Victor and Prince George of Wales arrived in H.M.S. "Bacchante."
- 1882 Garden Palace destroyed by fire—Forest Conservation—Clyde Engineering Works established—Licensing Act came into operation—Metropolitan Cattle Saleyards opened—Salvation Army established—Small-pox in Sydney.
- 1883 Silver discovered at Broken Hill—Broken Hill Proprietary Syndicate formed—New South Wales and Victorian railway systems connected—Foundation Stone laid, new Town Hall, Sydney—State system of Technical Education instituted—Destruction of rabbits compulsory—Diamonds found at Bingara—Miners' strike, Newcastle—Intercolonial Federation Conference.
- 1884 Land legislation restricting sales by auction—Public Watering Places Act—Smelting Furnaces, Sunny Corner and Silvertown—Land Act giving fixity of tenure to pastoral lessees—Geographical Society of Australia inaugurated—Federation Bill rejected.
- 1885 N.S.W. Military Contingent sent to Soudan—Broken Hill Silver Mines opened—Governor Carrington arrived—Territorial Division of the Colony—Local Land Boards—Intercolonial Trades' Union Conference—Federal Council constituted.

- 1886 Industrial Depression—Wrecks of "Ly-ee-Moon," "Corangamite," "Keilawarra," and "Helen Nicol"—University Extension Lectures inaugurated—Foreign parcels post established—Dairies Supervision Act.
- 1887 Bulli Mining disaster (eighty-three lives lost)—Metropolitan Board of Water Supply and Sewerage established—Loyalist meeting in Sydney (Jubilee celebrations)—Peat's Ferry, Hawkesbury River, railway accident—*Ad valorem* duties ceased—School Savings Banks established—Scarcity of employment; Government relief works started—Representatives sent to Australasian Conference in London—Australasian Naval Defence Force Act.
- 1888 Bush Fires—Centennial celebrations—Centennial Park dedicated—Drastic Legislation against Chinese immigration (poll tax, £100)—Colliers' strike at Newcastle—Weekly mail service to England inaugurated—New South Wales and Queensland railway systems connected—Railway Commissioners appointed—First meeting of Australasian Association for the Advancement of Science held at Sydney.
- 1889 Hunter River Floods—Royal Naval House built at Sydney—Rail communication, Brisbane to Adelaide through Sydney and Melbourne, established by opening of Hawkesbury River Bridge.
- 1890 Payment of members of Parliament—Strike at Broken Hill—Maritime and Shearers' strikes—Bush Fires—Bourke (Darling River) Floods—Opening of Sutherland Graving Dock.
- 1891 Failure of many Building Societies—Governor Lord Jersey arrived—Labour members returned to Legislative Assembly—Australian Auxiliary Squadron arrived—First National Australasian Convention—Colonial Premiers' meeting—Australasian Colonies join Postal Union—Sir John Robertson died—Cessation of assisted immigration—Census, population 1,132,234.
- 1892 Strike at Broken Hill—Run on Government Savings Bank—Council of Conciliation established—Women's College, Sydney University, opened—Hunter River District Water Supply Board—Technical College, Ultimo, opened.
- 1893 Banking Crisis—Governor Sir Robert Duff arrived—Inland and Interstate Parcel Post inaugurated—Gold discovered at Wyalong—Electoral Act, "One Man One Vote"—Sydney-Vancouver mail service established—Mount Drysdale gold-field discovered—Cable communication with New Caledonia—Postal Notes issued—Married Women's Property Act—Departure of "Royal Tar" with colonists for "New Australia," South America.
- 1894 Shearers' strike—Royal Commission on Fish industry—First Offenders' Probation Act—Sir Alfred Stephen died—Railway disaster, Redfern Station—Kuring-gai Chase dedicated—Banks Exchange Settlement Office established—Sydney Hospital, new building, opened.
- 1895 Land Legislation—Death of Governor Sir Robert Duff—Viscount Hampden succeeded—Land and Income Taxes imposed and Freetrade Tariff instituted—Federal Convention at Hobart—Standard Time Act.
- 1896 Death of Sir Henry Parkes—Factories and Shops regulations—P. N. Russell bequest to School of Engineering, Sydney University—Public Service reorganised—Enfranchisement of Police—People's Federal Convention at Bathurst.
- 1897 Municipalities Act.
- 1897-8 Federal Convention Sessions, Adelaide, Sydney, and Melbourne.
- 1898 First surplus of wheat for export—Proposed Federation rejected by New South Wales—Sydney and Newcastle connected by Telephone.
- 1899 Earl Beauchamp succeeds Governor Hampden—Advances to Settlers instituted—Conciliation and Arbitration in Industrial Disputes—Australasian Federation Enabling Act Referenda—Early Closing of Shops—Boer War; first Contingent to assist the British Army sent to South Africa from New South Wales—Electrification of City Tramways commenced—Incorporation of Public Library—Friendly Societies' Act.
- 1900 Governor Beauchamp's departure—Old-age Pensions instituted—Miners' Accident Relief Fund established—Federal Elections—Metropolitan Traffic Act—Inebriates Act—Naval Contingent despatched to China.

- 901 Federation of Australian Colonies under name of Commonwealth of Australia—Visit of T.R.H. the Duke and Duchess of Cornwall and York—Industrial Arbitration Act—Sydney Harbour Trust formed—Naval Contingent returned from China—Federal High Court inaugurated—Census, population 1,359,133—Closer Settlement Act—Western Lands Act—Introduction of Pacific Islanders prohibited—Postal, Customs, and Defence Departments transferred to Commonwealth—Interstate Free-trade—Dentists Act—Woolwich Graving (Mort's) Dock completed.
- 1902 Sir H. H. Rawson as Governor—Mt. Kembla Colliery Explosion (ninety-five lives lost)—Jubilee of Sydney University—Women's Franchise—Public Health Act—Pacific Cable completed—Legitimation of Children Act—Cattle Slaughtering and Diseased Animals and Meat Act—First Sitting of Arbitration Court.
- 1903 Referendum favouring reduction of members of Legislative Assembly from 125 to 90—Land Legislation—High Court of Australia constituted—Commercial Causes Act.
- 1904 Reduction of number of members of Parliament from 125 to 90—Redistribution of Electorates—Second P. N. Russell bequest, Sydney University—Educational Reforms commenced—Patents, Trade Marks, &c., transferred to Commonwealth.
- 1905 Flood on Tumut River—Assisted Immigration reintroduced—Teachers' Training College opened—Kurnell, Botany Bay, proclaimed recreation reserve—Children's Courts instituted—Habitual Criminals Act—United Dental Hospital of Sydney established—Shires Act.
- 1906 Barren Jack Dam authorised—Free Public School Education—North Coast Railway authorised—Local Government—Sydney Central Railway Station opened—Liquor Act, with drastic provisions—Federal Elections—Dr. Danysz's experiments in rabbit destruction.
- 1907 Invalidity and Accident Pensions—Telephone, Sydney to Melbourne—Opening of blast furnace for manufacture of iron and steel at Lithgow—Consolidation of Small Schools commenced—Cataract Dam completed—Medical inspection of School Children initiated.
- 1908 Department of Agriculture formed—Visit of United States (American) Fleet—Industrial Disputes Act—Minimum Wage Act—Industrial Wages Boards constituted—Subventions to Friendly Societies Act—Yass-Canberra Federal Capital Site selection—Coal Strike, Newcastle—Tramway Strike, Sydney—First Travelling School—Manufactures Encouragement Act (Federal)—Crown Lands Amendment Act (Conversions)—Commonwealth Meteorological Bureau established—Departure of "Nimrod" Antarctic Expedition (Lieutenant Shackleton, leader).
- 1909 Lord Chelmsford, Governor—Fisher Library (Sydney University) opened—Empire Commerce Congress at Sydney—Old-age Pensions taken over by Commonwealth—Botany Wool-combing Works established—Premiers' Conference on States' finance agreement with Commonwealth Government—Miners' strikes, Broken Hill and Newcastle—Sydney Municipal Library formed by transfer of Lending Branch of Public Library—Long Bay Female Penitentiary opened—Quarantine administration transferred to Commonwealth—Pure Food Act—Return of "Nimrod" Antarctic Expedition—Private Hospitals Act.
- 1910 Newcastle Miners' strike ended—Mitchell Library opened—State and Federal Elections—Referenda favouring transfer of State Debts to Federal Government and rejecting proposed States finance agreement with Commonwealth—Australian silver coinage issued—Parliamentary Elections (Second Ballot) Act—Saturday Half-holiday instituted in Sydney and the larger towns of N.S.W.—New mail contract with Orient Company—Workmen's Compensation Act—Federal Land Tax—First State Labour Ministry—Sydney Municipal Fish Markets opened—Invalidity and Accidents Pensions transferred to Commonwealth—Visit of Dutch Naval squadron—Scottish Agricultural Commission's tour—Departure of "Terra Nova" Antarctic Expedition (Captain Scott, leader)—Visit of Japanese Naval Training Vessels.

- 1911 Australian Notes issued—Federal Referenda relating to Monopolies and Industrial Legislation; proposals rejected—First Australian warships, "Parramatta" and "Yarra" in commission—Launch of Australian torpedo-boat destroyer "Warrego" at Cockatoo Island—Federal Capital Site at Yass—Canberra transferred to Commonwealth—Compulsory military training initiated—Detachment of cadets to England for Coronation—Radium used at Sydney Hospital—Commonwealth Postal Rates Act, introducing Penny Postage to all parts of British Empire—Murrumbidgee Irrigation Act—J. J. Hammond on his bi-plane with Frank Coles, mechanician, flew over Sydney and harbour, circling the Post Office clock, the flight lasting forty minutes—Dreadnought Farm Training scheme initiated—First Wireless Station of Commonwealth Government erected at Pennant Hills, near Sydney—Congress of Australasian Association for the Advancement of Science opened at Sydney—Solar Eclipse observed at Vauau by Australian party of Scientists—Premier attended Imperial Conference in London and Coronation of King George V—Royal Military College of Australia opened at Duntroon—Abolition of Nautical School Ship, "Sobraon"—Royal Commission on Decentralisation in Railway Transit—Randwick Wireless Station, with Australian-made apparatus, demonstrated capacity of transmitting messages over 2,000 miles—Japanese Antarctic Expedition, after replenishing stores at Sydney, resumed southward cruise—Royal Commission of Inquiry as to Food Supplies and Prices—Shortage of Labour Commission—Electoral Redistribution Commission—Death of Cardinal Moran—State Brickworks, Quarry, and Timber and Joinery Works established—Australasian Medical Congress at Sydney—First section of North Coast Railway opened—Census taken on 2nd April, 1911; population 1,646,734—Evening Continuation Schools opened—Mawson Antarctic Expedition (N.S.W. Subsidy £7,000)—First Inter-State Forestry Conference (Sydney)—Launch of H.M.A.S. "Australia"—Union Steamship Co.'s service, Sydney—New Zealand—San Francisco, inaugurated—First Australian Aviator's (W. E. Hart) flight, Sydney—Penrith—Sydney Municipal Fruit Markets opened.
- 1912 Interstate Conference of Premiers and Ministers, Melbourne—Return of Amundsen's Antarctic Exploration Expedition, reporting having reached the South Pole—Bursary Endowment, Secondary Education—Second visit of Japanese Training vessels to Port Jackson—Inauguration of Oceanic Steamship Co.'s Sydney—San Francisco Mail Service—H.M.A.S. Destroyer "Warrego" commissioned—Federal Capital Designs selected—First International Aviation Contest, Sydney—H.M.A.T. Ship "Tingira" commissioned and moored at Rose Bay, Port Jackson—Great Review of Universal Training Cadets (18,642) at Centennial Park, Sydney—Murray Waters Agreement—New Industrial Arbitration Acts (State and Federal)—Commonwealth Small Arms Factory, Lithgow, opened—Murrumbidgee Irrigation Farms made available (300,000 acres), and irrigation commenced—Interstate Conference on Artesian Water Conservation—Income Tax (Management) Act—Criminal Appeal Act—Visit of Lieutenant-Colonel Baden-Powell in connection with Boy Scout movement—Donation of £1,000,000 by Mrs Walter R. Hall for charitable purposes in the States of Queensland, New South Wales, and Victoria—Commonwealth Savings Banks established—Dacey Garden Suburb planned, and buildings erected by N.S.W. Government—Anti-tuberculosis Dispensary established by the State Government.

GEOGRAPHY AND CLIMATE.

GEOGRAPHY.

AREA OF STATE.

The area comprised within the limits of New South Wales, exclusive of the area of Lord Howe Island, is estimated at 310,367 square miles, or 198,634,880 acres, being a little over two and a half times that of Great Britain and Ireland, and representing rather more than one-tenth of the total area of the Commonwealth of Australia. Excluding the surface covered by rivers and lakes, the area is 195,669,000 acres, or about 305,733 square miles, but there was a formal surrender to the Commonwealth Government, on 1st January, 1911, of about 900 square miles at Yass-Canberra as Federal Capital Territory. A further area of land at Jervis Bay has been granted to, and an additional area acquired by, the Federal Government for naval purposes. The dimensions of these areas have not yet been determined.

Lord Howe Island, the dependency of New South Wales, is situated some 300 miles east of Port Macquarie, and 436 miles from Sydney, in latitude $31^{\circ} 32'$ south; longitude $159^{\circ} 3'$ east. The island is 7 miles in length, by a width ranging from half-a-mile to $1\frac{3}{4}$ mile and has an area of 5 square miles. The highest point is Mt. Gower, 2,840 ft.

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

BOUNDARIES.

The territory of the State lies in the temperate zone, and almost entirely between the 29th and 36th parallels of south latitude and the 141st and 154th meridians of east longitude. Bordered on the north, west, and south respectively by the States of Queensland, South Australia, and Victoria, New South Wales, eastward, faces the South Pacific Ocean, with a total length of 700 miles of coast line, representing 1 mile of coast to 443 square miles of hinterland, as against an average of 1 in 261 for the continent of Australia. Except for the Northern Territory, New South Wales has, of all the Australian States, the greatest proportion of territory to coast line. Particulars as to the chief ports, harbours, and anchorages on the New South Wales coast are to be found in part Shipping of this Year Book.

Under the original Commission, given in 1786 to Arthur Phillip, R.N., as Captain-General and Governor-in-Chief, the territory of New South Wales extended from Cape York, in the latitude of $10^{\circ} 37'$ S., to the South Cape, in latitude $43^{\circ} 39'$ S., and included all the country westward to the 135th degree of east longitude, as well as the islands of the Pacific Ocean within the latitude given. Thus, in 1787, New South Wales, comprising the whole eastern half of the continent of Australia, covered 1,454,312 square miles, exclusive of island dependencies. In 1827, the western boundary of New South Wales was extended to the 129th meridian of east longitude, adding 518,134 square miles to the continental territory of the Colony. The area was afterwards reduced, through the formation of colonies, in Tasmania and New Zealand, as well as on the mainland, viz.: South Australia, with 309,850 square miles, proclaimed in 1834, and first permanently settled in 1836; Victoria, with 87,884 square miles in 1851, and Queensland with 554,300 square miles in 1859, at which date New South Wales included 310,367 square miles on the East Coast, and 710,940 square miles in Central and

Northern Australia. Subsequently, in 1861, further alterations were made, till finally, by 1863, the various boundaries were definitely and permanently fixed, leaving to New South Wales only its present mainland area of 310,367 square miles, on the middle east coast of the Continent of Australia, and the dependency of Lord Howe Island, measuring 5 square miles.

The Coast Line.

From north to south, the more important indentations, headlands and coastal towns of New South Wales are shown in order in the following table. On the most prominent headlands lighthouses have been erected, and a complete list of these is given in part Shipping of this Year Book.

Indentations.	Headlands.	Coastal Towns.
Byron Bay	Point Danger. Tweed Heads. Fingal Point.	Murwillumbah.
	Sutherland Point. Norrie's Head. Hastings Point.	Byron Bay.
	Cape Byron. Broken Head. Lennox Head. Sand Point. Richmond Heads, North Head.	Ballina.
	South Head.	
	Evan's Head. Wooded Bluff. Clarence Heads, North Head.	Iluka.
	South Head.	Yamba.
Charlesworth Bay Coff's Harbour	Angourie Point. Buchanan's Head. Cakora Point. Sandon Bluffs. Tree Point. Bare Point.	Woolgoolga.
	Green Bluff. Bare Bluff. Rocky Bluff. White Bluff. Flat Rock.	Coff's Harbour, Bellingen.
	Wenonah Head. North Head.	Nambucca, Bowraville, Macksville.
Trial Bay	Scott's Head. Grassy Head.	Arakoon.
	Lagger's Point. Smoky Cape. Korogoro Point. Crescent Head. Point Plomer.	Kempsey.
Port Macquarie	Tacking Point. Grant's Head.	Port Macquarie.
Camden Haven	Diamond or Indian Head.	Camden Haven.

Indentations.	Headlands.	Coastal Towns.
Crowdy Bay	Crowdy Head.	Harrington.
Harrington Inlet	Wallaby Point.	Tuncurry, Forster.
Farquhar Inlet	Halliday's Point.	
Wallis Lake	Cape Hawke.	
Myall Lakes	Charlotte Head.	
Port Stephen's	Boomerang Point.	Teramby.
Anna Bay	Sugarloaf or Seal Rocks Point.	Stockton, Newcastle.
Port Hunter	Treachery Head.	
Lake Macquarie	Dark Point.	Belmont, Swansea.
Catherine Hill Bay	Yacaaba Head.	
Cabbage Tree Harbour	Toomeree Head.	
Tuggerah Lakes	Stephen's Point.	
Tarragal Haven	Fingal Head.	
Broken Bay	Morna Point.	Gosford.
Curl Curl	Nobby's Head.	Newport.
Port Jackson.	Little Red Head.	Narrabeen.
Bondi Bay	Red Head.	Manly.
Coogee Bay.	Wybung Head.	
Maroubra Bay.	Bungaree Norah Point.	
Long Bay.	Soldier's Point.	
Little Bay.	Wyrabalong.	
Botany Bay	Kurrawyba.	
Port Hacking	Bulbararing.	
Marley Beach	Mourawaring.	
Wattamolla	Bombi.	
Wollongong Cove	Box (Hawke) Head.	Wollongong.
	Barranjoey.	Sydney.
	Little Head.	
	South Head.	
	Hole in the Wall.	
	Bungan Head.	
	Bulgolo Head.	
	Turimetta Head.	
	Long Reef.	
	Deewhy Head.	
	Curl Curl Head.	
	Blue Fish.	
	Port Jackson Heads—	
	North Head.	
	South Head—Inner)	
	Outer)	
	Ben Buckler	
	Botany Heads—Cape Banks	La Perouse.
	Cape Solander	Kurnell.
	Big Jibbon Point.	Cronulla.
	Bulgo.	Clifton.
	Coal Cliff.	Thirroul.
	Long Point.	Bulli.
	Bulli.	Bellambi.
	Bellambi Point.	
	Towradgi Point.	

Indentations.	Headlands.	Coastal Towns.
Port Kembla	Red Point. Barrack Point. Bass Point.	Dapto, Albion Park, Shell Harbour.
Lake Illawarra Kiama Harbour Geringong Harbour Crookhaven River	Red Cliff. Black Head. Shoalhaven Heads. Greenwell Point. Kinghorn Head. Beecroft Head. Crocodile Head. Point Perpendicular. Governor Head—Cape St. George St. George Head.	Kiama. Geringong. Nowra. Berry.
Crookhaven Bight		
Jervis Bay Wreck Bay. Sussex Inlet. St. George's Basin		Huskisson.
Ulladulla Harbour Burrill Inlet	Red Point. Warden Head. Lagoon Head. Termeil Point. O'Hara Head. Point Upright. Wasp Head. Clyde Heads—North Head. South Head.	Ulladulla. Termeil.
Durass Water		
Bateman's Bay	Burrewarra Point. Moruya Heads. Toragy Point. Yowaga Point. Congo Point. Mullinburra Point. Binge Binge Point. Point Marka.	Bateman, Nelligen. Broulee, Moruya.
Moruya River		
Coila Lake Tuross River Lake Birroul. Lake Mummuga Wagonga River	Kianga Point. Waramba Rocks. Nugget or Bogolo Head. Boat Harbour Point. Cape Dromedary. Murruna Point. Baragoot Rocks. Baragoot Point. Baragga Point. Goalen Head. Bunga Head. Mimosa Rocks. Bengurunu Point.	Coila. Bodalla. Wagonga, Noorooma.
Corunna Lake		Corunna.
Wallaga Lake		Tilba, Cobargo. Bermagui.
Bithry Inlet. Tanga Lagoon	Baronda Head. Wajurda Point. Tathra Head. Kangarutha Point. Turingal Rock. Tura Head. Merrimbula Point. Toallo (Haycock) Point. Quoraburagun. Worango or North Head.	Bega, Tathra.
Mogareka Inlet Wallagoot Lake		Wolumla.
Pambula Inlet Merrimbula Lake	Red Point. Mowarry Point. Green Cape. Black Head. Nadgee Point. Cape Howe.	Merrimbula, Pambula.
Twofold Bay		Eden, Kiah, Boydtown.
Bittangabee Creek		
Disaster Bay		

ISLANDS.

The Islands along the coast of New South Wales from north to south are shown in the following list:—

Islands.	Locality.	Latitude S.	Longitude E.	Area.
		o	o	acres
Cook	Fingal Point	28 11	153 30	10
Juan and Julia Solitary—	Cape Byron	28 36	153 39	1½
North Rock	Wolli Woolli River	29 55	153 24	52
North West Solitary	Redbank	30 0	153 17	15
South-west Solitary	Bare Bluff	30 9	153 14	16
South Solitary	Coff's Harbour	30 11	153 17	38
Split Solitary	"	30 13	153 11	6
Coff's—				
North (Mutton Bird)	"	30 17	153 10	31
South	"	30 18	153 9	31
Green Island	Smoky Cape			
Fish Rock	"			
Black Rock	"			
Mermaid Reef	Crowdy Bay			
Seal Rocks	Sugarloaf Point	32 26	152 33	
Broughton 1	Port Stephens	32 37	152 20	1,145
" 2	"			60
Cabbage Tree	Yacaaba Head	32 41	152 15	68
Little	"	32 42	152 15	3
Boondelbah	Port Stephens	32 42	152 15	34
Point Stephens	"	32 45	152 13	270
Moon	Lake Macquarie	33 5	151 41	6
Flat	Catherine Hill Bay	33 10	151 39	10
Bird	Norah Head	33 13	151 37	30
Five Islands—				
Tom Thumb 1	Tom Thumb Lagoon	34 27	150 57	6½
" 2	"	34 28	150 58	6½
Big	Red Point	34 29	150 57	45½
Small 1	"	34 29	150 56	1½
" 2	"	34 29	150 57	5½
Windang	Lake Illawarra	34 32	150 54	5
Bowen	Jervis Bay	35 7	150 47	132
Green	Cunjurong Lake	35 16	150 32	22
Crampton	Touboource Lake	35 26	150 26	10
Stokes	Termeil Point	35 27	150 25	6
Brush	Murramarang Point	35 32	150 26	184
Belowla	O'Hara Head	35 33	150 24	20
O'Hara	"	35 35	150 23	15
Dawson 1	"	35 35	150 22	3
" 2	"	35 35	150 22	1
Grasshopper	Point Upright	35 38	150 21	3
Wasp	"	35 40	150 20	2
Flat Rock	Bateman's Bay	35 41	150 19	1½
Tollgate 1	"	35 45	150 16	12
" 2	"	35 45	150 16	7
Broulee	Moruya	35 51	150 12	85
Montague	Mount Dromedary	36 15	150 14	285
Bullara	Eden	37 0	149 57	25

The majority of these islands, as is evident from their areas, are too small to be of much value. For the most part they are of granitic, schistic, basaltic, porphyritic, or doleritic formation. They have little, or at best, meagre vegetation, and practically no timber.

Broughton Island, with a maximum height of 286 feet, is of sandstone formation, and is covered with low scrub and grass. It is a centre for lobster and other fishing, and offers a good landing. On South Solitary, Point Stephens, and Montague Islands there are lighthouses. At Montague Island, also, there is a Government wharf.

RIVERS.—RIVER SYSTEMS.

Besides the distinctive coastal rivers, with their moderate falls, limited navigable distances, and frequently bar-bound entrances, New South Wales has within its boundaries considerable lengths of the rivers of the Central Australian Plain. The River Murray has a total length of 2,310 miles, of which some 1,200 miles form the boundary between New South Wales and Victoria.

The River Hunter is the largest of the coastal rivers of the State, and drains some 11,000 square miles of territory.

The following statements show the rivers of the State, their length and their tributaries, of which those on the left bank of the river are marked L; tributaries not so marked are on the right bank:—

Coastal Rivers.

River.	Approximate Length.	Tributaries.	Approximate Length.
	miles.		miles.
Tweed	40		
Richmond	160		
Clarence	190	Orara	80
		Nymboida	110
		Mann (L)	90
		Timbara	95
Bellinger	60		
Macleay	160	Apsley	90
		Chandler (L)	55
Hastings	110	Maria (L)	30
		Ellenborough	30
Manning	150	Dingo Creek (L)	40
		Barrington (L)	75
		Nowendoc (L)	65
		Barnard (L)	90
Wollomba	45		
Myall	30		
Karuah	50		
Hunter	340	Williams (L)	100
		Paterson (L)	100
		Goulburn	140
		Wybong Creek (L) ..	50
		Krui River (L)	50
		Dart Brook	40
		Isis	70
Hawkesbury	335	Colo (L)	60
		Capertee	60
		Nepean	45
		Nattai	35
		Cox's	80
Shoalhaven	220	Mongarlowe	40
Clyde	80		
Tuross	70		
Bega (Bemboka)	55	Brogo (L)	35
Towamba	50		
Wallagaraugh	30		

Inland Rivers.

The River Murray has a total length between New South Wales and Victoria, of 1,200 miles. Its tributaries are as follows:—

	Miles.	Darling River—contd.—	Miles.
Darling Anabranch	320	Namoi River (L)	430
Darling River	1,760	Pian Creek	120
Talyawalka Anabranch (L)	260	Baradine Creek (L)	110
Warrego River (N.S.W. portion).	130	Dubbo Creek (L)	50
Irrara Creek	60	Peel River (L)	50
Culgoa River (N.S.W. portion)	130	Thalaba Creek (L)	90
Birrie River (L)	110	Gwydir (Meei) River (L) ...	350
Bogan River (L)	370	Mooni Creek... ..	110
Duck Creek	70	Boomi River (L)	110
Gunningbar Creek	70	Gil Gil Creek (L)	130
Bulbodney Creek (L) ...	60	Whalar Creek (L)	110
Bokhara River	160	Croppa Creek (L)	70
Marra Creek (L)	180	Macintyre River (L)	180
Crooked Creek (L)	100	Severn River... ..	120
Macquarie River (L)	590	Kyalite or Edward River (L) ...	280
Castlereagh River	340	Wakool River	240
Nedgera Creek (L) ...	80	Yarrien Creek	100
Mowlma Creek (L) ...	50	Niemur River	90
Marthaguy Creek	200	Merran Creek (L)	60
Merri Merri Creek ...	90	Moulamein (Billabong Creek)	400
The Big Warrambool River	100	Yanko Creek	190
		Tuppal Creek	60
		Swampy Plain River	40

The river Darling joins the river Murray 150 miles from the South Australian Border. The part of the Warrego within New South Wales junctions with the Darling 950 miles from Murray Junction, the Culgoa at 1,070 miles, the Bogan at 1,075 miles, the Macquarie at 1,260 miles, the Namoi at 1,360 miles, and the Gwydir at 1,460 miles.

The Macintyre River is measured to its junction with the Dumaresq River.

The Murrumbidgee River joins the River Murray 430 miles from the South Australian Border and has an approximate length of 1,950 miles. Following are its tributaries:—

	Miles.		Miles.
Lachlan River	850	Bullenbung Creek (L)	40
Marrowie Creek	100	Houlaghans Creek	50
Willandra Billabong Creek...	250	Yaven Yaven Creek (L)	40
Euglo Creek (L)	120	Billabong Creek	35
Goobang Creek	140	Adelong Creek (L.)	35
Mandagery Creek	80	Tumut River (L.)	90
Boorowa River (L)	80	Goodradigbee River (L) ...	60
Abercrombie River	110	Molonglo River	90
Crookwell River	35	Umaralla River	90
Old Man Creek (L)	40		

The Lachlan junctions with the Murrumbidgee River.

The Snowy River, the upper portion of which is known as the Eucumbene River has a length of 170 miles within New South Wales, and tributaries as follows:—

	Miles.		Miles.
Numbla Creek	30	Bobundara Creek (L)	35
Delegate River (L)	60	Wullwye Creek	30
McLaughlin River (L)	60		

The Narran and Paroo Rivers, flowing southwards from Queensland, have respectively 100 and 103 miles of their lengths within New South Wales.

LAKES.

In the three geographical divisions of New South Wales, the lakes are quite distinctive.

On the Coast the lakes or lagoons are generally due to the formation of bars and banks of river silt and the joint action of tides and prevailing winds.

On the highlands in the South are the Kosciusko lakes, due to the formation of barriers of moraine material.

In the Central and Western areas are some lakes, formed by the filling of local depressions and shallow lakes, along the courses of rivers, particularly the Murray and the Darling, and formed by the building up of flood barriers and plains.

Only three lakes of any consequence are traced to distinct geological causes, viz.: Lakes George and Bathurst and Guyra (Mother of Ducks) Lagoon.

The following list shows the lakes and lagoons of the coastal district, lakes on the highlands, and the lakes and depressions of the central and western areas.

Lake.	Locality.	Area.	Lake.	Locality.	Area.
COASTAL.					
		Acres.			Acres.
Baragoot	Bernagui	100	Myall	Port Stephens	15,300
Birroul	Noorooma	500	Nangudga	Noorooma	200
Black	Bibbenluke	140	Nargal	"	45
Bondi	Tathra	67	Narrabeen	Manly	600
Boooloombayt ..	Broadwater	3,500	Pambula	Eden	700
Brisbane Water ..	Broken Bay	7,000	Queens	Camden Haven	2,560
Bulbararing	Gosford	200	Smith	Port Stephens	2,500
Burrill	Ulladulla	1,120	St. George's Basin	Huskisson	9,200
Cathie	Port Macquarie	635	Tarnagal	Gosford	80
Cobaki Broadwater	Chinderah	450	Termeil	Termeil	120
Cockrone	Gosford	120	Terranora Broad-	Chinderah	1,100
Cohens	Tathra	96	water.		
Coila	Moruya	1,850	The Back	Merrimbula	100
Conjola	Ulladulla	1,600	" Broadwater	Port Stephens	5,500
Coralo	Eden	180	" "	Clarence River	4,700
Corunna	Noorooma	480	" "	Noorooma	30
Cudgen	Murwillumbah	320	Tilba Tilba	"	300
Cudmirrah	Huskisson	960	Tom Thumb Lagoon	Wollongong	450
Cuttagee	Bernagui	298	Toubooree	Ulladulla	350
Deewhy	Manly	80	Tuggerah	Wyong	18,500
Durass Water	Batemans	1,200	Tuross	Moruya Heads	1,400
Hiawatha	Grafton	860	Wagonga	Noorooma	30
Illawarra	Wollongong	8,500	Wallaga	Bernagui	1,900
Innes	Port Macquarie	6,150	Wallagoot	Tathra	950
Macquarie	Newcastle	29,000	Wallis	Cape Hawke	19,000
Merrimbula	Pambula	1,350	Wamberal	Gosford	140
Minnie Water ..	Grafton	128	Wapengo	Tathra	870
Miroo	Termeil	400	Watson Taylor	Camden Haven	3,000
Mur-muga	Noorooma	460	Wollumboola	Jervis Bay	1,500
Munmorah	Tuggerah	2000	Wooloweyab	Yamba	6,400
HIGHLAND.					
Albina	Mount Kosciusko	36	Hedley Tarn	Mount Kosciusko	10
Bathurst	Tarago	3,000	Llangothlin	Ben Lomond	980
Blue	Mount Kosciusko	60	Little Llangothlin	"	285
Club	"	16	May	Mount Kosciusko	15
Coolamatong	Berridale	84	Salt	Berridale	35
Eucumbene	Adaminaby	32	Spring Creek	"	12
George	Bungendore	38,500	The Long	Adaminaby	45
OTHER.					
Albert	Wagga	249	Boolarooka	Menindie	7,680
Alkiboulka	Yantara	1,000	Boundary	Dalgety	3
Amphitheatre	Menindie	1,920	Brennan	Menindie	960
Arable	Cooma	45	Briekilin	"	320
Avon	Nimitybelle	360	Brommeyes	"	1,920
Baleka	Menindie	640	Buckley	Dalgety	145
Bally Castle	Goombalie	1,000	Bullanaming	Bredbo	28
(Taylors)			Bullenbalong	Berridale	50
Bancanya	Mootwingee	10,240	Bullogal	Booligal	640
Barnato	Cobar	320	Bungarry	Oxley	160
Beards (Black) ..	Nimitybelle	600	Bunumburt	"	100
Big Sand Hill	Balranald	320	Burkanoko	Fords Bridge	160
Bijiji	Menindie	1,600	Burns (3 Lakes)	Nimitybelle	80
Boocathan	Oxley	960	Burra-Burra	Taraiga	396

Lake.	Locality.	Area.	Lake.	Locality.	Area.
OTHER—continued.					
		Acres.			Acres.
Cargelligo	Cargelligo	2,500	Narran	Brewarrina	35,000
Carrolls	Berridale	20	Nearia	Pooncaira	7,560
Cawndilla	Menindie	23,040	Noeyanga	Euston	1,560
Chesney	Goombalie	160	Nettlegoe	Menindie	7,040
Cobham	Milparinka	1280	New	"	160
Comayjong	Oxley	200	Nialla	Pooncaira	7,680
Coomaroop	Tooleybuc	800	Nichebulka	Ford's Bridge	300
Coombah	Pooncaira	2,560	Nitchie	Pooncaira	1,280
Coonbilly	Ford's Bridge	500	North	Menindie	3,200
Cooper's	Nimitybelle	70	Nucha	Toorawangee	1,280
Cootralantra	"	350	Oil Tree Lagoon	Howlong	1,460
Corega	Wilcannia	640	Panamaroo	Menindie	16,640
Cowal	Marsden	15,000	Paradise	"	480
Cullamulcha	Wanaaring	1,200	Patterson	Milparinka	1,920
Cullivel	Urana	3,240	Pinpira	Koonenberry	160
Dead Horse	Menindie	100	Poomah	Tooleybuc	450
Denman	Ford's Bridge	1,000	Poon Boon	"	1,000
Dennys	Menindie	2,560	Papita	Pooncaira	22,400
Dick	Wilcannia	3,200	Popio	"	15,360
Dry	Goombalie	600	Pysant	Menindie	320
"	Pooncaira	80	Racecourse	Uralla	46
"	Menindie	1,920	Ratcatchers	Menindie	6,400
"	Booligal	640	Redbank	"	320
Dudal Comer	Henty	2,100	Roping Pole	Uranquinty	480
Dukes	Nimitybelle	50	Round Swamp	Narrabri	90
Dundomaltee	Balranald	1,280	Ryans	Oxley	160
Eckerboon	Wilcannia	160	Salisbury	Uralla	180
Emu	Menindie	3,200	Sayers	Menindie	2,560
Eucalyptus	"	1,920	Shadrchts	"	40
Eukobilli	"	320	Speculation	"	640
Fort Grey Basin	Tibooburra	1,000	Tala	Balranald	1,400
Gilman	Kingston	206	Talpyle	Tooleybuc	180
Golgol	Golgol	640	Tandon	Menindie	38,400
Goran	Gunnedah	10,000	Tandure	"	5,120
Green	Bibbenluke	30	Tarrawong	Booligal	320
Guisés	Dalgety	3	Teryaweynya	Menindie	5,120
Gum Lake	Menindie	1,600	The Boundary	Nimitybelle	60
Gunagia	Hillston	320	" Dry	Oxley	320
Haystack	Menindie	60	" Salt Lake	Milparinka	16,000
Hogans	"	160	" Tinkers	Cooma	7
Hugundara	Cooma	15	Thubergal	"	30
Island	"	12	Tommys	Dalgety	9
"	Nimitybelle	45	Toms	Booligal	40
Jillimatong	Dalgety	70	Toom	Puah	850
Kangaroo	Menindie	1,250	Travellers	Menindie	480
Kerkeri	Moulamein	200	Twin	Pooncaira	40
Kiah	Berridale	50	Ulenia	Milparinka	2,000
Killen	Wanaaring	309	Unnamed	Nimitybelle	65
Killmacoola	Cooma	100	Upper Sand Hill	Balranald	270
Kopago	Wilcannia	640	Urana	Urana	14,500
Lignam	Oxley	120	Urangong	"	1,160
Little	Pooncaira	640	Victoria	Menindie	3,340
Little Amphitheatre	Menindie	160	Waldaira	Wentworth	25,600
" Mother of Ducks	Guyra	80	Waljeers	Balranald	640
Long	Menindie	1,120	Washpool	Booligal	1,280
"	"	320	Watchie	Nimitybelle	15
Lyle	Moulamein	150	Waterloo	Wanaaring	320
Maffra	Dalgety	70	White Water	Menindie	2,880
Malta	Menindie	640	Willeroo	"	160
Manies	Cargelligo	1,000	Windamingle	Goombalie	300
Marias	"	600	Windaunka	Pooncaira	1,920
Menindie	Menindie	38,400	Wollare	Koonenberry	640
Mere	Goombalie	200	Wooromur	Tooleybuc	380
Merrinageel	Booligal	320	Wongallara	"	750
Milkengay	Pooncaira	6,400	Woytchugga	Wilcannia	11,520
Mindona	"	15,360	Yandaroo	"	1,280
Mooratchie	Wilcannia	320	Yanga	Goombalie	240
Moseys	Menindie	640	Yantara	Balranald	3,000
Mother of Ducks	Guyra	1,140	Yantia	Milparinka	6,000
Muddah	Cooma	50	Yarrie	Pooncaira	2,880
Muetta	"	20	Yeltow	Wee Waa	180
Mullawooka Basin	Wanaaring	1,600	York	Pooncaira	6,400
Mungundi	Wanaaring	100		Adaminaby	36

In addition to the lakes named above, there are, particularly in the western part of New South Wales, depressions of greater or less area which carry no water. Some of these depressions are reached only by high flood waters, or are shallow or filled by overflow: in other places, especially where the

intake is under control of a private person, or trust, as is the case with the Anabranck and Terawynia Creek systems, the supply of water to the lake is regulated deliberately or even cut off altogether, as the area has more value when dry than when under water.

The following list of these depressions shows the locality in which they are situated:—

Depression.	Locality.	Depression.	Locality.
Agnes	Moulamein.	Moornanyah	Ivanhoe.
Bingery	Pooncaira.	Muckee	Balranald.
Bintullia	Menindie.	Naroolpilly	Wilcannia.
Blue	Pooncaira.	Nine Mile	„
Buolpara	Louth.	Oleopoloko	White Cliffs.
Bullea	Milparinka.	Oxley	Bourke.
Bunda	Wilcannia.	Oulilla	Wilcannia.
Collins	Menindie.	Paika	Balranald.
Condoulpe	Balranald.	Patagorah	Pooncaira.
Coorpooka	White Cliffs.	Peri (Peery)	White Cliffs.
Cullewie	Wilcannia.	Pine	Pooncaira.
Deadman	Menindie.	Pitarpunga	Balranald.
Dry	Ivanhoe.	Pillio-illaluka	Wilcannia.
Dry	Moulamein.	Poopelloe	„
Ganaway	Oxley.	Rodman's	„
Greer	Tooleybuc.	Silistria	Broken Hill.
Gænoe	„	Tacubah	Wilcannia.
Goonimur	„	Taila	Euston.
Green	Milparinka.	Talbetts	Balranald.
Gunbar	Gunbar.	Teare	Moulamein.
Gunyulka	Wilcannia.	Tilpilly	Wilcannia.
Harvey's	Balranald.	Tongo	Wanaaring.
Loriwa	„	Tyson	Oxley.
Little Sand Hill	„	Wallace	Menindie.
Loorica	„	Wannah	Tooleybuc.
Maccommon	„	Warracoocarie	Wilcannia.
Merwin... ..	„	Warrawenia	Pooncaira.
Mickwilly	Wilcannia.	Yentabangee	White Cliffs.
Moon Moon	Booligal.		

MOUNTAINS.

For a short distance the Great Dividing Range forms the boundary between New South Wales and Queensland; from Tenterfield the range trends south-west, under the name of New England Range, to Murrurundi; thence, as the Liverpool Range, the trend is westerly to the locality of Cassilis. Thence to Goulburn, the Main or Blue Mountain Range connects the Northern and Southern Tablelands. From the locality of Goulburn to the Victorian border the Great Dividing Range is continued in the Cullarin, the Gourcock, the Monaro, and the Muniong (Munyang) Ranges.

The chief peaks of the Main Range are Ben Lomond (5,000 feet), Oxley's Peak (4,500 feet), Mount Bindo (4,460 feet), Mount McAlister (3,390 feet), Tallerang Peak (3,134 feet), Kybeyan (3,938 feet), Mount Townsend (7,238 feet), Mount Kosciusko (7,305 feet), The Pilot (6,002 feet).

On the eastern and western sides of the Main Range are numerous spurs. Eastward, the McPherson Range forms the boundary between New South Wales and Queensland. The highest peak is Mount Lindsay, 4,064

feet. The Richmond Range, turning southwards from Mount Lindsay, forms the watershed between the Richmond and Clarence Rivers. The Macleay Ranges lie west and south of the Clarence River; the highest points are Chandler's Peak (5,130 feet), The Lookout (4,090 feet), Mount Hyland (4,760 feet.)

The Hastings Range forms the watershed between the Macleay and the Hastings Rivers on the north, and between the Manning and the Hastings Rivers on the south. Between the Manning and the Hunter Rivers the watershed is formed by the Mount Royal Ranges, of which Mount Royal, 3,864 feet, is the highest point. The Hunter Range, south of the Hunter River, has Mount Coricudgy (3,000 feet), Mount Warrawolong (2,090 feet).

In the Blue Mountains, north of the Grose River, are Mount Wilson, Mount Tootie, Mount Tomah (3,276 feet), and Mount King George. East of Rydal are Mount Clarence (4,000 feet), and Mount Victoria (3,525 feet). Southwards towards the Mittagong Range are several prominent peaks, and the Burratorang Mountains. The Mittagong Range connects the Great Dividing Range with the Illawarra Range, which extends from Clifton to the Shoalhaven River, and includes such well-known points as Mount Keira, Mount Cordeaux, Mount Kembla (1,752 feet), Mount Macquarie, the Cambewarra Mountains, and Mount Meryla (2,167 feet).

Further south are several coastal ranges, *i.e.*, the Currockbilly Range, between the Shoalhaven River and Moruya, having The Pigeon House (2,358 feet), Mounts Kingimar, Currockbilly (3,709 feet), and Budawang (3,727 feet). Sherwin's Range and the Ram's Head Range are in the localities of Nimitybelle and Kosciusko.

On the western side of the Main Range are several offshoots; the Nandewar Range trends north-westerly from the locality of Kentucky. In the Currabubula Range, further south, Mount Turi is 3,000 feet high. The Warrumbungle Range trends north-west from Beacon Hill. The Macquarie Range has Mount Macquarie (3,943 feet), and ends in the Canoblas (4,576 feet). The Mundoonan Range branches off near Lake George. The Muniong Range has three spurs, the Murrumbidgee, the Tumut, and Murray Ranges. In the latter is Mount Dargal (5,661 feet). In the north-west is a range continued from Western Queensland, and in the south-west is the Grey Range; which stretches south as far as Broken Hill.

Trigonometrical Stations.

In order to give an idea of the elevation of the mountain peaks of the State, the following list of stations established in connection with the Trigonometrical Survey is included. Trigonometrical stations are erected almost invariably on the highest peaks in the locality, and the list contains stations having an altitude of 3,000 feet and over, the height, the latitude and longitude of each being given.

Up to the present a little more than one quarter of the State, namely, that portion contained in the south-east, has been triangulated, so that particulars cannot be given of the remaining part of the State. However, exclusive of the north part of the Dividing Range, the peaks are, except in isolated cases, less than 1,000 feet in height.

In most cases Trigonometrical stations bear the same name as the range or peak on which they are situated. Where that is not the case they have been called after stations or persons of the locality, and the names will not be found on the map, but their position will be determined without difficulty from the latitude and longitude.

In New South Wales there are 1,367 trigonometrical stations of heights ranging from less than 100 feet up to 7,305 (Mount Kosciusko); the number of stations of less height than 3,000 feet is 1,116; for the purposes of this Year-Book it is considered that these stations are relatively of unimportant altitude. Altitude is measured in feet above high water spring tide at Fort Denison (Port Jackson) :—

Trigonometrical Station.	Height.	Latitude South.			Longitude East.		
		°	'	"	°	'	"
Amungula	3,000	35	17	22	149	19	24
Hart	3,002	35	42	32	149	34	7
Poppet	3,004	35	16	27	149	18	0
Cohen	3,006	35	17	46	149	20	32
Strathaird	3,012	34	29	8	149	52	33
Martin (Co. King)	3,019	34	38	15	149	21	5
Maragle	3,024	35	53	1	148	5	54
Hopkins	3,027	33	35	17	149	4	21
Turalla	3,032	35	15	44	149	23	31
Bald (Co. Bathurst)	3,034	33	39	57	149	8	17
Kendall	3,050	35	29	51	148	0	40
Cowper (Co. Argyle)	3,051	34	32	41	149	51	58
Wayo	3,052	34	37	18	149	38	32
Somers	3,061	33	44	14	149	8	45
Tipperary	3,064	35	50	35	147	36	40
Mogila	3,066	36	42	9	149	30	38
Howard (Co. Bathurst)	3,089	33	49	14	149	3	20
Woolowalar	3,072	35	7	30	149	37	43
Billapalula	3,075	35	13	33	148	22	56
Coolumbooka	3,075	36	52	42	149	22	39
Elrington	3,077	35	33	37	149	36	39
Napier	3,083	36	49	7	148	53	47
Carangal	3,087	34	56	12	149	21	52
Peach	3,088	34	32	57	149	39	50
Wangat	3,090	32	10	50	151	41	55
Bunnhybee	3,106	35	40	20	149	37	15
Guinecor	3,106	34	20	25	149	55	58
Fitton	3,107	34	36	25	149	27	24
Courabyra	3,116	35	39	51	148	0	2
Pegar	3,119	34	32	12	149	32	30
Balcombe	3,120	35	22	39	149	23	4
Bettowynd	3,122	35	44	42	149	44	53
Harris (Co. Murray)	3,124	35	20	53	149	36	6
Wandellow	3,128	36	18	20	149	47	7
Hayden	3,130	37	3	34	149	1	46
Nunnery	3,131	34	22	23	149	53	41
Bemboka	3,140	36	35	51	149	38	14
Terramungula	3,141	34	59	33	149	26	40
Twynam	3,143	35	13	20	149	33	0
Bombala	3,144	36	55	58	149	16	51
Calvert	3,153	33	30	25	149	4	55
Bredbendoura	3,160	36	50	20	149	31	4
Barren Jack	3,162	34	58	1	148	36	30
Copperhannia	3,165	33	51	58	149	14	28
Batlow	3,168	35	29	28	148	8	31
Coomartha	3,170	36	11	3	149	14	40
Manar	3,198	35	20	24	149	38	51
Arkell	3,238	33	47	40	149	18	25
Rix	3,238	36	45	59	148	59	48
Indi	3,263	36	16	49	148	4	24
Rutledge	3,264	35	29	19	149	23	32
Bendethera	3,265	35	56	58	149	47	41
Wells (Co. Georgiana)	3,268	34	7	31	149	13	14
Cadia	3,270	33	26	35	149	1	32

Trigonometrical Station.	Height.	Latitude South.			Longitude East.		
		°	'	"	°	'	"
	ft.						
Cathcart	3,274	36	51	16	149	28	42
Tomah	3,276	33	32	45	150	25	31
Jingellec	3,279	35	56	6	147	36	5
Wollondibby	3,286	36	56	45	148	46	1
Bobundara	3,290	36	28	5	149	0	49
Tombong	3,296	36	53	48	148	51	34
Blacktop	3,297	31	57	7	150	55	53
Highest Point	3,314	34	32	15	149	26	19
Googong	3,320	35	28	38	149	14	8
Gidleigh	3,324	35	19	23	149	31	0
Wangellic	3,324	36	42	20	149	7	52
Allianoyonyiga	3,327	35	2	23	149	33	55
Undow	3,331	36	43	0	149	17	20
Clifford	3,347	36	4	43	149	13	35
Quidong	3,354	36	57	6	148	59	1
Jillicambra	3,361	36	9	43	149	36	15
Arable	3,365	36	21	7	149	0	30
Saubba	3,377	35	33	28	148	12	2
Willigam	3,380	34	28	36	149	40	27
Coolamatong	3,388	36	25	40	148	49	30
Wattman	3,388	34	29	15	149	25	9
Dangelong	3,390	36	20	33	149	13	58
Macalister	3,390	34	27	4	149	45	16
Rocks	3,395	33	26	31	149	24	26
Jimenbuen	3,398	36	43	36	148	48	23
Bungarby	3,410	36	39	28	149	4	20
Narranggullen	3,411	35	4	6	148	44	46
Berlang	3,414	35	39	18	149	40	45
Teapot	3,414	36	34	58	149	6	37
Khancoban	3,422	36	15	18	148	10	55
Moody	3,426	35	49	56	148	11	38
Snowball	3,426	35	55	55	149	36	54
Deua	3,434	35	52	59	149	41	17
Colong	3,436	34	7	33	150	8	40
Boundary (Co. Dampier)	3,438	35	50	24	149	34	27
Milo	3,440	35	38	38	149	53	8
Blyton	3,452	36	30	37	149	7	17
Substitute	3,458	37	16	33	149	8	11
Wyabene	3,466	35	48	18	149	41	0
Ryan (Co. Georgiana)	3,467	33	51	1	149	27	12
Bogandyera	3,470	35	54	0	147	57	3
Ahern	3,474	35	48	14	149	35	16
Shaw	3,485	36	35	50	148	53	31
Fulton	3,496	33	46	42	149	29	39
Wullwye	3,496	36	28	44	148	54	56
Fairfield (Co. Murray)	3,506	35	45	2	149	37	12
Alexander (Co. Wellesley)	3,525	36	50	48	148	41	38
Cooma	3,529	36	15	12	149	4	50
Yarrow	3,535	35	25	57	149	19	53
Macahally	3,557	36	6	45	149	20	1
Kerlewis	3,559	36	41	10	148	53	39
Blackheath	3,560	33	38	39	150	17	9
Micaligo	3,564	35	40	13	149	10	50
Berridale	3,565	36	19	11	148	50	40
Bogong	3,580	35	29	42	148	18	29
Coolangubra (New)	3,581	36	58	25	149	24	20
Rob Roy	3,585	35	29	50	149	7	48
White Rock	3,586	37	5	9	149	23	26
Coolangubra (Old)	3,615	36	59	13	149	23	48
Buckland	3,619	36	59	44	148	50	9
Tumbarumba	3,646	35	47	4	148	2	59
Molonglo	3,670	35	28	35	149	19	30

Trigonometrical Station.	Height.	Latitude South.			Longitude East.		
		ft.	°	'	"	°	'
Blackburn	3,673	36	37	29	148	42	29
Weejasper	3,674	35	9	47	148	38	14
Shivering	3,678	34	7	39	150	2	8
Lowes	3,708	33	35	31	149	48	46
Currockbilly	3,709	35	24	34	150	2	15
Jettiba	3,709	36	37	6	149	13	44
Colinton	3,714	35	52	11	149	11	44
Budawang	3,727	35	28	55	149	59	50
North Black Range	3,729	35	21	19	149	32	36
Wog Wog	3,732	37	5	46	149	25	56
Coolringdon	3,741	36	15	28	148	57	42
Thoko	3,768	36	39	12	149	19	57
Werri Berri	3,793	36	31	2	149	31	54
Bull	3,798	36	39	18	149	25	3
Murrumbucka	3,835	36	1	54	149	3	37
Hartwood	3,840	35	8	7	148	45	12
Nimmitabel	3,840	36	32	0	149	15	48
Stannard	3,841	36	2	37	149	22	17
Black Jack	3,844	36	47	14	148	37	54
Bald (Co. Cook)	3,848	33	26	52	150	14	27
Crookshanks	3,851	36	9	39	148	57	40
Brother	3,859	36	21	46	149	6	32
Royal	3,864	32	10	33	151	19	41
Numbla	3,875	36	37	6	148	45	19
Gourook	3,900	35	29	41	149	38	39
Backalum	3,904	36	4	0	148	55	59
Campbell (Co. Murray)	3,906	35	30	22	149	11	50
Dowling	3,929	35	56	44	149	16	58
Pinbeyan	3,938	35	44	52	148	22	28
Kybeyan	3,938	36	16	17	149	24	43
Macquarie	3,943	33	38	53	149	10	57
Beloka	3,961	36	29	50	148	42	14
Emerald	3,965	36	31	18	149	20	42
Cromwell	3,994	35	18	0	148	39	40
Tumorrana	3,997	35	14	29	148	30	7
Hudson's Peak	4,035	36	26	36	149	10	0
Jinderboine	4,043	36	24	13	148	39	59
Throsby	4,043	36	24	49	149	20	28
Umaralla	4,046	36	11	56	149	24	14
Bolero	4,047	36	0	9	148	51	10
Byadbo	4,054	36	51	7	148	32	29
Kydra	4,054	36	24	35	149	30	38
Dampier	4,059	35	59	29	149	40	28
Glenbog	4,068	36	35	58	149	23	5
Nimbo	4,083	35	22	22	148	29	33
Abington	4,130	36	30	27	148	34	28
Cobbin	4,133	36	26	25	148	35	16
Palerang	4,134	35	25	54	149	36	2
South Black Range	4,141	35	25	34	149	32	6
Whinstone	4,151	35	55	43	149	25	5
Ovens	4,164	33	24	47	149	46	41
Good Good	4,184	36	3	21	149	28	5
Bullenbalong	4,195	36	19	23	148	43	18
Stony	4,199	33	25	27	149	49	2
Hyde	4,216	35	38	53	148	8	28
Lambie	4,219	33	28	24	149	59	25
Buckenderra	4,200	36	8	49	148	48	42
Delegete	4,283	37	6	52	148	53	56
Jibeen	4,320	35	28	28	148	27	45
Wambrook	4,347	36	11	35	148	53	2
Wangrah	4,348	35	53	19	149	20	8
Major	4,366	35	29	10	149	36	22

Trigonometrical Station.	Height.	Latitude South.			Longitude East.		
		°	'	"	°	'	"
Boraig	4,368	35	40	33	148	23	36
Wadbilliga	4,383	36	20	14	149	36	13
Lowden	4,414	35	30	13	149	35	0
Bindo	4,460	33	40	45	150	0	40
Cowangerong	4,466	35	39	48	149	30	50
Big Badja	4,466	36	0	26	149	34	2
Nurenmerenmong	4,475	35	50	29	148	17	53
Queengallery	4,498	36	4	49	148	48	48
Biggam	4,522	36	12	47	148	42	35
Tennent	4,534	35	33	7	149	2	46
Talbingo	4,538	35	36	55	148	20	0
Baloo	4,551	35	25	26	148	21	41
Cockcrow	4,555	32	7	20	151	18	14
Holland	4,563	35	46	32	149	19	44
Canoblas	4,576	33	20	46	148	59	1
Wallgrove	4,578	35	59	8	148	41	32
Bramina	4,584	35	23	58	148	41	23
Anembo	4,642	35	52	34	149	29	27
Ingebirah	4,656	36	38	46	148	27	28
Tumanang	4,656	35	47	2	149	31	31
Coree	4,657	35	18	34	148	48	42
Granite	4,715	35	43	39	148	13	9
Tingi Ringi	4,747	36	59	59	148	40	42
Garnet	4,754	35	25	0	148	36	14
Boboyan	4,781	35	48	3	148	59	23
Slap-up	4,812	35	57	0	149	30	44
Cobrabald	4,816	36	6	21	148	40	38
Tumanang... ..	4,835	35	45	2	149	28	19
Crackenback	4,858	36	25	18	148	32	22
Flinders	4,867	35	57	39	149	2	2
Nimmo	4,873	36	12	4	148	35	29
McKeahnie	4,904	35	33	26	148	52	28
Youngal	4,964	36	23	49	148	7	12
Gooandra	4,986	35	47	40	148	30	25
Tidbinbilla	5,115	35	26	19	148	52	55
Thredbo	5,184	36	32	13	148	26	26
Booth	5,191	35	43	51	149	2	32
Brest	5,203	35	54	14	148	53	52
Clear	5,255	35	52	41	149	3	57
Manjar	5,255	35	58	18	148	19	34
Orroral	5,266	35	38	49	148	56	0
Selwyn	5,288	35	54	17	148	27	52
Peppercorn	5,300	35	33	32	148	35	9
Nattung	5,306	35	42	39	148	36	25
Tinderry	5,307	35	41	58	149	16	22
Addicumbene	5,315	36	2	12	148	33	36
Gang Gang	5,321	35	52	34	148	44	17
Yarrangobilly	5,336	35	41	2	148	31	17
Lampe	5,338	35	31	21	148	25	36
Munyang	5,382	36	17	34	148	33	46
Franklin	5,391	35	29	14	148	46	39
Jackson	5,404	35	34	48	148	42	8
Toolong	5,479	36	11	47	148	15	21
Nungar	5,608	35	50	30	148	39	5
McLean	5,622	36	11	52	148	29	35
Jounama	5,628	35	33	55	148	28	0
Yaouk	5,655	35	51	37	148	51	52
Dargal	5,661	36	6	20	148	13	26
Gudgenby	5,702	35	46	26	148	54	42
Kiandra	5,723	35	52	37	148	34	2
Vale	5,733	36	2	48	148	27	42
Lett	5,755	36	2	50	148	21	47

Trigonometrical Station.	Height.	Latitude South.	Longitude East.
	ft.	° ' "	° ' "
Adaminaby	5,776	36 6 27	148 33 13
Cabramurra	5,850	35 58 34	148 30 32
Pilot	6,002	36 45 22	148 12 26
Greymare	6,129	36 15 29	148 17 26
Morgan	6,144	35 44 19	148 47 0
Bimberi	6,264	35 39 41	148 47 31
Duncan	6,306	36 25 46	148 24 17
Jagungal	6,755	36 9 0	148 23 21
Gungartan... ..	6,776	36 17 12	148 24 10
Townsend	7,238	36 25 30	148 15 36
Kosciusko	7,305	36 27 28	148 15 53

CLIMATE.

Under the Commonwealth of Australia Constitution Act the function of making and administering laws in regard to astronomical and meteorological observations throughout Australia vests in the Federal Government. Accordingly, with the enactment of the "Commonwealth Meteorological Act, 1906," the Commonwealth Meteorologist became empowered to take and record meteorological observations, to forecast weather, issue storm warnings, display weather, flood, frost, and cold wave signals, distribute meteorological information, and generally to further public interests in so far as they are dependent on a knowledge of meteorological conditions. The meteorological services previously controlled by the State were thereupon given over in favour of the Commonwealth. A special climatological station is maintained at Sydney, as the centre of a subdivision, for meteorological purposes, of Australia which includes the greater part of New South Wales.

WEATHER FORECASTS.

According to the Commonwealth Meteorologist, Mr. H. A. Hunt, weather is chiefly determined by anticyclones or areas of high barometric pressure, in which the winds blow spirally outward from the centre or maximum. These anticyclones pass almost continuously across the face of the continent of Australia from west to east. The explanation of the existence of such high-pressure belts probably lies in the fact that the area is within the zone in which polar and equatorial currents meet and for some time circulate before flowing north and south. The easterly movement depends on the revolution of the earth.

A general surging movement occasionally takes place in the atmosphere, sometimes towards, and sometimes from, the equator. The movement causes sudden changes in the weather—heat when the surge is to the south, and very cold weather when it moves towards the equator. Probably, these sudden displacements of the air systems are due to thermal action, resulting in expansion or contraction in the atmospheric belts to the north and south of Australia.

New South Wales is peculiarly free from cyclonic disturbances, although occasionally a cyclone may reach the State from the north-east tropics or the Antarctic low pressure belt which lies to the south of Australia, or may result from monsoonal disturbances. Flag signals to indicate weather forecasts are displayed from the Customs House, Sydney, one class indicating storm warnings and a second general forecasts as to fair weather, rain, cold, or heat waves. Storm signals are hoisted on the flagstaff at the General Post Office to denote the approach of southerly squalls from Wollongong, Jarvis Bay, and Eden reporting stations.

THE SEASONS.

The seasons, depending on the annual march of temperature, occur in New South Wales, from a meteorological point of view, as follows:—Summer months, December, January, and February; autumn months, March, April, and May; winter months, June, July, and August; spring months, September, October, and November.

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

The comparatively low latitudes offer a remarkable variety of temperate climates. From Kiandra, on the Southern Tableland, to Bourke, on the Great Western Plain, the climate may be compared with that of the part of Europe from Edinburgh to Messina; but more generally it resembles that of Southern France and Italy.

RAINFALL AND TEMPERATURE.

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

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

The chief agencies for precipitating rainfall are also three in number, viz., Antarctic depressions, monsoonal depressions, and anticyclonic systems. Antarctic depressions are mainly responsible for the good winter rains in the Riverina and on the South-western Slopes. A seasonal prevalence of this type of weather would cause a low rainfall on the coast and tablelands, and over that portion of the inland district north of the Lachlan River. A monsoonal prevalence ensures a good season inland north of the Lachlan, but not necessarily in eastern and southern areas. An anticyclonic prevalence results in good rains over coastal and tableland districts, but causes dryness west of the mountains. Equal representation of all these agencies, in conjunction with the main governing features previously stated, result in a good season throughout the State.

Generally speaking, June is the wettest month in all southern districts west of the highlands; in other parts of the interior the month of greatest humidity is January, February or March. On the Northern Tablelands, the Central Western Slopes and Central Western Plains, January claims the highest monthly average. On the North-western Plains and over the country to the north of the Darling and east of the Paroo, February is the wettest month, March enjoying the heaviest average in the far north-west quarter and over the central Darling country between Tilpa and Pooncarie.

Over the coastal districts every month, except November, is represented in some part or another as the wettest.

Information as to the amount of rainfall necessary for the production of wheat during the growing months of April to October, and the districts included in the wheat area of the State, may be found in the part of this Year Book which deals with Agriculture.

No systematic study has yet been made of the possible effects or of the influence direct or indirect upon climate, especially as regards rainfall and evaporation, which may be exerted by surface alterations, e.g., the removal of forest growth to permit of the extension of pastoral and agricultural industries or the extension of water conservation and irrigation and intensive culture, but an example of the influence of such surface alteration may be traced on the north coast of New South Wales, where, conterminously with the clearing of the land for rural industries, the area liable to frosts has been extended.

The following table shows the variation in rainfall in the inland portions of New South Wales during the period 1903-11. It bears out the statement that a universal shortage of rain is not probable—while such a misfortune has seldom devastated a whole climatic region. For instance, in 1903 and 1904 the Western Plains suffered from low rainfall, but the North-west Slopes had more than the average. In 1905-6 the conditions were exactly reversed, and better conditions reigned in the west. The Riverina and Southern Highlands are also able to exchange benefits. In 1903 and 1905 the latter were in the better position, but in 1910, when they were dry, the Riverina rainfall was above the average. Transfer of stock is obviously able to meet the case when such conditions obtain in contiguous areas:—

WET AND DRY REGIONS IN NEW SOUTH WALES.

		Above the Average.			Below the Average.	
1903	...	Trans-Darling ...	...	...	Western Plains.	
		New England ...	...	...	Riverina.	
		Northern Rivers.				
		Blue Mountains.				
1904	...	North-west Slopes	...	...	Trans-Darling.	
		Hunter Valley	...	...	Northern Rivers.	
		Illawarra ...	...	...	Southern Tableland.	
					Western Plains.	
1905	...	Western Plains	...	...	North-west Slopes.	
		Kosciusko Area	...	...	Trans-Darling.	
					Other Highlands and Coast.	
1906	...	Trans-Darling ...	...	...	Other Highlands and Coast.	
		Western Plains.				
		Riverina, etc.				
		Kosciusko.				
1907	...	North-west Plains	...	...	Trans-Darling.	
		North-west Slopes	...	...	Western Plains	
					Highlands and Coast.	
1908	...	North Coast and N.E. generally	...	...	Remainder of State.	
1909	...	Highlands and Western Slopes	...	...	Far West.	
					Western Plains.	
					Coastal regions.	
1910	...	Far West	...	...	Western Plains.	
		West Riverina	...	...	North Coast.	
		North-west Slopes	...	...	Hunter and Macquarie.	
		Blue Mountains.				
1911	...	Western Plains	...	...	North-west Slopes.	
		Whole State, except N.E.	...	...	North Coast.	

The annual rainfall over a great part of the inland division, which lies in the zone of perpetual high pressure, does not exceed 10 inches. It increases from 8 inches on the extreme western boundary of New South Wales to 10 and 15 inches along the Darling River, and 20 inches on the eastern limits. The mean annual temperature ranges from 69° in the north to 62° in the south; in the summer from 83° to 74°, and in the winter from 53° to 45°.

Where there is stagnation, however, the air resting over the sandy soils of the interior becomes superheated, and on reaching the western districts of the eastern States shows a temperature sometimes as much as 40° above

the normal. Extensive bush fires also cause a local rise in temperature, and this is due, not only to the actual heat generated, but also to the liberation of combustible matter into the atmosphere; and it has further been affirmed that the presence of a small excess of carbonic acid gas above the normal quantity in air raises the temperature several degrees. The winter, with an average temperature of over 50°, accompanied by clear skies and an absence of snow, leaves little to be desired from the standpoint of health; while, also owing chiefly to the dryness of the climate, these inland regions produce the best merino wool in the world.

CLIMATIC DIVISIONS.

The territory of New South Wales covers four quite distinctive climatic zones, viz.—On the Coast, the Tablelands, the Western Slope of the Dividing Range and the Western Plains, including the extreme Western Division; the Great Dividing Range, which includes the Tablelands, traverses the State, practically parallel with the Coast, but at a distance ranging from 30 to 150 miles, and is, in fact a dividing line between the Coastal and Inland regions.

Coast.

In the whole Coastal division, which covers 22,355,401 acres between the Pacific Ocean and the Great Dividing Range, the rainfall average is comparatively high; and, moreover, numerous rivers and streams flow from the eastern watershed of the mountains to the sea. Sydney is situated on the shores of Port Jackson, halfway between the extreme northern and southern limits of the State, in latitude 33° 51' 41.1" S., longitude 151° 12' 23.1" E. Its mean annual temperature is 63° Fahrenheit, corresponding with that of Barcelona in Spain, in latitude 41° 22' N., and Toulon in France, in latitude 43° 7' N. The range is only 17°, calculated over a period of fifty-three years, the mean summer temperature being about 71°, and the mean winter temperature 54°. At Naples, which has about the same mean temperature as Sydney, the range is 27°, between the means 74° and 47°.

The following table shows the average monthly meteorological conditions of Sydney based on the experience of the fifty-three years ended 1911:—

Month.	Average Reading of Standard Barometer at 9 a.m. corrected to 32° Fah. and to mean sea level.	Temperature (in shade).			Rainfall.			
		Mean Standard.	Average Reading of Maximum Thermometer.	Average Reading of Minimum Thermometer.	Average Monthly.	Greatest Monthly.	Least Monthly.	Average number of days' Rain.
January ...	29.901	71.6	78.3	64.9	3.667	15.257	0.419	14.3
February..	29.943	71.0	77.2	64.8	4.695	18.556	0.344	14.2
March ...	30.020	69.2	75.4	63.0	5.074	18.700	0.419	15.3
April ...	30.073	64.6	70.9	58.1	5.236	24.490	0.060	13.2
May ...	30.032	58.5	65.0	52.1	4.949	20.868	0.214	15.4
June ...	30.060	54.3	60.4	48.2	5.181	16.296	0.190	12.9
July ...	30.079	52.3	58.9	45.7	4.678	13.208	0.120	12.3
August ...	30.076	54.9	62.2	47.5	3.290	14.886	0.040	11.6
September ...	30.016	58.9	66.3	51.3	2.891	14.045	0.083	12.2
October ...	29.966	63.4	71.0	55.8	2.816	10.810	0.210	12.7
November ...	29.953	67.0	74.3	59.6	2.916	9.880	0.193	12.5
December ...	29.881	70.1	77.3	62.8	2.602	8.469	0.453	12.8
The whole year ...	30.004	63.0	69.8	56.2	47.995	24.490	0.040	159.4

The North Coast districts, which include part of the extreme easterly section of Australia, and the most easterly cape (Byron), are favoured with a warm, moist climate, the rainfall averaging from 40 to 70 inches annually. The mean temperature for the year is from about 66° to 69°, the summer mean, being 75° to 78°, and the winter mean 56° to 58°. On the South Coast the rainfall varies from 30 to 60 inches, and the mean temperature ranges between 57° and 63°, the summer mean being from 66° at the foot of the ranges to 70° on the sea coast, and the winter from 48° to 54° over the same area.

Coastal rains come from the sea with both south-east and north-east winds, being further augmented in the latter part of the year by thunder-storms from the north-west. The principal precipitating agencies are the Antarctic depressions, the anticyclones when travelling in high latitudes, and in the extreme north-east reliable rains are precipitated by the south-east trades.

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

Station.	Least Distance from East Coast.	Altitude.	Temperature (in Shade).						Rainfall— Mean Annual.
			Mean Annual.	Mean Summer.	Mean Winter.	Mean Daily Range.	Highest.	Lowest.	
	miles.	feet.	°	°	°	°	°	°	inches.
Casino	28	82	67·1	74·2	56·3	25·6	116·4	21·0	43·77
Lismore	13	52	67·8	78·2	59·4	22·2	116·2	23·0	53·11
Clarence Heads	0	122	68·1	74·4	58·6	15·1	108·0	36·4	55·60
Grafton	22	40	67·2	77·1	57·6	27·0	118·0	20·9	38·97
Port Macquarie	0	49	63·8	71·6	54·9	17·6	105·4	24·8	61·22
Singleton	40	135	64·2	76·1	52·1	20·3	113·9	22·0	29·86
Morpeth	15	20	63·8	73·9	54·3	18·1	108·7	26·0	38·57
West Maitland	18	40	64·3	75·0	52·8	20·5	115·0	24·0	33·65
Port Stephens	0	30	64·1	72·6	53·1	20·8	111·2	30·2	52·97
Newcastle	1	34	64·5	72·5	55·4	15·4	110·5	31·3	47·11
Pitt Town	26	40	64·0	76·1	52·6	20·0	113·0	27·2	30·83
Emu	36	87	62·7	73·2	50·4	16·2	107·6	26·8	29·88
Sydney	5	146	63·0	70·9	53·9	13·6	108·5	35·9	47·99
Wollongong	0	54	62·9	70·1	54·8	17·0	113·4	31·9	42·08
Nowra	6	30	62·8	70·6	54·3	21·0	110·3	29·6	36·57
Point Perpendicular	0	284	61·6	69·1	53·8	15·0	105·2	25·5	56·03
Moruya Heads	0	50	61·2	68·2	53·1	19·8	114·8	22·3	35·13
Bodalla	7	40	59·9	69·1	50·5	27·7	114·1	18·6	35·96
Bega	0	50	59·7	69·6	48·9	24·9	115·6	16·6	31·17
Eden	0	107	60·0	67·7	51·8	14·2	106·0	29·3	34·15

Taking the coast as a whole, the difference between the mean summer and mean winter temperature is not much over 20°—a range so small as to be rarely found in other Countries.

Tablelands.

The Tablelands cover 25,831,246 acres. On the Northern Tableland the rainfall is consistent, ranging from 30 inches in the western parts to 40 inches in the eastern. The temperature is cool and bracing, the average for the year being between 54° and 60°; the mean summer temperature lies between 65° and 70°, and the mean winter between 43° and 45°. The Southern Tableland is the coldest part of the State, the mean annual temperature being only 56°. In summer the mean ranges from 57° to 68°, and in winter from 34° to 44°. At Kiandra, the elevation of which is 4,640 feet, the mean annual temperature is 44·5°. Near the southern extremity of the tableland, on the Snowy and Muniong Ranges, the snow is present generally throughout the year.

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

Station.	Least Distance from East Coast.	Altitude.	Temperature (in Shade).						Rainfall— Mean Annual.
			Mean Annual.	Mean Summer.	Mean Winter.	Mean Daily Range.	Highest.	Lowest.	
	miles.	feet.	°	°	°	°	°	°	inches.
Tenterfield	80	2,827	59·4	70·1	47·2	25·6	107·1	12·0	33·48
Inverell	124	1,980	60·0	73·1	45·9	25·0	110·6	13·4	30·69
Glen Innes	90	3,518	57·9	68·2	44·4	24·7	107·3	14·4	32·07
Bundarra	113	2,000	60·8	72·3	48·8	25·2	101·0	17·5	30·15
Armidale	81	3,333	56·4	67·8	44·0	24·3	105·2	13·9	31·61
Walcha	83	3,386	54·5	66·3	47·4	23·4	104·1	10·0	30·70
Murrurundi	94	1,545	60·9	73·7	49·7	19·8	107·3	19·0	31·76
Cassilis	120	1,500	60·8	73·6	45·3	21·7	111·7	15·8	23·88
Scone	78	680	62·7	74·8	49·8	23·4	114·4	22·2	23·61
Muswellbrook	68	475	63·8	75·2	49·4	25·4	117·6	19·0	23·57
Mudgee	121	1,635	62·1	73·8	49·0	29·3	114·9	18·0	25·96
Bathurst	96	2,200	57·2	70·0	44·1	28·3	112·5	13·0	23·75
Kurrajong Heights	35	1,870	53·3	61·7	43·9	13·3	99·5	25·5	49·93
Mount Victoria	61	3,490	54·4	65·2	42·6	19·6	106·0	11·9	36·81
Katoomba	58	3,349	53·5	63·0	42·4	15·3	100·0	25·9	55·67
Carcoar	111	2,380	56·1	70·4	43·0	19·4	104·9	15·4	29·62
Springwood	42	1,216	61·1	70·8	47·2	17·4	104·8	32·5	40·57
Cowra	126	987	63·1	78·8	48·5	23·5	116·1	21·0	24·24
Picton	22	549	60·0	71·7	49·2	24·3	112·0	19·7	29·11
Crookwell	81	2,000	52·0	64·7	39·4	23·7	100·8	12·1	31·93
Moss Vale	31	2,205	55·7	66·1	44·1	17·7	106·0	18·9	38·21
Goulburn	54	2,129	56·4	67·9	44·0	24·6	111·0	13·0	25·34
Yass	92	1,657	58·5	71·8	44·1	20·7	108·5	21·5	23·85
Queanbeyan	60	1,899	56·5	67·4	42·0	22·2	109·4	15·8	22·52
Kiandra	88	4,640	44·5	56·4	32·4	24·0	102·3	²⁰ below zero	64·08
Cooma	52	2,637	54·3	60·2	41·6	29·1	112·0	8·5	19·04
Bombala	37	3,000	53·9	62·4	42·8	26·6	104·1	15·5	22·61

The country west of the Dividing Range includes the Western Slopes, covering 24,251,881 acres, the Western Plains, and Riverina with 45,827,854 acres, and the extreme Western Division with 80,368,498 acres. On the Western Slopes the rainfall is distributed uniformly, varying from 20 inches in the western parts to 30 inches in the eastern; the greater part of the wheat growing area of the State is situated on these slopes, an average rainfall of 25 inches ensuring good yields. The mean annual temperature ranges from 69° in the north to 60° in the south; in the summer from 81° to 74°, and in the winter from 53° to 47°.

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

On the Western Plains, and in the extreme Western Division, the average rainfall is low. From the western watershed of the Great Dividing Range the rivers Murray and Darling flow towards the Southern Ocean, and in the extreme west of the State are the Barrier and Grey Ranges, the highest elevation being 2000 feet.

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

Western Slopes.

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

Station	Least Distance from East Coast.	Altitude.	Temperature (in Shade).						Rainfall—Mean Annual.
			Mean Annual.	Mean Summer.	Mean Winter.	Mean Daily Range.	Highest.	Lowest.	
	miles.	feet.	°	°	°	°	°	°	inches.
Moree	204	680	68·6	81·1	54·5	26·5	117·3	18·0	23·60
Warialda	162	1,166	63·4	77·8	49·3	29·4	117·7	16·0	28·35
Bingara	153	1,200	63·9	75·1	52·7	28·4	116·6	15·5	31·15
Narrabri	193	697	66·8	81·0	51·8	28·8	118·9	18·4	26·39
Gunnedah	156	874	66·1	79·6	51·2	28·0	120·6	16·7	24·91
Coonabarabran	185	1,710	59·9	73·1	46·4	33·1	111·9	11·4	29·63
Quirindi	115	1,278	63·9	76·5	48·5	27·1	113·6	17·0	27·93
Dubbo	177	863	63·6	77·4	49·2	27·4	115·4	19·9	22·39
Forbes	176	789	62·8	76·8	48·6	24·5	118·4	24·0	19·90
Young	140	1,416	61·2	74·1	48·3	28·2	113·9	20·3	25·30
Marsdens	187	700	64·8	76·8	49·2	25·0	119·7	19·0	19·70
Murrumburrah	126	1,268	61·1	72·7	46·9	27·1	114·9	20·0	23·95
Wagga Wagga	158	615	61·6	76·0	47·3	28·1	119·0	18·4	21·57
Urana	213	400	62·3	76·2	48·1	22·6	117·0	18·4	16·91
Albury	175	531	60·7	74·4	47·2	28·3	117·3	20·2	27·91

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

Although the summer readings of the thermometer in this district may be from 10° to 20° higher than those on the coast, the heat is not distressing, and is, in fact, preferred by many people to the moisture and more enervating heat of the coastal regions. Excessive heat is experienced occasionally, and with many summers intervening, its occurrence being in all probability due to a temporary stagnation in the easterly atmospheric drift. Under normal conditions, air entering Western Australia with a temperature from 70° to 80° would only accumulate 20° to 25° by contact with the radiation from the soil during its passage across the continent.

Western Plains.

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

Station.	Least Distance from East Coast.	Altitude.	Temperature (in Shade).						Rainfall— Mean Annual
			Mean Annual.	Mean Summer.	Mean Winter.	Mean Daily Range.	Highest.	Lowest.	
	miles.	feet.	°	°	°	°	°	°	inches.
Brewarrina	345	430	69·3	84·0	52·9	26·3	122·3	24·8	16·55
Walgett... ..	286	522	68·3	82·8	52·9	25·7	122·2	23·7	18·93
Bourke	386	350	69·3	84·0	54·2	27·6	127·0	25·0	15·04
Wilcannia	473	246	66·5	80·3	52·1	26·2	120·8	21·8	10·19
Cobar	345	803	66·6	81·5	51·7	24·9	118·7	25·0	14·50
Broken Hill	555	1,000	65·0	78·1	51·0	24·3	115·9	28·5	9·30
Mount Hope	296	600	65·3	80·9	50·3	24·8	123·6	24·6	15·10
Condoblin	227	700	62·7	76·8	50·8	25·6	122·2	20·5	17·57
Wentworth	478	144	64·1	76·9	51·1	26·7	119·0	25·0	11·93
Hay	309	291	63·5	76·5	50·5	28·0	117·3	24·9	14·12
Euston	422	188	64·2	77·0	51·0	33·2	124·8	17·1	12·32
Deniliquin	287	268	61·9	74·6	48·2	30·2	121·1	18·0	16·29

For the purpose of making weather forecasts for Australia the Continent is classified according to the distinctive type of climate characterising the area: the northern area, including Queensland, is characterised by a moist, warm climate, with a well-defined maximum of rainfall at mid-summer; the central arid area is hot and dry, the rainfall irregular, chiefly occurring in summer and accompanied by electrical disturbances; in the southern area the climate is generally warm and temperate, rain falling in winter and spring, chiefly following the northern path of westerly winds at those periods. Over a long belt stretching from Peak Hill, in Western Australia, through

Oodnadatta and across to Sydney, the rainfall is chiefly autumnal, due to the interaction of cyclones and anticyclones. It is evident that such diversity of climate over the continent precludes a general drought, while it also accentuates the difficulty of long distance forecasting. Given that coastal and continental regions have opposite weather cycles, it can be understood that the above conditions apply particularly to New South Wales with its distinctive coastal, tableland, and inland regions.

PREVAILING WINDS.

In the summer months the prevailing winds blow from the north on the coast of New South Wales, with an easterly tendency which extends to, and in parts beyond, the highlands; in the western districts the winds usually have a westerly tendency.

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

The highest barometric reading, and the deepest anticyclonic area, extend over the centre of Australia. From such a high-pressure area the currents of wind begin to flow by force of gravity to the surrounding regions of lesser pressure, commencing at first with very light breezes flowing almost parallel to the trend of the isobar; but as they gather momentum they become more and more deflected, until on reaching the limit of the propelling force they blow nearly at right-angles to their isobars. This is more especially noticeable when the south-eastern and south-western parts of the continent are reached, for in those regions the well-known V-shaped depressions of the Antarctic low-pressure belt add their attractive inner force to the outward repelling force of the high-pressure areas. The velocity of the wind at these points is thus considerably accelerated, hence storms and heavy seas prevailing during the winter months off the Leeuwin, in Western Australia, and on the coast of Victoria.

Following the path of a current of wind from the centre of a high pressure to its destined goal, viz., the centre of a low pressure, it will be found to describe an evolute curve, or to circulate spirally outwards in its early stages, while the reverse is the case in the wind-path of low-pressure or cyclonic systems, the final stages being in the form of an involute curve. In addition to these phenomena of the wind in high and low pressure areas, there is also a tripping motion or deflection earthwards.

As winter merges into spring, and spring into summer, the passing of the sun to the south of the equator causes the tropical low-pressure belt to descend polewards, and within close touch of Australia. The high-pressure belt which influences the weather in the winter months is likewise forced southwards, and travels over the Southern Ocean, an occasional anticyclone reaching the mainland in the latter end of the spring, but seldom in summer.

With the southward trend of this low-pressure belt, the weather is controlled during the summer months by sub-tropical conditions. The barometers on the mainland being relatively low as compared with the prevailing readings over the western, southern, and eastern ocean surrounding, a reversal

of direction in wind currents takes place as compared with that experienced in winter. The depression then ensuing on the mainland (instead of a high pressure) is still further intensified by the action of the sun on the central plains of Australia; the winds immediately begin to respond to the low-pressure attractive force, and flow in from the surrounding ocean with a spiral motion. This movement must be duly regarded, or the cause of the prevailing north-east winds, as well as the "southerly bursters" on the coastal districts of New South Wales, will not be clearly understood.

With a high-pressure system over the Tasman Sea, another to the west the Great Australian Bight, monsoonal or tropical low depressions covering the greater part of the mainland, and an Antarctic V-depression to the west of the Tasman Sea, the wind conditions will be as follows:—

In the first place, the high pressure lying to the east of New South Wales, conforming to the laws of wind circulation in the southern hemisphere, has a northerly circulation on its western limits. As this boundary lies almost parallel to the trend of the coast-line, northerly winds are found to prevail some distance off the shore; but the circulation is weak, owing to the depleted energy in anticyclones at this time of the year (summer), and it is, therefore, necessary to look elsewhere for some other cause for the strength which prevails in the seasonal north-easters.

Continued observation at Sydney shows that these winds are barely perceptible during the morning hours; in fact, up to noon the air is hot and muggy, owing to a listless veering to the north-west bringing back the reflected heat in the air from the country lying between the seaboard and the mountains. But at noon, or shortly afterwards, a decided freshening takes place, until at about 3 p.m. a moderate to fresh breeze is blowing along the seaboard. Later in the day the force of the wind relaxes, until at sundown it ceases entirely.

These characteristics may occur day after day; and if such be the case, there is a tendency for the wind to commence earlier, and die away later. If no break occurs in the weather in the shape of a "southerly burster" or a thunderstorm, the north-easter, after blowing continuously for several days, may eventually blow throughout the night. In the early morning there will be a lull, followed by a fog—the precursor of a hot day. The fog is soon dissipated by light westerly winds and blown away to sea, and the wind then veers to the N.W., gradually increases in force, and is accompanied by a rapid rise in the temperature. The thermometer may, indeed, rise as much as 10 or 20 degrees in the course of a few hours, occasionally reaching a maximum of 100 degrees and over. During the evening a thunderstorm may bring temporary relief, only to be followed by a sweltering night and a return of the north-west wind on the succeeding day. The heat conditions will probably be dissipated then by a "southerly burster," lasting possibly till morning. The "southerly burster" rarely persists for any lengthened period after sunrise during the midsummer months; but in late spring or early autumn it may last for several days.

The cause of the initial direction of the north-easters has been stated above; but it is in the low-pressure conditions prevailing over the interior that an explanation of their velocity is to be sought. In the early morning the barometers in that region are uniformly level; but with the rising of the sun the air becomes heated, expands, and ascends. A fall in the barometric pressure is the result, while to fill the partial void occasioned by the rising of the heated air, a current sets in from the coastal regions. This indraft to the interior gathers strength in proportion to the increase of the sun's power there, while it diminishes with the declining sun according as the inflow is sufficient to raise the inland pressure to uniformity.

But while this low pressure is fairly constant over the mainland, the anti-cyclone in the Great Bight is steadily moving eastward over the Southern Ocean, with its accompanying Antarctic depression in advance. When this low pressure has passed to the east of Tasmania, its vortical power is also exercised upon the northerly current blowing off the coast, with the result that the north-easter is deflected into a north-wester, and the winds are drawn from the interior across the coastal regions in response to this new attractive force. The V-depression, impinging on the high pressure to the east of it, and at the same time being compressed by the still advancing high pressure to the west, loses its former obtuse-angular formation, which finally becomes acute. A line bisecting this angle divides the northerly circulation in the fore-angle from the southerly circulation in that of the rear. At the same time the entire system is sucked northwards by the continental depression. Hence it follows that in succession to the extremely hot north-westerly winds we experience after a very short lull a burst from the south of even greater velocity than that of the preceding currents. The thunderstorms that frequently precede or accompany the change are probably caused by the violent intermixing of these opposing currents, with their extremes of dryness and humidity, assisted in no small measure by the dust particles pervading the air generally.

OBSERVATORY RECORDS.

Sydney Observatory, lat. $33^{\circ} 51' 41.1''$ south, long. $151^{\circ} 12' 23.1''$ east, established in the year 1856, is an institution of a scientific and educational character maintained by the State. Situated in a commanding position, 144 feet above sea-level, it is admirably fitted by natural conditions for the purpose of taking observations; but the growth of the city has caused such adverse atmospheric conditions that another site has become essential, and it is expected that one suitable for the purpose will be selected during the year, and a building erected having all the latest and improved equipment.

Daily time-ball services are maintained at Sydney and Newcastle, and the Post and Telegraph Department, and several watch-making establishments, are regularly advised as to the correct time.

During 1911 137 earth tremors were recorded on a Milne seismograph; the observations taken comprised 884 zone stars, 474 clock stars, 111 azimuth stars, and 357 determinations of collimation and azimuth. In addition, sixteen pairs of double stars were measured with the aid of $11\frac{1}{2}$ -inch refractor; and at the Red Hill Observatory Station magnetic work has been continued, the mean variation for the year being $9^{\circ} 23' 0''$ east (from eighty-one observations), and the mean dip $63^{\circ} 6' 0''$. The resultant mean variation at Sydney is $9^{\circ} 27' 0''$.

There are a number of private observatories in the State doing good astronomical work, of which one of considerable importance is maintained at Riverview College, Lane Cove River; the seismometers are of the most modern type, and from this observatory are issued monthly bulletins detailing the records and observations made. Another well-known private observatory is that owned by Mr. John Tebbutt, at Windsor.

Meteorological observations are directed by a special Bureau situated at the Sydney Observatory, under the administration of the Commonwealth Government. Three bulletins and one weather chart are published daily by the Bureau. They contain full reports from 228 stations. During the year many bulletins, weather charts, and rain maps of New South Wales are issued.

The Observatory at Sydney was visited by 642 persons during 1911.

SCIENTIFIC EXPEDITIONS.

On the 9th May, 1910, a total eclipse of the sun was observed at Bruni Island, Tasmania, by a party of Australian scientists, including representatives from New South Wales.

The weather was not propitious, and clouds and rain on the day of the eclipse interfered with the chief object of the expedition.

With the intention of witnessing, on the 29th April, 1911, another total eclipse of the sun, and to take observations of the corona, an expedition, representative of Australian States, visited the Island of Vavau, of the Tongan Group, Friendly Islands, in the Pacific Ocean.

Valuable photographs of the corona were obtained, many of the negatives showing much detail, but during the short period of 217 seconds of obscuration the sky became cloudy, and the view of the eclipse was disappointing.

During recent years there have been three British expeditions to the Antarctic, namely, "The Discovery," "Nimrod," and "Terra Nova."

With the expedition led by Lieutenant Shackleton, who sailed in the "Nimrod" in 1908, were included representatives from New South Wales.

A party from this expedition found the South Magnetic Pole, and on the 9th January, 1909, came within 97 geographical miles or 112 statute miles of the South Pole. Having acquired much valuable information, the expedition returned to Sydney early in the year 1909, fortunately without loss of life.

The State was represented also in the Antarctic Expedition, under Captain Robert Scott, of the "Terra Nova," which left Sydney in November, 1910. Information has been received that the geological party of this expedition discovered bituminous coal of economic value, and many plant fossils. Continuous meteorological, magnetic, and other observations, have been taken.

The first Australasian Expedition, subsidised to the extent of £7,000 by the New South Wales Government, was under the leadership of Dr. Douglas Mawson, and started south in December, 1911, in the steamer "Aurora." The main objects of this expedition were to explore and chart the coast between Cape Adair and Gaussberg (roughly, a distance of 2,500 miles), to investigate its geology and mineralogy; to study glaciers and ice formation; to make systematic magnetic observations, chiefly in the neighbourhood of the Magnetic Pole; to obtain meteorological records whereby to test the advisableness of establishing a permanent meteorological observatory in those parts; and to investigate the abounding fauna of the sea. It is believed that results of high scientific interest, and of economic value to Australia, will result from this expedition. Whilst proceeding to Antarctica, the "Aurora" called at Macquarie Island, upon which a wireless telegraph station was erected. The expedition is expected to return to Sydney in the year 1913.

The Japanese Antarctic exploration ship, "Kainan Maru," conveying Lieutenant Shirase's Antarctic Exploration Expedition, left Japan in December, 1910, reached New Zealand, and, finding the vessel unsuitable for navigating the Polar seas at that period of the year, the leader was compelled to abandon the attempt. The exploration party wintered at Sydney, and resumed its voyage South on 18th November, 1911. After landing coast-exploring parties at Whale Inlet and King Edward VII. Land, unknown parts of the sea were explored and many scientific specimens were collected. The vessel then returned to Japan.

While these expeditions were all engaged in their exploratory work, a Norwegian Expedition, under Captain Raoul Amundsen, returned to Australia early in 1912, and reported having reached the South Pole.

DAYLIGHT SAVING.

The possibility of modifying and altering working hours, so as to enable workers generally to enjoy a greater measure of leisure time during daylight, has attracted considerable public interest in the past three years; and during 1911, a Bill was before the Legislative Assembly of New South Wales to secure this object, and a Select Committee of the Assembly was appointed to inquire into the question.

At the Interstate Conference of Premiers and Ministers, held in Melbourne, in January, 1912, the question of daylight-saving was recommended for the further investigation and consideration of each State Government, the information held by any Government that had already enquired into the matter to be made available to the Governments of the other States.

CONSTITUTION, GOVERNMENT, AND DEFENCE

DEVELOPMENT OF REPRESENTATIVE GOVERNMENT.

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

In 1823 an Act was passed in the Imperial Parliament, authorising the creation in New South Wales of a Legislative Council, with a minimum of five and a maximum of seven members, to be nominated by the Governor. This Council was to act as an advisory body to the Governor, and to assist him in his administration. The first meeting of its five members was held on the 25th August, 1824. Practically coincident with the institution of this Legislative Council, which embodied the first form of constitutional government, a Charter of Justice was proclaimed, and the system of trial by jury inaugurated.

The membership of the Legislative Council, as constituted in 1823, was subsequently increased, and its functions were extended, but the twenty years of its existence demonstrated the inevitable inefficacy of such a limited measure of constitutional government in the face of expanding commercial and agricultural interests and a rapidly developing population. In 1843 a measure of direct representation in the Legislative Council was given to the people of the colony by means of an Imperial enactment of the previous year which, while defining the functions of the Council and the conditions under which Royal Assent was to be accorded to bills passed by it, extended its membership to thirty-six, namely, twelve nominees of the Crown and twenty-four members elected by the people.

Eighteen years' experience of this system of partly representative government ensued, but the necessity for an extension of popular representation became more and more evident. In 1851 the Australian Colonies Government Act of the Imperial Parliament gave authority to the existing Legislative Council to prepare a democratic Constitution for the colonies. At the same time, provision was made for the establishment of Port Phillip District as a separate colony. In 1853 a select committee of the Council, which then numbered fifty-four, namely, thirty-six elective and eighteen nominee members, adopted a draft Constitution for a Legislature of two Houses, which, with minor amendments, was accepted by the Imperial Parliament in 1855. The New South Wales Constitution Act, 1855, granted a fully responsible system of government, full control of Crown lands devolving upon the New South Wales Parliament, which also was empowered, subject to the provisions of the Act, to devise laws amending its Constitution. The first elective Parliament was opened by Governor Denison, on 22nd May, 1856. Subsequently the Constitution was amended by Acts passed in 1857, 1884, and 1890, all which were consolidated in the Constitution Act, 1902. A further amendment was made in 1908, but the essential form of the original Legislature remains intact, though its functions have from time to time been enlarged by Imperial enactments,

such as those which empowered the State Parliament to deal with matters relating to coinage, copyright, extradition, naturalisation, shipping, &c. Since 1901 the powers of the State Parliament are subject to the restrictions of the Commonwealth of Australia Constitution Act.

STATE GOVERNMENT.

THE GOVERNOR, AND THE EXECUTIVE COUNCIL.

The Governor, as the representative of the British Sovereign, is appointed by the Imperial Government, and his functions and powers are defined by his Commission and the Royal Instructions accompanying it. As the official head of the Legislature, he assents to Bills as passed by Parliament, or he may withhold his assent pending reference of a Bill to the Imperial Government. Bills of certain classes are reserved for Royal Assent. In his Executive capacity, the Governor summons and acts under advice of the Executive Council, the members of which are Ministers of the Crown controlling administrative departments of the State. The Executive Council now consists of ten members. The Governor appoints Judges, Justices of the Peace, Commissioners, and other officers, Ministers, and members of the Legislative Council, and he may summon, prorogue, or dissolve any Parliament. In the exercise of these functions, he is in general guided by the advice of the Executive Council, but in special circumstances acts at his own discretion, especially with regard to dissolution of Parliament. The prerogative of mercy vested in him is never exercised, except with the advice of the Executive Council.

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

The succession of Governors from the foundation of New South Wales to the present time, is given in the following statement:—

SUCCESSION OF GOVERNORS.		From	To
Captain A. Phillip, R.N. ... ..	...	26 Jan., 1788	10 Dec., 1792
Major F. Grose (Lieutenant-Governor) ... ..	...	11 Dec., 1792	12 Dec., 1794
Captain W. Paterson, N.S.W. Corps (Lieutenant-Governor) ... ..	...	13 Dec., 1794	1 Sept., 1795
Captain J. Hunter, R.N. ... ..	...	7 Sept., 1795	27 Sept., 1800
Captain P. G. King, R.N. ... ..	...	28 Sept., 1800	12 Aug., 1806
Captain W. Bligh, R.N. ... ..	...	13 Aug., 1806	26 Jan., 1808
During Governor Bligh's suspension—			
Major G. Johnston, N.S.W. Corps	}	26 Jan., 1808	28 Dec., 1809
Lieutenant-Colonel J. Foveaux, N.S.W. Corps... ..			
Colonel W. Paterson, N.S.W. Corps			
Major-General L. Macquarie		1 Jan., 1810	30 Nov., 1821
Major-General Sir T. Brisbane, K.C.B.		1 Dec., 1821	30 Nov., 1825
Lieutenant-General Ralph Darling		19 Dec., 1825	21 Oct., 1831
Major-General Sir Richard Bourke, K.C.B.		3 Dec., 1831	5 Dec., 1837
Sir George Gipps, Knt.		24 Feb., 1838	11 July, 1846
Sir Charles A. Fitzroy, K.C.B., K.H.		2 Aug., 1846	17 Jan., 1855
Sir William Thomas Denison, K.C.B.		20 Jan., 1855	22 Jan., 1861
The Right Honorable Sir John Young, K.C.B., G.C.M.G.		22 Mar., 1861	24 Dec., 1867
The Right Honorable the Earl of Belmore, P.C.		8 Jan., 1868	22 Feb., 1872
Sir Hercules George Robert Robinson, G.C.M.G.		3 June, 1872	19 Mar., 1879

	From	To
The Right Honorable Sir Augustus William Frederick Spencer Loftus, P.C., G.C.B.	4 Aug., 1879	9 Nov., 1885
The Right Honorable Baron Carrington, P.C., G.C.M.G.	12 Dec., 1885	1 Nov., 1890
The Right Honorable the Earl of Jersey, P.C., G.C.M.G.	15 Jan., 1891	28 Feb., 1893
The Right Honorable Sir Robert William Duff, P.C., G.C.M.G.	29 May, 1893	15 Mar., 1895
The Right Honorable Viscount Hampden, G.C.M.G. ...	21 Nov., 1895	5 Mar., 1899
The Right Honorable Earl Beauchamp, K.C.M.G. ...	18 May, 1899	30 April, 1901
Admiral Sir H. H. Rawson, R.N., G.C.B.	27 May, 1902	27 May, 1909
The Right Honorable Baron Chelmsford, G.C.M.G. ...	28 May, 1909	Still in office.

During the absence of the Governor from the State, and in the intervals between the departure of the Governor and the arrival of his successor, the duties are performed by a Lieutenant-Governor, who is usually the Chief Justice of the State.

PARLIAMENT.

THE LEGISLATIVE COUNCIL.

Under the Constitution Act, 1902, the Governor may summon to the Legislative Council any person he thinks fit, provided such person is of the full age of 21 years, and is a natural-born or naturalised subject of His Majesty in Great Britain or in New South Wales. At least four-fifths of the members summoned to this Council must be persons not holding any office of emolument under the Crown; the members have a life tenure of office, subject to certain qualifications; but are not entitled to remuneration for their services. As a matter of privilege, members of the Council are allowed to travel free on the State railways and tramways. The Council must consist of at least twenty-one members, and in September, 1912, numbered fifty-nine. The President receives an annual salary of £750, and the Chairman of Committees £470.

THE LEGISLATIVE ASSEMBLY.

The Legislative Assembly consists of ninety elected members, each being an adult male British subject, and entitled to a vote at the Parliamentary elections. Members of the Federal Legislature and of the Legislative Council are disqualified for membership, as well as persons holding non-political offices of profit under the Crown. Each member receives the sum of £500 per annum by way of reimbursement for expenses incurred in the discharge of Parliamentary duties, is allowed to travel free on the State railways and tramways, and has free transmission of correspondence.

The seat of a member becomes vacant if the member be absent without permission for a whole session of the legislature, becomes bankrupt, a subject of a foreign power, or convicted of a crime. The Speaker of the Legislative Assembly receives a salary of £1,000 per annum, and the Chairman of Committees £740 per annum. The Leader of the Opposition receives £250 per annum in addition to his remuneration as a Member of Parliament.

Parliament may be dissolved at the discretion of the Governor, if the Government is defeated in the Assembly, otherwise it exists in terms of the Triennial Parliaments Act, 1874, for three years, the limit of duration previously being five years.

The Constitution Act makes no distinction between the powers and privileges of the two Houses of Parliament, but it is tacitly agreed that the procedure in each House shall be conducted according to that of its prototype in the Imperial Parliament.

A list of the Parliaments since Responsible Government was established is shown below:—

Parliament.	Opened.		Dissolved.		Duration.			No. of Sessions.
					yrs.	mths.	dys.	
First	22 May	1856...	19 Dec.	1857...	1	6	28	2
Second	23 March	1858...	11 April	1859...	1	0	19	2
Third	30 Aug.	1859...	10 Nov.	1860...	1	2	11	2
Fourth	10 Jan.	1861...	10 Nov.	1864...	3	10	0	5
Fifth	24 Jan.	1865...	15 Nov.	1869...	4	9	22	6
Sixth	27 Jan.	1870...	3 Feb.	1872...	2	0	7	3
Seventh	30 April	1872...	28 Nov.	1874...	2	6	28	4
Eighth	27 Jan.	1875...	12 Oct.	1877...	2	8	16	3
Ninth	27 Nov.	1877...	9 Nov.	1880...	2	11	12	3
Tenth	15 Dec.	1880...	23 Nov.	1882...	1	11	8	3
Eleventh	3 Jan.	1883...	7 Oct.	1885...	2	9	4	6
Twelfth	17 Nov.	1885...	26 Jan.	1887...	1	2	9	2
Thirteenth	8 March	1887...	19 Jan.	1889...	1	10	11	3
Fourteenth	27 Feb.	1889...	6 June	1891...	2	3	7	4
Fifteenth... ..	14 July	1891...	25 June	1894...	2	11	11	4
Sixteenth	7 Aug.	1894...	5 July	1895...	0	10	29	1
Seventeenth	13 Aug.	1895...	8 July	1898...	2	10	26	4
Eighteenth	16 Aug.	1898...	11 June	1901...	2	9	26	5
Nineteenth	23 July	1901...	16 July	1904...	2	11	24	4
Twentieth	23 Aug.	1904...	12 July	1907...	2	10	20	4
Twenty-first	2 Oct.	1907...	14 Sept.	1910...	2	11	12	5
Twenty-second	15 Nov.	1910...	Still Sitting.					...

ELECTIONS.

The first Legislative Assembly met in 1856, and consisted of 54 members elected under the Constitution Act. Votes were allowed to all male adult British subjects who, at the time of registration of electors and for six months previously to that date, owned freehold estate valued at £100, or occupied building or lodging, or land under lease for three years, valued at £10. Holders of Government pastoral licenses and persons who had a yearly salary of £100, or paid £40 per annum for board and lodging, were also entitled to vote. Electors were allowed a vote in each electorate in which they possessed the necessary qualifications. In 1859 the membership of the Assembly was increased to 72, and the franchise was given to every male adult British subject who for six months previously to the collection of the rolls had resided in the district and held property of the clear value of £100 or annual value of £10, or occupied a building valued at £10 per annum, or held Crown lease or license for pastoral purposes. Holders of miners' rights were allowed to vote in "goldfields" electorates. Officers of military or police services were disqualified, as well as persons in receipt of public charity.

Under the Electoral Act, 1880, by which 108 members were elected for 72 electorates, provision was made for still further increased representation, so that the number of members in 1891 had increased to 141, elected for 74 districts. Under the Parliamentary Electorates and Elections Act, 1893, an important change was made in the system of Parliamentary representation, the State being then divided into 125 electorates, each represented by one member. The franchise was remodelled by the introduction of universal manhood suffrage, and the principle of allowing each elector to vote only in one electorate equalised the rights of citizenship. A vote was given to every male adult who had resided continuously for one year in the State, provided that he was a British subject and became enrolled in the electoral district, in which he had resided for three months previously

to the election. The disqualification of the police was removed in 1896, and in 1902 the franchise was extended to women, thus establishing adult suffrage. Under the Electorates Redistribution Act, 1904, the number of electorates and of representatives elected was reduced to 90.

The Parliamentary Elections Act, 1911, provides for a residential qualification of six months in the Commonwealth, three months in the State, and one month in the electoral district, and for the extension of the franchise to the Military and Naval services. The hours of polling are specified as from 8 a.m. to 7 p.m., the polling-day being a public holiday; and further, under the Liquor Amendment Act, 1905, a close day for hotels. The introduction of the absent voter principle enables electors, absent from their districts, to record a vote for the electorate for which they are enrolled, at any polling-place within the State, on making a declaration. Provision is made also for an annual Police collection and revision of rolls, the occupiers of dwelling-houses being required to prepare schedules showing the persons living in the houses.

The Parliamentary Elections (Second Ballot) Act, 1910, provides that a candidate shall not be deemed to be elected a member of the State Legislative Assembly unless he has received an absolute majority—that is, more than half the number of valid votes recorded. If, as a result of the ballot, a candidate has not received an absolute majority a second ballot must be taken between the first two candidates on the list. This principle was introduced at the general election in October, 1910, and second ballots were taken in three electorates. The votes recorded at the first ballots in these districts have been excluded from the following table which shows the voting of the seven elections held in New South Wales since plural voting was abolished:—

Parliament.		Voters on Roll.	Electors to a Member.	Total Members returned.	Members unopposed.	Contested Electorates.					
Year.	Number.					Electors on Roll.	Votes recorded.	Percentage of Votes recorded.	Informal Votes.	Percentage of Informal Votes.	
1894	16th ...	298,817	2,390	125	1	254,105	204,246	80·38	3,310	1·62	
1895	17th ...	267,458	2,139	125	8	238,233	153,034	64·24	1,354	0·88	
1898	18th ...	324,339	2,595	125	3	294,481	178,717	60·69	1,638	0·92	
1901	19th ...	346,184	2,769	125	13	270,861	195,359	72·13	1,534	0·79	
1904	20th {	Males...	363,062	7,661	90	2	304,396	226,057	74·26	3,973	0·59
		Females	326,428				262,433	174,538	66·51		
1907	21st {	Males...	392,845	8,288	90	5	370,715	267,301	72·10	13,543	2·87
		Females	353,055				336,680	204,650	60·78		
1910	22nd {	Males...	458,626	9,641	90	3	444,242	322,199	72·53	10,393	1·78
		Females	409,069				400,139	262,154	65·52		

In the life of the 22nd Parliament seven writs were issued for by-elections between October, 1910, and September, 1912.

Making due allowance for obstacles to voting, especially in sparsely-settled districts, the figures quoted above indicate abstention on the part of a large percentage of the electors, and particularly in the case of the women. At the first election after enfranchisement, 66·5 per cent. of women recorded their votes; in 1907, 60·8 per cent., and at the last election 65·5 per cent. voted, so that 34·5 per cent. failed to take advantage of their franchise. In the case of men, the highest proportion of votes, 80·4 per cent., was recorded at the first election shown in the table above, when popular interest was excited by a strenuous contest on the question of fiscal reform; at the next two elections there was no definite issue at stake, as negotiations were in progress with the other States for federation. At

subsequent elections the percentage of votes increased; the proportion in 1910 being 72.5 per cent. of men enrolled; but although facilities for voting had been greatly improved, there were still more than one-fourth of the male electors who did not vote.

The number of informal votes was high at the election in 1907, being 3 per cent. of the total votes recorded; at the 1910 election a change made in the method of marking the ballot-papers no doubt accounted for the percentage of informal votes being reduced to 1.78 per cent.

DISTRIBUTION OF ELECTORATES.

After federation of the Australian States the question of reducing the membership of the Legislative Assembly of New South Wales was submitted to a referendum of the electors in 1904, and, as a result, the number of representatives was reduced to 90. The following table shows the average number of persons represented by each member of the Assembly and the proportion of the population enrolled on the electoral lists at various dates on which the membership or franchise has been altered since the opening of the first Parliament and at each year of election since 1901:—

Year of Election.	Number of Members.	Population per Member.	Percentage of Population Enrolled.
1856	54	5,200	15.8
1858	72	4,500	22.3
1880	108	6,900	25.2
1885	122	7,800	24.5
1891	141	8,100	26.7
1894	125	9,800	24.3
1901	125	10,900	25.3
1904	90	16,100	39.0
1907	90	17,300	45.6
1910	90	18,200	51.5

The number of distinct electors cannot be ascertained for any period prior to the year 1894, and the figures in the last column have been calculated on the total number of votes to which the electors on the roll were entitled; they are, therefore, somewhat in excess of the actual proportions. At the census of 1901 the percentage of adult males in the total population was about 28, and of adults, males and females, 51.7. At the election in 1901 the proportion of the population enrolled was 25 per cent., and after the Women's Franchise Act, 1902, was passed it rose to 39 per cent. In 1910 the proportion was 52 per cent.; while at the Census date, 2nd April, 1911, the adult population represented 55.8 per cent. of the total. On the 4th August, 1911, three Electoral Districts Commissioners were appointed for the purpose of redistributing electorates in accordance with the Parliamentary Electorates and Elections Act, 1902, and its subsequent amending Acts. The Report was presented to Parliament in 1912.

MINISTRIES.

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

No.	Ministry.	From—	To—	Duration.	
				months.	days.
1	Donaldson	6 June 1856	25 Aug. 1856	2	20
2	Cowper	26 Aug. 1856	2 Oct. 1856	1	8
3	Parker	3 Oct. 1856	6 Sept. 1857	11	4
4	Cowper	7 Sept. 1857	26 Oct. 1859	25	20
5	Forster	27 Oct. 1859	8 Mar. 1860	4	13
6	Robertson	9 Mar. 1860	9 Jan. 1861	10	1
7	Cowper	10 Jan. 1861	15 Oct. 1863	33	6
8	Martin	16 Oct. 1863	2 Feb. 1865	15	18
9	Cowper	3 Feb. 1865	21 Jan. 1866	11	19
10	Martin	22 Jan. 1866	26 Oct. 1868	33	5
11	Robertson	27 Oct. 1868	12 Jan. 1870	14	17
12	Cowper	13 Jan. 1870	15 Dec. 1870	11	3
13	Martin	16 Dec. 1870	13 May 1872	16	29
14	Parkes	14 May 1872	8 Feb. 1875	32	26
15	Robertson	9 Feb. 1875	21 Mar. 1877	25	13
16	Parkes	22 Mar. 1877	16 Aug. 1877	4	26
17	Robertson	17 Aug. 1877	17 Dec. 1877	4	1
18	Farnell	18 Dec. 1877	20 Dec. 1878	12	3
19	Parkes	21 Dec. 1878	4 Jan. 1883	48	15
20	Stuart	5 Jan. 1883	6 Oct. 1885	33	2
21	Dibbs	7 Oct. 1885	21 Dec. 1885	2	15
22	Robertson	22 Dec. 1885	25 Feb. 1886	2	4
23	Jennings	26 Feb. 1886	19 Jan. 1887	10	22
24	Parkes	20 Jan. 1887	16 Jan. 1889	23	28
25	Dibbs	17 Jan. 1889	7 Mar. 1889	1	19
26	Parkes	8 Mar. 1889	22 Oct. 1891	31	15
27	Dibbs	23 Oct. 1891	2 Aug. 1894	33	11
28	Reid	3 Aug. 1894	13 Sept. 1899	61	11
29	Lyne	14 Sept. 1899	27 Mar. 1901	18	14
30	See	28 Mar. 1901	14 June 1904	38	18
31	Waddell	15 June 1904	29 Aug. 1904	2	15
32	Carruthers	30 Aug. 1904	1 Oct. 1907	37	3
33	Wade	2 Oct. 1907	20 Oct. 1910	36	19
34	McGowen	21 Oct. 1910	Still in office.	.....

The McGowen Ministry, which is at present in office, consists of the following members:—

Premier and Colonial Secretary	... ..	Hon. J. S. T. MCGOWEN.
Colonial Treasurer	... ..	Hon. J. H. CANN.
Attorney-General	... ..	Hon. W. A. HOLMAN.
Secretary for Lands, and Minister for Labour and Industry.	... ..	Hon. G. S. BEEBY.
Minister for Public Works	... ..	Hon. A. GRIFFITH.
Minister of Justice and Solicitor-General	... ..	Hon. D. R. HALL, M.L.C.
Minister of Public Instruction...	... ..	Hon. A. C. CARMICHAEL.
Secretary for Mines	... ..	Hon. A. EDDEN.
Minister for Agriculture	... ..	Hon. J. L. TREFLE.
Vice-President of the Executive Council	... ..	Hon. F. FLOWERS, M.L.C.

COST OF PARLIAMENTARY GOVERNMENT.

The following statement shows the cost of Parliamentary Government in New South Wales during the three financial years 1909-11.

Head of Expenditure.	1909.	1910.	1911.
Governor—	£	£	£
Governor's salary	5,000	5,000	5,000
Private Secretary... ..	350	378	350
Aide-de-Camp	412	324	350
Additions, Repairs and maintenance of Residences ...	2,843	972	8,183
Miscellaneous	71	...	173
Total	£ 8,676	6,672	14,056
Executive Council—	£		
Salaries of Officers	250	270	279
Other Expenses ... ..	...	...	25
Total	250	270	304
Ministry—			
Salaries of Ministers	11,040	11,040	11,040
Other expenses	1,261	1,106	1,445
Total	£ 12,301	12,146	12,485
Parliament—			
The Legislative Council—			
Railway passes	5,894	6,675	5,810
Other expenses	470	125	...
	6,364	6,800	5,810
The Legislative Assembly—			
Allowances to Members	24,292	24,122	22,423
Railway passes	9,956	10,099	10,860
Other expenses (Postage Stamps, &c.)	1,199	1,622	1,583
Miscellaneous—	35,447	35,843	34,866
Fees and expenses of Parliamentary Standing Committee on Public Works	3,978	5,926	5,529
Salaries of Officers and Staff	20,456	20,224	18,903
Printing	6,978	7,001	7,687
Hansard (including Salaries)	4,666	4,683	5,668
Library	702	666	795
Refreshment Rooms	412	400	465
Water, power, light, and heat	731	673	504
Postage, stores, and stationery	1,665	723	7
Miscellaneous	1,295	680	564
	40,883	40,976	41,002
Total	£ 82,694	83,619	81,678
Electoral Offices and Elections—			
Salaries of Officers and Staff	1,809	773	788
General Election ... ..	...	...	18,663
By-elections	Nil.	818	...
Other expenses, including printing of Electoral Rolls, &c.	2,835	15,366	16,619
Total	£ 4,644	16,957	36,070
Royal Commissions and Select Committees—			
Fees, &c.	2,463	...	2,627
Miscellaneous	6,393	1,477	1,165
Total	£ 8,856	1,477	3,792
GRAND TOTAL	£ 117,421	121,141	148,385

INAUGURATION OF THE COMMONWEALTH.

The question of establishing a Federal Legislature, to deal with the common interests of the colonies, was considered when arrangements were being made for the separation of Victoria and New South Wales and for the self-government of the Australian colonies in 1850; and for forty years the problems of federation were discussed at conferences and in Parliamentary Committees, but the most practical and definite step towards the achievement of federation was taken in 1890, when a conference of representatives from the seven Australasian colonies was held in Melbourne; arrangements were then made for a Federal Convention of members, appointed by the various Parliaments, to draft an adequate scheme for a Federal Constitution. The Draft Bill produced by this Convention in 1891 was intended for discussion in the State Parliaments, but lapsed for lack of popular enthusiasm. In the financial and commercial depression of succeeding years the necessity for federation was keenly felt, and another conference was held in Hobart in 1895, as a result of which a Constitution was drawn up by elected representatives of New South Wales, Victoria, South Australia, Western Australia, and Tasmania, and submitted to the electors by means of a referendum in 1898. The Bill was accepted in Victoria, South Australia, and Tasmania; in New South Wales the majority of votes secured was insufficient; and in Western Australia the referendum was deferred, as the Enabling Bill of that State made the acceptance of the Constitution by New South Wales a necessary condition.

The Constitution Bill, as amended at a conference in 1899, was subsequently accepted by each of the six States of Australia, and received the Royal Assent on 9th July, 1900, the formal inauguration of the Commonwealth took place on the 1st January, 1901, coinciding with the opening of the twentieth century. The first Parliament of the Commonwealth was opened on 9th May, 1901, by the Duke of York.

THE COMMONWEALTH PARLIAMENT.

The Federal Legislature is constituted of the Crown as represented by the Governor-General of Australia, with the Senate and the House of Representatives, both of which are elective Chambers. As representative of the King the Governor-General is Commander-in-Chief of the Naval and Military Forces, and to his office a salary of £10,000 per annum attaches. The present Governor-General and Commander-in-Chief is the Right Hon. Baron Denman, P.C., G.C.M.G., K.C.V.O.

The Governor-General's powers and functions are assigned to him under his Commission, subject to the Constitution, and as head of the Legislature he appoints the times for holding sessions of Parliament; he prorogues Parliament, and dissolves the House of Representatives. In his Executive Government he is advised by the Executive Council, which is composed of members summoned by the Governor-General, being Ministers of the Crown administering Commonwealth Departments. Subject to special provision of Parliament, the Ministry number seven, the maximum amount specified for their joint salaries being £12,000.

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

The House of Representatives, as far as practicable, contains twice as many members as the Senate, the number elected for the several States being in proportion to the respective populations, but with a specified minimum of five each. There are now seventy-five members in this House, the number from New South Wales being 27.

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

The Federal Parliament is empowered to make laws on matters affecting the peace, order, and good government of the Commonwealth; the principal being trade and commerce, taxation, bounties on production, borrowing money on public credit, postal, telegraphic and telephonic services, defence, lighthouses, astronomical and meteorological observations, quarantine, fisheries, statistics, currency, banking, insurance, bills of exchange, bankruptcy, copyright, and patents, naturalisation, marriage, divorce, pensions, migration, external affairs, and railways.

To alter the Constitution, the law for the proposed alteration must be submitted to a referendum of the electors not less than two nor more than six months after its passage through both Houses of Parliament, and must be approved by a majority of electors voting, in a majority of the States, as well as in the whole Commonwealth.

The qualifications of members and electors are the same for both Federal Houses. Members must be adult British subjects, natural-born or naturalised for five years, eligible to vote, and resident in Australia for three years; they receive allowances at the rate of £600 per annum, and the seat of a member becomes vacant if he is absent without leave for two consecutive months of any session.

Aboriginal natives of Australia, Asiatics, Africans, and Pacific Islanders, except natives of New Zealand, are disqualified unless entitled to vote at the election of a State Legislative Assembly.

Senate Elections.

The following table shows the votes polled at the elections of Senators in New South Wales:—

Election.	Electors Enrolled.		Electors to whom Ballot Papers were issued.		Informal Ballot Papers.	Percentage of Voters to Electors Enrolled.		
	Males.	Females.	Males.	Females.		Males.	Females.	Total.
1901	329,093	...	220,573	...	38,674	67·02	...	67·02
1903	360,285	326,764	189,877	134,487	15,796	52·70	41·16	47·21
1906	392,077	345,522	229,654	151,682	28,016	58·57	43·90	51·70
1910	444,269	390,393	301,167	211,635	24,213	67·79	54·21	61·44

House of Representatives' Elections.

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

Election.	Electors Enrolled (Contested Divisions only).		Electors to whom Ballot Papers were issued.		Informal Ballot Papers.	Percentage of Voters to Electors Enrolled.		
	Year.	Males.	Females.	Males.		Females.	Males.	Females.	Total.
1901	315,962	...	215,105	...	4,070	68·08	...	68·08
1903	303,254	274,763	164,133	118,381	7,834	54·12	43·08	48·88
1906	363,723	314,777	216,150	141,227	11,705	59·43	44·87	52·67
1910	431,702	379,927	294,049	207,868	8,002	68·11	54·71	61·84

Although there was an increase in the percentage of voters at the last election, a very large proportion of the people enrolled—one-third of the men and nearly half the women—failed to exercise their franchise.

Seat of Federal Government—Ordinance.

The agreement under section 125 of the Federal Constitution Act, between the State of New South Wales and the Commonwealth, for the surrender and acceptance of territory in the Canberra district for the seat of Federal Government has been ratified, and an ordinance issued on the 22nd December, 1910, for the Provisional Government of the Territory. All laws hitherto in force in the Territory (except those imposing duties on estates of deceased persons) will remain in force, and continue to be administered by the State authorities. All revenue, except Public Instruction fees, will belong to the Commonwealth. The authority of State magistrates, gaolers, and police will continue, and all offenders will be tried in the Courts of the State. Licenses to sell intoxicating liquors will not be granted, and existing licenses may be renewed for the same premises only.

REFERENDA.

The following statement shows the votes recorded in the State of New South Wales and in the Commonwealth at the various referenda which have been taken in relation to the Federal Constitution:—

State of New South Wales.

Date.	Referendum.	Votes recorded.			
		For.	Against.	Result.	Majority.
1898	Federation	71,595	66,228	*	5,367
1899	Federation	107,420	82,741	Accepted	24,679
1906	Constitution Alteration (Senate Elections).	286,888	55,261	Accepted	231,627
1910	Financial Agreement	227,650	253,107	Rejected	25,457
1910	State Debts	159,275	318,412	Rejected	159,137
1911	Legislative Powers... ..	135,968	240,605	Rejected	104,637
1911	Monopolies	138,237	238,177	Rejected	99,940

* Rejected, because the requisite majority of 80 000 was not obtained.

Commonwealth of Australia.

Date.	Referendum.	Votes recorded.			
		For.	Against.	Result.	Majority.
1898	Federation	219,712	108,363	Accepted	111,349
*1899	Federation	422,788	161,077	Accepted	261,711
1906	Constitution Alteration (Senate Elections).	774,011	162,470	Accepted	611,541
1910	Financial Agreement ...	645,514	670,838	Rejected	25,324
1910	State Debts... ..	715,053	586,271	Accepted	128,782
1911	Legislative Powers... ..	483,356	742,704	Rejected	259,348
1911	Monopolies	488,668	736,392	Rejected	247,724

* Includes Western Australian Referendum, 1900.

In 1898 the question of federation was put to the people in the States of New South Wales, Victoria, South Australia, and Tasmania. In the three last-named it was passed; but in New South Wales it failed to obtain the majority of 80,000 votes required by the Enabling Bill of that year. At the second referendum for federation, in 1899, the vote was taken in Queensland, in addition to the States concerned in the 1898 referendum, and the figures for Australia shown above included the votes in Western Australia, where the referendum did not take place until 1900.

The referendum in 1906 related to the extension to 30th June, 1910, of the services of Senators whose places would have become vacant in December, 1909, and also that the term of service of a Senator should begin on the first day of July. The fact of this referendum being taken on the same day as the Commonwealth General Election no doubt accounts for the large number of votes recorded.

Two proposals for altering the Constitution, referred in 1910, relate to financial arrangements between the States and the Commonwealth; the one, to give effect to an agreement regarding the amount of revenue which should be returned to the States, was rejected, and the other, to enable the Commonwealth to take over all the debts of the States, was passed by a majority in the Commonwealth as a whole, and in all the States except New South Wales. Previous to this alteration the Commonwealth was empowered to take over only such debts as had been incurred prior to federation.

Trade and Industrial Matters.

The referenda of 1911 resulted in the rejection of the proposals, which were for the purpose of extending the legislative powers of the Federal Government regarding trade and industrial matters, and to empower the Commonwealth to take control of industries subject to monopolies.

The clauses of the Constitution affected and the proposed alterations were as follows:—

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

(2) Trade and commerce with other countries, and among the States.”

Under this section, the powers of the Commonwealth Parliament are limited by the exclusion of the trade and commerce which does not extend beyond the boundaries of any one State. It was proposed to remove this limitation by omitting the words, “With other countries and among the States.”

With regard to corporations, it was proposed to omit paragraph **xx** of section 51: "(xx) Foreign corporations, and trading or financial corporations formed within the limits of the Commonwealth," and to substitute the following:—

"Corporations, including—

- "(a) The creation, dissolution, regulation, and control of corporations;
- "(b) Corporations formed under the law of a State (except any corporation formed solely for religious, charitable, scientific, or artistic purposes, and not for the acquisition of gain by the corporation, or its members), including their dissolution, regulation, and control; and
- "(c) Foreign corporations, including their regulation and control."

The proposed extension in regard to industrial matters was to be effected by the omission of paragraph **xxxv** of section 51: "(xxxv) Conciliation and arbitration for the prevention and settlement of industrial disputes extending beyond the limits of any one State," and the insertion of the words:—

"Labour and employment, including—

- "(a) The wages and conditions of labour and employment in any trade, industry, or calling; and
- "(b) The prevention and settlement of industrial disputes, including disputes in relation to employment on or about railways the property of any State."

The proposal also included the addition to this section of the following paragraph:—

"Combinations and monopolies in relation to the production, manufacture, or supply of goods or services."

These alterations to section 51 were embodied in the proposed law Constitution Alteration (Legislative Powers), 1910, and submitted to the electors on 26th April, 1911. The following statement shows the result of the referendum:—

State.	Votes recorded.					Majority against Proposed Alteration.	Percentage of total Electors to whom Ballot Papers were issued.
	For.	Against.	Informal.	Ballot Papers issued, but unaccounted for.	Total.		
New South Wales..	135,968	240,605	7,396	219	384,188	104,637	44·25
Victoria	170,288	270,390	7,554	334	448,566	100,102	62·01
Queensland	69,552	89,420	3,002	161	162,135	19,868	55·34
South Australia ...	50,358	81,904	1,374	166	133,802	31,546	61·94
Western Australia.	33,043	27,185	870	384	61,482	*5,858	44·33
Tasmania	24,147	33,200	673	33	58,053	9,053	56·73
Commonwealth..	483,356	742,704	20,869	1,297	1,248,226	259,348	53·31

* Majority in favour of alteration.

Except in the case of Western Australia, this proposal was rejected in each State, and consequently in the Commonwealth as a whole.

The second proposal to alter the Constitution was the addition of the following section:—

“51A. When each House of the Parliament, in the same session, has by resolution declared that the industry or business of producing, manufacturing, or supplying any specified goods, or of supplying any specified services, is the subject of a monopoly, the Parliament shall have power to make laws for carrying on the industry or business by or under the control of the Commonwealth, and acquiring for that purpose on just terms any property used in connection with the industry or business.

This proposal also was rejected by the electors of each State, except Western Australia, at the referendum on 26th April, 1911. The voting was as follows:—

State.	Votes recorded.					Majority against.	Percentage of total Electors to whom Ballot Papers were issued.
	For.	Against.	Informal.	Ballot Papers issued, but unaccounted for.	Total.		
New South Wales..	138,237	238,177	7,618	156	384,188	99,940	44·25
Victoria	171,453	268,743	8,041	329	448,566	97,290	62·01
Queensland	70,259	88,472	3,200	204	162,135	18,213	55·34
South Australia ...	50,835	81,479	1,344	144	133,802	30,644	61·94
Western Australia..	33,592	26,561	898	431	61,482	*7,031	44·33
Tasmania	24,292	32,960	753	48	58,053	8,668	56·73
Commonwealth..	488,668	736,392	21,854	1,312	1,248,226	247,724	53·31

*Majority in favour of alteration.

In connection with the question of vesting in the Commonwealth Government wider powers, legislative and industrial, a conference of State Premiers and Ministers held in January, 1912, resolved that, as a matter of expediency, a Bill should be submitted in each of the State Parliaments referring to the Parliament of the Commonwealth the following matters:—

- (1.) Labour and Employment.—As regards the prevention and settlement of industrial disputes extending beyond the limits of a single State, and the extension of federal awards or orders as common rules, binding upon all persons subject to such award, order or common rule, whether wages or conditions in the particular industry have been determined by a State industrial authority, or where no such authority exists.
- (2.) Combinations and Monopolies.—So as to enable the Commonwealth Parliament to control or to acquire such business or industry (as) extends beyond the limits of any one State, and is determined by the High Court to be in restraint of trade, commerce, or to the detriment of the public; to acquire upon just terms property in such business, and to retain a monopoly of such business.
- (3.) Unfair Competitions arising between States.—The Commonwealth Parliament should have authority to inquire into any complaint referred by a State Industrial Tribunal to a State Court, thence to the Commonwealth authority, which should have power to determine and regulate matters due to the conditions of industry under which the employees in competing industries may work.

ADMINISTRATIVE GOVERNMENT OF THE STATE.

Functions.

In New South Wales the various Departments of the Public Service, controlled by Ministers of the Government, as previously enumerated, are charged with the administration of Acts of Parliament, the conduct of public business, and the performance of functions incidental to the good government of the State. Following is a summary of the general functions of the different Departments:—

Department of the Premier.

Departmental business connected with the two Houses of Parliament, including official publication of Debates.

Foreign correspondence.

Correspondence with—

(a) The Commonwealth, State, and Colonial Governments.

(b) The President of the Legislative Council and the Speaker of the Legislative Assembly.

(c) The Foreign Consuls.

Agency-General.

Immigration and Tourist Bureau.

Departmental business connected with Norfolk Island.

Department of the Chief Secretary.

Executive Council Office.

Public Seal and Registration of Commissions thereunder.

Execution of Capital Sentences.

Appointment of Magistrates.

Business relating to Ecclesiastical Establishments.

Issue of Licenses for Public Entertainments and for Raccourses.

Medical Establishment, including the Officers appointed for the purposes of Vaccination, and the Medical Board.

Private Hospitals.

Institutions for the care and treatment of Inebriates, and of the Insane.

Metropolitan and Country Hospitals.

Charitable Institutions aided from the Consolidated Revenue.

Department of Audit.

Police Department.

Public Health Department.

Inspector-General of Hospitals and Charities.

Board of Fire Commissioners of New South Wales.

Board for International Exchanges.

Aborigines Protection Board.

Bureau of Statistics and Registry of Friendly Societies and Trade Unions.

Electoral Office.

Bureau of Microbiology.

Department of Fisheries.

Master in Lunacy's Office.

Dental Board.

Departmental business connected with Lord Howe Island.

Closed Cemeteries and Exhumation of Bodies for the purpose of Re-interment.

All matters of business not expressly assigned and confided to any other Minister.

Correspondence with—

The Heads of the several Churches ;

The Returning Officers of Electoral Districts ;

And also, as occasion may arise, with other public officers and public bodies.

Department of the Treasury.

- Management of the Consolidated Revenue, Public Works, Closer Settlement, Treasury Guarantee, General Loan and Railway Loan Funds, and Special Deposits Accounts.
- Receipt of collections by Accounting Officers and of Taxes, Imposts, Rates, and other revenues of the Crown payable to the Consolidated Revenue Fund.
- Payment of claims against the Crown.
- Public Banking Arrangements.
- Management and Regulation of the Public Debt.
- Flotation of Loans.
- Sale, inscription, and management of Stocks on the Sydney Register.
- Periodical inspection of the accounts of Official Assignees and the Registrar in Bankruptcy, under the provisions of the Bankruptcy Act; of the Curator of Intestate Estates, under the Wills, Probate, and Administration Act.
- Exercise, in regard to the State Railways and Tramways, of the powers conferred upon the Minister by the "Government Railways Act, 1901," as amended by the "Railway Commissioners Appointment Act, 1906."
- Exercise, in regard to the Sydney Harbour Trust, of the powers conferred upon the Minister by the "Sydney Harbour Trust Act, 1900."
- Exercise, in regard to the Housing of Workers and others, of the powers conferred upon the Minister by the Housing Act, 1912.
- Public Printing, including the printing of Duty Stamps, and of Railway and Tramway Tickets.
- Publication of the *Government Gazette*.
- Supervision of the engagement and discharge of Seamen, and all matters relating thereto.
- Storage and safe custody of, and issue of permits for, gunpowder and explosive substances required for mercantile purposes.
- Registration of the Guarantees under the Pure Food Act, 1908.
- Payment of Imperial Pensions and Allowances.
- Payment of Pensions and Allowances for and on account of Crown and other Colonies.
- Control of the Stores Department, which deals with the purchase and distribution of Stores, Stationery, and Furniture for the Public Service.
- Issue, under various Acts of Parliament, of the following Licenses, viz. :—
 Auctioneers', Publicans', Booth, Billiard, Bagatelle, Brewers', Spirit Merchants', Packet, Tobacco, Cigars and Cigarettes, Colonial Wine, Railway Refreshment Room, Oyster Vendors', Fishermen's, and Fishing Boat.
- Correspondence with the Banking Institutions transacting business on behalf of the Government, in the State and elsewhere, and with all Government Departments and Officers, on the subject of collecting, expending, and accounting for the Public Revenues.

Department of the Attorney-General.

Business relating to—

The Office of Chief Justice and to the Puisne Judges, the Industrial Court and District Courts, to the Office of Chairman of Quarter Sessions, and the appointment of sittings of the Supreme Court at Circuit towns and District Courts and Courts of Quarter Sessions.

Advising the Government on all legal questions.

The Offices of the Crown Solicitor, Parliamentary Draftsman, The Crown Prosecutors, Clerk of the Peace.

Statute Law Consolidation.

Correspondence with the other Ministers on questions on which legal opinion may be required, and with Judges, with regard to matters coming under Ministerial control.

Department of Justice.

Business relating to—

The Equity Office, Bankruptcy Office, Sheriff's Office, Probate and Intestate Estates Office, Registrar-General's Office, Courts of Petty Sessions.

Police Magistrates, Clerks of Petty Sessions, and Registrars of District Courts.

Coroners.

Gaol and Penal Establishments (exclusive of Industrial or Reformatory Schools).

Matters relating to the commutation or remission of sentences, or of fines, forfeitures, and estreats.

Control of Court-houses.

Department of Mines.

Business relating to mining generally.

Geological and Mining Surveys and Assays.

Examination of Coal-fields.

Inspection of Collieries and Mines.

The Prospecting Vote.

Department of Lands.

Business relating to land matters generally.

Alignment of Streets.

Annual Leases.

Auction Sales.

Brickmaking permits.

Business relating to the office of President and Commissioners of the Land Appeal Court.

Closer Settlement Advisory Boards.

Conditional Purchases.

Conditional Leases.

Conditional Purchases Leases.

Crown Leases.

Examination of Applicants for License to Survey Crown Lands.

Exchange of Lands.

Homestead Farms or Selections.

Improvement Leases.

Improvement Purchases on Gold-fields.

Kuring-gai Chase Lands Leases.

Land Appeal Court.

Local Land Boards.

Maps, compilation, lithography and publication of State, county, parish, town and environs—and the sale of copies to the public.

National Park.

Occupation Licenses.

Pastoral Leases.

Preparation of Deeds of Grant.

Proclamation of Towns and Villages.

Recreation Reserves, and appointment of Trustees for same.

Quarry Licenses.

Reserves, Dedications, and Resumptions for Public Purposes.

Residential Leases.

Scrub Leases.

Settlement Leases.

Snow Leases.

Special Leases.

Special Sales, including the rescission of reservations of water frontage reclamations, unnecessary roads, &c.

Suburban Holdings.

Survey of Public Lands for purposes of Alienation, Lease (other than Mineral Lease), or Dedication for Public Purposes, Topographical Surveys for purposes of Compilation of Maps.

Subsidies for Parks and Recreation Grounds.

Trespasses on Crown Lands.

Department of Public Works.

Construction of Railways and Tramways, and works and buildings connected therewith.

Construction and maintenance of Docks and Engineering Establishments.

Construction and repair of Wharves, Basins, and Breakwaters, excepting such works as are vested in the Sydney Harbour Trust.

Erection and repair of Lighthouses and Signal Stations.

Dredging and Improvement of Harbours and Rivers, excepting such works as are vested in the Sydney Harbour Trust.

Works for Artesian Boring and the storage of Water on travelling stock routes, and for Town Supply in the Pastoral Districts.

Public Watering Places, and Protection of certain reserves from trespass, other than those under the control of Municipal and Shire Councils.

Works in connection with Water Rights, as defined by Water Rights Act, 1902.

Construction and maintenance of Water Conservation Works.

Construction of Water Supply Works and Sewerage and Drainage Works in Sydney and Suburbs, and in Country Towns.

Erection, repair, and maintenance of Public Buildings.

Erection and repair of buildings, &c., for the Commonwealth of Australia, in the State of New South Wales, when requested by the Commonwealth authorities.

Formation and maintenance of Roads not under Municipal or Shire control.

Construction and maintenance of National Bridges, and of bridges outside Municipalities in the Western Division.

Management of Public National Ferries, and of ferries outside Municipalities in the Western Division.

Resumption of Land for Public Purposes.

Detail Survey of Sydney and Suburbs.

Department of Labour and Industry.

Industrial Arbitration Office.

State Labour Bureau.

Factory Inspection.

Department of Public Instruction.

Matters relating to Education generally.

Technical Education.

State Scholarships and Bursaries.

Kindergarten Schools.

Control of lands dedicated or acquired for the purpose of Public Instruction by Act of Parliament or otherwise.

State Children Relief Board.

The University and Affiliated Colleges.

Public Library of New South Wales.

Mitchell Library.

Sydney Grammar School.

Institutions aided from the Consolidated Revenue, including Literary and Scientific Institutions, Schools of Arts, &c.

Sydney Observatory.

Australian Museum.
 National Art Gallery of New South Wales.
 Royal Art Society.
 Shelters, Industrial Schools, and Homes for Children.
 Charitable Schools aided from Consolidated Revenue.

Department of Agriculture.

Administration of all matters relating to Agriculture, including the Agricultural College and Experimental and Demonstration Farms and Stations.
 Forestry.
 Commons.
 Botanic Gardens, Sydney, and Centennial Park, and Domain.
 Nursery Gardens, Campbelltown.
 Management and Control of the Hay Irrigation Area.
 Irrigation Farms.
 Irrigation at Artesian Bores.
 Supervision of Dairies for Instructional purposes.

Commissions and Trusts.

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

Railways and Tramways Commissioners.
 Metropolitan Board of Water Supply and Sewerage.
 Hunter District Water Supply and Sewerage Board.
 Sydney Harbour Trust.
 Murrumbidgee Irrigation Trust.
 Housing Board.

In each case the authority controls a specific and frequently localised service, and administers the statute law as enacted by Parliament in relation to that service, but is entirely removed from Ministerial control.

STATUTE LAW ADMINISTRATION.

Following is the Statute Law administered in each Ministerial Department of the State:—

Department of the Chief Secretary.

Aborigines Protection, 1909.
 Audit, 1902.
 Banks and Bank Holidays, 1898, and Amendments, 1899, 1906.
 Benevolent Society of New South Wales, 1902.
 Birds Protection, 1901.
 Bread, 1901.
 Building and Co-operative Societies, 1901.
 Butchers' Shops Sunday Closing, 1902.
 Careless Use of Fire, 1901, and Amendment, 1906.
 Cattle Slaughtering and Diseased Animals and Meat, 1902.
 City of Sydney Improvement.
 Constitution, 1902.
 Dairies Supervision, 1901.
 David Berry Hospital, 1906.
 Dental Hospitals Union, 1904.
 Dentists, 1900, and Amendment, 1909.
 Destitute Children's Society, 1901.
 Diseased Animals and Meat (Amendment), 1910.
 Dog and Goat, 1898.
 Electorates Redistribution, 1904.
 Federal Elections, 1900.

Fire Brigades, 1909, and Amendment, 1910.
 Fisheries, 1902, and Amendment, 1910.
 Friendly Societies, 1899, and Amendments, 1900-1-6.
 Games, Wagers, and Betting-houses, 1901.
 Gaming and Betting, 1906, and Amendments, 1906-7.
 Hawkesbury Benevolent Society, 1840, and Amendments, 1860, 1903.
 Homing Pigeons Protection, 1910.
 Indecent Publications, 1900, and Amendment, 1900.
 Inebriates, 1900, and Amendment, 1909.
 Influx of Criminals Prevention, 1903.
 Juvenile Smoking Suppression, 1903.
 Lunacy, 1898.
 Maitland Hospital (Infectious Wards), Enabling, 1912.
 Medical Practitioners, 1898, and Amendments, 1900.
 Metropolitan Traffic, 1900.
 Motor Traffic, 1909.
 Native Animals Protection, 1903.
 Net-fishing (Port Hacking), 1901.
 New South Wales Institution for the Deaf and Dumb and the Blind Incorporation, 1905.
 Noxious Trades, 1902.
 Obscene and Indecent Publications, 1901.
 Parliamentary Electorates and Elections, 1902 (Amendment), 1903.
 Parliamentary Elections, 1906, Amendments, 1910-11.
 Party Processions Prevention, 1901.
 Police Offences, 1901, and Amendment, 1908.
 Police Regulation, 1899.
 Police Regulation (Superannuation), 1906.
 Prevention of Cruelty to Animals, 1901.
 Prince Alfred Hospital, 1902.
 Printing, 1899.
 Private Hospitals, 1908.
 Public Health, 1902.
 Public Health (Night-soil Removal), 1902.
 Public Hospitals, 1898.
 Public Hospitals (Voting) 1900.
 Public Institutions Inspection, 1901.
 Pure Food, 1908.
 Quarantine, 1897.
 Royal Alexandra Hospital for Children Incorporation, 1906.
 Royal North Shore Hospital of Sydney, 1910.
 Second-hand Dealers and Collectors, 1906.
 Senators Elections, 1903.
 Smoke Nuisance Abatement, 1902.
 St. Vincent Hospital, 1912.
 Subventions to Friendly Societies, 1908.
 Sydney Abattoir and Nuisances Prevention, 1902.
 Sydney Coal Delivery, 1901.
 Sydney Corporation, 1902, and Amendments, 1902-5-6-8-11.
 Sydney Corporation Dwelling Houses, 1912.
 Sydney Hospital, 1881.
 Sydney Industrial Blind Institution Incorporation, 1901.
 Sydney Stock-driving, 1906.
 Theatres and Public Halls, 1908.
 Vagrancy, 1902, and Amendment, 1905.
 Weights and Measures, 1898.
 Women's Franchise, 1902.

Department of the Treasury.

Banks Half-holiday, 1900.
 Poisons, 1902.
 Stamp Duties, 1898.
 Land and Income Tax.
 Income Tax, 1911, and Amendments, 1912.
 Explosives, 1905.
 Housing, 1912.
 Pharmacy, 1897, and Amendment, 1911.
 Navigation, 1901.
 Wharfage and Tonnage Rates, 1902.
 Savings Bank of New South Wales, 1902.
 Government Savings Bank, 1906.
 Seamen's, 1898.
 Special Deposits Accounts, 1911.

Department of the Attorney-General.

Clerical Workers, 1910.
 Crimes, 1900, and Amendment, 1905.
 Crimes (Girls' Protection), 1910, and Amendment, 1911.
 Criminal Appeal, 1912.
 Common Law Procedure, 1899.
 District Courts, 1901, and Amendment, 1905.
 Lotteries and Art Unions, 1901.
 Poor Prisoners Defence, 1907.
 Public Service, 1902, and Amendments.
 Supreme Court and Circuit Court, 1900, and Amendment, 1912.

Department of Justice.

Auctioneers' Licensing, 1898.
 Bankruptcy, 1898.
 Billiards and Bagatelle, 1902.
 Claims against the Government and Crown Suits, 1897, and Amendment, 1904.
 Companies, 1899, and Amendments.
 Contractors Debts, 1897.
 Coroners, 1898 and 1901.
 Coroner's Court, 1904.
 District Courts, 1901, and Amendments, 1905, in so far as they relate to the Registrars and to Officers acting under their control.
 Fines and Forfeited Recognisances Recovery, 1902.
 Fines and Penalties, 1901.
 Habitual Criminals, 1905.
 Hawkers and Pedlers, 1901.
 Interstate Debts Recovery, 1901.
 Justices, 1902, and Amendments.
 Jury, 1901, and Amendments, 1902 and 1905.
 Legal Process Facilitation, 1904.
 Liens on Crops and Wool and Stock Mortgages, 1898.
 Liquor, 1898, and Amendments, 1905 and 1907.
 Marriage, 1899.
 Money Lenders and Infants Loans, 1905.
 Newspaper, 1898.
 Pawnbrokers, 1902.
 Prisons, 1899.
 Real Property, 1900.
 Registration of Births, Deaths, and Marriages, 1899.

Registration of Deeds, 1897.
 Registration of Firms, 1902.
 Sheriff, 1900.
 Small Debts Recovery, 1899, and Amendment, 1905.
 State Carriages, 1899, and Amendment, 1903.
 Wills, Probate, and Administration, 1898, and Amendments,

Department of Mines.

Coal Mines Regulation, 1902, and Amendments.
 Miners' Accident Relief, 1900, and Amendments.
 Mines Inspection 1901, and Amendments.
 Mining, 1906, and Amendment.
 Helensburgh Leases, 1911.

Department of Lands.

All Acts relating to the alienation, occupation (otherwise than for mining) and management of Crown Lands (other than lands within State Forests and Timber Reserves), and of lands held under the Church and School Lands Act, No. 20, 1897, also
 Closer Settlement, 1904-6-7-9.
 Closer Settlement Promotion, 1910.
 Blockholders, 1901.
 Labour Settlements, 1902.
 Necropolis, 1902.
 Newcastle Pasturage Reserve, 1900.
 Pastures Protection, 1902, and Amendment, 1906, as relating to the distribution of rabbit-proof wire-netting and fencing.
 Prickly Pear Destruction, 1901.
 Public Gates, 1901.
 Public Parks, 1902.
 Public Roads, 1902.
 Public Trusts, 1897.
 Royal Agricultural Society, 1911.
 Western Lands, 1901, and Amendments, 1905-8-9.

Department of Public Works.

The Acts dealing with Metropolitan and Country Towns, Hunter District Water Supply and Sewerage; also certain Acts dealing with Main and Parish Roads, Bridges, Tolls, &c.; and all Acts authorising the carrying out of Public Works.
 Artesian Wells, 1897.
 Drainage Promotion, 1901, and Amendment, 1902.
 Local Government, 1906, and Amendment, 1908.
 Local Government (Loans), 1907.
 Murrumbidgee Irrigation Act, 1910.
 Public Works, 1900.
 Public Watering Places, 1900 (part).
 Scaffolding and Lifts, 1902, and Amendment, 1908.
 Water and Drainage, 1902, and Amendments, 1906-11.

Department of Labour and Industry.

Agreements Validating, 1902.
 Apprentices, 1901.
 Early Closing, 1899, and Amendments, 1900-6-10.
 Factories and Shops, 1896, and Amendment, 1909.
 Industrial Arbitration, 1912.
 Minimum Wage, 1908.
 Saturday Half Holiday, 1910.

Shearers' Accommodation, 1901.
 Truck 1900, and Amendment, 1901.
 Workmen's Compensation, 1910.

Department of Agriculture.

Fertilisers, 1904.
 Forestry, 1909.
 Hay Irrigation, 1902.
 Pastures Protection, 1902, and Amendment, 1906, except as relating to wire-netting and fencing.
 Stock, 1901.
 Stock Diseases (Tick), 1901.
 Trustees of Show-grounds Enabling, 1909.
 Vine and Vegetation Diseases, 1901.
 Vine and Vegetation Diseases (Fruit Pests), 1906.
 Water and Drainage Acts for purposes of Irrigation.
 Wentworth Irrigation, 1890.
 Wine Adulteration, 1902.

Department of Public Instruction.

Anatomy, 1901.
 Australian Museum, 1902.
 Bursary Endowment, 1912.
 Children's Protection, 1902.
 Free Education, 1906.
 Infant Protection, 1904.
 Library and Art Gallery, 1899.
 Neglected Children and Juvenile Offenders, 1905.
 Public Instruction, 1880.
 Sydney Grammar School, 1854.
 State Children Relief, 1901.
 Trustees of Schools of Arts Enabling, 1902.
 Trades Hall and Literary Institute, 1893.
 University and University Colleges, 1900, and Amendment, 1902.

ROYAL COMMISSIONS OF INQUIRY.

The important Royal Commissions which have been reported to the Parliament of New South Wales between the years 1856 and 1911, are as follow:—

- Accidents :—Bulli Colliery, 1887.
 Broken Hill South Mine, 1901.
 Central Mine, Broken Hill, 1903.
 Ferndale Colliery, 1885-6.
 Lithgow Valley Colliery 1885-6.
 Great Southern Railway, 1858.
 Mount Kembla Colliery, 1903.
- Administration :—Fire Brigades Acts and Board, 1911.
 Lands Department, 1906, 1907.
 Railways, 1885-6.
 Stock Diseases (Tick) Act (1901), 1911.
 Weights and Measures Office, 1906.
- Alleged Tramway Frauds, 1888-9.
 Baldwin Locomotive Engines, 1892-3.
 Bayview House Asylum for Insane, Cook's River, 1894-5.
 Casual Labour Board, 1889.

Royal Commissions—*continued*.

- Case of Regina v. George Dean, 1895.
 Case of William Creswell, 1900.
 Charges :—Staff of Mudgee Hospital, 1897.
 Messrs. Sleath and Ferguson, Ms.P., 1898.
 Mr. Eddy, Chief Commissioner for Railways, 1892-3.
 Mr. W. M. Felton, 1889.
 Police and Prison Officials at Bathurst, 1911.
 Alleged illtreatment of Prisoners at Darlinghurst Gaol, 1911.
 Charities :—Working and Management of Public Charities, 1873-4 ;
 Institution Deaf and Dumb and Blind, Strathfield, 1898 ; Benevo-
 lent Society, 1898 ; Hospitals, 1899.
 Chinese Gambling and Charges of Bribery against Members of the Police
 Force, 1891-2.
 City Railway Extension, 1891-2, 1897.
 Claims of Members of New South Wales Contingents in South Africa,
 1906, 1907.
 Coal Mines Regulation Bill, 1895.
 Communication between Sydney and North Sydney, 1891-2, 1909.
 Conduct of Hon. J. H. Young during Election for the Hastings and the
 Macleay, 1898.
 Conservation of Water, 1885-6, 1887.
 Conservation and Distribution of Water in the Murray River Basin,
 1902.
 Construction of Public Halls and other Places of Public Amusement
 and Concourse, 1887.
 Contagious Diseases among Rabbits, 1889.
 Contracts of Messrs. Carter, Gummow, & Co., 1897.
 Crown Tenants of the Western Division, 1901.
 Dangers to Vessels carrying Coal, 1900.
 Decentralisation in Railway Transit, 1910-11.
 Decline of Birth-rate and Mortality of Infants in New South Wales,
 1904.
 Defences of New South Wales, 1876-7, 1881.
 Defence Works, Bare Island, 1891-2.
 Dismissal of Public School Teacher at Kyamba, 1911.
 Earth Subsidences at Newcastle, 1908.
 Education—Primary and Secondary, 1904.
 Electoral Districts Redistribution, 1911.
 Fisheries, 1879-80, 1889, 1894-5.
 Floods in the Hunter River District, 1870-1.
 Food Supply, &c., of Sydney, 1911.
 Forestry, 1908.
 Friendly Societies, 1883.
 Formation, Constitution, and Working of the Machine Shearers' and
 Shed Employees' Union, Industrial Union of Employees, 1905.
 Harbour of Port Jackson, 1866.
 Improvement of the City of Sydney and Suburbs, 1909.
 Intoxicating Drink, 1887-8.
 Iron Industry of New South Wales, 1911.
 Keeping Disorderly Houses at Newcastle, 1911.
 Kentia Palm Seed Trade and Lord Howe Island, 1911.
 Law :—Consolidation of Statutes, 1896, 1902 ; Crown Lands Statutes,
 1911 ; Reform, 1870-1.
 Lighthouses in the Australian Colonies, 1856-7.

Royal Commissions—*continued.*

- Management :—Berrima Gaol, 1878-9.
 Metropolitan Water Supply and Sewerage Board, 1897.
 Hunter River District Water Supply and Sewerage Board, 1897.
 Quarantine Station, North Head, and the] Hulk "Faraway", 1882.
 Working of the Customs Department, 1867-8.
- McMyler Hoist at Newcastle, 1909.
- Method of Testing Marine Steam Boilers, 1868-9.
 Working thick Coal Seams, Maitland-Cessnock District, 1911.
 Handling Inward and Outward Merchandise, Darling Harbour and Darling Island, 1911.
- Milburn Creek Copper Mining Company, 1881.
 Municipal affairs, Wyalong, 1902.
 Noxious and Offensive Trades, 1883.
 Opal Mining Industry at White Cliffs, 1901.
 Oyster Culture, 1876-7.
 Prospect Dam, 1889.
- Public Services :—Administration, 1894-5 ; Deeds Branch, Registrar-General's Department, 1894 ; Government Docks and Workshops, Cockatoo Island, 1903 ; Public Works Department, 1911 ; General Post Office, Money Order Office, and Electric Telegraph Department, 1890 ; Land and Survey Departments, 1878-9.
- Railway Bridges, 1906.
 Saturday Half-Holiday, 1909.
 Schemes for Extermination of Rabbits, 1889, 1890.
 Shortage of Labour in New South Wales, 1911.
 State of Crime in Braidwood District, 1867-8.
 Supersession of Returning Officer, State Electoral District of Newtown, 1911.
- Strikes—Conflicts between Capital and Labour, 1891-2.
 Sydney Water Supply 1868-9, 1902, 1903.
 Sydney Water Supply—Cataract Dam, 1905.
 Totalisator, 1911.
- Treatment of Inmates of the Government Asylums at Rookwood and Newington, 1903.
- Tuberculosis and other Diseases in Stock, 1899.
 Working of the Gold-Fields Act, and the Water Supply on Gold Fields 1871-2.
 Working of Compulsory Conciliation and Arbitration Laws, 1901.
 Working of Moore-street Improvement Acts, 1901.
 Working of Quarries in the Albert Mining District, 1897.
 Working of the Real Property Acts, 1879-80.
- The following Royal Commissions were appointed in 1912 :—
 Consolidation of Statute Law in New South Wales.
 Suspension of Shorthand Writer, Parliamentary Reporting Staff.
 Congestion of Goods Traffic in Country Centres, and Delays in Transit of Inward and Outward Produce.
 Adequacy of Supply and Manufacture of Locomotives.
 Standardisation of Australian Manufactured Food Products.
 Investigation Regarding Cattle Tick.
 Kentia Palm Seed Industry.
 Inquiry as to Corrupt Practice by Minister for Public Works.

LOCAL GOVERNMENT.

Subsidiary to the Parliamentary and Administrative Government of the State, a system of Local Government is in operation in New South Wales, which directly links the people in defined localities with the centralised government. Such is the importance of this system, and so extensive are its functions as to warrant detailed treatment, and a chapter of this Year Book is specially devoted to the subject of Local Government.

The Local Government Act, 1906, with its subsequent amendments, embodies the results of fifty years experimental effort towards decentralised government. For administrative purposes, the more populous eastern and central divisions of the State are subdivided in areas incorporated as shires and municipalities, while the more sparsely settled western division remains under the jurisdiction of the Western Land Board.

The city of Sydney is, however, outside the jurisdiction of the Local Government Act, being incorporated under a special Act in 1842.

In addition to Local Government Councils, various Boards and Trusts have been appointed, as noted previously, to administer special services, and they frequently discharge functions of Local Government.

DEFENCE.

Consciousness of the urgent need for a comprehensive and unified defence arrangement was a powerful factor in securing cohesion among the Australian colonies in the earlier stages of the federal movement, and with the achievement of union in one Federal Commonwealth under a national flag, the duty of providing adequately for the defence of Australia devolved upon the Federal Government. Prior to 1901 each colony maintained a military establishment, the strength of the force of New South Wales at 31st December, 1900, being greatest with 505 officers, and 8,833 men in the ranks—practically the whole establishment, as in the other colonies, consisting of militia or partially paid and of volunteer forces.

Under the Commonwealth of Australia Constitution Act, 1900, the Governor-General, as Commander-in-Chief, authorised the transfer of the defence arrangements of each State to the Commonwealth in March, 1901. Statutes in relation to defence were enacted in 1903, 1904, 1909, 1910, and 1911, particular provision in regard to naval defence being contained in the Naval Agreement Act, 1903, and the Naval Defence, Acts 1910 and 1911. In 1905 a Council of Defence was created to deal with matters of policy, and military and naval boards were established to supervise the administration of the forces, both Permanent and Citizen.

The earlier enactments of the Federal Government in regard to defence necessarily contained many machinery provisions to systematise the defence forces, and to secure efficient administration. The divisions of militia and volunteer were retained, the permanent forces consisting of persons bound for a term of continuous services, and the citizen forces being at the call of the Commander-in-Chief in time of war. In the Defence Act, 1909, a distinct innovation was made in that universal obligation to military and naval training was imposed, and arrangements were made for registration and enrolment for training, and for the establishment of a military training college. Under the Act of 1910 provision was made for the establishment of horse depôts and farms so as to supplement and ultimately obviate the impress system of the 1909 Act. The period of liability for compulsory training in the citizen forces was extended from two to seven years; and, generally, the system was made more effective. In the Act of 1911 a reduction was effected in the duration of drills for senior cadets, but penalties were assured for evasion of service by cadets.

LAND DEFENCE.

At the end of the year 1909 Field-Marshal Lord Kitchener visited Australia to inspect the military forces, and forts and defence works, and to give the Government the benefit of his experience and advice in the development of a land defence scheme. His report advised the provision of an annual expenditure of £1,884,000 and a force of 80,000 men, of whom half would be engaged in the defence of the larger cities and ports, and the other half would form a mobile striking force.

Universal Training.

The Defence Acts provide that all male inhabitants,—except those specifically exempted—who have resided in Australia for six months, and who are British subjects between the ages 18 and 60 years, may be called upon to serve in the Citizen forces in time of war. The order in which they may be called upon is as follows:—

1. From 18 to 35 years of age—All unmarried men or widowers without children.
2. From 35 to 45 years of age—All unmarried men or widowers without children.
3. From 18 to 35 years of age—All married men or widowers with children.
4. From 35 to 45 years of age—All married men or widowers with children.
5. All men aged 45 years to 60 years.

Specific exemptions include the following:—(a) Persons reported unfit by medical authorities; (b) Members and officers of Parliament; (c) Judges and magistrates; (d) Ministers of religion; (e) Police or prison employees; (f) Persons employed in lighthouses; (g) Medical practitioners or nurses in public hospitals; (h) Persons not substantially of European origin or descent; (i) Persons whose conscientious beliefs do not allow them to bear arms. As regards persons in the three last classes, the exemption does not extend to duties of a non-combatant nature.

Training is prescribed, as shown hereunder, for all male inhabitants of Australia who are British subjects between 12 and 26 years:—

- | | | |
|-----|----------------------------|-----------------------|
| (a) | From 12 to 14 years of age | in the Junior Cadets. |
| (b) | „ 14 „ 18 | „ Senior Cadets. |
| (c) | „ 18 „ 26 | „ Citizen Forces. |

The obligation of training does not apply to any person who reached the age of 18 years before the commencement of the Act on 1st January, 1911, and the Governor-General may grant temporary exemption to persons residing outside the training areas into which the State is divided, or at a great distance from places appointed for training. Boys whose 14th, 15th, 16th, or 17th birthdays occurred in the year 1911 were required to register in their respective districts. Six months were devoted to medical inspection and organisation, actual training of the Senior Cadets commencing in the latter half of 1911.

Royal Military College.

The Royal Military College of Australia was opened at Duntroon, near Queanbeyan, New South Wales, on the 27th June, 1911, with 42 boys, from 16 to 19 years of age, in residence, of whom 6 were from New South Wales, and 10 from New Zealand, the balance being drawn from Victoria, Queensland, South Australia, Western Australia and Tasmania. The College course extends over four years, the first two years being devoted primarily to civil subjects, the latter to

military subjects; physical training, drills, musketry, signalling, and military exercises being continuous during the whole four years, after which the young officers will serve in England or India for one year, when they will return to Australia. At the expiration of five years from the establishment of the Military College, only persons who are graduates of the College will be appointed as officers of the permanent forces, and promotion to the position of officer in the citizen forces will be from the ranks.

Cadets receive an outfit allowance of £30 on joining the College, and 5s. 6d. per diem while in residence. Admission is by open competitive examination, vacancies being allowed for boys from each State on the basis of population; the New South Wales allotment is twelve out of a total of 43, which includes 10 for New Zealand.

Senior Cadets.

A comparison of the number of boys of this State with the other States of the Commonwealth would be of interest; the following return shows the total 155,133 registrations of Senior Cadets from 1st January to 31st December, 1911, when there were 89,138 boys in military training throughout Australia:—

	Total Registrations.	Exemptions granted.*	Total Medically examined.	Number Liable for Training.	Percentage liable for Training of those Medically examined.	Number in training.
New South Wales	54,390	18,841	37,860	34,280	90·5	33,151
Victoria	48,569	16,437	33,054	29,692	89·8	28,653
Queensland	24,466	11,631	14,413	12,388	86·0	11,808
South Australia ...	14,685	5,544	11,307	9,144	80·9	8,576
Western Australia	6,894	2,726	5,191	4,168	80·3	3,833
Tasmania	6,129	2,770	3,417	3,357	98·2	3,117
Commonwealth ...	155,133	57,949	105,242	93,029	88·4	89,138

* Chiefly on account of great distances from centres of population.

The second military district represents the State of New South Wales, less the North Coast towns added to Queensland, the first military district; the towns of the Barrier district added to South Australia, the fourth military district, and the towns of Riverina added to Victoria, the third; but even with these deductions the superior number of registrations for New South Wales is noticeable.

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

The senior and junior cadets of New South Wales previous to the universal training system coming into force were disbanded, and those of service age absorbed in the new organisation irrespective of their enrolment in a cadet regiment or otherwise. Boys receive physical drill in the schools until the age of 14 years, after which they must enrol as senior cadets.

Medical examinations of Junior Cadets in June, 1912, gave a total for the Commonwealth of 54,137 boys. Of these, 52,899 were pronounced fit, and 1,238 unfit permanently or temporarily. The numbers for New South Wales were 20,436 fit, and 599 unfit.

In addition to 89,138 senior cadets in training as shown above, for the Commonwealth, there were 3 225 boys allotted to naval training.

The success of the universal training system and the enthusiasm of the boys, in conjunction with the splendid organization of the administrative and instructional staff, was clearly evidenced at the first review of cadets in Australia since the inauguration of universal training, when the Governor-General, at the Centennial Park, Sydney, on the 30th March, 1912, reviewed 17,946 senior military cadets and 696 senior naval cadets.

In October, 1911, the Coronation contingent of cadets returned to the State from England. During the year 1912 Lieutenant-General Sir R. S. S. Baden-Powell, the founder of the Boy Scout movement, visited New South Wales.

MILITARY FORCE IN NEW SOUTH WALES.

Although universal military training came into operation so recently as 1st January, 1911, the defence forces of this State had already attained a high standard of efficiency; the subjoined table contains information regarding the military force in New South Wales on 31st December, 1910 and 1911:—

Permanent—	1910.	1911.	Militia (<i>continued</i>)—	1910.	1911.
Headquarters Staff ...	15	17	Army Veterinary Corps ...	5	6
Artillery ...	345	349	Staff Garrison Troops...	1	2
Engineers ...	52	52			
Army Service Corps ...	14	15	Total Militia ...	7,667	7,840
Army Medical Corps ...	11	11			
Ordnance Department ...	43	42	Volunteers—		
Instructional Staff ...	232	161	Automobile Corps ...	14	16
Other ...	28	28	Army Nursing Service ...	26	26
Total Permanent...	740	675	Total Volunteer ...	40	42
			Total Permanent, Militia, and Volunteer ...	8,447	8,557
Militia—			Area Officers ...	—	75
Light Horse ...	2,000	1,906	Area Medical Officers ...	—	46
Artillery ...	800	957	Unattached List of Officers ...	64	67
Engineers ...	399	427	Reserve of Officers ...	156	188
Infantry—1st Battalion ...	3,888	3,966	Medical Corps Reserve ...	46	53
University Scouts ...	83	99	Chaplains ...	35	41
Intelligence Corps ...	12	12	Cadets, Senior ...	11,061	33,536
Signallers ...	74	68	Rifle Clubs ...	14,900	13,902
Army Service Corps ...	148	151	Grand Total ...	34,709	56,465
Army Medical Corps...	257	246			

SMALL ARMS FACTORY.

With the object of providing the outfit of all rifles and bayonets required for defence purposes in the Commonwealth, the Federal Government established a small arms factory at Lithgow, New South Wales, which was formally opened on 8th June, 1912, the approximate cost of building and plant being £140,000.

NAVAL DEFENCE.

As an Imperial Naval base, New South Wales has from its early days enjoyed a large measure of naval protection, and prior to the Federation of the Australian Colonies, had supplemented the Imperial Naval Forces by local organisations, such as the Naval Brigade and Naval Artillery Volunteers. Under agreement between the Australian Colonies and the Imperial Government in 1890 and subsequent years, the vessels on the Australian Naval Station were reinforced by an auxiliary squadron of five third-class cruisers, and two torpedo gunboats, to assure some protection to trade afloat. In

renewal of this agreement, the Commonwealth Government, after Federation, became with New Zealand a party to the Naval Agreement Act, 1903, under which agreement and a subsequent arrangement the Imperial Government provides for the Australian Station for ten years a fleet, latterly consisting of one first-class armoured cruiser, three second-class, and four third-class cruisers, and one sloop, with a Royal Naval Reserve of twenty-five officers, and 700 seamen and stokers. The Australian Government contributed—to a maximum of £200,000 per annum—five-twelfths of the annual cost of maintenance, and the Government of New Zealand pay £100,000 per annum.

Though connected immediately with the ports of Australia and New Zealand, the sphere of operations of this fleet extends to the Australian, China, and East Indies stations. One ship has been kept in reserve, and three others, partly manned, were used as drill ships for training the Royal Naval Reserve, the remainder being kept in commission fully manned. The drill ships and one other vessel have been manned by Australians and New Zealanders, paid at special rates, and controlled by officers of the Royal Navy and Royal Naval Reserve. Eight nominations for naval cadetships have been available annually to the Commonwealth of Australia, and two to the Dominion of New Zealand.

The Imperial Navy.

The Imperial war vessels on the Australian station in the year 1912 are as follows:—

Name.	Date of launch.	Load displacement.	Draught.	Length.	Beam.	Indicated horse-power.	Measured mile speed.	Armament.	Sea-going Complement.
		tons.	ft. in.	ft. in.	ft. in.		knots		
Armoured Cruiser—									
Drake	1901	14,100	26 0	529 6	71 0	30,000	23·0	2 9·2-in. B., 16 6-in. Q., 14 12-pr. Q., 3 3-pr. Q., 9 Mach.; 2 torpedo tubes submerged.	900
Unarmoured— Cruisers, 2 Cl.—									
Cambrian ..	1893	4,360	21 1	336 0	49 6	7,000	19·5	2 6-in., 8 4·7 Q.F., 8 6-pr., 1 3-pr., 4 M., 3 T., 1 12-pr. (8 cwt.) Field Gun.	319
Encounter ..	1902	5,880	19 8	326 0	56 0	12,500	20·75	11 6-in., 8 12-pr., 1 3-pr., 2 M., 2 S.T., 1 12-pr. (8 cwt.) Field Gun.	455
Cruisers, 3 Cl.—									
Psyche .. .	1898	2,135	15 10	313 0	36 6	5,000	20·2	8 4-in., 8 3-pr., Q., 3 M., 2 T.	231
Pioneer .. .	1899	2,200	15 10	318 10	36 9	5,000	20·0	8 4-in., 8 3-pr., Q., 3 M., 2 T.	231
Framus .. .	1897	2,135	15 8	313 0	36 6	5,000	20·2	8 4-in., 8 3-pr., Q., 3 M., 2 T.	231
Screw Sloop—									
Torch .. .	1894	960	11 6	180 0	32 6	1,100	13·0	4 4-in., 4 3-pr., 2 M.	105
Surveying Vessels—									
Fantome ..	1901	1,070	10 11	210 0	33 0	1,400	13·3	2 3-pr., Q., 2 M.	135
Sealark ..	..	900	16 0	179 10	29 0	500	11·0	1 3-pr., 2 4·5-in Nordenfeldt	95

The "Encounter" was lent to the Commonwealth Government on 1st July, 1912. The "Psyche" was used as a drill ship for Australia, and the "Pioneer" as a drill ship for New Zealand. The "Pyramus" was in reserve at Sydney, which is the headquarters of the fleet and ranks as a first-class naval station. The following statement shows the war vessels, other than those on the Australian station, which visited the port of Sydney during the year 1911:—

Nationality.	Name of War Vessel.	Type.	From.	To.
British	Edgar*	First-class protected cruiser.	25 April ...	6 May.
Foreign—				
Germany	Planet	Surveying ship ...	9 April ...	7 June
„	Cormoran	Protected cruiser ...	25 March ...	22 May.
France	Montcalm	Armoured cruiser ...	8 Jan. ...	25 Jan.
„	Kersaint	Third-class cruiser...	15 June ...	21 June.

* Brought out relief crews for ships of Australian Squadron.

Early in the year 1912 the cruisers "Aso" and "Soya," of the Japanese Training Squadron visited Sydney.

The Australian Navy.

In 1908 the Commonwealth Government decided upon a policy of responsibility in local naval defence, to the extent of providing destroyers, submarines, and depôt ships, and maintaining them fully equipped and efficient. Following out this policy a commencement was made with three torpedo boat destroyers; the "Parramatta" and the "Yarra" built in Great Britain, arrived in Australian waters in November 1910; the parts of the "Warrego" were imported and put together at Fitzroy Dock, Sydney, the vessel being launched on 4th April, 1911, and put into commission in May 1912.

In 1909 as a result of the Imperial Defence Conference the Imperial Government decided to form a Pacific Division of the British navy, and Canada and Australia agreed to provide separate units. Accordingly the Commonwealth Government undertook to provide, and arranged for the construction of a fleet unit, consisting of one armoured cruiser, three second-class protected cruisers, three additional destroyers, and two submarines. The armoured cruiser "Australia" and two second-class cruisers, the "Sydney" and the "Melbourne," and the two submarines are being built in Great Britain, and are due for delivery in the latter part of 1912. For the second-class protected cruiser "Brisbane," the parts and machinery were ordered from the Admiralty, the hull and armour being due for delivery on 30th June, 1912. The three additional destroyers are being built at the New South Wales Government Dockyard, at Cockatoo Island, to the plans of the "Warrego."

Full particulars regarding the Australian war vessels are given in the following statement:—

Name.	Date of Launch.	Load Displacement.	Draught.	Length.	Beam.	Indicated horse-power.	Measured mile speed.	Armament.	Sea-going Complement.
		tons.	ft. in.	feet.	ft. in.		knots.		
Armoured Cruiser— Australia ..	25/10/11	18,800	26 6	555	80 0	43,000	25	8 12-in. B.L., 16 4-in. Q.F., 4 Max., 5 Torpedo tubes.	800
Protected Cruisers— Sydney* ..	..	5,400	15 9	430	49 6	25,000	25·5	8 6-in. Q.F., 4 3-pr. Q.F., 4 Max., 2 21-in. Torpedo Tubes.	376
Melbourne* ..	..	5,400	15 9	430	49 6	25,000	25·5	8 6-in. Q.F., 4 3-pr. Q.F., 4 Max., 2 21-in. Torpedo Tubes.	376
Brisbane* ..	..	5,400	15 9	430	49 6	25,000	25·5	8 6-in. Q.F., 4 3-pr. Q.F., 4 Max., 2 21-in. Torpedo Tubes.	376
Torpedo-boat Des- troyers—									
Parramatta ..	9/2/10	700	8 6	245	24 3	9,500	28	1 4-in. B.L., 3 12-pr. Q.F., 3 18-in. Torpedo Tubes.	67
Yarra ..	9/4/10	700	8 6	245	24 3	9,500	27	1 4-in. B.L., 3 12-pr. Q.F., 3 18-in. Torpedo Tubes.	67
Warrego ..	4/4/11	700	8 6	245	24 3	9,500	27	1 4-in. B.L., 3 12-pr. Q.F., 3 18-in. Torpedo Tubes.	67
Derwent* ..	..	700	8 6	245	24 3	9,500	27	1 4-in. B.L., 3 12-pr. Q.F., 3 18-in. Torpedo Tubes.	67
Torrens* ..	..	700	8 6	245	24 3	9,500	27	1 4-in. B.L., 3 12-pr. Q.F., 3 18-in. Torpedo Tubes.	67
Swan* ..	..	700	8 6	245	24 3	9,500	27	1 4-in. B.L., 3 12-pr. Q.F., 3 18-in. Torpedo Tubes.	67
Gunboats—									
Protector ..	1885	920	..	180	30 0	1,641	14	1 6-in. B.L., 4 4-in. B.L., 2 12-pr. Q.F., 2 3-pr.	65
Gayundah ..	1885	360	..	115	25 0	400	10·5	1 4-in. B.L., 2 12-pr. Q.F.	42
Paluma ..	1885	360	..	115	25 0	400	10·5	1 4-in. B.L., 2 12-pr. Q.F.	21
Torpedo Boats—									
Countess of Hope- town ..	1891	75	..	..	..	1,186	21	3 Torpedo Tubes	..
Childers ..	1883	47	..	..	..	700	19	2 Torpedo Tubes	..
Submarines—									
A.E. 1* ..	..	800	..	176	23 3	..	15	.....	..
A.E. 2* ..	..	800	..	176	23 0	..	15	.....	..
Training Ship— Tingra† ..	June, 1912.	1,800	..	..	..	..	..	.....	..

* In course of construction.

† Date of commission, moored at Rose Bay, Port Jackson.

In 1911 Admiral Sir Reginald Henderson visited Australia to advise the Commonwealth Government in the matter of naval defence. His recommendations involve the gradual acquisition of a fleet of fifty-two vessels, requiring a complement of some 15,000 men; the construction of docks; and the establishment of six naval bases and eleven sub-bases.

On the 1st March, 1911, under the provisions of the Naval Defence Act, 1910, a Naval Board was constituted, consisting of the Minister for Defence as President, three naval members, and a finance and civil member. This Board is charged with the administration of all matters relating to the Naval Forces of the Commonwealth, and subject to it is a separate

Administrative and Instructional Staff, established under the orders of the Director of Naval Reserves, and including District Naval Officers, Sub-District Naval Officers, Instructors, &c., with District Headquarters at the Port of each State Capital, and Sub-District Headquarters at other Ports.

The District Naval Officer for New South Wales is responsible for the organisation and training of naval cadets, and has control of naval services within the State.

Appointments to the Administrative and Instructional Staff are made usually from the Permanent or Reserve Naval Forces of the Commonwealth.

NAVAL RESERVES.

The Naval Reserve Forces include a special section for cadets who were already in the Naval Forces on attaining age 18 in 1911, but the Reserves otherwise consist of Senior Naval Cadets, under the Universal Training System, transferred to the adult section. At the end of 1912, the Australian-born of the Imperial Naval Reserve will be taken into the Commonwealth forces.

NAVAL TRAINING.

In July, 1911, the selection of Senior Cadets for Naval Service was undertaken by District Naval Officers from among the cadets from maritime districts in the neighbourhood of the District and Sub-District Headquarters. In connection with the training of these Cadets the Commonwealth Government purchased in December, 1911, from the Government of New South Wales the nautical training ship "Sobraon," which in June, 1912, went into commission at moorings at Rose Bay, Port Jackson, as H.M.A.T.S. "Tingira." Accommodation is provided for 100 boys, to be selected from the several States of the Commonwealth on a population basis. On completion of training these boys will be drafted into the Permanent Naval Forces.

THE NAVAL COLLEGE.

As a site for the Naval Midshipmen's College, the Government of New South Wales have ceded to the Government of the Commonwealth an area of land and water at Jervis Bay; but pending the completion of the projected College, which will be subsidised from the Dreadnought Fund, raised by public subscription in New South Wales, a temporary Gunnery and Torpedo School and Wireless Telegraphy and Destroyer Store Depot have been established at Williamstown, Victoria.

THE NAVAL FORCE IN NEW SOUTH WALES.

Serving in the Imperial Squadron in Australian and China waters are numbers of Australians, the majority of whom will transfer to the Australian Fleet Unit, together with sixty-three men undergoing higher training in the Royal Naval establishments in England. Crews for the three destroyers already in commission and the three gunboats have been provided, and arrangements have been made whereby from 1st July, 1912, the Imperial Government will lend the second-class cruiser "Encounter" to the Commonwealth Government, to serve as a training ship for the crews to be recruited for the balance of the Australian Fleet. In 1912-13 the "Challenger" will be recalled to England, the "Cambrian" being transferred from China to Australian waters.

At the 31st December, 1910 and 1911, the Naval Force in New South Wales was summarised as under:—

	1910.	1911.
Naval Militia—partially-paid	311	167
Permanent Force	5	20
Naval Cadets	200	909
Seamen Training	—	122
Total number... ..	516	1,218

ROYAL NAVAL HOUSE.

The Royal Naval House, erected in Sydney exclusively for the accommodation of the men of the British Navy, was built in 1889, at a total cost, inclusive of land, of £25,000, contributed by citizens and by the Government of New South Wales. A new wing was added in 1908 at a cost of £8,600. The House contains large reading, smoking, dining, and billiard rooms, besides a gymnasium, and other accessories. Sleeping accommodation is available for 400 men. The institution is self-supporting, but annual grants from the Lords Commissioners of the Admiralty and from the Government of New South Wales are devoted to maintaining the House during the absence of the Squadron from Sydney. About 60,000 men are lodged annually, including petty officers and men of the Australian Navy.

This is the only establishment of its kind in Australasia, and is controlled by a Superintendent, a Committee elected by the Trustees from among their number, and a few Naval Officers; with an Honorary Secretary and Treasurer.

POPULATION.

EARLY ENUMERATIONS.

In the days of early settlement it was necessary to enumerate the people at frequent intervals on account of their dependency on the public stores. Information regarding the population from the foundation of New South Wales in 1788, when Governor Phillip landed with about 1,030 persons, until the first census in 1828 depends on the records of these enumerations or "musters." The records were not always reliable, as the musters were often carried out under faulty conditions.

The growth of New South Wales for many years was very slow, and the population was diminished in 1803 by the formation of a settlement at Van Diemen's Land, now known as the State of Tasmania. The following table shows, as nearly as can be ascertained, the probable population of New South Wales, including Norfolk Island, at quinquennial intervals from the end of the year 1790 until the year 1825 :—

Year.	Total Population.	Year.	Total Population.
1790	2,800	1810	10,100
1795	4,500	1815	13,300
1800	6,200	1820	25,300
1805	7,400	1825	33,500

Only the totals are given, since for the period of the "musters" very scanty details are available, the sexes of the children being unstated.

The first census was taken during the month of November, in the year 1828, the result showing a total of 36,598 persons, of whom 27,611 were males and 8,987 females, the remarkable disparity of approximately 3 to 1 exhibiting a preponderance of the male sex.

The slow growth during the forty years to which the previous figures relate was followed by a rapid increase in population, induced by the steady development which resulted from the progressive public policy inaugurated during the governorship of Sir Richard Bourke. A system of immigration was introduced on a scale of annually increasing dimensions, which appeared in definite strength in the year 1832, so that at the end of 1833 the population had increased to 61,000, being an advance of 27,500 on the number for the year 1825, or at the rate of 82 per cent. for the period of eight years.

The population at each census from 1828 to 1856, the date of the establishment of Responsible Government, was as follows :—

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

The discoveries of the explorers during the early period had opened vast areas of inland country to pastoral and agricultural occupation, and the system of assisted immigration, inaugurated in 1832, was energetically carried

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

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

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

CENSUS ENUMERATIONS, 1861-1911.

The first census taken after New South Wales was restricted to its present limits was on the 7th April, 1861, when the ascertained population was 350,860. Thereafter the numbers were determined decennially, the last census having been taken on the 2nd April, 1911, when the population had increased to 1,648,746. This number does not include the population of the Federal Capital area of Yass-Canberra, which was transferred to the Commonwealth on 1st January, 1911; and the inhabitants of which, at the census of 1911, were 997 males and 727 females, 1,724 persons, of whom 10 were aborigines. The population of New South Wales at each census period from 1861 to 1911 will be seen below; aboriginal natives are included, except for 1861, when they were not enumerated; their number in 1911 was 2,012 (1,152 males and 860 females).

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

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

Year.	Index Number of Population.	Total increase for each period.	Increase per annum for period.	Persons per square mile.
1861	100	per cent.	per cent.	1.12
1871	144	.....	.....	1.61
1881	214	43.64	3.69	2.41
1891	323	49.11	4.08	3.64
1901	387	50.67	4.19	4.38
1911	470	20.04	1.84	5.32
		21.31	1.95	

The population has increased more than fourfold since 1861, and has more than doubled since 1881, but there has been a great falling-off in the rate of increase since 1891. Prior to that year the annual increase was about 4 per cent., but thence onward to 1904 it was under 2 per cent. Since 1904 the rate of increase has advanced, and was, in 1907, higher than at any time since 1891. In 1861 the number of persons per square mile was 1.1, in 1891 it was 3.6, and in 1911 it was 5.3.

The following statement gives the population of each State of the Commonwealth at the last census, in comparison with the Census of 1901, and the average annual rate of increase during the period. The figures are exclusive of full-blood aborigines.

State.	Census Population.		Proportion in each State.		Average Annual Rate of Increase per cent.
	1901.	1911.	1901.	1911.	
New South Wales ...	1,354,846	1,646,734	35·90	36·96	1·97
Victoria	1,201,070	1,315,551	31·83	29·53	0·91
Queensland	498,129	605,813	13·20	13·60	1·98
South Australia ...	358,346	408,558	9·49	9·17	1·32
Western Australia ...	184,124	282,114	4·88	6·33	4·36
Tasmania	172,475	191,211	4·57	4·29	1·04
Northern Territory ...	4,811	3,310	0·13	0·08	+ 3·67
Federal Capital Territory	*	1,714	*	0·04	...
Commonwealth ...	3,773,801	4,455,005	100·00	100·00	1·67

* Included in New South Wales.

† Rate of Decrease.

The average annual increase of the Commonwealth during the intercensal period was 1·67 per cent. The rate was highest in Western Australia, 4·36 per cent., and Queensland ranks next with 1·98 per cent.; Victoria showed the lowest rate, 0·91 per cent. The rate in New South Wales was, in reality, slightly higher than the above table shows, on account of the exclusion, in 1911, of the population of the Federal Capital Territory, which formed part of the State in 1901. The population of New South Wales, in 1911, represented 37 per cent. of the population of Australia as compared with 35·9 per cent. in 1901.

ESTIMATES OF POPULATION.

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

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

Experience shows that, while the records of overland migration are by no means perfect, they give with fair accuracy the gain or loss to the State across its borders. In the case of the sea traffic, however, the returns are less reliable, as there are persons who go on board vessels after the passenger list has been completed, and whose departure is not recorded. The usual practice has been to assume that arrivals as recorded were correct, and to add to the recorded departures, as an allowance for unrecorded departures, a certain percentage of those departures, which was based on the experience of the preceding intercensal period. This method is not altogether satisfactory, as when the Census is taken, it is found that the estimate differs more or less from the Census figure, and it becomes necessary to adjust the estimated populations of all the years between censuses, so that they may not appear incompatible with the census results.

At different periods, Conferences of the Statisticians of the several States of Australia have been held for the purpose of devising a uniform method of estimating population; such a Conference was held in Sydney in March, 1912, and its resolutions were to the following effect:—

1. That as regards migration overland by rail, a count of the passengers on the railway trains is the best method, if carried out effectively.
2. That such count should be made under the supervision of the Railway Commissioners of the several States, and being of so continuous a character, such financial arrangements should be made as would enable the Railway Commissioners to ensure an accurate count.
3. That migration by road should be estimated at 10 per cent. of migration by rail.
4. That as regards the movement of population between the States by sea, it is evident that if an accurate statement be given of persons arriving, with ports of departures of same specified, then an accurate statement of departures can be obtained; but as it appeared that the returns of arrivals were not correct, especially as to the places from which the persons arriving came originally, the most satisfactory manner of ensuring exactitude would be to obtain periodically (without warning), lists of persons arriving in a port and, on the other hand, lists of persons embarking from all the ports for that port. These lists could be compared and the reasons for any discrepancy investigated.
5. That a similar course of action might be taken to ensure accuracy in regard to oversea migration.
6. That an interval of ten years between censuses is too long to enable inaccuracies in estimating population from year to year to be corrected, and an interim census, limited to sex and locality, at intervals of five years from the last recorded decennial census, was desirable.

The estimated population of New South Wales at the end of each year since 1901 is as follows; aborigines are included, but the population at the end of 1911 is exclusive of the Federal Capital area:—

Year.	Estimated Population at end of Year.			Annual Increase.	
	Males.	Females.	Total.	Numerical.	Per cent.
1901	720,762	656,886	1,377,648	13,058	·96
1902	734,051	669,146	1,403,197	25,549	1·85
1903	744,951	679,798	1,424,749	21,552	1·53
1904	760,576	691,648	1,452,224	27,475	1·93
1905	777,923	706,155	1,484,078	31,854	2·19
1906	794,894	721,268	1,516,162	32,084	2·16
1907	814,585	738,418	1,553,003	36,841	2·43
1908	825,783	753,404	1,579,187	26,184	1·69
1909	838,527	768,698	1,607,225	28,038	1·78
1910	854,165	785,557	1,639,722	32,497	2·02
1911	885,736	807,638	1,693,374	53,652	3·28

SOURCES OF INCREASE.

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

Period.	Increase.			Increase per annum.		
	By excess of Births over Deaths.	By excess of Immigration over Emigration.	Total Increase.	By excess of Births over Deaths.	By excess of Immigration.	Total.
				per cent.	per cent.	per cent.
1861-71	106,077	47,044	153,121	2·68	1·27	3·69
1871-81	140,382	107,105	247,487	2·49	1·95	4·08
1881-91	211,301	169,465	380,766	2·51	2·05	4·19
1891-1901	226,676	223	226,899	1·84	...	1·84
1901-11	247,871	43,466	291,337	1·69	0·32	1·96

The rate of natural increase has fallen steadily throughout each period, and reached its lowest point in 1903, when it was only half the average annual rate during the period 1861-71. The fall was caused by the declining birth-rate, as the death-rate has shown constant improvement. During the last seven years, however, the rate has risen; in 1911 it was the highest since 1895.

The migration increase advanced steadily during each intercensal period up to 1891. During the decade 1861-1871, after the excitement of the gold discoveries had abated, a reaction set in, and public interest was again directed to the pastoral and agricultural industries. The policy of encouragement and assistance to immigrants was continued, and the Crown Lands were thrown open to free selection. During the following periods, the construction of railways and other public works increased the demand for labour; consequently, many persons were attracted to the State by the ease with which employment could be obtained and by the high rate of wages, notwithstanding that State-aided immigration practically ceased in 1886. Towards the end of this period, expenditure, both State and private, was suddenly curtailed, and there was a scarcity of employment and consequent check to immigration. The year 1891 saw a cessation of immigration, and for the next decade the population progressed only by reason of the natural increase, as the excess of arrivals was only 223. The balance of migration was, moreover, affected by the rush of men to Western Australia after the discovery of gold in 1894, and by the departure of over 5,000 troops to the war in South Africa, from 1899 to 1901. After the war these troops returned to the State, and in 1905 assistance to immigrants was restored; consequently the experience of 1901-11 was an improvement on that of the ten years prior to 1901.

MIGRATION.

The next table shows the arrivals in, and departures from, New South Wales by sea and by land during the last ten years, proper allowance being made for those unrecorded :—

Year.	Arrivals.			Departures.		
	By Sea.	By Land.	Total.	By Sea.	By Land.	Total.
1902	81,191	79,459	160,650	68,766	87,524	156,290
1903	70,570	81,773	152,343	64,920	85,340	150,260
1904	72,978	83,284	156,262	64,877	87,217	152,094
1905	74,170	98,135	172,305	64,974	100,000	164,974
1906	79,465	113,870	193,335	70,186	117,038	187,224
1907	98,275	140,214	238,489	82,946	144,487	227,433
1908	100,856	143,569	244,425	94,452	150,224	244,676
1909	106,310	144,200	250,510	98,025	152,376	250,401
1910	111,525	163,691	275,216	102,205	169,856	272,061
1911	141,667	201,656	343,323	117,152	201,293	318,445

There is a very large movement of population each year, but it can hardly be described as immigration or emigration in the popular sense in which those terms are used, and is largely due to the arrival and departure of tourists and business men. Of the total movement, 83 per cent. is with the other Australian States, and nearly one-half of the movement with countries outside Australia is with New Zealand.

The net gain of population from various countries during the last ten years is shown in the following table :—

Year.	Other Australian States.	New Zealand.	United Kingdom.	China, India.	Other British Possessions.	Foreign Countries.	Total.
1902	1,647	99	(-) 1,213	(-) 81	(-) 435	4,343	4,360
1903	3,341	(-) 604	(-) 991	(-) 293	(-) 2,067	2,697	2,083
1904	2,362	1,273	(-) 1,114	(-) 164	(-) 889	2,700	4,168
1905	4,932	2,534	(-) 753	3	(-) 874	1,489	7,331
1906	4,867	769	920	(-) 461	(-) 775	800	6,111
1907	6,410	364	3,068	(-) 527	1,044	697	11,056
1908	(-) 4,473	(-) 872	3,234	(-) 548	1,849	559	(-) 251
1909	(-) 13,784	5,519	8,401	56	(-) 1,272	1,189	109
1910	(-) 11,100	5,452	8,835	(-) 204	(-) 904	1,076	3,155
1911	(-) 2,239	8,839	15,568	128	(-) 637	3,219	24,878

(-) Signifies Loss.

The excess of arrivals from countries outside the Commonwealth during 1911 was 27,117, the largest excess during the last ten years. The excess of arrivals from New Zealand amounted to 8,839, and there was a gain of 476 persons from Canada.

The most remarkable feature shown by the above table is the change in the movement of population with the United Kingdom. In the first four years of the decennium there was a substantial loss of population to that country, but since 1906 there has been a steadily increasing excess of arrivals, amounting in 1911 to 15,568. This is due to the revival of the assisted immigration policy in 1905. Recognising the need of a much more rapid increase in population, in order to develop the vast resources and latent wealth of the country and to provide adequate defence, the State Government has made arrangements for the systematic advertisement throughout the United Kingdom of the advantages which this State offers to immigrants. The cost

to suitable immigrants of the voyage to Australia is lessened by Government contributions, and specially reduced fares from the United Kingdom and other European countries. Residents of New South Wales may also arrange, by nomination, assisted passages for relatives and friends desirous of settling in this State.

Under an agreement with the States, the Federal Government now co-operates in the encouragement of immigration by undertaking the advertisement of the resources of the whole of Australia, and the selection of the immigrants is left to the representatives of the individual States, who also arrange the assisted passages.

The number of persons assisted to immigrate is shown hereunder:—

Year.	Total Assisted Immigrants.			Nominated by Relatives or Friends in New South Wales (included in preceding).		
	Males.	Females.	Total.	Males.	Females.	Total.
1906	...	...	590	...	...	114
1907	...	...	2,917	...	...	490
1908	...	...	3,048	...	...	1,237
1909	...	...	4,308	...	...	1,979
1910	3,039	2,019	5,058	1,406	1,530	2,936
1911	5,880	4,042	9,922	3,647	3,279	6,926

LENGTH OF RESIDENCE IN AUSTRALIA.

The figures derived from the census returns show the population of New South Wales at 2nd April, 1911, exclusive of Aborigines of full-blood, classified according to length of residence in Australia, viz.:—

Length of Residence in Australia.	Number of Persons.		
	Males.	Females.	Total.
Years.	No.	No.	No.
0—4	31,686	15,190	46,876
5—9	6,724	3,147	9,871
10—14	7,142	3,265	10,407
15—19	7,610	4,597	12,207
20—24	18,856	12,417	31,273
25—29	26,943	17,545	44,488
30—34	17,030	9,926	26,956
35—39	7,043	3,820	10,863
40—44	4,954	3,112	8,066
45—49	6,766	4,901	11,667
50—54	7,393	6,038	13,431
55—59	7,081	6,182	13,263
60—64	1,953	1,990	3,943
65—69	754	820	1,574
70—74	919	923	1,842
75 and over	143	196	339
Unspecified... ..	12,965	9,484	22,449
Australian born	691,736	685,483	1,377,219
Total	857,698	789,036	1,646,734

The rise and fall of immigration, as noted above, are reflected in this table, which shows that, exclusive of the Australian born, persons who have resided in Australia less than five years, that is, those who arrived since 1905, outnumber those in any other five-year period; the next in numerical order are those who arrived during the years 1881-6 and whose period of residence is from 25-29 years. On the other hand, persons whose period of residence is from 5-9 years are exceeded by those in every other period up to 40 years.

THE METROPOLIS.

The Metropolis includes Sydney, the forty municipalities which surround it, and the Ku-ring-gai Shire, as well as the islands of Port Jackson, and embraces an area of 185 square miles. The boundaries may be described roughly as follows: on the east, the sea-coast, and on the south, the waters of Botany Bay and George's River; on the west, Hurstville, Canterbury, Enfield, Strathfield, Concord, and Ryde; on the north, Ryde, Eastwood, Ku-ring-gai Shire, and Manly. The habitations within these limits are fairly continuous, with the exception of parts of Ryde and Canterbury. The following statement shows, at the Census of 1911, the population of each municipality of the metropolis, and of the Ku-ring-gai Shire:—

Municipality.	Males.	Females.	Total.	Municipality.	Males.	Females.	Total.
City of Sydney * ..	66,031	53,740	119,771	Leichhardt ...	11,828	12,426	24,254
Alexandria ...	5,260	4,863	10,123	Manly ...	4,716	5,749	10,465
Annandale ...	5,413	5,827	11,240	Marrickville ...	14,338	16,315	30,653
Ashfield ...	9,212	11,219	20,431	Mosman ...	5,836	7,407	13,243
Balmain ...	15,907	16,131	32,038	Newtown ...	12,887	13,611	26,498
Bexley ...	3,096	3,421	6,517	North Sydney ...	15,625	19,021	34,646
Botany ...	2,355	2,034	4,409	Paddington ...	11,494	12,823	24,317
Botany, North ...	3,083	2,753	5,836	Petersham ...	9,846	11,866	21,712
Burwood ...	4,001	5,379	9,380	Randwick ...	9,294	10,169	19,463
Canterbury ...	5,628	5,707	11,335	Redfern ...	12,422	12,005	24,427
Concord ...	2,009	2,067	4,076	Rockdale ...	6,739	7,356	14,095
Darlington ...	1,863	1,953	3,816	Ryde ...	2,562	2,719	5,281
Drummoyne ...	4,182	4,496	8,678	St. Peter's ...	4,220	4,190	8,410
Eastwood ...	521	447	968	Strathfield ...	1,709	2,337	4,046
Enfield ...	1,695	1,749	3,444	Vaucluse ...	768	904	1,672
Erskineville ...	3,583	3,716	7,299	Waterloo ...	5,206	4,866	10,072
Glebe ...	10,450	11,493	21,943	Waverley ...	9,107	10,724	19,831
Homebush ...	355	321	676	Willoughby ...	6,211	6,825	13,036
Hunter's Hill ...	2,605	2,408	5,013	Woollahra ...	7,415	9,574	16,989
Hurstville ...	3,187	3,346	6,533	Ku-ring-gai Shire	4,347	5,111	9,458
Kogarah ...	3,429	3,524	6,953				
Lane Cove ...	1,639	1,667	3,306	Total ...	312,074	324,279	636,353

* Includes shipping and islands of Port Jackson.

The population of the Metropolis is rather unevenly distributed. Two-fifths of the inhabitants are crowded into less than 7,000 acres, having a density from 30 to 90 per acre, while one-third occupy about 24,000 acres with an average density of 10, and the remainder are scattered over about 88,000 acres, which have a density of a little over 1 per acre.

A comparison of the population of the chief cities (including suburbs) of each State of the Commonwealth and of the Northern Territory, is shown below:—

Metropolis.	Males.	Females.	Total.
Sydney	305,728	323,775	629,503
Melbourne	277,956	311,015	588,971
Brisbane	67,628	71,852	139,480
Adelaide	90,578	99,068	189,646
Perth	53,231	53,561	106,792
Hobart	18,487	21,450	39,937
Darwin	678	280	958

These populations are exclusive of shipping, and for this reason the population of Sydney and suburbs differs from that shown in the previous table.

COUNTRY DISTRICTS.

Round the Metropolitan districts settlement at first followed the main roads, but with the establishment of the railway, the population settled within reach of the railway lines. In the coastal area, where the bulk of the people dwell, the development of the towns has more than kept pace with the general population. Thus, in the Valley of the Hunter, with its large agricultural and mining industries, population has made rapid strides. Newcastle and suburbs, for instance, increased from 7,810 in 1861, to 54,991 in 1901, the population in 1911 being 55,380. The Illawarra district, rich in coal and pasture, and the dairy, maize, and sugar-growing districts of the Clarence and Richmond Rivers, have also increased largely in their urban population.

The next statement shows, at the Census of 1911, the populations of the country municipalities of New South Wales:—

Municipality.	Males.	Females.	Total.	Municipality.	Males.	Females.	Total.
Aberdeen	379	355	734	Inverell	2,247	2,302	4,549
Albury	3,052	3,257	6,309	Jamberoo	575	525	1,100
Armidale	2,290	2,448	4,738	Jerilderie	355	333	718
Auburn	2,757	2,802	5,559	Junee	1,296	1,285	2,581
Ballina	1,083	1,041	2,124	Katoomba	1,955	2,968	4,923
Balmoral	373	356	729	Kempsey	1,442	1,504	2,946
Bankstown	1,060	979	2,039	Kiama	793	802	1,601
Barraba	554	571	1,125	Lisnore	3,824	3,557	7,381
Bathurst	4,194	4,381	8,575	Lithgow	4,302	3,894	8,196
Bega	912	1,057	1,969	Liverpool	2,206	1,732	3,938
Berry	804	817	1,621	Maclean	781	801	1,582
Bingara	613	690	1,313	Maitland, East .. .	1,474	1,629	3,103
Blayney	710	725	1,435	Maitland, West .. .	3,998	4,212	8,210
Bombala	404	423	827	Manilla	706	684	1,390
Bourke	846	747	1,593	Mittagong	441	535	976
Bowral	735	1,016	1,751	Moama	427	414	841
Braidwood	577	656	1,233	Molong	684	687	1,371
Brewarrina	412	386	798	Moree	1,545	1,385	2,931
Broken Hill	16,921	14,051	30,972	Morpeth	518	546	1,064
Broughton Vale .. .	131	105	236	Moruya	475	470	945
Burrowa	461	439	891	Moss Vale	663	806	1,474
Cabramatta and Canley Vale	617	564	1,181	Mudgee	1,331	1,551	2,942
Camden	372	925	1,737	Mulgoa	219	232	451
Campbelltown	868	957	1,825	Mullumbimby	496	455	951
Carcoar	245	290	535	Murrumburrah .. .	1,095	1,041	2,135
Casino	1,734	1,686	3,420	Murrurundi	862	830	1,692
Castlereagh	285	235	520	Murwillumbah .. .	1,144	1,062	2,206
Cobar	2,632	1,798	4,430	Muswellbrook .. .	885	976	1,861
Condobolin	615	615	1,230	Narrabri	1,307	1,207	2,514
Cooma	1,034	1,029	2,063	Narrabri, West .. .	434	372	806
Coonamble	1,182	1,080	2,262	Narrandera	1,211	1,163	2,374
Cootamundra	1,517	1,450	2,967	Narromine	641	628	1,269
Coraki	623	515	1,138	Newcastle & Suburbs—			
Corowa	1,049	1,014	2,063	Newcastle	6,674	5,713	12,387
Cowra	1,692	1,579	3,271	Adamstown	1,347	1,313	2,660
Cudal	394	270	574	Carrington	1,366	1,319	2,685
Cudgong	1,431	1,247	2,678	Hamilton	3,904	4,004	7,908
Deniliquin	1,246	1,248	2,494	Lambton	1,376	1,420	2,796
Dubbo	2,210	2,242	4,452	Lambton, New .. .	933	894	1,827
Dundas	576	530	1,106	Merewether	2,082	2,069	4,151
Dungog	820	703	1,523	Plattsburg	1,353	1,308	2,661
Ermiington and Rydal- mere	909	807	1,716	Stockton	964	1,142	2,106
Forbes	2,192	2,244	4,436	Wallsend	1,693	1,653	3,346
Gerringsong	417	377	794	Waratah	2,138	2,281	4,419
Glen Innes	2,013	2,076	4,089	Wickham	4,260	4,174	8,434
Goilburn	4,831	5,192	10,023	Total, Newcastle & Suburbs	28,090	27,290	55,380
Grafton	2,283	2,293	4,681	Nowra	911	973	1,884
Grafton, South .. .	610	597	1,207	Nyngan	636	564	1,200
Granville	3,547	3,684	7,231	Orange	2,040	2,180	4,220
Grenfell	599	546	1,145	Orange, East	1,227	1,274	2,501
Greta	468	390	858	Parkes	1,437	1,498	2,935
Gulgong	876	860	1,736	Parramatta	6,500	5,965	12,465
Gundagai	592	589	1,181	Peak Hill	739	623	1,362
Gunnedah	1,513	1,492	3,005	Penrith	1,788	1,894	3,682
Hay	1,165	1,236	2,461	Pictou	476	478	954
Hillgrove	796	785	1,581	Port Macquarie .. .	571	548	1,119
Hillston	334	310	644	Prospect and Sherwood	2,026	1,906	3,932
Illawarra, Central .. .	2,766	2,234	5,000	Queanbeyan	624	649	1,273
Illawarra, North .. .	2,765	2,392	5,157	Quirindi	1,101	1,139	2,240
Ingleburn	167	212	379	Raymond Terrace .. .	414	497	911

Municipality.	Males.	Females.	Total.	Municipality.	Males.	Females.	Total.
Richmond	1,015	842	1,857	Walcha	664	670	1,334
Rookwood	3,040	2,378	5,418	Wallendbeen	578	441	1,019
Scone	595	561	1,156	Warialda	383	399	782
Shellharbour	818	724	1,542	Warren	581	561	1,142
Shoalhaven, South	382	339	721	Wellington	1,922	2,036	3,958
Singleton	1,461	1,535	2,996	Wentworth	287	271	558
Smithfield and Fairfield	1,142	1,084	2,226	Wilcannia	328	342	670
St. Mary's	889	905	1,794	Windsor	1,792	1,674	3,466
Tamworth	3,592	3,553	7,145	Wingham	531	439	970
Taree	647	600	1,247	Wollongong	2,259	2,414	4,673
Temora	1,459	1,325	2,784	Wrightville	872	696	1,568
Tenterfield	1,328	1,464	2,792	Wyalong	547	495	1,042
Tumut	762	755	1,517	Yass	1,027	1,109	2,136
Ulladulla	773	729	1,502	Young	1,499	1,640	3,139
Ullmarra	958	874	1,832				
Uralla	497	522	1,019				
Wagga Wagga	3,298	3,181	6,419	*Total, Country Municipalities.	214,531	208,277	422,808

* Includes shipping

None of these municipalities is densely populated, the most closely inhabited having only 12 persons per acre. The largest is Cudgegong, with an area of 122,880 acres, and the smallest Taree, with 294 acres.

The population, exclusive of aborigines, contained in the metropolitan area, the country municipalities, the Shires, and the unincorporated part of the Western Division as at the Census of 1911, is shown below; also the density in each division as represented by the average population per square mile. In this table the shipping figures have been excluded from the population of each division, and are shown separately:—

Division.	Area.	Population.			Population per Square Mile.
		Males.	Females.	Total.	
	sq. miles.				
Sydney	5	59,685	53,236	112,921	22,584·2
Suburbs	180	246,043	270,539	516,582	2,869·9
Metropolis	185	305,728	323,775	629,503	3,402·7
Country Municipalities ...	2,848	213,492	208,222	421,714	148·1
*Shires	181,177	319,412	250,093	569,505	3·1
Western Division (Part unincorporated).	125,257	11,533	6,323	17,856	·1
Lord Howe Island	5	56	49	105	21·0
Shipping ... ..	.....	7,477	574	8,051	.....
Total, New South Wales ...	309,472	857,698	789,036	1,646,734	5·3

* The Ku-ring-gai Shire, area 36 sq. miles, population 9,458, is included with Suburbs of Metropolis.

The population of the Metropolis, including shipping, represents 38·6 per cent. of the total population; 25·7 per cent. reside in the country municipalities, and 34·6 per cent. in the other incorporated areas.

The area of the Federal Capital Territory transferred to the Commonwealth on 1st January, 1911, is about 900 square miles; the population at the last census numbered 1,714 persons, or 1·9 per square mile.

SEX DISTRIBUTION.

The number of males in New South Wales has always exceeded the number of females. In the early days the disparity was very marked, but there has been a gradual tendency towards an equal sex distribution. The

preponderance of males is due to immigration, as the natural increase of females is the higher. The distribution of the sexes at each census since 1861 was as follows:—

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

From 1871 to 1881 the proportion of males remained constant at about 55 per cent. but immigration was checked towards the end of the next decade, and in 1891 the proportion of males had decreased slightly. During the following period there was very little immigration and in 1901 the difference between the sexes had become less than at any previous period, the proportion of males being 52·42 per cent. or 110 males to every 100 females. According to official estimates, the proportion of males remained fairly constant from 1901 to 1907, but since that year it has decreased; at the census of 1911, the percentages were—males 52·09, females 47·91, or 109 males to every 100 females.

AGE DISTRIBUTION.

The table below shows the number of persons, exclusive of aboriginals, at each quinquennial period of age up to 85 years, as at the census of 1911 in comparison with the ages at the previous census. The population of the Federal Capital territory is excluded in 1911:—

Age-Group. Years.	1901.			1911.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 5 ...	80,308	78,553	158,861	102,003	98,863	200,866
5—9... ..	84,189	81,946	166,135	85,137	83,120	168,257
10—14... ..	81,582	80,097	161,679	79,136	77,998	157,134
15—19... ..	70,423	70,736	141,159	82,981	81,015	163,996
20—24... ..	62,448	64,818	127,266	87,314	82,850	170,164
25—29... ..	56,273	56,043	112,316	76,430	72,390	148,820
30—34... ..	52,596	46,697	99,293	64,228	59,896	124,124
35—39... ..	52,335	41,593	93,928	55,121	50,708	105,829
40—44... ..	44,930	33,436	78,366	50,940	43,455	94,395
45—49... ..	33,338	24,001	57,339	46,638	37,583	84,221
50—54... ..	25,615	19,327	44,942	39,345	29,964	69,309
55—59... ..	19,634	15,376	35,010	27,544	20,905	48,449
60—64... ..	16,733	12,192	28,925	20,023	16,352	36,375
65—69... ..	13,005	9,237	22,242	15,370	13,014	28,384
70—74... ..	7,772	5,202	12,974	10,611	8,585	19,196
75—79... ..	3,578	2,844	6,422	6,658	5,242	11,900
80—84... ..	1,883	1,574	3,457	2,719	2,223	4,942
85 and over ...	800	678	1,478	1,010	1,070	2,080
Unspecified ...	2,563	491	3,054	4,490	3,803	8,293
All Ages...	710,005	644,841	1,354,846	857,698	789,036	1,646,734

In 1911 the males were in excess of the females in every age-group up to 85 years, though at the previous census there were more females at ages 15-19 years. With regard to persons aged 85 and over, in 1901 there were more males than females, but in 1911 there was a preponderance of females. Comparing the number of males and females at each year of age up to 21, there was very little difference between the sexes at the census of 1911; but the males were more numerous, except at age 12 years, when there was an excess of females.

The age constitution of the people has also materially altered since 1901. The results of the census of that year show that the largest number at any age period was from 5 to 9 years, and the number in the first group—under 5 years—was also exceeded by the total between 10-14 years. At the census of 1911, the group under 5 years was numerically the greatest; the group 20-24 years ranks next, followed by 5-9 years; then 15-19 years. In the group 10-14 years, the actual number of both sexes has decreased during the decade.

The following statement shows the proportion per cent. of the total population in each age-group :—

Age-Group. Years.	1901.			1911.		
	Males.	Females.	Total.	Males.	Females.	Total.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Under 5	11·31	12·18	11·73	11·96	12·59	12·26
5—9	11·86	12·71	12·26	9·98	10·59	10·27
10—14	11·49	12·42	11·93	9·28	9·93	9·59
15—19	9·94	10·97	10·43	9·72	10·32	10·01
20—24	8·89	10·07	9·45	10·23	10·55	10·38
25—29	8·01	8·70	8·34	8·96	9·22	9·08
30—34	7·45	7·25	7·36	7·53	7·63	7·58
35—39	7·41	6·46	6·96	6·46	6·46	6·46
40—44	6·35	5·19	5·80	5·97	5·53	5·76
45—49	4·71	3·73	4·24	5·47	4·79	5·14
50—54	3·62	3·00	3·33	4·61	3·82	4·23
55—59	2·77	2·39	2·59	3·23	2·66	2·96
60—64	2·36	1·89	2·14	2·34	2·08	2·22
65—69	1·84	1·44	1·65	1·80	1·65	1·73
70—74	1·10	·80	·96	1·24	1·09	1·17
75—79	·51	·44	·47	·78	·67	·73
80—84	·27	·25	·25	·32	·28	·30
85 and over	·11	·11	·11	·12	·14	·13
All Ages	100·00	100·00	100·00	100·00	100·00	100·00

In this comparison, it will be seen that the percentage of the population contained in the groups from 5-19 years of both sexes was less in 1911 than at the previous census; and in the case of the males, there has also been a proportionate decrease in the groups 35-44 years, and from 60-69 years.

The following statement shows the population distributed in certain conventional groups; in order to account for the whole population the unspecified have been apportioned among the specified:—

Age-Group. Years.	Number.			Proportion per cent.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 5	102,179	99,014	201,193	11·91	12·55	12·22
5-14	164,555	161,365	325,920	19·19	20·45	19·79
15-64	554,306	498,293	1,052,599	64·63	63·15	63·92
65 and over	36,658	30,364	67,022	4·27	3·85	4·07
Total	857,698	789,036	1,646,734	100·00	100·00	100·00
School age, 6-13 years	130,128	127,925	258,053	15·17	16·21	15·67
Adults, 21 and over... ..	490,240	430,557	920,797	57·16	54·57	55·92
Military age, 18-44	370,632	.....	.....	43·21	.....	.....
Reproductive age, 15-44 ... ..	.....	392,692	.....	.....	49·77	.....

The adults represented 55·9 per cent. of the population and the children of statutory school age 15·7 per cent. as compared with 51·7 per cent., and 19·5 per cent. respectively in 1901.

BIRTHPLACES.

The great majority of the inhabitants of New South Wales are of British origin; at the last census, out of a total of 1,635,916 persons whose birth-places were ascertained, 1,603,287, or 98 per cent. were returned as having been born in the British Empire.

The following statement shows the results of the enumeration of the birth-places at the census of 1911, in comparison with the figures obtained at the previous census. Aboriginal natives of full-blood have been excluded:—

Birthplace.	1901.			1911.		
	Males.	Females.	Total.	Males.	Females.	Total.
Australasia—						
New South Wales	487,039	490,137	977,176	608,517	610,340	1,218,857
Victoria	30,358	25,661	56,019	42,701	34,835	77,536
Queensland	7,097	7,871	14,968	11,013	12,275	23,293
* South Australia	11,981	10,078	22,059	13,005	11,189	24,194
Western Australia	450	437	887	1,253	1,229	2,482
Tasmania	3,722	3,855	7,577	5,209	5,112	10,321
* Northern Territory	92	.....	.....	12	5	17
Australia (undefined)	239	229	468	10,021	10,498	20,519
	540,886	538,268	1,079,154	691,736	685,483	1,377,219
New Zealand	5,425	5,164	10,589	7,296	6,667	13,963
	546,311	543,432	1,089,743	699,032	692,150	1,391,182
Europe—						
England (including Isle of Man)	76,187	49,930	126,117	75,015	47,448	122,463
Wales	2,254	1,368	3,622	2,791	1,591	4,382
Scotland	18,566	12,151	30,717	19,403	11,857	31,260
Ireland	30,463	29,482	59,945	24,098	22,558	46,656
Other European British Possessions	92	50	142	495	208	703
Austria-Hungary	594	73	667	520	116	636
Belgium	104	34	138	90	39	129
Denmark	1,150	216	1,366	1,083	214	1,297
France	1,354	433	1,787	935	412	1,347
Germany	6,344	2,258	8,602	5,323	1,918	7,241
Greece	357	35	392	764	58	822
Italy	1,243	334	1,577	1,332	391	1,723
Netherlands	191	21	212	202	35	237
* Norway	3,010	180	3,190	964	67	1,032
Portugal	120	8	128	77	8	84
Russia	1,022	240	1,262	1,218	318	1,536
Spain	65	39	104	90	44	134
* Sweden ... ..	.....	.....	.....	1,679	118	1,797
Switzerland	363	91	454	340	102	442
Other European Countries	60	23	83	134	50	184
	143,539	96,996	240,535	136,553	87,612	224,165

Birthplace.	1901.			1911.		
	Males.	Females.	Total.	Males.	Females.	Total.
Asia—						
British India and Ceylon	2,413	544	2,957	1,895	554	2,449
Other Asiatic British Possessions	130	30	160	200	59	259
China	9,890	103	9,993	7,509	100	7,609
Japan	161	17	178	125	14	139
Syria	467	272	739	448	307	755
Other Asiatic Countries	167	23	190	209	42	252
	13,228	989	14,217	10,386	1,077	11,463
Africa—						
*Mauritius	167	89	256	145	95	240
Union of South Africa	203	127	330	272	262	534
South Africa (undefined)	73	66	139	554	503	1,057
Other African British Possessions	26	9	35	28	10	38
Other African Countries	180	54	234	88	42	130
	649	345	994	1,087	912	1,999
America—						
Canada	820	243	1,063	852	280	1,132
Other American British Possessions	342	97	439	191	55	246
United States	2,156	908	3,064	1,844	890	2,734
Other American Countries	144	71	215	224	88	312
	3,462	1,319	4,781	3,111	1,313	4,424
Polynesia—						
Fiji	180	138	318	227	249	476
Other Polynesian British Possessions	72	42	114	90	60	150
New Caledonia	123	81	204	114	129	243
Other Polynesian Islands	432	103	535	245	90	335
	807	364	1,171	676	528	1,204
At Sea	1,100	867	1,967	817	662	1,479
Unspecified	909	529	1,438	6,036	4,782	10,818
Total	710,005	644,841	1,354,846	857,698	789,036	1,646,734

*In 1901, the Northern Territory is included with South Australia, and Sweden with Norway, and the figures for Mauritius include the Seychelles.

The natives of the British Empire resident in New South Wales at the census of 1911 numbered 1,603,287, as compared with 1,316,097 in 1901, the proportions of the total population being 98·0 per cent. and 97·2 per cent., respectively.

The Australasian-born increased from 1,089,743, to 1,391,182 during the decade. Of the other British, the most numerous were the English-born, 122,463; and Irish, 46,656; but both have decreased since the previous census. The natives of Scotland and Wales numbered 31,260 and 4,382, respectively, having slightly increased during the period.

In 1901 the foreign-born population numbered 35,344 persons, or 2·6 per cent., but had decreased to 31,150 persons, or 1·9 per cent. at the census of 1911; the Europeans numbered 18,641 persons, including natives of Germany, 7,241; Sweden, 1,797; Italy, 1,723; France, 1,347; Denmark, 1,297; Russia, 1,536; and Norway, 1,032. The Greeks increased from 392 to 822, but with the exception of smaller increases in those born in Italy, Netherlands, Russia, and Spain, the natives of the other European foreign countries have decreased since 1901.

Of the foreign Asiatics the most numerous were the natives of China, 7,609; Syria, 755; and Japan, 139; the numbers in 1901 being 9,993, 739, and 178, respectively. The persons born in the United States of America numbered 2,734, having decreased from 3,064 in 1901.

Over 82 per cent. of the foreign-born population were males.

The proportions of British and foreign-born inhabitants at each census since 1891 are shown below, the percentages of each sex in 1911 appearing separately :—

Birthplaces.	1891.	1901.	1911.		
			Males.	Females.	Total.
British—	per cent.	per cent.	per cent.	per cent.	per cent.
New South Wales	64·58	72·20	71·45	77·82	74·51
Victoria	3·63	4·14	5·01	4·44	4·74
Queensland	·91	1·11	1·29	1·56	1·43
South Australia (including Northern Territory)	1·58	1·63	1·53	1·43	1·48
Western Australia	·04	·06	·15	·16	·15
Tasmania	·52	·56	·61	·65	·63
Australia (undefined)	·08	·03	1·18	1·34	1·26
New Zealand	·80	·78	·86	·85	·85
England and Wales	13·74	9·59	9·13	6·25	7·75
Scotland	3·28	2·27	2·28	1·51	1·91
Ireland	6·68	4·43	2·83	2·88	2·85
Other British Possessions	·44	·44	·58	·31	·45
	96·28	97·24	96·90	99·20	98·01
Foreign—					
Germany	·85	·64	·63	·24	·44
Other European	1·07	·84	1·11	·25	·70
China	1·17	·74	·88	·01	·47
Other Asiatic	·04	·08	·09	·05	·06
African	·03	·02	·01	·01	·01
American	·32	·24	·24	·12	·19
Polynesian	·06	·05	·04	·03	·03
	3·54	2·61	3·00	·71	1·90
At Sea	·18	·15	·10	·09	·09
Total	100·00	100·00	100·00	100·00	100·00

The natives of New South Wales have increased from 64·6 per cent. to 74·5 per cent., during the period under review, and the proportions from each of the other States, except South Australia, are larger than in 1891. The percentage of natives of the United Kingdom decreased from 23·7 to 11·5. The foreign-born residents represented 3·5 in 1891, 2·6 in 1901, and 1·9 in 1911.

At the date of the last census 108,631 natives of New South Wales were living in the five other States and in New Zealand, and 151,877 natives of the other States and of New Zealand were resident in New South Wales, so that the excess in New South Wales of immigrants from other parts of Australasia was 43,246 persons. The distribution in each State was as follows:—

State.	Natives of other States living in New South Wales.	Natives of New South Wales living in other States.	Gain to New South Wales.	Loss to New South Wales.
Victoria	77,583	28,692	48,891	...
Queensland	23,302	38,921	...	15,619
South Australia	24,199	7,446	16,753	...
Northern Territory	17	185	...	168
Western Australia	2,483	17,224	...	14,741
Tasmania	10,326	2,330	7,996	...
New Zealand	13,967	13,833	134	...
Total	151,877	108,631	73,774	30,528
			43,246	

For the purposes of this table the Federal Capital Territory has been included with New South Wales, but the figures are necessarily exclusive of a large number of persons of Australian birth who did not specify the State where born. The table shows a very large gain of persons from Victoria, the excess of Victorians in New South Wales being 48,891 persons. New South Wales also gained from South Australia, Tasmania, and New Zealand, but lost to Queensland, Western Australia, and the Northern Territory.

A comparison with the census years of 1891 and 1901 is supplied below, the Northern Territory being included with South Australia:—

State.	1891.		1901.		1911.	
	Natives of other States living in New South Wales.	Natives of New South Wales living in other States.	Natives of other States living in New South Wales.	Natives of New South Wales living in other States.	Natives of other States living in New South Wales.	Natives of New South Wales living in other States.
Victoria	40,768	19,775	56,019	22,404	77,583	28,692
Queensland	10,173	17,023	14,968	24,868	23,302	38,921
South Australia	17,716	2,154	22,059	4,128	24,216	7,631
Western Australia	464	555	887	14,122	2,483	17,224
Tasmania	5,851	1,180	7,577	2,075	10,326	2,330
New Zealand	9,015	2,833	10,589	6,492	13,967	13,833
Total	83,987	43,520	112,099	74,089	151,877	108,631
Net Gain	40,467		38,010		43,246	

The gain from Victoria and Tasmania has increased steadily in each period; from South Australia it has fluctuated, but in 1911 was slightly greater than in 1891, and the interchange with New Zealand has become more evenly balanced than formerly. The loss to Queensland has increased between each enumeration, from 6,850 in 1891, to 15,619 in 1911; during the intercensal period 1891–1901, there was a large excess of emigration to Western Australia in consequence of the development of the goldfields. The net gain to New South Wales from all the States and New Zealand was 43,246 in 1911, as compared with 40,467 in 1891.

In connection with the gain or loss of population between the States the following table will be of interest to show the distribution of the Australian-born population throughout the six States of the Commonwealth as at the Census of 1911. The population of the Federal Capital Territory is included with New South Wales, and of the Northern Territory with South Australia :—

Natives of—	State of Enumeration.						Total Australian-born Population.
	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	
New South Wales ...	1,220,234	23,692	38,921	7,631	17,224	2,330	1,315,032
Victoria ...	77,583	1,010,219	15,943	14,650	54,613	8,779	1,181,787
Queensland ...	23,302	4,402	382,216	1,046	3,666	432	415,064
South Australia ...	24,216	23,545	3,376	319,062	24,356	923	395,478
Western Australia ...	2,483	4,536	482	2,600	104,208	241	114,550
Tasmania ...	10,326	19,030	1,798	1,248	2,479	158,889	193,770
Australia, Undefined	20,575	18,521	3,959	5,529	2,504	903	51,991
Total, Australian-born ...	1,378,719	1,108,945	446,695	351,706	209,050	172,497	3,667,672

Of the persons resident in the State where born the proportions are highest regarding the natives of New South Wales 92·8 per cent.; Queenslanders 92·1 per cent.; and Western Australians 91 per cent. The proportions are much lower with regard to the Victorians, 85·5 per cent.; Tasmanians, 82 per cent.; and South Australians, 80·7 per cent. of whom resided in South Australia at the Census of 1911. Of those resident outside the State where born, the natives of New South Wales are most numerous in Queensland and Victoria, the Victorians in New South Wales and Western Australia, the Queenslanders in New South Wales, the South Australians in Western Australia, New South Wales and Victoria, and the Tasmanians in Victoria and New South Wales. The natives of Western Australia, which is the most recently settled of the States, are not found in large numbers in any other State.

The proportion to the total population of each State of the people born in the State in which they were resident at the time of each census since 1891, of those born in the other States, and of the total Australian-born population are shown below :—

State of Enumeration.	Natives of State of Enumeration.			Natives of other States.			Australian-born Population.*		
	1891.	1901.	1911.	1891.	1901.	1911.	1891.	1901.	1911.
New South Wales ...	64·58	72·20	74·52	6·68	7·50	8·42	71·26	79·73	84·19
Victoria ...	62·68	73·23	77·44	5·71	5·37	6·15	68·39	78·67	85·01
Queensland ...	44·99	57·00	63·39	6·87	7·87	10·04	51·86	64·87	74·09
South Australia ...	68·22	74·97	78·49	3·28	4·64	6·68	71·50	79·87	86·53
Western Australia ...	56·02	28·64	36·79	6·18	40·36	36·13	60·20	69·04	73·80
Tasmania ...	73·88	79·44	83·77	4·34	6·57	6·70	78·22	86·01	90·95

* Includes persons of Australian birth who did not specify State in which born, and have therefore been excluded from preceding columns of this table.

PERSONS OF NON-EUROPEAN RACES.

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

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

Provision is made also to prevent the immigration of labourers under contract to perform manual labour, if their arrival has any connection with an industrial dispute, or if the contract rate of wages is less than that current in the district where the work is to be performed.

During the nine years the Act has been in force, 1,484 persons have been refused admittance.

In 1901 the Federal Government also passed an Act to prohibit the introduction of native labourers from the Pacific Islands. These labourers were employed in the sugar plantations, for the greater part in Queensland, but also in smaller numbers in the north coastal districts of New South Wales. Under this Act all agreements with the islanders were terminated at the end of the year 1906, and arrangements were made by the Government for their deportation.

At the Census of 1911, the number of persons in this State, of non-European race other than aboriginal, was 13,140, which represents a very small proportion—8 per 1,000—of the total population.

Race.	Full-blood.			Half-caste.			Total.
	Males.	Females.	Total.	Males.	Females.	Total.	
Asiatic—							
Chinese	7,939	284	8,223	561	571	1,132	9,355
Hindus	1,119	63	1,182	72	64	136	1,318
Japanese	119	7	126	19	13	32	158
Syrians	654	540	1,194	20	25	45	1,239
Malays	28	1	29	9	2	11	40
Filipinos	7	1	8	6	3	9	17
Javanese	7	2	9	1	...	1	10
Cingalese	89	13	102	13	5	18	120
Afghans and Baluchis	50	2	52	1	1	2	54
Arabs	16	.....	16	3	1	4	20
Jews... ..	11	10	21	...	...	...	21
Turks	9	6	15	...	...	...	15
Other Asiatic	6	.....	6	...	...	...	6
African—							
Negroes	131	23	157	95	71	166	323
Egyptians	5	4	9	...	...	...	9
Other African	3	.....	3	...	...	...	3
American—							
Indians	5	.....	5	5	...	5	10
Other American	5	.....	5	2	...	2	7
Polynesian—							
Polynesian (so described)... ..	250	18	268	22	19	41	309
Papuans ... ..	.....	1	1	...	1	1	2
Maoris	37	18	55	12	12	24	79
Fijians	14	5	19	1	3	4	23
Indefinite ... ..	.....	2	2	...	...	...	2
Total	10,507	1,000	11,507	842	791	1,633	13,140

The most numerous of these races are the Chinese, who constitute 70 per cent. of the coloured aliens; the Hindus and Syrians follow in numerical order.

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

The following statement shows the number of Chinese in Australia, including half-castes, as recorded at each census since 1891. For the purposes of comparison the Federal Capital Territory has been included with New South Wales, and the Northern Territory with South Australia. At the census of 1911 there were 3 Chinese in the Federal Capital area and 1,339 in the Northern Territory:—

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

These figures show a decrease in each State, except Western Australia.

ABORIGINES.

The aborigines of Australia form a distinct race, and it may be presumed that the whole of them throughout the continent sprang from the same stock, although it is remarkable that their languages differ so greatly that tribes in close proximity are quite unable to understand each other, and almost every large community of natives has its own peculiar dialect. It is difficult to form a correct estimate of the numbers of the aborigines; but while there is reason to believe that formerly they were very numerous, there is evidence that of late years they have been decreasing greatly.

Governor Phillip estimated the aboriginal population, about the year 1800, at one million, of whom about 3,000 lived between Broken Bay and Botany Bay. Although the latter estimate (3,000) was very likely correct, the quotation for the whole territory, being based on the supposition that the natural resources of the continent were as great as those of the land under his notice, was no doubt exaggerated.

The aborigines were never properly counted until the Census of 1891, when they were classed as full-blood and half-caste. In 1901 only the full-blood and nomadic half-caste were counted. According to the Commonwealth Constitution Act, in reckoning the quota to determine the number of members to which the State is entitled in the House of Representatives, aboriginal natives of Australia are not counted. It has been decided that only full-bloods are aborigines within the meaning of the Act, and, consequently, in 1901 and 1911 half-castes were included in the general population. At the census of 1911 no attempt was made to enumerate the aboriginals living in

a purely wild state, and the number shown in the following table represents only those who were in the employ of whites, or were living in a civilised or semi-civilised condition in the vicinity of settlements of whites, at the date of census. In 1861 aborigines were not enumerated at all; in 1871 and 1881 the wandering tribes were passed over, and only those who were civilised or in contact with Europeans were enumerated and included in the general population. The numbers of full-blooded aborigines in New South Wales, enumerated at each census, are shown below; the figures for 1911 are exclusive of the Federal Capital Territory, where there were 10 aborigines—5 males and 5 females:—

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

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

The Board for the Protection of Aborigines has been constituted to safeguard the interests of the aboriginal population in New South Wales, and a number of reserves have been set apart throughout the State, where they are provided with dwellings and means of livelihood. The residents on these stations are encouraged, as far as practicable, by the supply of tools and seed, to farm the land to its best advantage, and the education of the children is conducted by duly-qualified instructors. Under an Act passed in 1909 the control of the reserves is vested in the Board, and their powers of administration considerably amplified with a view of ameliorating the conditions of the race. Particulars relating to the operations of the Board during 1911 will be found in the chapter, "Social Condition," of this Year Book.

A comparison of the number of aborigines of full blood and half castes in each State and Territory of the Commonwealth of Australia at the census of 1911 is afforded in the following table:—

States and Territories.	Full-bloods.			Half castes.		
	Males.	Females.	Total.	Males.	Females.	Total.
States—						
New South Wales	1,152	860	2,012	2,335	2,177	4,512
Victoria	103	93	196	237	210	447
Queensland	5,145	3,542	8,687	1,361	1,147	2,508
South Australia	802	637	1,439	346	346	692
Western Australia	3,433	2,936	6,369	760	715	1,475
Tasmania	2	1	3	123	104	227
Territories—						
Northern Territory	743	480	1,223	117	127	244
Federal Capital Territory ...	5	5	10	4	4	8
Total, Commonwealth...	11,385	8,554	19,939	5,283	4,830	10,113

NATURALISATION.

Under the Commonwealth Naturalisation Act, which came into operation on the 1st January, 1904, any person is deemed to be naturalised who had, before the passing of the Act, obtained a certificate of naturalisation in any State. An applicant must make a statutory declaration giving his name, age, birth-place, occupation, residence, the length of his residence in Australia, and stating that he intends to settle in the Commonwealth; also a certificate signed by some competent person that the applicant is of good repute.

It is also enacted that any person resident in the Commonwealth, other than British subjects and aboriginal natives of Asia, Africa, or the islands of the Pacific, excepting New Zealand, who intends to settle in the Commonwealth, and who has resided in Australia continuously for two years immediately preceding the application, or who has obtained a certificate of naturalisation in the United Kingdom, may apply to be naturalised.

The Governor-General may in his discretion grant or withhold a certificate, and the certificate is issued when the applicant has taken the necessary oath of allegiance.

Any person to whom a certificate of naturalisation is granted is in the same position as a natural-born British subject, provided that where, by the provisions of any Commonwealth or State Constitution or Act, a distinction is made between the rights of natural-born British subjects and naturalised persons, the rights conferred by the Commonwealth Act are only those to which persons naturalised would be entitled.

An alien woman who marries a British subject is deemed to be thereby naturalised. Any infant, not being a natural-born British subject, whose father has been naturalised, or whose mother is married to a natural-born British subject or to a naturalised person, and who has at any time resided in Australia with such father or mother, is also deemed to be naturalised.

At the census of 1901 the number of naturalised British subjects was 3,619, viz., 3,265 males and 354 females. Germans have availed themselves most largely of the privileges of naturalisation, having taken out nearly one-half of the certificates granted.

The following table shows the birthplaces of the persons naturalised in New South Wales during each of the last nine years:—

Birthplaces.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.
Austria	20	48	40	18	13	15	22	16	21
Denmark	22	96	23	31	31	24	39	50	38
France... ..	14	69	36	14	27	17	37	57	35
Germany	109	412	170	154	163	140	217	213	190
Greece... ..	15	53	33	27	19	15	34	37	24
Italy	34	116	58	44	51	38	66	53	40
Norway	19	111	32	28	20	13	34	39	23
Russia	30	148	11	18	10	40	62	50	42
Sweden	48	226	58	69	54	56	55	81	60
Switzerland	11	24	11	6	15	8	11	14	7
Other European	6	45	36	18	11	22	27	28	23
United States	3	26	10	20	16	8	24	24	26
Syria	62	...	...	...	3	...	...	...	...
Others	7	5	26	28	25	...	16	3	36
Total	400	1,379	544	475	458	396	644	665	565

VITAL STATISTICS.

NOTE.—The vital statistics of the year 1911 are exclusive of the records of the Federal Capital area, which was transferred to the Commonwealth on 1st January, 1911.

CONJUGAL CONDITION.

The proportion of married persons in New South Wales is about one-third of the total population, as will be seen from the following statement, which shows the conjugal condition of the people at the Census of 1911 :—

Conjugal Condition.	Number.			Proportion per cent.		
	Males.	Females.	Total.	Males.	Females.	Total.
Never married	556,350	467,603	1,023,953	65.00	59.30	62.27
Married	275,428	276,216	551,644	32.18	35.03	33.54
Widowed... ..	22,887	43,571	66,458	2.67	5.52	4.04
Divorced	1,230	1,190	2,420	.15	.15	.15
Not stated	1,803	456	2,259	...	...	...
Total	857,698	789,036	1,646,734	100.00	100.00	100.00

The number of males never married is much greater than the females; the proportion of the total population being 65 per cent. for the males and 59.3 per cent. for the females. The married women are more numerous than the married men, but the difference is slight. The large excess of widows over widowers is due to the greater mortality amongst men, and to the fact that widowers re-marry more often than widows.

The proportions per cent. of the never married, married, and widowed at each census since 1861 are shown below. The divorced are not included on account of the smallness of the numbers, and because they were not enumerated prior to 1891 :—

Census.	Males.			Females.		
	Never Married.	Married.	Widowed.	Never Married.	Married.	Widowed.
1861	69.34	28.23	2.43	61.09	35.14	3.77
1871	69.96	27.59	2.45	62.89	32.82	4.29
1881	70.64	26.94	2.42	63.52	31.75	4.73
1891	69.78	27.41	2.78	62.87	32.11	5.00
1901	68.46	28.69	2.75	62.43	32.00	5.46
1911	65.00	32.18	2.67	59.30	35.03	5.52

This table shows that the proportion of never married of each sex increased at each census up to 1881, but decreased from 1881 to 1911, the decrease being most marked between 1901 and 1911. The married, as might be expected, showed a contrary tendency. The proportion of widowers has been fairly constant, and that of the widows has slightly increased.

A comparison of the conjugal condition of the people at various periods of age, at the Censuses of 1901 and 1911, shows that the proportion of unmarried males has decreased, the proportion of married males has

increased at every age, and the proportion of widowers is slightly lower in every group. With regard to the females the decrease in the proportion never married has taken place in the age-groups 15-29 years, as there has been an increase at all ages over 30 years. The married females in 1911 showed a proportionate increase in every group except 30-49 years, at which ages they have decreased. The widows have decreased in proportion in every age-group, but as the decrease has been smallest at the older ages when the proportion is high, the total rate is about the same as at the Census of 1901.

The following table shows the conjugal condition of the people as at the Census of 1911, classified according to ages. The greatest number of married males was at the age period 30-34 years, and the greatest number of married females at ages 25-29 years:—

Ages. Years.	Never Married.		Married.		Widowed.		Divorced.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Under 15	266,274	259,975	2	6	...	...	...	...
15-19 ...	82,580	77,091	398	3,833	3	13	...	1
20-24 ...	74,733	55,492	12,203	27,031	95	198	11	39
25-29 ...	43,591	28,428	32,188	43,113	435	663	66	141
30-34 ...	24,109	15,893	39,083	42,598	762	1,208	149	171
35-39 ...	15,822	10,099	37,919	38,382	1,108	1,990	162	212
40-44 ...	12,549	6,883	36,530	33,446	1,556	2,893	181	214
45-49 ...	10,249	4,559	34,102	28,728	2,014	4,108	199	170
50-54 ...	8,085	3,060	28,425	22,037	2,567	4,732	184	119
55-59 ...	5,197	1,773	19,569	14,173	2,622	4,907	112	43
60-64 ...	3,850	1,297	13,400	9,535	2,652	5,487	71	28
65-69 ...	2,804	945	9,680	6,177	2,810	5,864	44	20
70-74 ...	2,270	504	5,801	3,191	2,496	4,878	20	7
75-79 ...	1,395	259	3,212	1,370	2,027	3,602	7	8
80-84 ...	532	101	1,095	397	1,084	1,720	6	...
85 and over	221	59	298	110	486	895	4	1
Unspecified	2,089	1,185	1,523	2,089	170	413	14	16
Total	556,350	467,603	275,428	276,216	22,887	43,571	1,230	1,190

PROPORTION PER CENT. IN EACH AGE GROUP.

Under 15	100-00	100-00	·00	·00	...	...	...	...
15-19 ...	99-52	95-25	·48	4-73	·00	·02	...	·00
20-24 ...	85-86	67-05	14-02	32-66	·11	·24	·01	·05
25-29 ...	57-15	39-29	42-20	59-59	·57	·92	·08	·20
30-34 ...	37-61	26-55	60-97	71-15	1-19	2-02	·23	·28
35-39 ...	28-76	19-93	68-93	75-73	2-01	3-92	·30	·42
40-44 ...	24-69	15-85	71-89	77-00	3-06	6-66	·36	·49
45-49 ...	22-01	12-14	73-24	76-48	4-33	10-93	·42	·45
50-54 ...	20-59	10-22	72-40	73-58	6-54	15-80	·47	·40
55-59 ...	18-90	8-48	71-16	67-83	9-53	23-48	·41	·21
60-64 ...	19-28	7-93	67-09	58-33	13-28	33-57	·35	·17
65-69 ...	18-23	7-27	63-11	47-49	18-32	45-09	·29	·15
70-74 ...	21-44	5-88	54-79	37-19	23-58	56-85	·19	·08
75-79 ...	21-01	4-95	48-37	26-15	30-52	68-75	·10	·15
80-84 ...	19-58	4-55	40-30	17-90	39-90	77-55	·22	...
85 and over	21-90	5-54	29-53	10-33	48-17	84-04	·40	·09
All Ages...	65-00	59-30	32-18	35-03	2-67	5-52	·15	·15

MARRIAGES.

The number of marriages celebrated in New South Wales during 1911 was 15,267, corresponding to a rate of 9·18 per 1,000 of the population. The number is the highest on record, and the rate is the highest since 1862.

The following table shows the average annual number of marriages and the rates per 1,000 of the population during each quinquennium of the last forty-two years :—

Period.	Average Number of Marriages.	Rate per 1,000 of Population.	Period.	Average Number of Marriages.	Rate per 1,000 of Population.
1870-74	4,091	7·77	1895-99	8,700	6·74
1875-79	4,987	7·88	1900-04	10,240	7·35
1880-84	6,738	8·39	1905-09	12,080	7·88
1885-89	7,679	7·67	1910	14,294	8·81
1890-94	7,954	6·80	1911	15,267	9·18

Until the year 1891 the increase in the number of marriages celebrated was remarkably steady, very few checks being experienced, but in 1892 there was a sudden decline, which continued until 1895, when the figures again took an upward movement, but the proportion married per 1,000 of the population did not reach the 1891 level until 1900. In 1901 the rate was the highest since 1886, but in the next two years it again declined largely. Since 1903, however, there has been a constant improvement. The rate of improvement during the last five years discloses an advance of about 18 per cent. in the marriage rate.

A more exact method of stating the marriage rate is to compare the marriages with the number of marriageable males and females in the community, since the marriage rate is mainly a function of age.

It is known that of the bachelors marrying in New South Wales only $4\frac{1}{4}$ per cent. are outside the ages 20-44, and of the spinsters less than $1\frac{1}{2}$ per cent. are outside the ages 15-39. These have, therefore, been adopted as the marriageable ages of each sex, and the following table shows, at quinquennial intervals since 1871, the proportion of bachelors and of spinsters married, per 1,000 males and females within the specified groups, who were unmarried :—

Year.	Proportion of Bachelors married per 1,000 unmarried males aged 20 to 44.	Proportion of Spinsters married per 1,000 unmarried females aged 15 to 39.	Year.	Proportion of Bachelors married per 1,000 unmarried males aged 20 to 44.	Proportion of Spinsters married per 1,000 unmarried females aged 15 to 39.
1871	65·60	87·07	1896	54·65	58·13
1876	64·78	83·66	1901	65·92	62·69
1881	65·21	82·32	1906	65·32	62·87
1886	65·08	82·81	1911	79·25	75·03
1891	57·85	71·28			

Up to 1896 the female rate was the higher, but since that year the male rate has exceeded the female, probably on account of the increase in the proportion of females in the population. There has been a large increase in the marriage rate since 1906, amounting to 21 per cent. in the male rate, and 19 per cent. in the female.

The marriage rate is an intimate reflex of the comparative prosperity of a country; also, a high marriage rate indicates a considerable proportion of marriageable persons in the community. From either point of view the augury in respect of New South Wales must be regarded as highly favourable.

The following statement shows the marriage rate per 1,000 of the population in each State of the Commonwealth of Australia, New Zealand, and in a number of European countries, during the last six years:—

State.	1906-1910.	1911.	Country.	1905-1909.	1910.
South Australia ...	8·34	9·81	Roumania ...	9·4	9·2
<i>New South Wales</i> ...	8·15	9·18	Hungary ...	9·8	8·6
New Zealand ...	8·56	8·67	France ...	7·9	7·9
Western Australia ...	8·06	8·45	Prussia ...	8·1	7·8
Queensland ...	7·53	8·41	Italy ...	7·8	7·7
Victoria ...	7·50	8·39	Austria ...	7·7	7·6
Tasmania ...	7·69	7·77	England and Wales ..	7·7	7·5
			Denmark ...	7·4	7·3
			Netherlands ...	7·3	7·2
			Spain ...	7·1	7·1
			Scotland ...	6·9	6·5
			Norway ...	6·0	6·2
			Sweden ...	6·1	6·0
			Ireland ...	5·2	5·1

South Australia has the highest marriage rate in Australasia, followed by New South Wales, New Zealand, and Western Australia, in the order mentioned, with Tasmania last on the list. In 1911 in most of the States the rates showed a decided improvement.

A comparison of the marriage rates of various countries may be misleading, on account of the different conditions of life prevailing, and the varying number of marriageable persons therein. In the majority of cases the rate is lower than in New South Wales.

MARK SIGNATURES IN MARRIAGE REGISTER.

The number of persons who signed the marriage register with marks in the year 1911 was 192, equal to 6·29 per 1,000 persons married. The number of mark signatures has steadily declined for many years past. In 1870 the proportion of signatures made with marks was as high as 18·23 per cent. of the whole, while in 1911 the percentage had fallen to ·6, the decrease in illiteracy being, therefore, highly satisfactory:—

Year.	Males signing with marks, per 1,000.	Females signing with marks, per 1,000.	Year.	Males signing with marks, per 1,000.	Females signing with marks, per 1,000.
1870-74	129	170	1895-99	19	17
1875-79	86	105	1900-04	12	12
1880-84	54	68	1905-09	9	8
1885-89	37	40	1910	7	7
1890-94	27	25	1911	6	6

MARRIAGES, IN RELIGIONS.

Of every hundred marriages celebrated in New South Wales, about ninety-eight are solemnised by the clergy. The actual figures for 1911 show that during that year 14,909 marriages were celebrated by Ministers of Religion, and 358 by District Registrars, giving the proportions of 97·7 per cent. and 2·3 per cent. respectively of the total number, 15,267.

The Church of England celebrates the largest number of marriages, the Roman Catholic Church coming next, followed by the Presbyterian and Methodist Churches. "Matrimonial Agencies" which appear on the following list are no longer in existence, as the Registrar-General, in the year 1907, refused to renew the licenses of certain ministers of religion who performed marriages at these matrimonial agencies.

The following table shows the number and proportion per cent. of marriages registered by the several denominations during 1911, in comparison with the preceding five years:—

Denomination.	Marriages, 1906-1910.	Proportion per cent.	Marriages, 1911.	Proportion per cent.
Church of England ...	24,954	39·16	6,364	41·69
Roman Catholic ...	11,438	17·95	2,831	18·54
Presbyterian ...	8,396	13·18	2,177	14·26
Methodist ...	7,763	12·18	2,106	13·79
Congregationalist...	6,066	9·52	641	4·20
Baptist ...	1,141	1·79	254	1·66
Hebrew ...	150	0·23	38	0·25
All other Sects ...	1,752	2·75	498	3·26
Matrimonial Agencies ...	824	1·29	...	...
District Registrars ...	1,240	1·95	358	2·35
Total Marriages ...	63,724	100·00	15,267	100·00

In 1911 the denominations which showed an increased rate as compared with the previous five years were Church of England, Roman Catholic, Presbyterian, Methodist, and Hebrew.

CONDITION BEFORE MARRIAGE.

During the year 1911, of the males married, 14,361 were bachelors, 831 were widowers, and 75 were divorced. Of the females, 14,436 were spinsters, 680 were widows, and 151 were divorced. The proportion of males re-married was 5·9 per cent., and of females 5·4 per cent.

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

Period.	Bachelors.	Widowers and Divorced Men.	Spinsters.	Widows and Divorced Women.
1881	9,087	913	9,044	956
1886	9,137	863	9,156	844
1891	9,229	771	9,216	784
1896	9,184	816	9,172	828
1901	9,270	730	9,268	732
1906	9,262	738	9,352	648
1907	9,341	659	9,387	613
1908	9,335	665	9,436	564
1909	9,339	661	9,413	587
1910	9,393	607	9,401	599
1911	9,407	593	9,456	544

AGE AT MARRIAGE.

Of the 15,267 couples married in 1911, the ages of 15,263 bridegrooms and of 15,264 brides are known. An examination of the figures shows that in 72.9 per cent. of the marriages the husband was older than the wife; in 9.6 per cent. the ages of the contracting parties were the same; while in the remaining 17.5 per cent. of the unions the bride was older than the bridegroom.

The results of a tabulation of the respective ages of bridegrooms and brides in 1911 are shown in the following table:—

Ages of Bridegrooms.	Ages of Brides.											Total.	
	Under 18	18	19	20	21 — 24	25 — 29	30 — 34	35 — 39	40 — 44	45 — 49	50 and over.		Not stated
Under 18 years ..	18	5	1	3	1	..	..	..	..	..	..	..	28
18 years.. ..	22	24	10	6	8	2	..	..	..	..	..	..	72
19 „	56	53	55	20	24	4	..	..	1	..	..	..	213
20 „	69	65	84	60	98	11	1	..	..	..	..	..	388
21—24	306	387	537	512	2,298	552	71	24	..	1	..	..	4,688
25—29	145	193	249	315	2,191	1,738	343	62	16	7	..	..	5,259
30—34	27	34	67	83	675	860	434	129	28	5	2	..	2,344
35—39	16	8	15	18	194	331	256	155	49	16	5	..	1,063
40—44	2	3	8	9	59	114	126	107	56	18	4	..	506
45—49	1	3	3	2	23	53	64	75	53	29	18	..	324
50 and over	1	1	1	1	14	26	25	49	68	67	125	..	378
Not stated .. ..	..	..	1	..	..	..	..	..	..	..	..	3	4
Total	663	776	1,031	1,029	5,585	3,691	1,320	601	271	143	154	3	15,267

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

Year.	Average age of Bridegrooms.	Average age of Brides.	Year.	Average age of Bridegrooms.	Average age of Brides.
	Years.	Years.		Years.	Years.
1902	29.25	25.03	1907	29.20	25.20
1903	29.20	25.04	1908	29.02	25.19
1904	29.00	24.93	1909	29.11	25.30
1905	29.13	24.96	1910	29.02	25.31
1906	29.23	25.08	1911	28.81	25.32

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

The above figures relate to all persons marrying during the year, and include those re-marrying. The average ages of those marrying for the first time during 1911 were, of bachelors 27.95 years, and of spinsters 24.71 years, being about ten months lower in the case of bridegrooms and seven months lower in the case of brides.

MARRIAGE OF MINORS.

The number of persons under 21 years of age married during 1911 was 4,200, or 13·8 per cent. of the total. The proportion of bridegrooms who were minors was 4·6 per cent., and of brides 22·9 per cent. The proportion of bridegroom minors was considerably above the average, but in the case of the brides the proportion was below the average. The figures at quinquennial intervals since 1881 are appended :—

Year.	Minors.		Percentage of—	
	Bride-grooms.	Brides.	Bride-grooms.	Brides.
1881	149	1,660	2·37	26·42
1886	187	1,806	2·39	23·12
1891	177	2,085	2·09	24·65
1896	212	2,065	2·49	24·31
1901	351	2,546	3·33	24·15
1906	497	2,837	4·30	24·56
1907	577	2,949	4·73	24·19
1908	520	2,942	4·11	23·27
1909	581	2,996	4·45	22·96
1910	686	3,337	4·80	23·35
1911	701	3,499	4·59	22·92

It will be seen from this table that the proportion of minors marrying is increasing among bridegrooms, and has a tendency to decrease amongst brides.

BIRTHS.

The number of births during 1911 was 47,677, equal to a rate of 28·68 per 1,000 of the total population. The actual number of births was the highest ever recorded in this State, and the rate was 5 per cent. above the average for the last ten years. The birth-rate, which fell away sharply after 1888, declined considerably down to 1903, but since that year there has been an improvement, and in 1911 it was the highest rate since 1897. The following table shows the average annual number of births and birth-rate per 1,000 of the total population in quinquennial periods since 1870 :—

Year.	Births.	Birth-rate per 1,000 of Population.	Year.	Births.	Birth-rate per 1,000 of Population.
1870-74	20,733	30·36	1895-99	37,042	28·68
1875-79	24,388	38·51	1900-04	37,498	26·91
1880-84	30,417	37·89	1905-09	41,788	27·26
1885-89	36,877	36·85	1910	45,533	28·07
1890-94	39,550	33·80	1911	47,677	28·68

The rates shown above are calculated by the usual, or what may be called the crude, method of relating the births to the total population. It is unsatisfactory, for several reasons, so to measure the birth-rate. A preferable method for purposes of strict analysis is to relate the births according to the ages of the mothers to the total women living at corresponding ages.

The ages and conjugal condition of the people of New South Wales were obtained at the census of 1911, and the birth-rates per 1,000 of women living at various groups of reproductive ages, from 15 to 45 years, have been calculated for the three census periods 1891, 1901, and 1911, and are shown in the following tables, distinguishing the total births from the legitimate, the illegitimate rates being shown on a later page.

The total births per 1,000 of all females living at each age were as follows:—

Ages of Mothers (years).	1891.	1901.	1911.	Decrease per cent. in rates, 1891 to 1911.
15-19	35.30	30.87	33.75	4.4
20-24	170.90	134.65	141.45	17.2
25-29	247.48	177.95	187.35	24.3
30-34	238.81	168.42	161.20	32.5
35-39	196.15	136.60	122.27	37.7
40-44	96.61	70.79	54.51	43.6
15-44	161.74	117.46	118.50	26.7

It will be remembered that the crude birth-rate declined sharply after 1889, and has never recovered the figure at which it then stood.

From this table it will be seen that the decline has been general at all age groups since 1891, which is the first year that the ages of mothers is available. As regards the relative decrease at each age, there has been a drop which has increased as the age increases. At ages 15-19 the decrease was 4 per cent., at ages 25-29, 24 per cent., and at ages 40-44, it was 44 per cent. For all ages the average was 27 per cent. Although the general rate shows a slight advance in 1911 when compared with 1901, the rate for mothers over 30 years of age shows a regular decrease from period to period, from which it would appear that the rate has been maintained only by births the result of recent marriages.

The next table shows the legitimate births per 1,000 married women at each age:—

Ages of Mothers (years).	1891.	1901.	1911.	Decrease per cent. in rates, 1891 to 1911.
15-19	471.09	556.54	512.31	(+) 8.7
20-24	410.49	390.27	392.12	4.5
25-29	348.81	292.90	301.33	13.6
30-34	288.18	221.41	219.90	23.7
35-39	233.04	168.03	156.98	32.6
40-44	116.76	86.17	69.49	40.5
15-44	292.87	228.79	229.70	21.6

(+) Indicates increase.

This table shows that the rate at the youngest ages, 15-19, has advanced, and in 1911, although lower than in 1901, was higher than in 1891. Thence onward, however, as the age advances the decline has been general, amounting to 21.6 per cent.

The birth-rate per 1,000 of the population of each State of the Commonwealth, of New Zealand, and of a number of European countries, during the last six years, is given in the following table:—

State.	1906-10.	1911.	Country.	1905-9.	1910.
<i>New South Wales</i>	27·49	28·68	Roumania	40·2	39·8
Tasmania	29·08	28·63	Hungary	36·8	35·7
Western Australia	29·53	28·25	Spain	34·0	33·1
Queensland	26·90	27·66	Italy	32·3	32·9
South Australia	25·59	26·89	Austria... ..	33·9	32·5
New Zealand	27·05	25·97	Prussia	32·9	30·5
Victoria	24·67	25·01	Netherlands	30·0	28·6
			Denmark	28·2	27·5
			Scotland	28·1	26·2
			Norway	26·6	26·1
			England and Wales	26·7	25·1
			Sweden... ..	25·6	24·8
			Ireland	23·4	23·3
			France	20·1	19·7

BIRTH-RATES—METROPOLIS AND COUNTRY.

Dividing the State into metropolitan and country districts, there were during 1911, in the former, 17,829 births, and in the latter 29,848, corresponding to rates of 27·78 and 29·25 per 1,000 of population respectively. The country has shown a higher rate than the metropolis since 1893, but prior to that year the metropolitan rate was the higher.

Year.	Number of Births.			Births per 1,000 of Population.		
	Metropolis.	Country.	New South Wales.	Metropolis.	Country.	New South Wales.
1880-84	49,058	103,026	152,084	40·16	36·90	37·89
1885-89	65,866	118,517	184,383	41·50	34·69	36·85
1890-94	68,754	128,998	197,752	34·11	33·63	33·80
1895-99	61,224	123,986	185,210	26·73	29·75	28·68
1900-04	63,694	123,795	187,489	25·16	27·92	26·91
1905-09	72,409	136,529	208,938	25·50	28·29	27·26
1910	16,204	29,329	45,533	26·39	29·09	28·07
1911	17,829	29,848	47,677	27·78	29·25	28·68

The highest rate exhibited for the whole of New South Wales during the last thirty years was 38·65 in 1880. The maximum rate for the metropolis was reached in 1884, when the births were 43·88 per 1,000 of the population; and in the country districts the greatest number of births in proportion to the population occurred in 1880, when the rate was 38·73 per 1,000.

The rate has been declining in both districts, but not to the same extent in the country as in the metropolis. In the metropolis there was a heavy fall from 1890 to 1894, and again from 1895 to 1899; in the country there was a corresponding fall, but it began earlier than in the metropolis. In both metropolis and country the rates fluctuated very slightly during the years 1904-09, but during the last two years there has been a slight improvement in each division; the country rate, on the average, has been 3 per 1,000 of the population better than that of the metropolis.

SEXES OF CHILDREN.

Of the 47,677 children born during the year (exclusive of children still-born), 24,508 were males and 23,169 were females, the proportion being 106 males to 100 females. In no year, so far as observation extends, have the female births exceeded in number those of males, although the difference has sometimes been very small. The preponderance of births of male children in New South Wales during a number of years will be seen from the table given below:—

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1870-74	10,577	10,156	20,733	1895-99	18,979	18,063	37,042
1875-79	12,477	11,911	24,388	1900-04	19,134	18,364	37,498
1880-84	15,567	14,850	30,417	1905-09	21,406	20,382	41,788
1885-89	18,898	17,979	36,877	1910	23,443	22,090	45,533
1890-94	20,324	19,226	39,550	1911	24,508	23,169	47,677

The excess of males over females born during the past forty-two years has ranged from 2 per cent. in 1875, 1876, and 1901, to 8 per cent. in 1889, the average being 5 per cent.

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

Year.	Legitimate Births.	Illegitimate Births.	All Births.	Year.	Legitimate Births.	Illegitimate Births.	All Births.
1870-74	104·3	101·0	104·1	1895-99	105·0	105·4	105·1
1875-79	104·6	108·8	104·8	1900-04	104·3	102·8	104·2
1880-84	104·9	103·9	104·8	1905-09	105·0	104·9	105·0
1885-89	105·4	98·8	105·1	1910	106·3	103·8	106·1
1890-94	105·7	105·4	105·7	1911	106·0	102·1	105·8

Generally speaking, illegitimate births show greater equality of the sexes than legitimate, and in some years they actually show a majority of female children, such instances having occurred twice during the last twenty years. It is a curious coincidence that the proportion of males born out of wedlock was abnormally low in 1886 and abnormally high in 1901, while the reverse was the case in regard to legitimate births in those years.

ILLEGITIMACY.

The number of illegitimate births in 1911 was 2,949, equal to 6·19 per cent. of the total births. A statement of the illegitimate births in New South Wales since 1880, distinguishing metropolis and country districts, is given below:—

Year.	Number of Illegitimate Births.			Ratio per cent. to Total Births.		
	Metropolis.	Country Districts.	New South Wales.	Metropolis.	Country Districts.	New South Wales.
1880	561	665	1,226	6·72	3·36	4·35
1890	1,056	995	2,051	7·81	3·91	5·26
1900	1,222	1,383	2,605	10·08	5·53	7·01
1905	1,530	1,382	2,912	11·11	5·37	7·37
1906	1,457	1,425	2,882	10·42	5·28	7·04
1907	1,546	1,423	2,969	10·79	5·11	7·04
1908	1,545	1,387	2,932	10·40	5·01	6·89
1909	1,549	1,330	2,879	10·02	4·70	6·38
1910	1,530	1,370	2,900	9·44	4·67	6·37
1911	1,680	1,269	2,949	9·42	4·25	6·19

The highest proportion was reached in 1905, and since that year there has been a decline, as the actual number of illegitimate births has remained fairly constant while the legitimate births have increased.

Doubtless the smaller proportion of illegitimate births noticeable in the country districts is caused by natural gravitation of mothers to the metropolis, due to the presence of maternity hospitals in Sydney.

The method of stating the illegitimate as a proportion of the total births is erroneous, because the illegitimate births have no necessary relation to the legitimate births, and because they are compared with a standard which has been declining for several years, and which is itself variable; the proportion of illegitimate to legitimate births has increased because the number of legitimate births relatively to the population has decreased largely.

The following table is therefore presented—on a similar basis to those on a previous page relating to the total, and to the legitimate births—showing the illegitimate births per 1,000 unmarried women at each age for the three census periods, 1891, 1901, and 1911 :—

Ages of Mothers (years).	1891.	1901.	1911.	Decrease per cent. in rates, 1891 to 1911.
15-19	10·81	11·14	9·85	8·9
20-24	25·80	23·45	19·30	25·2
25-29	25·73	18·38	18·64	27·6
30-34	27·73	17·46	15·69	43·4
35-39	23·79	14·83	13·57	43·0
40-44	5·68	7·83	4·24	25·4
15-44	18·41	16·10	14·18	23·0

By the usual method of stating the illegitimate births as a proportion of the total births it has appeared that illegitimacy was increasing, but from the table here presented it will be seen that the illegitimate rate, based upon the number of unmarried women, has steadily decreased at all ages, and amounted on the average to 23 per cent. during the twenty years since 1891. The decline has been general at all ages, but larger than the legitimate rate.

LEGITIMATION ACT OF 1902.

Any child born before the marriage of his or her parents (and whether before or after the passing of the Legitimation Act of 1902), whose parents have intermarried, or who intermarry, is deemed on the registration of such child as provided in the Act to have been legitimated by such marriage from birth, and is entitled to all the rights of a child born in wedlock.

Provided the necessary statutory declarations are made, it is the duty of the Registrar to register such child, whether dead or alive, as the lawful issue of such man and his wife. If the child has been previously registered as illegitimate, the Registrar must also make a note of the entry under this Act in the Register where the previous entry was made. In all, 2,137 such registrations have been made :—

Year.	Registration.	Year.	Registration.
1902	6	1908	238
1903	158	1909	267
1904	173	1910	288
1905	175	1911	394
1906	191		
1907	247	Total	2,137

PLURAL BIRTHS.

During the year 1911 there were six cases of triplets, consisting of 8 males and 10 females, and 486 cases of twins, 486 males and 484 females—in all, 988 children, two born dead not being included. Of the 492 cases of plural births, 465 were legitimate and 27 illegitimate. The number of children born as triplets and twins formed 2·07 per cent. of the total births.

The following table shows the number of cases of twins, triplets, and quadruplets born in New South Wales during the nineteen years 1893–1911, excluding those stillborn, and distinguishing legitimate and illegitimate :—

Cases of—	Legitimate.	Illegitimate.	Total.
Twins	7,293	381	7,674
Triplets	69	5	74
Quadruplets	3	...	3

The total number of confinements recorded during the nineteen years was 746,326. It follows, therefore, that per million confinements there were 10,282 cases of twins, 99 cases of triplets, and 4 cases of four children at a birth. Stated in another way, there were 10·4 plural births in every 1,000 confinements.

The smallest proportion of plural births is found amongst women below age 20; the proportion increases steadily with the age of the mothers until it reaches a maximum with women between the ages of 35 and 40 years, after which there is a decline, but the decline does not bring the ratio back to its starting-point, for at ages 45 and over the plural births are 1 to every 125 confinements recorded, whereas under 20 years the proportion is 1 to 193.

The results of the observations for the nineteen years 1893–1911 will be found in the following table; the figures refer to legitimate births only :—

Age-group of Mothers. Years.	All Births.	Plural Births.	Plural Births per 1,000 of all Births.
Under 20	27,415	142	5·18
20-24	159,348	1,039	6·52
25-29	197,770	1,951	9·86
30-34	156,444	2,067	13·21
35-39	107,985	1,603	14·84
40-44	42,298	527	12·46
45 and over	4,515	36	7·97

It is a remarkable fact that of 7,365 plural births, 4,233 occurred to mothers whose ages were 30 years or upwards; this gives a proportion of 57 per cent., whereas of all legitimate births only 45 per cent. occurred at those ages.

NATURAL INCREASE.

The excess of births over deaths, or as it is called the "natural increase," was 30,498 in 1911, and the highest yet recorded; the least during the period from 1880 to 1911 being 16,886, in 1882. The excess of births over deaths does not show a steady increase or decrease, but fluctuates somewhat, as

might be expected. In the metropolis the least excess was in 1880, viz., 3,434, and the highest in 1911, when the number reached 10,856. In the country districts the number ranged from 12,278 in 1882 to 19,642 in 1911.

Year.	Natural Increase.					Increase Per cent. of population.
	Metropolis.	Country Districts.	Whole of State.			
			Males.	Females.	Total.	
1902	7,065	14,124	9,787	11,402	21,189	1·52
1903	6,836	12,633	8,949	10,520	19,469	1·38
1904	7,540	15,767	11,124	12,183	23,307	1·62
1905	7,999	16,524	11,497	13,026	24,523	1·67
1906	8,281	17,692	12,351	13,622	25,973	1·73
1907	8,096	17,689	12,187	13,598	25,785	1·68
1908	8,825	17,610	12,320	14,115	26,435	1·69
1909	9,312	18,617	13,297	14,632	27,929	1·75
1910	9,839	19,503	14,094	15,248	29,342	1·81
1911	10,856	19,642	14,504	15,994	30,498	1·83

The natural increase is now 1·83 per cent., as against 2·25 per cent. in 1890, the falling off being due entirely to the decline in the birth-rate, as there has been a constant improvement in the death-rate.

Although the males born are more numerous than the females, the actual increase of population from the excess of births over deaths is greatly in favour of the females. The male population exceeds the female, and there is a correspondingly larger number of deaths of males. There is also a greater mortality amongst male than amongst female children, and from this cause alone the natural excess of male births is almost neutralised. During the ten years which closed with 1911, the number of females added to the community by excess of births exceeded the males by 14,230, or 12 per cent.

While the rate of natural increase in New South Wales is low as compared with that of twenty years ago, it is not exceeded by any country outside Australasia, as will be seen from the following table. The figures represent the birth and death rates, and the difference between them (the natural increase) per 1,000 of population in each country—in the Australian States and New Zealand for 1911, and in the other countries for 1910:—

Country.	Birth-rate.	Death-rate.	Natural Increase.	Country.	Birth-rate.	Death-rate.	Natural Increase.
<i>New South Wales</i> ...	28·7	10·3	18·4	Japan (1909) ...	34·2	22·0	12·2
Tasmania ...	28·6	10·2	18·4	England and Wales. ...	25·1	13·5	11·6
Western Australia ...	28·2	10·2	18·0	Austria ...	32·5	21·2	11·3
South Australia ...	26·9	9·8	17·1	Scotland ...	26·2	15·3	10·9
Queensland ...	27·7	10·7	17·0	Sweden ...	24·8	14·0	10·8
New Zealand ...	26·0	9·4	16·6	Hungary ...	35·7	25·2	10·5
Netherlands ...	28·6	13·6	15·0	Spain ...	33·1	23·3	9·8
Denmark ...	27·5	12·9	14·6	Switzerland (1909) ...	25·5	16·1	9·4
Roumania ...	39·8	25·2	14·6	Belgium (1909) ...	23·7	15·8	7·9
Prussia ...	30·5	16·0	14·5	Servia (1909) ...	36·5	29·3	7·2
Finland ...	30·2	16·6	13·6	Ireland ...	23·3	17·1	6·2
Victoria ...	25·0	11·5	13·5	Chile ...	38·4	32·5	5·9
Italy ...	32·9	19·6	13·3	France ...	19·7	17·9	1·8
Norway ...	26·1	13·5	12·6				

It will be seen that the countries with the highest birth-rate have not necessarily the highest rate of natural increase. The increase in population also depends upon the death-rate, which to a considerable extent is influenced by the birth-rate. New South Wales and Tasmania, owing to exceptionally favourable death-rates, stand first on the list.

AGES OF MOTHERS.

During the nineteen years 1893-1911 the ages of the women giving birth to children ranged from 11 to 58 years. As might be expected, the majority of the very young mothers were unmarried; thus of 9,599 mothers under 18 years of age, 4,974 were unmarried. The total number of married women who gave birth to children during the nineteen years was 695,823, the ages of whom were as follow. The proportion of married mothers at each age per 10,000 of all ages is also shown:—

Ages of Married Mothers.	Number of Mothers.	Number of Mothers at each age per 10,000 of total Mothers.	Ages of Married Mothers.	Number of Mothers.	Number of Mothers at each age per 10,000 of total Mothers.
Years.			Years.		
13	2	...	25	40,432	581
14	20	...	26	40,824	587
15	146	2	27	39,792	572
16	988	14	28	39,820	572
17	3,469	50	29	36,902	530
18	8,107	117	30-34	156,444	2,248
19	14,683	211	35-39	107,985	1,552
20	19,719	283	40-44	42,298	608
21	27,753	399	45 and over	4,515	65
22	33,620	483	Not stated	48	1
23	38,120	548			
24	40,136	577	Total ...	695,823	10,000

It is found that the ages of the mothers of one-fourth of the children born do not exceed 25 years, and that before women pass their twenty-ninth year they give birth to one-half their offspring. Twenty-two per cent. of the births occur after age 35, and less than 7 per cent. after age 40 is reached.

The mothers of illegitimate children are in some cases very young, as will be seen from the following table, which shows the ages of the mothers who gave birth to illegitimate children during the nineteen years 1893-1911. The proportion of unmarried mothers at each age per 10,000 of all ages is also shown:—

Ages of Unmarried Mothers.	Number of Mothers.	Number of Mothers per 10,000.	Ages of Unmarried Mothers.	Number of Mothers.	Number of Mothers per 10,000.
Years.			Years.		
11	1	...	27	1,634	324
12	2	...	28	1,490	295
13	23	6	29	1,257	249
14	134	27	30	1,225	243
15	538	107	31	730	145
16	1,456	288	32	858	170
17	2,815	557	33	721	143
18	4,123	816	34	718	142
19	4,951	980	35	701	139
20	4,772	945	36	622	123
21	4,623	915	37	466	92
22	3,945	781	38	526	104
23	3,455	684	39	438	87
24	2,807	556	40 and over.	982	194
25	2,353	466	Not stated	133	26
26	1,999	396	Total ..	50,503	10,000

Two-thirds of the illegitimate children are born of mothers between the ages of 15 and 25, and one-half to women aged from 17 to 22 years.

DEATHS.

The deaths during 1911 numbered 17,179, equal to a rate of 10·34 per 1,000 of the population, which is about 2 per cent. below the mean rate of the last ten years. This total includes 10,004 males and 7,175 females, so that amongst males the rate was 11·54, and amongst females 9·02 per 1,000 living of each sex. The average annual number of deaths of each of the sexes, with the rate per 1,000, in quinquennial periods, from 1870 is given below :—

Period.	Average Annual Number of Deaths.			Death-rate per 1,000 of total Population.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
1870-74	4,391	2,948	7,339	15·58	12·32	13·93
1875-79	6,199	4,360	10,559	17·99	15·10	16·67
1880-84	7,286	5,124	12,410	16·55	14·14	15·46
1885-89	8,461	6,043	14,504	15·43	13·36	14·49
1890-94	8,877	6,344	15,221	14·06	11·77	13·01
1895-99	9,002	6,514	15,516	13·11	10·77	12·01
1900-04	9,195	6,733	15,928	12·59	10·16	11·43
1905-09	9,076	6,583	15,659	11·30	9·02	10·21
1910	9,349	6,842	16,191	11·06	8·81	9·98
1911	10,004	7,175	17,179	11·54	9·02	10·34

The death-rate has fallen continuously amongst both sexes, but slightly more for males than for females. The death-rate for males is, however, about one-fourth higher than for females, the reason being that males are exposed to more risks than females, and that male infants are the more delicate. It will be noticed that the death-rate has declined largely since the period 1890-94, and is thus coincident with the decline in the birth-rate. The falling birth-rate has influenced the death-rate in so far as it has affected the age constitution of the population by reducing the proportion living at the first five years where the mortality is high, and at the same time increased the proportion living at ages from 5 to 20 where the mortality is low. The decline in the death-rate is also coincident with the inauguration of the metropolitan sewerage scheme, as mentioned below.

For comparative purposes a table of the death-rates per 1,000 for each of the Australian States, New Zealand, and a number of European countries during the last six years is given below :—

State.	1906-1910.	1911.	Country.	1905-1909.	1910.
Victoria	11·79	11·52	Roumania	26·0	25·2
Queensland	9·90	10·65	Hungary	25·9	23·6
<i>New South Wales</i>	10·17	10·34	Spain	24·8	23·3
Western Australia	11·01	10·20	Austria	23·2	21·2
Tasmania	10·76	10·16	France	19·6	17·9
South Australia	10·15	9·82	Ireland	17·3	17·1
New Zealand	9·75	9·39	Prussia	18·0	16·0
			Scotland	16·3	15·3
			Sweden	14·6	14·0
			Netherlands	14·7	13·6
			England and Wales	15·1	13·5
			Norway	14·1	13·5
			Denmark	14·1	12·9

The comparatively favourable conditions of Australasia will be manifest from an inspection of these rates.

It might have been expected that in any case the rates in the European countries would be higher than in New South Wales on account of the larger proportions of old persons in their populations, but in addition it must be remembered that some of the endemic scourges of the old world are unknown in Australia; also, apart from climatic conditions, which are most favourable here, the social condition of the great body of the people is far superior to that of Europeans, and their occupations more conducive to health. The enforcement also of the provisions of many Acts of Parliament dealing with the general health of the community, *e.g.*, Public Health Act, Dairies Supervision Act, Pure Food Act, besides regulations framed by municipal and shire councils, conduce to the good health of the people.

DEATHS—METROPOLIS AND COUNTRY.

It is not possible to show the exact difference between urban and rural mortality in New South Wales, but an approximate idea may be obtained from a comparison of the experience of the metropolis with that of the country districts, although a few large towns are contained in the latter. Separating the State, therefore, into these two broad divisions, there were, during 1911, 6,973 deaths in the metropolis and 10,206 in the country, corresponding to the rates of 10·87 and 10·00 per 1,000 living respectively. The average annual number of deaths and the rate per 1,000 in each of these divisions since 1880, in five-year periods, is given in the subjoined table:—

Period.	Metropolis.		Country Districts.		New South Wales.	
	Average Number of Deaths.	Rate per 1,000.	Average Number of Deaths.	Rate per 1,000.	Average Number of Deaths.	Rate per 1,000.
1880-84	5,033	20·60	7,377	13·21	12,410	15·46
1885-89	6,181	19·47	8,323	12·18	14,504	14·49
1890-94	5,979	14·83	9,242	12·05	15,221	13·01
1895-99	5,634	12·30	9,882	11·86	15,516	12·01
1900-04	5,845	11·54	10,083	11·37	15,928	11·43
1905-09	5,979	10·53	9,680	10·03	15,659	10·21
1910	6,365	10·36	9,826	9·75	16,191	9·98
1911	6,973	10·87	10,206	10·00	17,179	10·34

In both metropolis and country the rate has steadily improved, but very much more in the metropolis, so that there the rate is now very little higher than in the country districts, whereas twenty-five years ago it was 50 per cent. higher. The fall began in the metropolis after 1889, the year when the improved sewerage system was installed, and about the same time that the Dairies Supervision Act came into operation. The decline in the rates for each division and for the State will be further emphasised when it is stated that the metropolitan rate fell from 19·5 in the period 1885-9 to 10·9 per 1,000 in 1911, or 44·1 per cent. The rate in country districts declined from 12·2 to 10·0 or 18 per cent., and for the whole State from 14·5 to 10·3, or 29 per cent.

MORTALITY OF INFANTS AND YOUNG CHILDREN.

A further measure of the mortality in the metropolis and country, offering a most sensitive test, is obtained by a comparison of the death-rates of infants in each district.

Children under 1 year.—The number of children under 1 year of age who died in 1911 was 3,313, equal to a rate of 69·5 per 1,000 births, which is the lowest on record, and is 16 per cent. below the mean rate for the last ten years. Male infants died at the rate of 76·4 per 1,000 births, and female infants at the rate of 62·2 per 1,000 births. To the total the metropolis contributed 1,268 deaths, or 71·1 per 1,000 births, and the country, 2,045, or 68·5 per 1,000 births.

The average annual number of deaths of children under 1 year, in quinquennial periods since 1880, in the metropolis and country, and the proportion per 1,000 births are shown below.

Period.	Metropolis.		Country.		New South Wales.	
	Deaths under 1.	Rate per 1,000 Births.	Deaths under 1.	Rate per 1,000 Births.	Deaths under 1.	Rate per 1,000 Births.
1880-84	1,707	174·0	1,956	94·9	3,663	120·4
1885-89	2,168	164·6	2,256	95·2	4,424	120·0
1890-94	1,908	138·8	2,471	95·8	4,379	110·7
1895-99	1,646	134·4	2,572	103·7	4,218	113·9
1900-04	1,416	111·2	2,399	96·9	3,815	101·7
1905-09	1,255	86·7	2,035	74·5	3,290	78·7
1910	1,329	82·0	2,068	70·5	3,397	74·6
1911	1,268	71·1	2,045	68·5	3,313	69·5

The infantile mortality rate has improved more in the metropolis; in fact, until 1900, in the country districts it was increasing. In the year 1904 there was a large decrease in both divisions compared with the rate for the previous five years, and this improvement continued in 1905 and 1906. In 1907, the following year, in consequence of an epidemic of whooping-cough, the rate took an upward movement, greater in the country than in the metropolis, but it has since declined. The rate in the country districts has always been more favourable than in the metropolis, although the difference now is not nearly so great as twenty, or even ten, years ago.

The improvement in the rate in the metropolis is no doubt partly due to the preventive measures taken by the Sydney Municipal Council to reduce the death from diarrhoeal diseases which have largely contributed to the infantile mortality. These measures were initiated in 1903 by the distribution of instructional circulars and pamphlets for the guidance of mothers regarding the care and feeding of young children. Circulars are despatched immediately after the registration of a birth in the thickly-populated areas of the city. In 1904 the scheme was supplemented by the appointment of a trained woman inspector to visit the houses in those districts as soon as possible after the registration of a birth therein, with the object of

instructing the mothers, and encouraging them in the exercise of hygienic principles in the care of their infants. The satisfactory results achieved within the city boundaries led to the appointment in 1909 of an additional health visitor to carry out similar work in the more populous suburbs immediately surrounding the city.

Of the total number of deaths of infants under 1 year of age, nearly one-third die within a week of birth; by the end of the first month the proportion is over two-fifths; and after three months it reaches three-fifths. Judging by the experience of the last five years, it may be said that one in every 46 children born dies within a week of birth. The following statement shows for 1911, in comparison with the average of the five preceding years, the deaths per 1,000 births during each of the first four weeks after birth, and then for each succeeding month. The experience in the metropolis is distinguished from that in the country districts, and the sexes are taken together. Also for the year 1911, illegitimate children are distinguished from legitimate for the State as a whole.

Age.	Metropolis.		Country.		New South Wales.			
	1906-10.	1911.	1906-10.	1911.	1906-10.	1911.		Total.
						Legitimate.	Illegitimate.	
Under 1 week	23·4	22·9	20·8	21·9	21·7	21·4	34·9	22·3
1 week	4·7	4·7	3·9	4·2	4·2	4·3	5·8	4·4
2 weeks	3·2	2·7	3·0	3·6	3·1	3·3	2·7	3·2
3 ,,	2·6	2·2	2·5	2·3	2·5	2·2	3·4	2·3
Total under 1 month	33·9	32·5	30·2	32·0	31·5	31·2	46·8	32·2
1 month	7·6	7·0	7·2	6·6	7·4	6·2	15·6	6·8
2 months	6·8	4·3	5·5	5·6	5·9	4·2	18·6	5·1
3 ,,	6·4	4·8	5·2	4·1	5·6	3·6	15·6	4·3
4 ,,	6·0	4·3	4·7	3·3	5·2	3·3	14·9	4·0
5 ,,	4·7	3·4	4·0	3·3	4·2	2·8	12·2	3·4
6 ,,	4·5	2·6	3·7	3·1	4·0	2·6	7·1	2·9
7 ,,	3·7	3·1	3·1	2·2	3·3	2·4	4·7	2·6
8 ,,	3·2	2·7	2·8	1·8	2·9	2·0	4·4	2·2
9 ,,	3·2	2·2	2·7	2·2	2·9	2·3	1·4	2·2
10 ,,	2·9	1·8	2·2	1·7	2·5	1·6	3·4	1·7
11 ,,	2·3	2·4	2·1	2·1	2·1	2·1	3·1	2·1
Total under 1 year ...	85·2	71·1	73·4	68·5	77·5	64·3	147·8	69·5

In the first week of life the mortality is more than five times as great as in the second, and in the second about twice as great as in the fourth. From the first month to the second the mortality falls rapidly, and from the second to the twelfth gradually. Comparing the mortality in the two divisions of New South Wales—metropolis and country—the usual experience is that at every stage of life children die more quickly in the metropolis. In 1911 the metropolitan rate was 71·1 and the country 68·5 per 1,000 births, the latter being 4 per cent. lower than the former. At the earlier ages the difference was least, the metropolitan rate being 32·5 per 1,000 during the first four weeks, as compared with 32·0 in the country. After the first month the difference fluctuated, but the rate was greater in the metropolis at every age except the third, seventh, and tenth months.

This table also shows the great waste of life among illegitimate children, the mortality under 1 year being 147·8 per 1,000, as compared with 64·3 among legitimate children. The largest proportional excess is not immediately after birth, but about four months later. During the first week the mortality of illegitimates exceeds that of legitimates by 50 per cent., thereafter it increases until in the fourth month the excess is 351 per cent., after this it drops irregularly until in the eleventh month the excess is about 48 per cent.

Children under 5 years.—Taking account of the first five years of life, it is found that there has also been a great improvement in the rates for those ages, and, at the same time, it is apparent that the excessive total death-rate in the metropolis as compared with the country districts is caused by the deaths in this group. At every period in the table the metropolitan rate is the higher—in some cases over 50 per cent., and never below 18 per cent. in excess.

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

Period.	Metropolis.		Country.		New South Wales.	
	Number.	Rate per 1,000 living.	Number.	Rate per 1,000 living.	Number.	Rate per 1,000 living.
1890-94	13,370	48·45	17,728	32·06	31,098	37·52
1895-99	11,027	40·77	17,436	30·97	28,463	34·15
1900-04	9,233	35·17	16,049	29·64	25,282	31·44
1905-09	8,062	27·61	13,612	23·39	21,674	24·80
1910	1,751	26·51	2,812	21·81	4,563	23·40
1911	1,625	23·79	2,694	20·10	4,319	21·35

The improvement in the metropolis has been greater than in the country; in the former the rate has decreased by 51 per cent. since 1890, and in the latter by 32 per cent. In the country the rate did not vary a great deal until 1904, when there was a large decline, which has continued. During the year 1911 there was a saving of the lives of 25 in every 1,000 children under 5 years of age in the metropolis and 12 in every 1,000 in the country, as compared with the mortality rate of twenty years ago.

Illegitimacy is a social evil, and the following figures show with what calamitous results it is attended. The table appended gives, for 1911, and for the five years preceding, the death-rates of illegitimate children under 1 and under 5 years of age, as compared with legitimate children of like ages:—

Age.	Legitimate.		Illegitimate.		Total.	
	Deaths.	Rate per 1,000 living.	Deaths.	Rate per 1,000 living.	Deaths.	Rate per 1,000 living.
Under 1 year—						
1906-1910	13,997	69·84	2,666	183·08	16,663	77·51
1911	2,877	64·32	436	147·85	3,313	69·49
Under 5 years—						
1906-1910	18,982	22·26	3,112	56·75	22,094	24·34
1911	3,790	19·88	529	45·33	4,319	21·35

It will be seen how unfavourable is the position, and how reduced is the chance of living of the illegitimate child as compared with the legitimate; since at each age the death-rate of the illegitimate is more than twice that of the legitimate. In 1911 one-seventh of the illegitimate children born did not live through the first year.

CHILDREN SURVIVING AT THE AGE OF FIVE YEARS.

The tables just given show the death rates of children under 1 and under 5, and in the next statement will be found, out of 10,000 children born alive, of each sex, the number living at each period up to five years of age.

The table is based on the experience of the five years 1907-11, and it appears that out of 10,000 boys born, 1,070 will die before reaching 5 years of age, and out of 10,000 girls, 922 will die. Of the number who fail to survive five years, 244 boys and 192 girls die within the first week of birth, and 326 boys and 258 girls within the first month. At the end of the first year there will be 9,168 boys and 9,303 girls surviving.

NUMBER OF CHILDREN LIVING AT EACH AGE OUT OF 10,000 BORN ALIVE.

Age.	Boys.	Girls.	Mean (Boys and Girls.)	Age.	Boys.	Girls.	Mean (Boys and Girls.)
0 week ...	10,000	10,000	10,000	7 months ...	9,308	9,426	9,367
1 ,, ...	9,756	9,808	9,782	8 ,, ...	9,274	9,398	9,336
2 weeks ...	9,709	9,771	9,740	9 ,, ...	9,246	9,371	9,308
3 ,, ...	9,674	9,742	9,708	10 ,, ...	9,217	9,345	9,281
				11 ,, ...	9,193	9,322	9,258
1 month ...	9,646	9,720	9,683				
2 months ...	9,564	9,652	9,608	1 year	9,168	9,303	9,236
3 ,, ...	9,500	9,599	9,550	2 years	9,021	9,168	9,095
4 ,, ...	9,444	9,545	9,494	3 ,,	8,968	9,114	9,041
5 ,, ...	9,392	9,498	9,445	4 ,,	8,930	9,078	9,004
6 ,, ...	9,349	9,460	9,405				

DEATH RATES ACCORDING TO AGES.

The age and sex distribution of a population are most important factors in determining the death-rate; for instance, the rates at ages 5 to 50 are lower than for the whole population, so that a country with a high proportion at those ages, as in New South Wales, might expect to have a low death-rate. Again, a country with a high proportion of females will most likely have a favourable death-rate.

The following tables have been prepared to supply an accurate comparison of the mortality rates per 1,000 of both sexes in the principal age-groups during the five decennial periods from 1861 to 1910, and for the year 1911:—

Age Group. Years.	1861-70.	1871-80.	1881-90.	1891-1900.	1901-10.	1911.
MALES.						
0—4	48.16	45.73	44.57	37.65	27.90	23.08
5—9	5.62	4.67	3.62	2.88	2.07	2.00
10—14	3.34	2.84	2.44	2.08	1.78	1.68
15—19	4.36	4.17	3.74	3.13	2.85	2.33
20—24	6.67	5.30	5.83	4.38	3.67	3.30
25—34	9.25	7.41	7.72	5.88	4.51	4.35
35—44	13.29	12.67	10.92	9.13	7.46	7.09
45—54	21.03	19.10	17.65	14.69	12.87	12.17
55—64	35.62	35.31	30.46	29.05	24.95	25.51
65—74	70.42	70.98	63.67	56.58	58.77	58.40
75 and over	153.10	165.95	149.36	148.98	142.43	150.35
Total	17.89	16.90	15.62	13.43	11.77	11.54
FEMALES.						
0—4	42.61	40.75	40.47	32.98	24.21	19.25
5—9	5.43	4.09	3.29	2.77	1.88	1.63
10—14	2.87	2.50	2.18	1.77	1.58	1.24
15—19	3.81	3.82	3.52	2.80	2.53	1.94
20—24	5.54	4.99	5.40	4.12	3.59	3.00
25—34	7.54	7.59	7.44	5.70	4.71	4.20
35—44	10.88	11.47	9.95	8.04	6.82	5.77
45—54	15.71	14.11	13.83	10.86	9.50	9.21
55—64	27.33	26.93	23.12	21.16	18.24	18.40
65—74	57.68	57.08	52.73	43.48	45.91	46.86
75 and over	135.98	142.49	135.66	134.14	123.05	131.27
Total	14.61	14.04	13.47	11.02	9.47	9.02
TOTAL.						
0—4	45.41	43.26	42.56	35.35	26.08	21.20
5—9	5.52	4.38	3.46	2.83	1.98	1.82
10—14	3.10	2.67	2.32	1.93	1.68	1.46
15—19	4.08	3.99	3.63	2.97	2.69	2.13
20—24	6.13	5.15	5.63	4.25	3.63	3.16
25—34	8.54	7.48	7.60	5.83	4.60	4.28
35—44	12.36	12.20	10.53	8.67	7.17	6.47
45—54	19.09	17.20	16.19	13.11	11.42	10.87
55—64	32.86	32.15	27.62	25.83	22.04	22.51
65—74	66.40	66.10	59.39	51.22	53.22	53.18
75 and over	147.66	157.82	144.15	142.68	133.72	141.23
Total	16.42	15.59	14.65	12.31	10.67	10.34

At all ages the rate decreased largely, slowly for the first thirty years, and rapidly during the last twenty. In this can probably be seen the influence of the Dairies Supervision Act of 1886, the Diseased Animals and Meat Act of 1892, the Public Health Act, 1896, and, moreover, in the early nineties, an improved sewerage system was carried on after the transfer in 1889 to the present Board of the old sewerage works. Over the whole period the fall for all ages was as much as 37 per cent. Up to age 35 the decline was over 50 per cent., namely, 67 per cent. at ages 5-9, 53 per cent.

at ages 0-4, 53 per cent. at ages 10-14, 48 per cent. at ages 15-24, and 50 per cent. at ages 25-34. At ages 35-75, the fall was 48 per cent. in the first group (35-39), and 20 per cent. in the last (70-74).

Comparing the rates for each sex, it will be seen that the male rate is higher than the female in every age-group shown above, the only exceptions being in the periods 1871-80 and 1901-10, when the female was slightly in excess at ages 25-34 years. The female rate has, on the whole, shown greater improvement than the male, as will be seen from the following tables, which show the rates for each period, as compared with those in 1861-70, assuming the rate for each age-group in that period to be 100.

Age Group. Years.	1861-70.	1871-80.	1881-90.	1891-1900.	1901-10.	1911.
MALES.						
0-4 ...	100	95	92	78	58	48
5-9 ...	100	83	64	51	37	36
10-14 ...	100	85	73	62	53	50
15-19 ...	100	96	86	72	65	53
20-24 ...	100	79	87	66	55	50
25-34 ...	100	80	83	64	49	47
35-44 ...	100	95	82	69	56	53
45-54 ...	100	91	84	70	61	58
55-64 ...	100	99	85	82	71	72
65-74 ...	100	101	90	80	83	83
75 and over ...	100	108	97	97	93	98
Total ...	100	94	87	75	66	65

FEMALES.						
0-4 ...	100	96	95	77	57	45
5-9 ...	100	75	61	51	35	30
10-14 ...	100	87	76	62	55	43
15-19 ...	100	100	93	74	66	51
20-24 ...	100	90	97	74	65	54
25-34 ...	100	101	99	76	63	56
35-44 ...	100	106	92	74	63	53
45-54 ...	100	90	88	69	60	59
55-64 ...	100	98	85	77	67	67
65-74 ...	100	99	91	75	80	81
75 and over ...	100	105	100	99	91	96
Total ...	100	96	92	75	65	62

TOTAL.						
0-4 ...	100	95	94	78	57	47
5-9 ...	100	79	62	51	36	33
10-14 ...	100	88	75	62	54	47
15-19 ...	100	98	83	73	66	52
20-24 ...	100	84	92	69	59	52
25-34 ...	100	88	83	68	54	50
35-44 ...	100	99	85	70	58	52
45-54 ...	100	90	85	69	60	57
55-64 ...	100	98	84	79	67	68
65-74 ...	100	100	89	77	80	80
75 and over ...	100	107	98	97	91	96
Total ...	100	95	89	75	65	63

In comparing the total rates in the preceding tables the changes in the age and sex constitution of the population have not been considered. For this reason the rate now is not strictly comparable with that of fifty years ago, because, first, with regard to the total rate for each sex, the distribution in the various age-groups has changed, the proportion living at the higher ages having increased, which will tend to increase the death rates; and second, the sex distribution has changed, the number of females being now more nearly equal to the number of males, which will tend to improve the rate. Making allowance for these two factors it is found that the improvement in the rate has actually been greater than disclosed by the preceding tables.

Corrected rates for the males and females and for both sexes together are shown below; these rates have been calculated by assuming the proportion of sexes at the different ages to be the same in each period as in 1901-10. The decline in the rate as compared with 1861-70 is also shown:—

Period.	Rate per 1,000.			Decrease (1861-70=100).		
	Males.	Females.	Total.	Males.	Females.	Total.
1861-1870 ...	18.42	14.91	16.84	100	100	100
1871-1880 ...	17.41	14.39	16.03	94	96	95
1881-1890 ...	16.16	13.66	15.03	88	92	89
1891-1900 ...	13.95	11.35	12.74	76	76	76
1901-1910 ...	11.77	9.47	10.67	64	64	63
1911 ...	11.06	8.54	9.86	60	57	58

INDEX OF MORTALITY.

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

The indexes of mortality during 1911 were found to be as follows, and for purposes of comparison the crude rates are attached:—

State.	Index of Mortality.	Crude Death-rate.	City.	Index of Mortality.	Crude Death-rate.
New South Wales ...	10.03	10.34	Sydney	10.84	10.87
Victoria	10.89	11.52	Melbourne	12.30	12.81
Queensland	11.01	10.65	Brisbane	12.14	12.14
South Australia ...	9.51	9.82	Adelaide	11.91	12.75
Western Australia ...	11.06	10.20	Perth	*	*
Tasmania	10.17	10.16	Hobart	13.77	15.24

* Not available.

Sydney has the most favourable index of mortality of all the capitals, and New South Wales is second amongst the States.

CAUSES OF DEATH.

One of the most important sections of vital statistics is that relating to causes of death, and in the following discussion the principal diseases in New South Wales are treated in detail.

Until 1906 the system of classifying the causes of death was that adopted by the Registrar-General, England. In 1906, however, at a conference of Australian Statisticians, it was agreed to adopt the Bertillon classification, and causes of death in New South Wales are now tabulated according to that classification. As the Bertillon system differs in many cases from the old, a comparison of the results since 1906 with previous years is, to some extent, impaired.

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

Causes of Death.	Number, 1911.	Average Number, 1906-10.	Causes of Death.	Number, 1911.	Average Number, 1906-10.
Organic Diseases of the Heart	1,677	1,548	Typhoid Fever	184	287
Endocarditis	79		Influenza	172	187
Diarrhœa and Enteritis (under 2 years)	963	1,202	Whooping-cough... ..	160	181
Diarrhœa and Enteritis (over 2 years)	270	334	Meningitis	157	164
Cancer	1,233	1,172	Intestinal Obstruction	152	134
Old Age	1,127	1,005	Diabetes	148	141
Tuberculosis—Lungs	1,099	1,071	Convulsions (under 5 yrs.)	146	211
Accident	1,017	941	Congenital Malformations	136	102
Pneumonia	973	957	Cirrhosis of the Liver	131	112
Premature Birth	770	717	Appendicitis	129	133
Bright's Disease	762	668	Gastritis	117	101
Hæmorrhage, &c., of the Brain	756	612	Embolism, Thrombosis	111	87
Bronchitis	569	535	Epilepsy	67	68
Congenital Debility	394	523	Acute Rheumatism	65	78
Puerperal Condition	279	288	Syphilis	58	54
Diphtheria and Croup	237	174	Alcoholism	52	59
Suicide	203	187	Dysentery	45	77
			Measles	44	53
			Others	2,697	2,737
			All Causes	17,179	16,900

Of the six most numerous causes, increases are shown in diseases of the heart, and in cancer, old age, pulmonary tuberculosis, and accident, while diarrhœa and enteritis showed a marked decrease.

As regards diseases ordinarily fatal to infants, there were decreases in congenital debility, convulsions, and diarrhœa and enteritis, and increases in malformations and premature birth.

VACCINATION.

The disease of small-pox is unknown in New South Wales; and in regard to any likelihood of this disease or others of a similar character being brought here by persons from other countries, it may be stated that all precautions are taken. Stringent regulations exist under a special statute for the enforcement of quarantine of shipping when deemed desirable. A statement showing the number of vessels and the passengers and crews thereof examined by Port Health Officers, may be found in Part Shipping of this Year Book.

Vaccination is not compulsory in New South Wales, and doubtless the general feeling in this State of security from infection accounts for the very small number of people who voluntarily become vaccinated.

The following is a return of persons vaccinated by the Government medical officers since the year 1902 :—

Age-Groups.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.
Under 1 year ...	22	2	...	...	3	1	...	...	2	3
1 year and under 5...	128	43	2	5	10	2	2	3	59	5
5 years and under 10	393	251	9	12	14	16	11	5	122	9
10 years and upwards	353	309	9	15	15	20	29	3	97	3
Total ...	896	605	20	32	42	39	42	11	280	20

TYPHOID FEVER.

The number of deaths from typhoid fever during 1911 was 184, equivalent to 1.11 per 10,000 living, which is 35.5 per cent. lower than the rate for the previous five years. As this is essentially a preventable disease, and readily yields to sanitary precautions, the rate is still high, notwithstanding the great improvement in the last twenty years. It is higher than in England, where in 1910 the rate was .51 per 10,000, or less than one-half of the rate in New South Wales.

The number of deaths and rates since 1884 have been as stated below :—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	1,356	5.12	1,115	5.13	2,471	5.13
1889-93	959	3.11	714	2.74	1,673	2.94
1894-98	1,107	3.27	731	2.46	1,838	2.89
1899-1903	1,054	2.92	733	2.25	1,787	2.60
1904-08	748	1.90	507	1.42	1,255	1.67
1909	169	2.03	118	1.55	287	1.80
1910	196	2.32	98	1.26	294	1.81
1911	106	1.22	78	.98	184	1.11

The decrease between 1888 and 1893 was very marked, and is to be traced to the influence of the Dairies Supervision Act, which began to operate in 1889. From 1889 to 1903 the rate was very even, and did not decline to any extent, but during the next quinquennium there was a considerable improvement.

The next statement gives the rate in the metropolis and in the country districts during the last eighteen years, and, as will be noticed, the rate in the metropolis has been only about two-thirds of that in the remainder of the State. It would appear that the drainage of some of the country towns is very defective, and the water supply less pure than in the metropolis.

Period.	Metropolis.		Country Districts.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1894-98	507	2.26	1,331	3.24
1899-1903	426	1.72	1,361	3.11
1904-08	334	1.21	921	1.94
1909	86	1.44	201	2.02
1910	94	1.53	200	1.98
1911	54	.84	130	1.27

Most deaths occur in the summer and autumn. In 1911 there were 70 deaths in the summer months, December, January, February, and 75 in the autumn months, March, April, May.

Typhoid is a disease of youth and early manhood, and the following table shows, in various age-groups, the death-rate per 10,000 of each sex in decennial periods since 1881 :—

Age Group. Years.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
0—4...	3·67	1·46	·44	·39	3·76	1·38	·43	·20	3·71	1·42	·44	·29
5—9...	2·60	1·47	·75	·35	2·85	1·37	·76	·24	2·72	1·42	·76	·29
10—14...	2·57	1·94	1·20	·50	4·12	2·12	1·69	·51	3·33	2·03	1·44	·50
15—19...	5·85	4·22	2·71	1·19	7·28	4·20	2·99	1·95	6·56	4·21	2·85	1·56
20—24...	8·41	5·75	4·58	2·59	7·01	3·66	2·83	2·26	7·75	4·72	3·71	2·43
25—34...	7·45	5·02	4·08	2·24	6·34	3·23	1·98	1·27	6·99	4·21	3·07	1·77
35—44...	4·15	3·18	2·63	1·02	4·07	2·16	1·69	·94	4·12	2·75	2·21	·98
45—54...	3·53	1·88	1·94	1·37	3·23	1·37	1·29	·73	3·41	1·67	1·66	1·09
55—64...	3·13	1·20	1·29	1·03	2·98	1·65	·65	·53	3·07	1·38	1·02	·81
65—74...	3·14	1·31	·56	·76	2·82	·79	·73	·91	3·02	1·08	·63	·83
75 and over	2·63	1·08	·24	...	3·43	·49	·15	...	2·93	·83	·20	...
All ages	4·73	3·00	2·22	1·22	4·73	2·37	1·61	·98	4·73	2·71	1·93	1·11

The rate has steadily declined in every age-group throughout each decennial period—the decrease being greater for the females than for the males.

Among males during the first ten years of life, there is not much variation in the rate. After that, it rises fairly rapidly to a maximum at ages 20—24, and then gradually declines with advancing age. With females the experience is similar, except that the maximum point is reached at ages 15—19, five years earlier than with males. At ages 5—19 and 65—74 the rates for females are slightly higher than for males, but at all other ages the rates for males are the higher.

MEASLES.

Measles was the cause during 1911 of 44 deaths, equal to a rate of ·26 per 10,000 living. The rate for males was ·29, and for females ·24, the male rate being the higher, which is contrary to the usual experience. The following statement shows the deaths from measles and the rate per 10,000 living, for each sex, arranged in quinquennial periods since 1884 :—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884—88	166	·63	165	·76	331	·69
1889—93	393	1·28	369	1·41	762	1·34
1894—98	338	1·00	324	1·09	662	1·04
1899—1903	160	·44	219	·67	379	·55
1904—08	82	·21	107	·30	189	·25
1909	8	·10	3	·04	11	·07
1910	50	·59	49	·64	99	·61
1911	25	·29	19	·24	44	·26

A comparison of the rate in 1911 with that of the preceding quinquennium shows a decrease of 18·8 per cent. The high rates during the second and third periods were due to severe outbreaks in 1893 and 1898.

Measles is a disease chiefly affecting children, and is periodically epidemic; of the 44 deaths last year, 31 were of children under 5, and 9 of children under 1 year of age. The rates would be more accurately stated if the deaths were compared with the children living of like ages; this will be found in a subsequent table, giving the mortality rates under 1 and under 5 from the diseases to which children are particularly liable.

SCARLET FEVER.

In 1911 the number of deaths from this disease was 11, equivalent to a rate of 0·07 per 10,000 of the population, which is the lowest since 1900, and 66·7 per cent. lower than the rate during the previous five years. The number of deaths in the metropolis was 4, and in the remainder of the State 7, the equivalent rates being 0·06 and 0·07 respectively per 10,000 living in each, which is a departure from the usual experience, which discloses a rate in the metropolis about three times as large as in the country districts. Since 1884 the deaths from scarlet fever and the rates for each sex have been as follows:—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	287	1·08	342	1·57	629	1·30
1889-93	185	·60	236	·90	421	·74
1894-98	162	·48	218	·73	380	·60
1899-1903	84	·23	114	·35	198	·29
1904-08	88	·22	91	·25	179	·24
1909	10	·12	20	·26	30	·19
1910	9	·11	14	·18	23	·14
1911	6	·07	5	·06	11	·07

Over the whole period the deaths from scarlet fever show a steady and most satisfactory decrease in both sexes. Generally the rate for females is higher than for males. Like measles, it is an epidemic disease chiefly affecting children.

WHOOPIING-COUGH.

Whooping-cough is another of the diseases which chiefly affect children. During 1911 the deaths numbered 160, of which 78 were of boys and 82 of girls. The rate was 0·96 per 10,000 living, and is 11·9 per cent. below the average of the previous five years. The deaths and rates for each sex since 1884 have been as stated below:—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	327	1·24	472	2·17	799	1·66
1889-93	495	1·61	666	2·55	1,161	2·04
1894-98	343	1·01	502	1·69	845	1·33
1899-1903	573	1·59	726	2·23	1,299	1·89
1904-08	369	·94	445	1·24	814	1·08
1909	8	·10	9	·12	17	·11
1910	93	1·10	81	1·04	174	1·07
1911	78	·90	82	1·03	160	·96

Taking the whole period covered by the table, this disease does not show any marked tendency to decline, the rates being maintained by epidemics. Of the children who died in 1911, 92 were under 1 year of age and 157 under 5.

DIPHTHERIA AND CROUP.

Diphtheria, with which is included membranous croup, was the cause of 226 deaths in 1911, while croup, so defined, was responsible for 11. The rate for 1911 was 1·43 per 10,000 living, being 36 per cent. above the rate for the previous five years. In the metropolis the number of deaths was 65, and in the remainder of the State 172, corresponding to rates of 1·01 and 1·69 per 10,000 living in each. The following table shows the number of deaths and the rates in five-year periods since 1884 :—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	1,069	4·04	980	4·51	2,049	4·25
1889-93	1,433	4·65	1,399	5·36	2,832	4·98
1894-98	712	2·10	710	2·39	1,422	2·24
1899-1903	310	·86	299	·92	609	·89
1904-08	367	·93	338	·95	705	·94
1909	96	1·16	89	1·17	185	1·16
1910	113	1·34	120	1·54	233	1·44
1911	122	1·41	115	1·45	237	1·43

Until 1893 the rate did not show very much diminution, but it has since declined considerably, and is now less than one-fourth of what it was twenty years ago. Nearly 90 per cent. of the persons who die from diphtheria are under 10, and about 60 per cent. under 5 years of age.

NOTIFIABLE INFECTIOUS DISEASES.

The following statement shows the total number of cases of notifiable infectious diseases reported to the Board of Health, with regard to the metropolitan district during the years 1902 to 1911, together with the death-rate and the fatalities per 100 cases :—

Diseases.	Notified Cases.		Deaths.		Fatality per cent. (= Deaths per 100 cases).
	Years 1902-11.	Rate per 10,000 of Population.	Years 1902-11.	Rate per 10,000 of Population.	
Scarlet Fever	11,952	21·2	190	0·3	1·6
Diphtheria	9,744	17·2	474	0·8	4·9
Typhoid Fever	6,533	11·6	608	1·1	10·2

Infantile paralysis was added to the list of notifiable diseases in the year 1911.

During the last ten years there has been an unusual prevalence of diphtheria, fortunately of a very mild type; in 1911 there was a decrease as compared with the previous year, though the number was much higher than the decennial average. The number of typhoid and scarlet fever cases notified in 1911 was the lowest during the ten years.

It is interesting to compare the experience of Sydney with that of London, where the fatality from scarlet fever is 2 per cent. of notified cases, from diphtheria 7·9 per cent., and from typhoid fever 15·2 per cent. These diseases are more virulent in their effects in London, the rates being, respectively, 25 per cent., 61 per cent. and 49 per cent. higher than in Sydney.

INFLUENZA.

There were 172 deaths attributed to influenza during the year, equal to a rate of 1.03 per 10,000, which is 9 per cent. below the average of the previous five years. The rate for males was 1.06, and for females 1.01 per 10,000 living. Prior to 1891 this disease was very little known, or rather few deaths were ascribed to it, but in that year there was a very severe epidemic, and it has since always been more or less prevalent. The majority of deaths from influenza occur in the three months, August, September, and October.

TUBERCULOUS DISEASES.

To the several forms of tuberculous diseases, 1,274, or 7.4 per cent. of the total deaths in New South Wales during 1911 are attributable, equivalent to 7.66 per 10,000 living. This rate was 4.6 per cent. below the average for the previous five years.

In addition to phthisis with 1,099 deaths as shown below, tuberculosis of meninges caused 69 deaths, equal to a rate of .42 per 10,000 living, and abdominal tuberculosis, which includes tabes mesenterica, caused 50 deaths—23 males and 27 females—equal to a rate of .30 per 10,000. These types of the disease are confined mainly to children—42 of the victims of the former, or 61 per cent., were under 5 years of age, and of the latter, 30, or 60 per cent. Other tuberculous diseases caused 56 deaths, being at the rate of .33 per 10,000 living.

The death rates from all forms of tuberculosis, other than pulmonary, are stated hereunder for decennial periods since 1881, and for 1911. The rates are per 10,000 of each sex in various age-groups.

Age Group. Years.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
0—4 ...	24.10	15.93	7.11	3.96	22.10	13.41	5.98	3.79	22.63	14.69	6.55	3.88
5—9 ...	.82	1.64	1.11	.92	.87	1.29	.89	.71	.85	1.47	1.01	.82
10—14 ...	.39	.70	.73	1.86	.46	.80	.67	.38	.42	.75	.70	1.13
15—19 ...	.30	.59	.73	.36	.28	.83	.74	.24	.29	.71	.74	.30
20—24 ...	.48	.75	.71	.45	.46	.89	1.00	.72	.47	.82	.85	.58
25—34 ...	.39	.86	.90	.49	.46	.86	1.13	.67	.42	.86	1.01	.58
35—44 ...	.42	.71	1.08	.84	.17	.73	1.04	.31	.32	.72	1.06	.59
45—54 ...	.42	.74	1.25	.69	.30	.44	.50	.58	.37	.62	.93	.64
55—64 ...	.39	.96	1.39	.83	.61	.70	.69	1.32	.47	.85	1.08	1.04
65—74 ...	.76	.68	1.37	...	.30	1.05	.79	.91	.58	.82	1.12	.41
75 & over	.53	...	1.59	...	...	.24	.75	...	.33	.10	1.21	...
All ages...	3.71	2.76	1.70	1.12	3.75	2.62	1.51	.98	3.73	2.69	1.61	1.05

This table shows that the infantile mortality from these diseases was very largely in excess of any other group, and that the decrease in the general rate since 1881 is due entirely to the decline in the deaths at ages under 5 years, from 22.6 per 10,000 in 1881-90, to 6.6 per 10,000 in 1901-1910, and 3.9 in 1911.

Taking the experience during 1901-1910, the rate for both sexes fell rapidly from the first to the second age-group, then the male rate decreased slowly to ages 20-24, thence it increased at each age up to 55-64 years. With regard to the females the rate fluctuated throughout each successive group,

after a decline in ages 5-14, it rose again up to age 34 years, then declined, reaching a minimum at ages 45-54. Except at ages 15-34 years the male rate in each group was the higher. In 1911 the rate was generally much lower than in the previous decade.

PHTHISIS.

Phthisis, or pulmonary tuberculosis, with 1,099 victims, caused 6·4 per cent. of the total deaths, and more than any other disease except cancer. This is equivalent to 6·61 per 10,000 living, the rate amongst males being 7·48 and amongst females 5·67 per 10,000. The rate improved steadily after 1885, until in 1907 it was the lowest on record, and 46 per cent. below the figure for the first-mentioned year. In 1911, however, the rate was slightly higher than the average rate for the five years 1906-10.

The table below shows the deaths from this disease and the rates for each sex since 1884.

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	3,132	11·83	2,022	9·30	5,154	10·69
1889-93	3,269	10·61	1,925	7·38	5,194	9·13
1894-98	3,191	9·43	1,983	6·68	5,174	8·15
1899-1903	3,322	9·21	2,304	7·08	5,626	8·20
1904-08	2,985	7·58	2,184	6·11	5,169	6·88
1909	590	7·10	450	5·91	1,040	6·53
1910	591	6·99	466	6·00	1,057	6·52
1911	648	7·48	451	5·67	1,099	6·61

The decrease in the number of deaths from phthisis and other forms of tuberculosis has taken place since the passing of the Dairies Supervision Act of 1886, the Pure Food Act, 1908, the Diseased Animals and Meat Act of 1892, and the Public Health Act of 1896, and may be attributed to their operation. The Board of Health is empowered by these Acts to supervise dairies and the production of milk, cream, butter, and cheese, and to prevent the sale of tuberculous meat. The Dairies Supervision Act was improved in the powers conferred by the Pure Food Act, 1908, which makes the finding of a diseased cow in a dairy herd *prima facie* evidence that its milk had been sold for food, and a prosecution for selling diseased milk can be instituted by the health inspectors.

If the deaths be distinguished in the two divisions of the metropolis and the country districts, as in the following table, it will be seen that the rate in the former is 8 per cent. higher than in the latter :—

Period.	Metropolis.		Country Districts.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1894-98	2,302	10·26	2,872	6·99
1899-1903	2,490	10·03	3,136	7·16
1904-08	2,184	7·89	2,985	6·29
1909	403	6·73	637	6·41
1910	443	7·21	614	6·09
1911	445	6·93	654	6·41

PHTHISIS A NOTIFIABLE DISEASE IN SYDNEY.

Within the City of Sydney, consumption of the lungs is a notifiable disease. The observance of the health regulations, and the general and widespread improvements and ventilation of business and residential buildings and places of amusement, and the destruction in recent years of very many unhealthy tenements, have resulted in a most satisfactory fall in the rate of mortality from consumption. Although the population of the metropolis has considerably increased, the deaths from this disease have decreased from 589 in the year 1903 to 445 in 1911.

DEATH-RATE COMPARATIVELY SMALL IN NEW SOUTH WALES.

The Australian climate is certainly favourable to those who suffer from pulmonary diseases, and a large number of persons suffering from phthisis visit Australia in search of relief. Many of these being in the last stages of the disease, succumb after a short residence in the State. The figures for the year 1911 show that out of the 1,099 persons who died from phthisis, 729 were born in Australia, and of the remainder, 63 had been resident in the Commonwealth less than five years, 55 from five to twenty years, and 223 for more than twenty years; in 29 instances either birth-place or length of residence was not stated.

A comparison of the death rates according to age and sex in each decennial period since 1881, and in 1911, is supplied in the following statement :—

Age Group. Years.	Males.				Females.				Persons.			
	1881- 1890.	1891- 1900.	1901- 1910.	1911.	1881- 1890.	1891- 1900.	1901- 1910.	1911.	1881- 1890.	1891- 1900.	1901- 1910.	1911.
0—4 ...	2.32	1.06	1.17	.39	2.27	.97	.97	.80	2.30	1.01	1.07	.59
5—9 ...	.71	.34	.31	.35	.77	.57	.39	...	.74	.45	.35	.16
10—14 ...	.62	.54	.52	.75	1.74	1.08	1.07	.63	1.17	.81	.79	.69
15—19 ...	5.15	3.57	2.86	1.31	7.17	4.71	5.30	4.02	6.15	4.14	4.07	2.65
20—24 ...	14.62	10.69	7.97	6.65	13.97	9.64	8.94	6.55	14.31	10.17	8.45	6.61
25—34 ...	20.95	15.68	11.35	10.43	19.07	13.75	11.16	10.68	20.16	14.81	11.26	10.55
35—44 ...	21.99	18.28	14.79	13.36	18.02	13.39	11.90	10.07	20.40	16.22	13.48	11.82
45—54 ...	23.43	19.04	16.56	14.99	16.54	10.84	9.76	7.16	20.80	15.67	13.63	11.55
55—64 ...	19.40	21.98	17.44	19.23	12.72	11.17	10.15	8.73	16.81	17.60	14.28	14.63
65—74 ...	17.44	17.09	17.02	14.75	10.22	7.62	9.07	11.89	14.61	12.97	13.59	13.45
75 and over	6.04	4.67	7.45	8.51	7.28	2.44	4.64	3.46	6.51	3.73	6.19	6.24
All ages ...	11.83	9.63	8.06	7.48	9.19	6.77	6.48	5.67	10.64	8.30	7.31	6.61

The decline in mortality from phthisis has been general throughout all age-groups, and was greatest between the first and second decennial periods shown above. As compared with the previous ten years there was in 1911 a marked decline in the death rates at all ages up to 55 years; above that age the difference was not great. The male rate is lowest at ages 5—9 years, after which it rises in each successive group up to 65 years. For the females the lowest rate is also at 5—9 years, but the highest is at ages 35—44 years. The female rate exceeds the male at ages 5—24 years, but for the other groups the male rate is considerably higher.

The following comparison of deaths from phthisis of the rates in various countries is interesting. The rates are stated per 1,000 of total population, and thus do not take specifically into account either age or sex, which are material factors. If anything, this omission makes the comparison more favourable to New South Wales and other Australian States, where the proportion of aged persons is smaller than in the countries of the old world. There is also possibly a variation in the methods of classification of the deaths in the various countries.

Country.	Death-rate per 1,000 of Total Population.		Country.	Death-rate per 1,000 of Total Population.	
	1900-09.	1910.		1900-09.	1910.
Ireland	2·09	1·72	Victoria	1·04	·83
Norway	1·96	.....	South Australia	·83	·74
Switzerland	1·81	.....	Western Australia	·76	·72
Japan	1·50	.....	Queensland	·74	·52
Scotland	1·43	.....	<i>New South Wales</i>	·73	·65
Spain	1·41	1·25	New Zealand	·68	·55
Netherlands	1·33	1·18	Tasmania	·64	·63
England and Wales	1·19	1·02			

New South Wales stands third from the bottom of the above list. The rate in all the European countries is higher than in New South Wales. The experience of the countries in the table, is similar to that of New South Wales, namely, that the rate is decreasing.

MINERS' PHTHISIS COMMISSION IN WESTERN AUSTRALIA.

It is noted that in a Miners' Phthisis Commission Report presented to the Parliament of Western Australia in December, 1911, the principal recommendations are :—(1) Compulsory medical examination and certification of the miners before employment. (2) All miners now engaged to be examined three months after the passing of the proposed Act, and to be medically examined every six months. (3) The employment of uncertificated miners to be an offence. (4) Miners medically rejected for tuberculosis or intermediate fibrosis to be sent to a sanatorium at the expense of the State. (5) A miners' claims board to be created to deal with the employment of medically rejected men, such board to be financed by the State until a scheme for employment is perfected. (6) A miners' insurance trust to be established, the men to contribute one-third of the premium, on a basis of one-half per cent. of their wages up to £250 yearly; mine-owners also to contribute one-third, and the State the remaining third; miners who are adequately insured in an ordinary insurance company or benefit society to be exempted from contributing. (7) Contributing miners to receive medical attendance and medicine free.

ROYAL COMMISSION (BRITISH) ON TUBERCULOSIS.

In June, 1911, the final Report of the (British) Royal Commission on Tuberculosis was presented to the British Parliament, and the important conclusions arrived at are well worthy of reference.

The questions submitted to this Commission were as follow :—

1. Whether the disease in animals and man is one and the same.
2. Whether animals and man can be reciprocally infected with it.
3. Under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favourable or unfavourable to such transmission.

This Commission carried out numerous and exhaustive experiments, and after exactly ten years' work they published their final report in June, 1911.

The more important conclusions arrived at by this Commission were as follow :—

So far as the identity of the bacillus in the tuberculosis of man and of animals is concerned, while there are certain differences between the two in their methods of growth under artificial conditions and in the amount of disease they produce in various experimental animals, yet (to use the words of the report) "we prefer to regard these two types as varieties of the same bacillus, and the lesions which they produce, whether in man or in other mammals, as manifestations of the same disease."

The reciprocity of the disease in cattle and man was of course the more important question. The conclusion arrived at was that mammals and man can be reciprocally infected with the disease (tuberculosis), and as researches showed that many cases of fatal tuberculosis, even pulmonary tuberculosis, in the human had been produced by the bacillus known to cause the disease in cattle, the possibility of the infection of humans by cattle tuberculosis cannot be denied.

Actual investigation of the human cases showed the following results, which are not without significance :—

The great majority of the cases of tuberculosis *amongst adults* was shown to have been produced by bacilli of the human type; while in cases of tuberculosis *amongst children* a very large percentage were produced by bacilli of the bovine type, and the Commission express the view that whatever may be the source of tuberculosis in adolescents and adults the evidence goes to demonstrate that a considerable amount of the tuberculosis of childhood is to be ascribed to infection with bacilli of the bovine type, transmitted to children in meals consisting largely of the milk of the cow.

Abundant evidence was produced to show that not only are tubercle bacilli present in the milk when the cow has a tuberculous udder, but that they may also be present in the milk of a cow presenting no evidence whatever of disease of the udder.

The practical deductions which may be made from these results of the scientific work of the Commission are—

Firstly—that all practicable means should be adopted of preventing a person suffering from tuberculosis from infecting those who come into contact with him.

Secondly—to quote the report—"that existing regulations and supervision of milk production and meat preparation be not relaxed; that, on the contrary, the Government should cause to be enforced throughout the Kingdom, food regulations planned to afford better security against the infection of human beings through the medium of articles of diet derived from tuberculous animals."

Also, it was made clear that, inasmuch as pigs are frequently found to be infected with tuberculosis of bovine origin, restrictions should apply to the flesh of pigs equally with that of cattle.

CONFERENCE OF CHIEF HEALTH OFFICERS.

Reference may be made to the Conference of the Chief Health Officers of the various States of Australia held in Melbourne in February, 1911. The resolutions of this Conference are of great importance, as they define the measures considered by the most experienced authorities to be necessary for the campaign against tuberculosis in Australia.

The first and the twenty-sixth resolutions clearly define the position taken up by the Conference upon the question of human and bovine tuberculosis.

Resolution 1 reads—"The only form of tuberculosis of which it is important to take cognisance for preventive purposes is Phthisis (Consumption of the Lungs, Consumption of the Throat)."

The resolution deals almost exclusively with Phthisis infection from man to man as being chiefly responsible for human tuberculosis.

Resolution 26 reads—"Bovine tuberculosis should be controlled under legal powers conferred on Departments of Agriculture, supplemented by similar powers conferred on Health Departments administering health and pure food laws."

With regard to bovine tuberculosis—infection from animal to man—the Conference, whilst fully recognising tuberculous meat, and more especially tuberculous milk, as possible sources of tuberculous disease in the human subject, has nevertheless concerned itself chiefly with that source of infection, viz., human sputum containing the tubercle bacillus, against which the Conference conceives preventive measures should be primarily directed.

The Conference dealt very completely with the measures considered necessary for the prevention of infection from man to man, *e.g.*, notification and detection of early cases, home management and segregation of consumptives, sanatoria dispensaries, disinfection, &c., and concluded with two important resolutions concerning consumptive immigrants as follow:—

"The Inter-State migration of consumptives, as a matter of expense, may be practically ignored, as the number of migrants is relatively small.

In respect to the immigration of persons suffering from consumption, it would be advantageous if the present law were extended in the direction of that which has force in the United States of America—namely, that cases which escape detection on entering the Commonwealth of Australia may be followed up for some time subsequent to admission, during which such cases could be dealt with as prohibited immigrants.

The present system of separate State medical examination of assisted immigrants does not afford sufficient protection to Australia against the entrance of consumptives or other diseased (or infirm) persons, and should be replaced by a uniform system of medical examination at the ports of departure by Commonwealth officers."

TREATMENT OF PHTHISIS IN NEW SOUTH WALES.

Persons suffering from phthisis may receive treatment of a temporary character at general hospitals, but the special care and treatment of this disease is undertaken at the Government Hospital at Waterfall, and the Queen Victoria Homes for Consumptives at Wentworth Falls and Thirlmere. To further combat the disease the National Association for the Prevention and Cure of Consumption propose to establish anti-tuberculous dispensaries in this State, and inaugurate an educational crusade.

As the disease is considered communicable, preventable, and curable, many people consider that notification should be made compulsory throughout the State.

During 1912 an Advisory Board was appointed to advise the Government on matters relating to the treatment of tuberculous diseases.

The Board is composed of medical practitioners representing the University, the hospitals, the Government Medical Service, the general practitioners, and the various branches of medical science, medicine, surgery, pathology, State medicine, and diseases of women and children. A scheme for the establishment of Tuberculin dispensaries was initiated by the opening of a free dispensary in Sydney in September, 1912. Medical advice is given at the dispensary to persons suffering from tuberculous diseases, and a nurse is employed to visit their homes and instruct the inmates in precautionary measures to prevent the spread of tuberculosis.

CANCER.

There were 1,233 deaths from cancer in 1911, equal to a rate of 7·42 per 10,000 living, which is 5·2 per cent. above the average for the preceding five years. The deaths during the year were 666 amongst the males and 567 amongst the females, the rates being 7·68 and 7·13 per 10,000 living of each sex respectively.

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

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	859	3·25	732	3·37	1,591	3·30
1889-93	1,262	4·10	1,038	3·98	2,300	4·04
1894-98	1,719	5·09	1,387	4·68	3,106	4·89
1899-1903	2,295	6·37	1,877	5·76	4,172	6·08
1904-08	2,671	6·79	2,418	6·76	5,089	6·77
1909	608	7·32	558	7·33	1,166	7·32
1910	623	7·37	556	7·16	1,179	7·27
1911	666	7·68	567	7·13	1,233	7·42

The rates have increased steadily, although the female rate fluctuates to some extent.

There are at present in New South Wales no special hospitals for the treatment of cancer. Persons suffering therefrom are received in general hospitals, and the old and destitute are cared for at the Government institutions for the infirm.

The ages of the deceased ranged from 21 days to 103 years, but cancer is essentially a disease of old age; 95 per cent. were aged 35 and over.

The following table shows for each sex the death rate per 10,000 in age-groups after 25 years, during each decennial period since 1881 :—

Age Group. Years.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
25-34 ...	·75	·94	·89	1·19	1·36	1·24	1·37	1·42	1·01	1·07	1·12	1·30
35-44 ...	2·88	3·63	3·93	4·55	5·25	6·79	7·16	6·50	3·82	4·96	5·39	5·46
45-54 ...	9·36	12·13	12·53	14·19	14·63	17·93	19·21	20·03	11·37	14·52	15·41	16·75
55-64 ...	11·95	30·36	34·96	35·56	22·88	33·20	36·54	33·35	21·09	31·52	35·65	34·59
65-74 ...	34·78	51·32	72·00	74·14	31·85	43·00	62·06	58·98	33·63	47·18	67·71	67·27
75 and over	41·24	63·78	86·36	88·89	35·97	62·95	79·98	101·51	39·24	63·43	83·49	94·52
All ages ...	3·24	4·99	6·90	7·68	3·19	4·77	6·62	7·13	3·22	4·88	6·77	7·42

It will be seen that since 1881-90 the death rates from cancer have more than doubled for both sexes, having risen constantly for every age-group throughout each decennial period. It has been stated that the more skilful diagnosis of late years, especially of internal cancer, may account for part of the increase, but how far this is so it is impossible to say, and there seems to be no doubt that the spread of cancer is real.

The rate is the lowest in the earliest age-group shown above, and rises steadily with increasing age, the rate for both sexes together in 1901-10 being 1.12 per 10,000 at ages 25-34, as compared with 83.49 at ages 75 and over. Up to age 64 years the female rate is higher than the male, but over that age the mortality is greater amongst males. Comparing the rates in 1911 with those of the period 1901-10, every group of males shows an increase, but the female rates were slightly lower at ages 35-44 and 55-74 years.

Cancer is probably the most feared of all diseases, inasmuch as no specific remedy is known, and in all countries for which there are records the death-rate is increasing. In the following table the rates based on the whole population are given for certain countries. The comparison, being uncorrected for age incidence, is somewhat crude, but is apparently favourable to the Australian States.

Country.	Death-rate per 1,000 of Total Population.		Country.	Death-rate per 1,000 of Total Population.	
	1900-1909.	1910.		1900-1909.	1910.
Switzerland	1.28	...	Prussia ... ..	.68	.78
Netherlands ... ..	.99	1.06	New Zealand ... ..	.68	.75
Norway ... ..	.95	...	New South Wales ... ..	.66	.73
Scotland ... ..	.90	...	Italy ... ..	.58	...
England and Wales ... ..	.89	.97	Tasmania ... ..	.58	.64
Victoria ... ..	.75	.83	Queensland ... ..	.57	.67
Austria ... ..	.75	.78	Western Australia ... ..	.50	.50
Ireland ... ..	.71	.84	Spain ... ..	.46	.52
South Australia ... ..	.70	.80	Hungary ... ..	.40	.46

DIABETES.

The deaths attributed to diabetes in 1911 numbered 148, equal to a rate of 0.89 per 10,000 living, which is 4.7 per cent. above the average for the preceding five years. The rate for males was 0.72 and for females 1.08 per 10,000 living of each sex. Most of the deaths occur after middle life. Of the total, 100 were of persons over 45 years of age.

MENINGITIS.

Inflammation of the brain or its membranes caused 157 deaths, equal to a rate of 0.94 per 10,000 living. This is 5 per cent. below the average rate during the previous five years. The disease is principally one of childhood. Of those who died during the year, 90, or 57 per cent., were under 5 years of age. Included in the total are 28 deaths from cerebro-spinal fever.

HÆMORRHAGE OF THE BRAIN.

To cerebral hæmorrhage and apoplexy there were due 645 deaths, of which 328 were males and 317 females. The rate is 3.88 per 10,000 living, 3.78 for males and 3.99 for females, in each case being above the average.

The following table shows the rates for these diseases for each sex in quinquennial periods since 1884:—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	778	2·97	467	2·15	1,245	2·58
1889-93	796	2·58	618	2·37	1,414	2·48
1894-98	943	2·79	710	2·39	1,653	2·60
1899-1903	1,050	2·91	788	2·42	1,838	2·68
1904-08	1,303	3·31	1,039	2·91	2,342	3·12
1909	323	3·89	286	3·76	609	3·83
1910	256	3·15	265	3·41	531	3·27
1911	328	3·78	317	3·99	645	3·88

Generally the male rate is a little higher than the female. There has been slight difference in the rate for many years—it has fluctuated, first with a tendency to decrease down to 1895, and then to increase. Possibly the variations in the rate are due to some extent to differences in classification.

CONVULSIONS OF CHILDREN.

Convulsions of children (under 5 years) caused 146 deaths during 1911, or 0·88 per 10,000 living, which is 31 per cent. below the average for the previous five years. This disease, however, being entirely confined to children under 5, the rate is more properly stated as a proportion of those ages. Comparing therefore the deaths with the number living at those ages, the rate during 1911 was ·72 per 1,000, as against 1·09, the average of the previous five years.

INSANITY.

Insanity is classed as a distinct disease of the nervous system; but of the total number of deaths of insane persons in 1911, only 156 deaths appear in the tables as due to insanity (including general paralysis of the insane), the remaining deaths being attributed to their immediate cause.

The death-rate of persons dying from insanity, including general paralysis of the insane, per 10,000 living, was 1·01 in the case of males, and ·32 in the case of females.

Practically all the insane persons in New South Wales are under treatment in the various Hospitals for the Insane. At the end of 1911 there were 6,351 persons under official control and receiving treatment. This is equal to 3·75 insane persons per 1,000 of population. The average during the preceding five years was 3·65 per 1,000.

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

Period.	Males.		Females.		Persons.	
	Deaths in Hospitals for Insane.	Proportion of average number resident.	Deaths in Hospitals for Insane.	Proportion of average number resident.	Deaths in Hospitals for Insane.	Proportion of average number resident.
		per cent.		per cent.		per cent.
1894-98	782	6·86	366	5·18	1,148	6·21
1899-1903	1,021	7·77	465	5·54	1,486	6·91
1904-1908	1,280	8·24	613	6·00	1,893	7·35
1909	240	7·14	125	5·58	365	6·52
1910	280	7·97	145	6·22	425	7·27
1911	345	9·46	152	6·42	497	8·26

Of the insane who died during 1911, 156 persons, or nearly one-third of the whole, were aged 65 years and upwards.

DISEASES OF THE HEART.

Diseases of the heart were the cause of 1,801 deaths, equivalent to a rate of 10.84 per 10,000 living, which is 13 per cent. above the average for the preceding five years. Of the total, 1,033 were males and 966 females, the rates, 11.92 and 9.66 per 10,000 living respectively. The deaths and death-rates for each sex since 1884 are shown below:—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	2,149	8.12	1,390	6.39	3,539	7.34
1889-93	2,250	7.30	1,357	5.20	3,607	6.34
1894-98	2,434	7.19	1,478	4.98	3,912	6.16
1899-1903	2,917	8.09	1,932	5.93	4,849	7.08
1904-1908	3,791	9.63	2,727	7.63	6,518	8.68
1909	923	11.11	677	8.90	1,600	10.05
1910	918	10.86	720	9.27	1,638	10.10
1911	1,033	11.92	768	9.66	1,801	10.84

The ages of the persons who died ranged up to 105 years; and, as might be expected, the great majority of deaths occurred after middle age had been passed, 1,477 being of persons over 45 years of age.

Included in the total are deaths from pericarditis, endocarditis, organic diseases of the heart, and angina pectoris. The largest number of deaths (about one-half of the total) was attributed to "heart disease" without further definition—that is to say, without the particular cardiac lesion being specified.

The following table shows the rates per 10,000 for males and females in age-groups for decennial periods since 1881, and for the year 1911:—

Age Group, Years.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
0-4 ...	1.27	1.14	1.13	.77	1.28	.89	.97	1.10	1.28	1.02	1.05	.93
5-9 ...	1.34	.99	1.10	1.16	1.09	.98	1.16	.47	1.21	.99	1.13	.82
10-14 ...	1.73	1.28	1.49	1.74	1.50	1.31	1.84	2.66	1.61	1.30	1.66	2.20
15-19 ...	1.90	1.40	1.92	2.14	2.21	1.66	1.98	2.92	2.05	1.53	1.95	2.52
20-24 ...	2.52	1.42	1.55	2.14	2.47	1.83	1.94	2.26	2.50	1.62	1.74	2.20
25-34 ...	3.61	2.66	2.15	2.10	4.58	2.53	2.53	2.69	4.01	2.60	2.34	2.38
35-44 ...	8.86	5.81	5.46	6.03	7.86	5.63	6.13	4.72	8.46	5.74	5.77	5.42
45-54 ...	17.53	13.36	13.79	14.76	15.98	11.20	11.80	13.74	16.94	12.47	12.93	14.32
55-64 ...	35.37	36.56	35.37	37.63	31.13	25.29	28.72	33.88	33.73	31.96	32.48	35.98
65-74 ...	74.99	69.40	91.84	109.69	60.00	54.65	78.67	95.55	69.12	62.37	86.15	103.29
75 & over ...	91.41	104.74	178.83	253.42	83.64	89.54	141.23	204.16	90.36	98.30	161.94	231.23
All ages...	7.91	7.31	9.60	11.92	6.02	5.20	7.51	9.66	7.05	6.33	8.60	10.84

Diseases of the heart are increasing, although it may be that part of the increase is due to a better acquaintance with the action of the heart, and that many deaths which were formally attributed to old age are now referred to some form of heart disease. The rates above show that the increase has been in the ages 65 and over, and that it was most marked during the periods 1891 to 1910. The rates do not vary greatly up to age 24 years, but rise steadily after that age.

The death-rate for males generally is higher than for females, probably due to the greater risks and shocks to which males are exposed. At ages 5 to 45 years the female rate is higher than the male; after 45 the male rate is much the higher. Among both sexes the rates in 1911 were generally higher than in the previous decennium.

BRONCHITIS.

Bronchitis caused 569 deaths in 1911, equivalent to 3·42 per 10,000 living, which is 6·2 per cent. above the mean rate of the previous five years. The rate for males was 3·65 and for females 3·18 per 10,000; of the total deaths 247 were stated to be due to acute and 322 to chronic bronchitis. This disease chiefly affects the extremes of life. In 1911, of those who died, 175, or 31 per cent., were under 5, and 309, or 54 per cent., over 65 years of age.

PNEUMONIA.

The total deaths from pneumonia were 973, equal to a rate of 5·85 per 10,000 living. Included in the total are 387 deaths which were ascribed to broncho-pneumonia. Among males the rate was 6·63, and among females 5·00 per 10,000 living of each sex respectively. The rate is 1·7 per cent. above the average of the previous five years. Pneumonia is more fatal to males than to females, as the following table, giving the rates by sexes since 1884, shows:—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	2,032	7·63	1,301	5·98	3,333	6·91
1889-93	2,158	7·00	1,373	5·26	3,531	6·21
1894-98	2,514	7·43	1,528	5·15	4,042	6·37
1899-1903	3,191	8·85	2,000	6·14	5,191	7·57
1904-1908	2,816	7·15	1,824	5·10	4,640	6·18
1909	517	6·22	351	4·61	868	5·45
1910	525	6·21	340	4·38	865	5·33
1911	575	6·63	398	5·00	973	5·85

Most deaths from pneumonia occur in the cold weather. In 1911 there were 397 deaths, or 41 per cent. in the three months June to August.

There has been little reduction in the mortality for some years. There was a drop after 1888, but it then steadily increased, with a few fluctuations, to the highest point on record, in 1902. The general rates, however, for the last nine years have been much below the figure for that year.

Pneumonia is most destructive amongst young children and old persons.

The following table shows the rates per 10,000 in age-groups of both sexes since 1881 :—

Age Group. Years.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
0—4 ...	17.97	21.08	21.19	19.21	15.83	17.16	17.70	17.48	16.92	19.15	19.48	18.36
5—9 ...	1.63	1.29	1.31	1.62	1.72	1.20	1.27	1.19	1.67	1.25	1.29	1.41
10—14 ...	1.21	.55	.95	.12	1.02	.93	1.10	1.14	1.12	.74	1.02	.63
15—19 ...	2.33	2.01	2.29	1.66	1.90	1.26	1.49	.24	2.12	1.64	1.90	.96
20—24 ...	3.99	3.08	3.00	2.14	2.63	1.90	1.54	1.19	3.36	2.50	2.28	1.68
25—34 ...	4.90	3.91	3.67	2.80	4.21	2.60	2.30	1.79	4.61	3.32	3.01	2.31
35—44 ...	7.65	6.69	6.06	4.18	5.97	3.97	3.92	3.67	6.98	5.55	5.09	3.94
45—54 ...	12.98	9.61	9.47	7.67	7.35	5.33	4.78	2.78	10.83	7.85	7.45	5.52
55—64 ...	17.00	16.08	16.15	9.72	8.87	10.78	10.19	7.94	13.85	13.92	13.56	8.94
65—74 ...	26.01	28.21	28.47	26.86	22.22	18.66	22.98	17.37	24.53	23.89	26.10	22.56
75 and over	30.21	42.40	46.54	54.84	28.26	35.38	50.32	53.06	29.47	39.42	48.24	54.04
All ages ...	7.77	7.46	7.68	6.63	5.86	5.22	5.50	5.00	6.91	6.42	6.64	5.85

A very large increase has taken place in the rates for the oldest group, 75 years and over, the rates for the groups under 5 years and 65—74 are also greater than in the period 1881—1890, but in all the other groups the rate has declined slightly. The rate is at a minimum at ages 10—14 years, after which it rises gradually up to age 35, and then very rapidly with increasing age.

In 1911 all age-groups except 5—9 years and 75 and over, showed decreased rates as compared with the previous ten years.

DIARRHŒA AND ENTERITIS.

In 1911 there were ascribed to these two causes 1,233 deaths, or 7.41 per 10,000 living, which is 19.8 per cent. lower than the average of the preceding five years. The rate for males was 8.05 and for females 6.73 per 10,000 living. The following table gives the deaths and rates of males and females since 1884 :—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884—88	3,412	12.89	3,048	14.02	6,460	13.40
1889—93	3,451	11.20	2,851	10.92	6,302	11.07
1894—98	4,042	11.94	3,638	12.26	7,680	12.09
1899—1903	4,422	12.27	3,901	11.98	8,323	12.13
1904—1908	3,714	9.44	3,000	8.39	6,714	8.94
1909	834	10.04	652	8.57	1,486	9.33
1910	769	9.10	662	8.52	1,431	8.82
1911	698	8.05	535	6.73	1,233	7.41

There was a large drop in the rate after 1888, probably due to the influence of the Dairies Supervision Act. During the next fifteen years there was a gradual increase, but in 1904 a very great improvement ensued, which has since been fairly maintained.

According to the Bertillon classification, deaths from these diseases are divided into two groups, one including children under 2 years of age, and the other all persons 2 years of age and over. In the first group there were 963, or 78 per cent. of the total, and in the second 270. The mortality rate of children under 2 years during 1911 was 22 per cent. below the average during the previous quinquennium, being 11·47 per 1,000 children living at those ages, as compared with 14·78 during 1906-10.

Of the total deaths from these causes, 544, or 44 per cent., occurred in the three summer months, November, December, and January; and 363, or 29 per cent., in February, March, and April. As a rule, about 50 per cent. of the deaths occur in the summer months.

DISEASES OF DIGESTIVE SYSTEM.

The deaths attributed to these diseases numbered 2,041, equivalent to 12·28 per 10,000 living, the rates for males and females being 13·07 and 11·42, as compared with 15·03 and 13·06 respectively, the rates during the preceding five years. Deaths in this system were ascribed mainly to diarrhoea and enteritis, which have already been discussed. Gastritis caused 117 deaths, 54 being of children under 5 years of age; and 39 deaths were ascribed to gastric ulcer.

Cirrhosis of the liver was responsible for 131 deaths, the rate being ·79 per 10,000 living, which is 18 per cent. above the average of the previous five years. This disease is much more prevalent amongst males than females—the rate for the former in 1911 being 1·02, and for the latter, ·54 per 10,000 living in each sex, and is of interest in connection with the subject of intemperance. Appendicitis was the cause of 129 deaths, the rate being ·78 per 10,000, which is 2·5 per cent. below the average of the previous five years. The rate for the males was ·83, and for the females, ·72 per 10,000 living.

BRIGHT'S DISEASE.

Of the 1,102 deaths due to diseases of the urinary system, 762 were caused by chronic nephritis or Bright's disease, and 78 by acute nephritis. Taking these two diseases together, the rate was 5·05 per 10,000 living; for males 6·06, and for females 3·96. In 1911 the rate was 16·4 per cent. above the quinquennial average. The changes in the rates of these two diseases, acute and chronic nephritis, will be seen below:—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	626	2·37	386	1·78	1,012	2·10
1889-93	907	2·94	570	2·18	1,477	2·60
1894-98	1,291	3·81	821	2·77	2,112	3·33
1899-1903	1,659	4·60	996	3·06	2,655	3·87
1904-1908	2,056	5·22	1,199	3·35	3,255	4·33
1909	447	5·38	256	3·36	703	4·42
1910	465	5·50	272	3·50	737	4·54
1911	525	6·06	315	3·96	840	5·05

During the whole period covered by the table the rate, both for males and females, has been practically doubled. The male rate is about half as high again as for females. Not many persons under 35 die from nephritis, the proportions per cent. for 1911 being: under 35, 12·9; and over 35, 87·1.

Since 1881 the rate has steadily risen, the increase being greatest at ages over 45 years. The rates per 10,000 are shown below for males and females in decennial periods since 1881:—

Age Group. Years.	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
0-4 ...	1·19	1·31	1·52	·77	1·12	1·44	1·23	·50	1·16	1·37	1·38	·64
5-9 ...	·42	·44	·48	·23	·32	·44	·50	·47	·37	·44	·49	·35
10-14 ...	·35	·26	·49	·50	·27	·38	·53	·38	·31	·32	·51	·44
15-19 ...	·47	·76	·72	·59	·68	·61	·77	·61	·57	·68	·74	·60
20-24 ...	·81	1·01	1·04	1·35	1·18	1·26	1·07	1·79	·98	1·13	1·05	1·56
25-34 ...	1·76	1·80	1·85	1·82	1·74	2·38	1·74	1·42	1·75	2·06	1·80	1·63
35-44 ...	2·94	4·48	4·36	4·55	3·69	4·52	4·12	3·57	3·24	4·50	4·25	4·09
45-54 ...	5·41	8·40	9·92	10·99	4·09	6·65	7·98	7·75	4·91	7·68	9·08	9·56
55-64 ...	10·58	15·39	20·17	22·12	6·50	10·47	12·83	16·68	9·00	13·39	16·98	19·73
65-74 ...	14·67	26·47	40·87	54·84	11·41	15·77	25·06	36·12	13·39	21·71	34·05	46·37
75 and over	19·18	29·29	59·12	67·14	6·42	16·59	29·65	40·37	14·33	23·90	45·89	55·08
All ages ...	2·40	3·62	5·16	6·06	1·77	2·63	3·33	3·96	2·13	3·16	4·29	5·05

At ages under 5 the mortality is higher than at any subsequent age up to 25 years. The minimum point is from ages 5 to 9, but after that point the mortality increases steadily up to age 35, and then rapidly to the highest ages. At all ages, except 5 to 24, the male rate is the higher. In 1911 the rate was lower than in the previous ten years in all ages up to 45 years; above that age there were considerable increases.

DEATHS IN CHILD-BIRTH.

The number of deaths of women in 1911 in child-birth was 279, corresponding to a rate of 6·2 per 1,000 births. Of these, 108 were due to puerperal septicæmia, 46 to accidents of pregnancy, and 125 to other puerperal accidents. The deaths resulting from various diseases and casualties incident to child-birth are about 7 per 1,000 births, or 1 death to every 146 births. During the nineteen years ended 1911, the deaths were as follow:—

Cause of Death.	1893-1896	1897-1900	1901-1904	1905-1908	1909-11.	1893-1911.	
						Total Deaths.	Proportion due to each cause.
Accidents of Pregnancy ...	132	197	176	280	104	889	per cent 17·39
Puerperal Hæmorrhage ...	142	159	135	106	82	624	12·21
Puerperal Septicæmia ...	369	362	378	295	325	1,729	33·83
Albuminuria and Eclampsia ...	100	126	113	141	127	607	11·88
Other Casualties of Child-birth	272	279	256	301	154	1,262	24·69
Total ...	1,015	1,123	1,058	1,123	792	5,111	100·00

Owing to the changes in classification of causes of death, the figures for the last seven years are not quite on the same basis as those for previous years, but the differences are only slight.

During the nineteen years, 1893-1911, of the 5,111 women who died from diseases of child-birth, 4,590 were married, and 521 single, and as there were during this period 695,823 legitimate and 50,503 illegitimate births—reckoning cases of twins and triplets as single births—it follows that amongst married women the fatal cases average 6·6 per 1,000 births, or 1 in 152, and amongst single women 10·3 per 1,000, or 1 in 97.

VIOLENCE.

Of 17,179 persons who died during the year, 1,324, or 7·71 per cent., met with violent deaths. The rate per 10,000 living was 7·97, being 7·3 per cent. higher than the mean rate during the previous quinquennium. The mortality rate from violence amongst males is three times as great as for females, since of the 1,324 deaths of this kind, 1,033, equal to 11·92 per 10,000 living, were of males, and 291, equal to 3·66 per 10,000, were of females.

Accident or Negligence.

The number of fatal accidents during the year was 1,017, viz., 795 of males and 222 of females, equal to rates of 9·17 and 2·79 per 10,000 living of each sex. Accidental deaths have always been numerous in the country. Of the total number registered during 1911, 353 occurred in the metropolis and 664 in the country districts, and, as a rule, about three-fourths of the accidents occur in the country, which contains about five-eighths of the total population.

The number of deaths from accident and the rates since 1884 are shown in the table below:—

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	3,550	13·41	944	4·34	4,494	9·32
1889-93	3,666	11·90	966	3·70	4,632	8·14
1894-98	3,498	10·33	1,095	3·69	4,593	7·23
1899-1903	3,432	9·52	1,103	3·39	4,535	6·61
1904-1908	3,143	7·99	1,055	2·95	4,198	5·59
1909	658	7·92	221	2·90	879	5·52
1910	721	8·53	197	2·54	918	5·66
1911	795	9·17	222	2·79	1,017	6·12

Thus, although the accident rate is still high, it has been steadily decreasing, and among males the fall has been more rapid than amongst females. In 1911, however, the rate showed an increase of 8 per cent., as compared with the average of the previous five years. For the years prior to 1894 the rates are really slightly lower than are shown in the table, because certain causes formerly classed as accidents are now recorded elsewhere.

Experience shows that out of every 1,000 accidents 164 are due to drowning, 155 to burns or scalds, 146 to vehicles and horses, 89 to falls, 78 to railways and tramways, 47 to mines and quarries, and 38 to weather agencies. Among males the greatest number are due to drowning, and among females to burns or scalds.

Suicide.

The number of deaths due to this cause during 1911 was 203, equal to a rate of 1.22 per 10,000 living, which is 9 per cent. above the average of the previous five years. The number of males was 164, equal to a rate of 1.89 per 10,000 living, and of females 39, equal to 0.49 per 10,000, so that the rate for males is about four times as great as that of the females.

Period.	Males.		Females.		Persons.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	428	1.62	96	.44	524	1.09
1889-93	519	1.68	110	.42	629	1.11
1894-98	679	2.01	169	.57	848	1.34
1899-1903	651	1.81	142	.44	793	1.16
1904-1908	719	1.83	160	.45	879	1.17
1909	148	1.78	45	.59	193	1.21
1910	134	1.59	27	.35	161	0.99
1911	164	1.89	39	.49	203	1.22

The means usually adopted by men for self-destruction are shooting, poisoning, stabbing, or hanging. Amongst women, weapons are avoided, and poison has been the means most often used. Out of every 100 cases, during the last five years, 31 were by shooting, 27 by poisoning, 15 by hanging, 16 by stabbing, and 8 by drowning.

Experience shows that morbidity is largely influenced by the seasons. As regards suicides, this is most plainly seen amongst males, who are more inclined to attempt self-destruction in the last quarter of the year. For the ten years ended 1911, the proportion of male suicides per 1,000 during the first quarter of the year was 254; second, 227; third, 246; and fourth, 273. December, January, and February, the three hottest months of the year, usually have the largest record of suicides.

Female suicides, classified by quarters for the same period, show the highest proportion during the first quarter of the year, the figures being as follow:—First quarter, 258 per 1,000; second, 248; third, 248; and fourth, 246.

Suicide at ages under 20 is not common, but after that age, especially with males, it increases with increasing age. The rates per 10,000 for each sex in age-groups since 1881 is shown below:—

Age Group (Years).	Males.				Females.				Persons.			
	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.	1881-1890.	1891-1900.	1901-1910.	1911.
15-19 ...	.28	.21	.29	.24	.44	.59	.53	.61	.36	.43	.41	.42
20-24 ...	1.01	1.29	1.18	1.35	.46	.86	.86	.12	.75	1.08	1.02	.75
25-34 ...	2.15	2.06	2.04	2.17	.60	.67	.51	.75	1.50	1.43	1.30	1.48
35-44 ...	2.64	3.78	3.06	3.62	.82	.94	.80	1.15	1.91	2.58	2.04	2.46
45-54 ...	4.25	4.72	3.97	3.89	1.05	.88	.75	.88	3.03	3.14	2.58	2.57
55-64 ...	4.54	6.32	5.55	6.00	.95	1.35	.78	.79	3.15	4.29	3.48	3.71
65-74 ...	5.43	7.39	6.24	3.40	1.19	.79	.51	.91	3.77	4.59	3.77	2.28
75 and over ...	4.47	7.73	4.15	6.62	.86	1.95	.45	1.15	3.09	5.28	2.49	4.16
All ages ...	1.52	1.93	1.76	1.89	.39	.50	.44	.49	1.01	1.26	1.13	1.22

The suicide rate shows very little variation throughout the various periods, but is now slightly higher than in 1881-1890. Comparing the mortality at various ages, the rates for males rose gradually up to ages

65-74, though in 1911 the rate in this group was unusually low. In 1901-10 the highest rate for the females was at ages 20-24 years, in the next group it was lower, but rose again at ages 35-44, after which it declined.

Except at the ages 15-19, the male rate is considerably higher than the female.

SEASONAL PREVALENCE OF DISEASES.

The statement below shows the principal diseases, the deaths from which vary according to the seasons. The figures are based on the experience of the nine years 1903-11, and represent the proportion of deaths in each month per 1,000 deaths during the year from each cause. The actual returns were adjusted on account of the unequal number of days in the various months to render the figures comparable.

Month.	Typhoid Fever.	In- fluenza.	Diph- theria and Croup.	Whoop- ing Cough.	Phthisis.	Pneu- monia.	Bron- chitis.	Diarrhœa, Enteritis, and Dysentery.	Bright's Disease.
January ...	140	38	39	89	79	49	47	156	76
February ..	142	17	75	75	71	45	42	131	72
March ...	150	17	84	60	76	47	43	112	69
April ...	133	29	117	89	80	60	61	110	78
May ...	111	44	132	89	85	76	82	71	87
June ...	68	86	125	72	86	104	120	41	89
July ...	38	123	104	86	90	123	139	29	96
August ...	27	184	96	98	95	135	143	23	96
September.	26	182	74	85	92	123	122	25	91
October ...	24	137	47	87	87	92	83	45	80
November .	44	89	54	78	82	81	69	111	83
December..	97	54	53	92	77	65	49	146	83
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

The chief feature of the above table is the contrast between typhoid fever and diarrhœa and enteritis on the one hand, and influenza, pneumonia, and bronchitis on the other. In the first group the influence of the warm weather is the controlling factor, and in the second the cold weather. The warmest three months in the year are December, January, and February; and the coldest June, July, and August. Phthisis does not vary a great deal throughout the year, but the rates show that in the cold months the deaths are most frequent. Bright's disease, also, is most fatal in the cold weather.

CAUSES OF INFANTILE MORTALITY.

The mortality of infants in New South Wales was exceptionally low during the eight years 1904-11. An upward movement in 1907, when the rate was higher than in any of the three preceding years, was followed by a decline in the two following years; in 1910 there was a slight increase, but in 1911 the rate was the lowest on record. Prior to 1904 there had been practically little change in the rate for thirty years, but from 1860 up to 1873 the rate was lower than in the years immediately preceding 1904. Although at very early ages children are most susceptible to the attacks of disease, and the rates for preventable diseases are highest, there is no doubt that many children succumb to disease through parental ignorance of the proper food or treatment required. In New South Wales, out of every 10,000 children born, as will be seen from a previous table, about 1,000 die before reaching their fifth year.

As the death-rate of infants is usually looked upon as a reliable sanitary test, and as it is of interest to know the diseases most fatal to children, the following statement has been prepared. It shows the principal causes of deaths of children—under 1 per 1,000 births and under 5 per 1,000 living—in 1911 and in the five years 1906–10, distinguishing deaths in the metropolis from those in the country districts:—

Cause of Death.	Deaths under 1, per 1,000 births.						Deaths under 5, per 1,000 living.					
	Metropolis.		Country.		New South Wales.		Metropolis.		Country.		New South Wales.	
	1906-1910.	1911.	1906-1910.	1911.	1906-1910.	1911.	1906-1910.	1911.	1906-1910.	1911.	1906-1910.	1911.
Measles	0·3	0·1	0·3	0·3	0·3	0·2	0·3	0·0	0·2	0·2	0·2	0·1
Scarlet Fever	0·1	0·0	0·0	0·0	0·0	0·0	0·1	0·0	0·1	0·0	0·1	0·0
Whooping-cough	2·4	1·6	2·5	2·1	2·5	1·9	1·0	0·9	0·9	0·7	0·9	0·8
Diphtheria and Croup	0·3	0·4	0·3	0·2	0·3	0·3	0·5	0·5	0·6	0·9	0·6	0·7
Tuberculosis—Meninges	0·7	0·2	0·2	0·2	0·4	0·2	0·5	0·4	0·1	0·1	0·2	0·2
,, Peritoneum	0·6	0·1	0·7	0·5	0·7	0·3	0·2	0·1	0·2	0·2	0·2	0·
,, Other Organs	0·1	0·0	0·2	0·1	0·2	0·0	0·1	0·1	0·1	0·1	0·1	0·1
Syphilis	1·5	1·2	0·3	0·4	0·7	0·7	0·4	0·3	0·1	0·1	0·2	0·2
Meningitis	1·3	1·2	0·9	1·2	1·0	1·2	0·6	0·5	0·4	0·4	0·5	0·4
Convulsions	2·7	2·4	4·3	2·6	3·7	2·6	0·9	0·7	1·2	0·7	1·1	3·7
Bronchitis	2·6	2·4	3·1	3·6	2·9	3·1	0·8	0·7	0·9	1·0	0·9	0·9
Broncho-pneumonia	3·3	3·2	2·8	3·2	3·0	3·2	1·3	1·3	1·0	1·1	1·1	1·2
Pneumonia	1·3	1·3	1·8	1·7	1·8	1·6	0·8	0·8	0·8	0·6	0·5	0·7
Diarrhoea and Enteritis	27·0	20·5	18·4	14·6	21·4	16·8	8·3	6·7	5·8	4·1	6·6	5·0
Congenital Malformations	2·6	2·2	2·1	2·7	2·3	2·6	0·7	0·6	0·5	0·7	0·6	0·7
Infantile Debility	11·4	6·2	12·1	9·1	11·8	8·0	2·9	1·7	2·9	2·1	2·9	1·9
Premature Birth	18·1	17·4	14·4	15·4	15·7	16·2	4·5	4·6	3·3	3·4	3·7	3·8
All others	8·4	10·7	9·0	10·6	8·8	10·6	3·3	3·9	3·8	3·7	3·6	3·8
Total	85·2	71·1	73·4	68·5	77·5	69·5	27·2	23·8	22·9	20·1	24·3	21·3

There was a considerable improvement in 1911, as compared with the preceding five years, notwithstanding they were years of low mortality. Among children under 1, the reduction amounted to 10·3 per cent., and among children under 5, to 12·3 per cent.

It will be seen that the high mortality of infants is due to the deaths of children who from the beginning are greatly weakened either from immaturity or debility at birth. Of children under 1, the deaths from these causes in 1911 were equal to 26·8 per 1,000 births, or 38 per cent. of the total deaths of children at that age. A previous table shows that the mortality during the first month of life is about two-fifths of the total mortality during the whole of the first year, and 66 per cent. of this mortality is due to deaths from congenital debility or defects. After these, in 1911, came diarrhoea and enteritis, which were responsible for deaths to the extent of 16·8 per 1,000

births. The deaths from infectious diseases amounted to 2·4 per 1,000 births, of which whooping-cough caused 1·9. Respiratory diseases are rather fatal to children, bronchitis, in 1911, accounting for 3·1, broncho-pneumonia for 3·2, and pneumonia for 1·6 per 1,000 births. Of these causes bronchitis and broncho-pneumonia showed increases in 1911. Convulsions had a death-rate of 2·6, tuberculous diseases of 0·5, and meningitis (not tuberculous) 1·2 per 1,000 births.

It has already been pointed out that life in the metropolis is more unfavourable to children than in the country. The total excess mortality in the metropolis is 4 per cent., but the excess from diarrhœa and enteritis is 40 per cent., though it may be noted that the mortality from these causes in 1911 was exceptionally low in both divisions.

Turning to the second part of the table, dealing with children under 5, it will be found that the most fatal causes are congenital debility, diarrhœa and enteritis, pneumonia, and bronchitis in the order stated.

DEATHS OF ILLEGITIMATE CHILDREN COMPARED.

A further statement is given below in which the causes of death of illegitimate children are compared with those of legitimate children. The figures represent the deaths of children under 1 year per 1,000 births in the State as a whole in 1911.

Causes of Death.	Deaths under 1, per 1,000 Births.		
	Legitimate.	Illegitimate.	Total.
Measles	·2	·3	·2
Scarlet Fever ... ..	...	...	...
Whooping-cough	1·9	2·0	1·9
Diphtheria and Croup	·3	1·0	·3
Tuberculosis—Meninges	·2	·3	·2
Peritoneum	·2	2·0	·3
Syphilis	·6	2·4	·7
Meningitis	1·1	2·7	1·2
Convulsions... ..	2·4	4·1	2·6
Bronchitis	3·1	3·1	3·1
Broncho-pneumonia	3·1	4·8	3·2
Pneumonia	1·5	3·4	1·6
Diarrhœa and Enteritis	14·3	54·9	16·8
Congenital Malformations	2·6	2·4	2·6
Infantile Debility	7·2	20·0	8·0
Premature Birth	15·6	24·4	16·2
All others	10·0	20·0	10·6
Total... ..	64·3	147·8	69·5

The reasons for the greater mortality of illegitimate children are seen from this table. Excluding diseases which may be ascribed to inherent weakness, there is strong evidence of neglect or want of care as regards these unfortunate children. Infantile debility, including congenital malformations and premature birth, showed 46·8 per 1,000 births as against the legitimate rate, 25·4. Diarrhœa and enteritis were 54·9 as compared with 14·3; respiratory diseases, being bronchitis, broncho-pneumonia, and pneumonia, were 11·3 as compared with 7·7; and syphilis 2·4 as compared with 0·6. Among the epidemic diseases the great difference was in deaths from diphtheria and croup—1·0 as against 0·3.

SHIPPING.

LEGISLATION AND SUPERVISION.

THE principle of merchant shipping legislation is that the ship is subject to the law of the country in which such ship is registered. This general principle is modified by the fact that the various parts of the British Empire have power to regulate their own coasting trade, and by the further fact that as regards ships other than those registered locally, and engaged in local coasting trade, these legislative powers are restricted to territorial limits, and are therefore inoperative on the high seas. Under the Commonwealth of Australia Constitution Act there is an exception in regard to "round voyages."

Prior to the inauguration of the Commonwealth of Australia in 1901, the shipping of the State was governed partly by Imperial enactment, *e.g.*, the Merchant Shipping Act, 1894, and partly by enactments of the Government of New South Wales.

The Commonwealth Constitution Act empowered the Commonwealth Government to make laws with respect to trade and commerce, oversea and interstate; lighthouses; light-ships; beacons and buoys; quarantine.

Section 98, Part IV, of the Commonwealth Constitution Act, extended this power to include navigation and shipping, and enactments were made accordingly in regard to Sea Carriage of Goods, 1904, and Seamen's Compensation, 1909. Specific legislation in regard to navigation and shipping was introduced in the Commonwealth Parliament (Senate) in 1904. A Royal Commission was appointed subsequently to investigate matters incidental to the Bill. An amended Bill, embodying the results of the British-Australasian Conference held in London in 1907, was introduced in September, 1907, but did not become law. In the 1912 Session of the Federal Parliament a new Navigation Bill of 424 clauses, which had been passed by the Senate, was among the first taken by the House of Representatives.

Meanwhile the shipping trade of the State remains under the general supervision of the Navigation Department of New South Wales, administering the Navigation Act, 1901, and its amendments, on the basis of Imperial enactments; while within Port Jackson, control of shipping, and matters incidental thereto, vests in the Sydney Harbour Trust.

THE NAVIGATION DEPARTMENT.

Under the Navigation Act, 1901, the jurisdiction of the Superintendent of the Department of Navigation extends to the navigable waters lying within one nautical league of the coast, and to the inland navigable waters of New South Wales. It includes all ports and harbours except the port of Sydney, which is administered by the Sydney Harbour Trust. The Superintendent of Navigation has general superintendence of all matters within the Jurisdiction relating to the issue, suspension, and cancellation of certificates of competency and of service; the preservation of ports, harbours, havens, and navigable creeks and rivers; the licensing, appointment, and removal of pilots; the regulation of lighthouses, and superintendence of lights, and other sea, harbour, or river marks; the placing or removing of moorings; the granting to and regulation of licenses for ballast

lighters; the licensing and regulation of watermen, boatmen, and boats plying for hire, and the determination of fees and rates chargeable for such services; steam and other ferry boats; harbour and river steamers; safety and prevention of accidents; unseaworthy ships; life-saving appliances, lights, fog-signals, and sailing rules; and the accommodation for seamen. The Department also administers the Wharfage and Tonnage Rates Act, 1901, in all ports within New South Wales, except Port Jackson.

PORT DUES.

Shipping charges payable on account of vessels entering ports of New South Wales include pilotage rates (unless the Master holds an exemption certificate) and harbour removal dues, harbour and light rates, wharfage rates, tonnage rates. In addition to these charges, regulations under the Navigation Act, 1901, stipulate the fees for swinging ships in the adjustment of compasses, and for surveys and the issue of certificates, &c. Fees for engagement and discharge of seamen are fixed by the Seamen's Act, 1898. The Customs Acts impose upon the master of every ship the duty of reporting the ship and cargo.

Pilotage Rates are 2d. per ton on entry or clearance, except in the following cases:—

Ships entering or clearing in ballast, or entering for docking or refitting, 1d. per ton.

Ships compelled to enter port for coaling, provisions, orders, &c., 1d. per ton on arrival or departure.

Minimum fee, Sydney or Newcastle, £2 10s.; other ports, £1 5s.; maximum fee £20.

Harbour Removal Dues.—Ships of 300 tons, £1; increasing 5s. per 100 tons to 600 tons. Thereafter 600–800 tons, £2; 800–1,000 tons, £2 10s.; increasing £1 per 500 tons to a maximum of 2,000 tons.

Harbour and Light Rates.—Half-yearly charges 4d. per ton. Payment at one port carries exemption for the half-year for all other ports of the State. Rates are not enforced against vessels engaged in the whaling trade, nor vessels compelled to enter a port for repairs, orders, provisions, &c.

Wharfage.—At the Port of Sydney no outward wharfage rates are charged. Inward wharfage rates of 2s. 6d. per ton are charged on goods unshipped, whether on to a wharf or into a lighter. Determination by weight or measurement is at the option of the Harbour Trust, and special rates or exemptions are applicable in certain cases, e.g., goods of domestic production entered for transshipment are exempt. At ports other than Sydney rates are fixed under the Wharfage and Tonnage Rates Act, 1901, the minimum being for vessels under 240 tons, a wharfage rate of 10s. per day.

Tonnage.—Rates leviable after expiry of free lay days, upon vessels discharging inward cargoes, are as follows:—

Vessels fully laden and discharging whole cargo— $\frac{1}{4}$ d. per ton per day.

Vessels fully or partly laden and discharging portion of cargo— $\frac{1}{2}$ d. per ton per day.

For vessels of 240 tons or upwards, occupying a berth for loading, the tonnage rate is $\frac{1}{2}$ d. per ton per day for first twenty-five days, and thereafter half rates.

Following is a statement of the gross revenue accruing to the State from charges levied by the Sydney Harbour Trust, Navigation Department, etc., in the last five years, viz. :—

Head of Revenue.	1908.	1909.	1910.	1911.	1912.
Sydney Harbour Trust—	£	£	£	£	£
Wharfage, Tonnage Rates, &c., Sydney)	196,127	195,615	194,913	228,379	253,480
Rents of Houses, Shops, Wharfs, &c. ...	113,919	117,699	123,158	124,108	135,011
Miscellaneous and Bond Charges ...	18,152	21,403	19,248	22,273	23,924
Navigation Department, Fees, &c. ...	3,577	3,633	3,825	4,009	4,088
Shipping Masters' Fees ...	5,792	4,845	4,713	5,247	6,350
Pilotage ...	47,408	42,008	37,295	43,856	48,738
Harbour Dues ...	12,147	7,803	6,795	7,306	7,810
Harbour and Light Rates... ..	43,165	37,950	38,498	41,331	45,768
Wharfage, Tonnage Rates, &c. (Outports)	5,987	5,251	5,268	6,792	5,798
Rent and Way leave, Port Kembla Jetty	4,285	4,081	3,210	4,117	4,374
Docks ...	1,151	1,250	1,114	1,456	930
Tolls and Ferries ...	639	22	...	...	...
Total ...	452,349	441,560	438,037	488,874	536,271

HARBOURS AND ANCHORAGES.

The principal shipping places along the coast of New South Wales, which has an approximate length of 700 miles, may be classified as natural, artificial or bar harbours, or as anchorages. The following statement shows these shipping places in order from the northernmost point of New South Wales, southwards, with their distances north and south of Sydney; and for the bar harbours, the average depths at low water ordinary spring tides during the year ended June, 1911 :—

Distance from Sydney.	Anchorage.	Harbours.			Average depths.	
		Bar.	Artificial.	Natural.	Low Water Ordinary Spring Tides.	
					On Bar.	On Inner Crossing.
NORTH OF SYDNEY.						
274	.....	Tweed River .....	.....	.....	ft. in.	ft. in.
345	Byron Bay .....	.....	.....	.....	6 8	5 10
331	.....	Richmond River .....	.....	.....	11 7	9 8
296	.....	Clarence River... ..	.....	.....	11 1	12 0
254	Woolgoolga .....	.....	.....	.....	.....	.....
240	Coff's Harbour... ..	.....	.....	.....	.....	.....
230	.....	Bellingher River... ..	.....	.....	5 0	5 1
223	.....	Nambucca River .....	.....	.....	5 4	5 5
216	.....	Macleay River... ..	.....	.....	7 8	8 4
209	Trial Bay .....	.....	.....	.....	.....	.....
174	.....	Hastings River .....	.....	.....	7 1	5 11
159	.....	(Port Macquarie) .....	.....	.....	.....	.....
147	Crowdy Bay..... ..	Camden Haven... ..	.....	.....	5 1	6 1
144	.....	.....	.....	.....	8 0	7 0
123	.....	Manning River... ..	.....	.....	4 0	6 1
109	Sugarloaf Bay (Seal Rocks).	Port Forster ... ..	.....	.....	.....	.....
83	Fly Road .....	.....	.....	Port Stephens ... ..	.....	.....
62	.....	Port Hunter..... ..	.....	.....	23 6	.....
49	.....	Lake Macquarie. ....	.....	.....	4 6	4 6
19	.....	.....	.....	Broken Bay .....	.....	.....
—	.....	.....	.....	Port Jackson ... ..	.....	.....
SOUTH OF SYDNEY.						
12	Botany Bay..... ..	.....	.....	.....	.....	.....
44	.....	.....	Wollongong .....	.....	.....	.....
48	Port Kembla ... ..	.....	.....	.....	.....	.....
53	.....	.....	Shellharbour ... ..	.....	.....	.....
59	.....	.....	Kiama .....	.....	.....	.....
74	.....	Crookhaven .....	.....	.....	12 1	4 8
82	.....	.....	.....	Jervis Bay .....	.....	.....
108	.....	.....	Ulladulla .....	.....	.....	.....
134	.....	Bateman's Bay... ..	.....	.....	5 7	.....
141	.....	Moruya River .....	.....	.....	9 1	5 4
163	Bermagui Bay	Wagonga Inlet... ..	.....	.....	6 8	7 0
186	Tathra Bay .....	.....	.....	.....	.....	.....
197	.....	Merimbula. ....	.....	.....	.....	.....
208	Twofold Bay..... ..	.....	.....	.....	.....	.....

The anchorages are more or less safe during southerly or south-easterly weather for vessels of moderate draught, say 10–12 feet. At most of them the natural facilities have been improved considerably. Ocean jetties for general use have been erected at six anchorages, three to the north and three to the south of Sydney; these jetties have at their outer ends depths of water at low tide ranging from 16 to 22 feet, viz. :—

North of Sydney.				ft.	South of Sydney.				ft.
Byron Bay ...	...	...	...	17	Bermagui Bay ...	...	...	...	16
Woolgoolga ...	...	...	...	16	Tathra Bay ...	...	...	...	22
Coff's Harbour ...	...	...	...	19	Twofold Bay ...	...	...	...	18

Practically all the shipping traffic at these jetties is to and from Sydney. At Port Kembla the natural anchorage is being converted into a closed harbour, with an area of 334 acres; an eastern breakwater (length 2,750 feet) and a northern will give a still-water harbour with 205 acres of water of a depth of 24 feet, or 165 acres at 30 feet and over.

At each of the seventeen bar harbours, with the exception of Wagonga Inlet and Merimbula, northern and southern breakwaters and training walls have been constructed. Excluding Lake Macquarie, some 60 miles of breakwater and training walls are planned for the remaining fourteen river entrances, of which length two-thirds are completed. The four artificial harbours, which are all to the south of Sydney, are of comparatively small area and depth, and are available for entry in fair weather. At Wollongong and Kiama the harbours have been formed by excavations and the building of retaining walls, the shipping basins having average depths of 12 feet and 15 feet, respectively. At Shellharbour, two breakwaters protect a small harbour, and at Ulladulla, a masonry pier provides shelter for vessels drawing up to 8 feet of water.

The four natural harbours provide shelter and anchorage for vessels of 30-35 feet draught, but with the single exception of Port Jackson they are comparatively little used, and their natural facilities remain practically unimproved.

The cost to 30th June, 1911, of harbour improvements effected by the Department of Public Works, at the various harbour and river entrances enumerated below was as follows :—

Port.	Year of Com- mencem't of Works.	Expenditure.	Port.	Year of Com- mencem't of Works.	Expenditure.
		£			£
Tweed River ...	1891	89,834	Port Forster (C. Hawke)	1894	15,775
Richmond River ...	1889	438,750	Port Hunter (Newcastle)	1897	246,097
Clarence River ...	{ 1862 } { 1891 }	462,027	Lake Macquarie ...	1877	92,941
Bellinger River ...	1892	65,921	Port Kembla ...	1901	247,079
Nambucca River ...	1896	32,802	Crookhaven ...	1902	20,355
Macleay River ...	1896	86,193	Bateman's Bay ...	1900	16,624
Trial Bay ...	1877	164,665	Moruya River (Broule)	1897	39,966
Hastings River ...	1897	24,719	Wagonga Inlet ...	...	612
Camden Haven ...	1897	47,312			
Manning River ...	1894	101,199	Total ...	...	£ 2,192,871

The cost of improvements at Port Jackson is shown in connection with the operations of the Sydney Harbour Trust.

The figures given above are exclusive of annual expenditure on dredging, and similar maintenance work.

TIDES AND WINDS.

A self-recording tide-gauge was set up at Fort Denison, in Port Jackson, in 1867. The average range of ordinary tides is 3 feet $4\frac{1}{2}$ inches; of spring tides the average is 5 feet $1\frac{1}{2}$ inches. On 5th January, 1912, and in December, 1910, the tide gauge at Fort Denison recorded 6 feet 9 inches, which is practically the highest tide registered. The Sydney Harbour Trust, in 1911, installed three tide-gauges of the most modern type, viz., one at Fort Denison, one at Watson's Bay, and one at Spectacle Island.

At Port Hunter, the average rise and fall of ordinary tides is 3 feet $4\frac{7}{12}$ inches, and of spring tides 5 feet $5\frac{1}{8}$ inches; the greatest range being 6 feet $6\frac{1}{2}$ inches. The highest tide registered was 7 feet 4 inches in May, 1898.

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

In the first chapter of this Year Book, treating of Geography and Climate, some account has been given of the winds which prevail along the New South Wales coast. The accumulation of sand at projecting points, and the shoaling of river and harbour entrances are caused frequently by winds which retard or even reverse the surface flow of the littoral current, the prevailing direction of which is southward. For winds having velocity of 30 miles and over per hour—30 miles per hour is the minimum velocity effecting any appreciable retardation or reversal of current—the wind hours have been calculated by the Hydrographic Surveyor, for the three and a half years, 1908–1911, viz. :—

Year.	N-E.		E-S.		S-W.		W-N.		Total Wind Hours.			
	Jan.- June.	July- Dec.	Jan.- June.	July- Dec.	Jan.- June.	July- Dec.	Jan.- June.	July- Dec.	From Northern Half of Compass.		From Southern Half of Compass.	
									Jan.- June.	July- Dec.	Jan.- June.	July- Dec.
	1908	Nil	93	102	267	115	929	115	705	115	798	217
1909	Nil	90	87	494	253	1,298	658	609	658	699	340	1,792
1910	116	30	93	416	117	555	70	598	186	628	210	971
1911	171	...	292	...	477	...	371	...	542	...	769	...

The river bars where shoaling is most frequent and most pronounced are those where the sandy beach is on the southern side, *e.g.*, the Tweed, Richmond, and Manning Rivers.

TRADE PORTS.

The sea-borne trade of New South Wales is of two distinct classes, viz., (a) deep sea, (b) coastal. The deep-sea trade has hitherto been concentrated practically at Port Hunter (Newcastle) and at Port Jackson (Sydney), where harbour accommodation for the two classes of trade, which differ considerably, is more or less adequate. A relatively insignificant proportion of oversea trade goes to Port Kembla (for coaling), and to Twofold Bay, the bulk of trade of which latter port is with Tasmania. The requirements for deep or oversea trade are specified as follows :—

- (a) Sufficient area of still and sheltered water to admit of loading and unloading, with despatch, of the class and number of vessels trading or anticipated.
- (b) Entrance having situation, width and depth of water such as to permit vessels to enter and leave port at all tides, and in all but abnormal weather conditions.
- (c) Accessibility from hinterland, defensibility, water supply, and available land areas for port and harbour works.

PORT JACKSON.

The entrance to Port Jackson is a mile and three-quarters in breadth, between Outer North and South Heads; the navigable waterway at the entrance is three-quarters of a mile wide, with a depth in mid-channel of 102 feet sand, the minimum depth being 80 feet. The area of water surface is 15 square miles, and the length of foreshores 188 miles. Macquarie Light is on the outer South Head, and Hornby Light on the inner South Head. The former is a revolving light erected on a cliff about 300 feet above sea level, and visible at a distance of 26 miles; the Hornby Light (fixed) is visible at 15 miles. Numerous leading lights and buoys have been established to facilitate navigation of the channels, of which there are two—eastern and western, formed by a shoal the "Sow and Pigs," situated in the fairway about midway between Inner South Head and George's Head. Each channel is about half-a-mile long, with a minimum width of 700 feet. The depth of the eastern channel, used by deep-sea vessels, is 40 feet at low water ordinary spring tides, and the channel is so protected by South Head that little, if any scend need be allowed for. The western channel is being dredged so that an inward and an outward channel may be available for all vessels, with minimum depths of 40 feet at low water.

After passing through the channels, vessels can navigate in 40-50 feet of water for a distance of 4 miles to the main wharfage area. The total water-surface of Port Jackson is 14,284 acres, of which some 3,000 acres have a water-depth of 35 feet and over, ranging up to 160 feet. Exclusive of fairways and bays, 1,000 acres are available and suitable for anchoring vessels of the deepest draught.

The Pilot Station is situated at Watson's Bay, on the western side of South Head, and the Quarantine Station at inner North Head. There are eight islands in Port Jackson—Clark, Shark, Rodd, and Schnapper Islands, which are reserved as public pleasure resorts; Garden Island, used for naval purposes; Goat Island, the residence of the Harbour Master and depôt of the Sydney Harbour Trust; Spectacle Island, used for the storage of explosives; Cockatoo Island, at the mouth of the Parramatta River, where the Fitzroy and Sutherland dry docks are situated. Fort Denison, near the entrance to Circular Quay, was erected as a fortification, but is now used as a lighthouse and for the firing of salute and time guns.

At Sydney, as the terminal port, shipping companies carry out provisioning, coaling, docking, and repair work.

The Sydney Harbour Trust.

Under the Sydney Harbour Trust Act, 1900, the management of the port of Sydney devolves upon a board of three commissioners, each appointed for a term of seven years, who as a body corporate have power to levy and collect port dues and charges, to purchase and resume lands, and generally to control the port and its shipping, beacons, buoys, wharves, docks, &c. They are responsible for the preservation and improvement of the port. The whole of the harbour foreshores, measuring 188 miles, have been placed under the administration of the Trust, and in addition to wharves, jetties, sheds, and warehouses, lands adjoining the wharves have been vested in the Trust for sites of stores and warehouses. The commissioners administer the residences and business premises at present situated upon this area, and impose wharfage on all goods unshipped from a vessel berthed at any wharf.

Wharfage.

Wharves are situated along the southern shore of Port Jackson from Woolloomooloo Bay to White Bay. The policy of the Trust is to provide berths for oversea vessels between Woolloomooloo Bay and the east side of Darling Harbour, but reserving the east and west sides of the Circular Quay for mail and passenger liners, and the head of Sydney Cove and Macquarie Point for harbour ferry services. Interstate and New Zealand vessels are berthed in Darling Harbour, in close proximity to Sussex-street, the centre of the produce trade of Sydney.

In Woolloomooloo Bay are six wharves providing eight berths, the aggregate length of which is 3,200 feet, and one jetty under construction will provide four additional berths having a total length of 2,320 feet. On the wharves the shed accommodation covers 156,315 square feet. In Farm Cove mooring buoys are provided for the vessels of the Imperial Navy, near the naval depot on Garden Island, and at the west side of the Cove are eight jetties for excursion traffic and harbour launches; these jetties range from 80 to 210 feet in length, and on three of them shed accommodation is provided. At Circular Quay, the head of Sydney Cove, on the southern side piers and pavilions have been constructed, and fourteen berths ranging from 60 to 160 feet in length provided for ferry steamers; and on the eastern and western sides wharfage accommodation is provided for oversea mail vessels, including eight berths ranging from 205 to 615 feet in length, and having an aggregate shed accommodation covering 140,110 square feet. There is also a jetty for a horse ferry, 240 feet long.

West of Dawes Point there are seventeen berths (two of which are under construction), of lengths ranging from 153 feet to 660 feet, and providing aggregate shed accommodation over 170,110 square feet; along the eastern shore of Darling Harbour, the frontage is almost entirely occupied by wharves and jetties. In Darling Harbour, the wharves are directly connected with the main railways of the State; refrigerating machinery, electric lighting, and cold-storage space are provided, and large sheds for grain, wool, and other produce have been erected. One hundred and twenty berths are provided, including seven at floating jetties for ferry landings. The longest berth is 615 feet, and ample shed accommodation is provided on the majority of wharves.

In Blackwattle Bay there are eleven berths, and in White Bay three, of which one is a cattle-shipping wharf. At these berths there is no shed accommodation.

Rapidly increasing trade, and the increased length and beam of vessels visiting the port necessitate continuous extensions of berthing accommodation and shipping facilities, and the deepening of the water in the various parts of the harbour.

Most of the wharves and approaches are equipped with electric light, and a rat-proof sea-wall has been completed round the wharfage area. In four places, serving twelve berths, the railway line runs on to the wharf. The aim of the Trust is to provide sufficient and well-equipped wharfage accommodation to keep pace with the growing importance of Sydney, consequently improvement work is in progress continuously. To make the wharves easily accessible new roadways are under construction, including a roadway 100 feet wide from the eastern side of Dawes' Point towards the head of Darling Harbour.

The following statement shows, according to the returns of the Sydney Harbour Trust, particulars of vessels entering the port, in the years 1908-1912. Among the oversea and interstate vessels are included vessels which proceeded to Newcastle, and returned to Sydney with bunker coal :—

Year.	Oversea and Interstate.				State.			
	Vessels.		Net Tonnage.		Vessels.		Net Tonnage.	
	Steam.	Sailing.	Steam.	Sailing.	Steam.	Sailing.	Steam.	Sailing.
1908.								
Jan.-June ...	1,186	97	2,473,559	90,631	3,165	428	786,345	71,885
July-Dec. ...	1,274	93	2,732,333	78,708	3,204	476	810,224	66,898
Total ...	2,460	190	5,205,892	169,339	6,369	904	1,596,569	138,783
1909.								
Jan.-June ...	1,140	104	2,468,261	97,098	2,975	367	748,490	52,346
July-Dec. ...	1,174	89	2,680,030	74,540	2,738	357	735,145	45,145
Total ...	2,314	193	5,148,291	171,638	5,713	724	1,483,635	97,491
1910.								
Jan.-June ...	1,015	97	2,306,749	98,091	2,540	314	645,226	38,865
July-Dec. ...	1,277	76	3,002,161	76,698	3,160	365	828,919	50,599
Total ...	2,292	173	5,398,910	174,789	5,700	679	1,474,145	89,464
1911.								
Jan.-June ...	1,201	82	2,727,889	71,464	2,937	234	811,365	37,217
July-Dec. ...	1,307	86	3,175,824	87,567	3,201	267	814,844	42,870
Total ...	2,508	168	5,903,713	159,031	6,138	501	1,626,209	80,087
1912.								
Jan.-June ...	1,323	68	3,131,515	77,479	3,063	209	827,267	33,717

The capital expenditure of the Trust for the ten years of its existence up to June, 1911, was £988,344, and for 1911-12 the capital expenditure was £439,141.

PORT HUNTER.

Newcastle harbour (Port Hunter), at the mouth of the Hunter River, has an entrance 1,200 feet wide. Northern and southern breakwaters, and a curve guide-wall on the southern side have been constructed; the northern breakwater, originally carried to 2,980 feet in 1907, was in 1911 extended to 3,406 feet with a view of reducing the quantity of sand which tends to form a spit at the entrance, necessitating continuous dredging. The depth of the channel at low tide is 23½ feet. Newcastle is primarily a coal-shipping port; its importance is evidenced by the figures given in part "Mining Industry," of this Year Book, as to coal exports. Wharves have been constructed with modern shipping appliances for large oversea vessels.

In connection with proposals for the extension of wharfage accommodation in Port Hunter, the Parliamentary Standing Committee on Public Works, in 1909, made exhaustive enquiries and investigations, as the result of which the construction of wharfage on the western side of the Basin was urged.

DECENTRALISATION.

Sydney is the chief trading centre in the State, and, for the majority of shipping lines, a terminal port which is equipped with extensive facilities for shipment and discharge of passengers and cargo. It is also the centre to which all the railways of the State converge. This centralisation has resulted in considerable congestion of business in Sydney, and as a preliminary to decentralisation of the growing volume of traffic, a Royal Commission of Inquiry was appointed in June, 1910, to report as to the best means of effecting this object.

The Commission's recommendations included the establishment of ports for oversea shipment at Port Stephens to the north, and Jervis Bay to the south, of Sydney; these points to be connected by the construction of cross-lines with the existing railways.

In Port Stephens, a natural harbour, 83 miles north of Sydney, as yet practically unimproved, the Commission recommended the establishment of a port at Salamander Bay, 5 miles from the entrance, where there is sheltered deep water sufficient for harbour purposes, and where shipping facilities could be provided at a very low cost. Port Stephens offers not only an economical and easily-equipped port, but its position admits of connections with the trunk railways, the total cost being estimated at £3,194,000, of which £330,000 is for shipping facilities at Salamander Bay, with the dredging and lighting of the port, and the balance for railway connections, for decentralisation purposes, with the northern and western parts of the State.

Jervis Bay, 82 miles south of Sydney, was selected by the Decentralisation Commission for an oversea port, as localities further south possess few natural advantages, and at the same time present difficulties in the way of railway connection with the interior. An area of land on the south side of the bay has been ceded to the Commonwealth Government for use as a Federal port, and alternative schemes have been submitted for the construction of a harbour at Montagu Road on the north side. The entrance to Jervis Bay is 2 miles in width, and has a depth ranging from 90 to 120 feet. The area of the bay at the 24-foot contour is 38 square miles. At Darling Road on the south side, an area of 789 acres can be obtained at the 30 feet contour, while at Montagu Road, at the same level, the area available would be 565 acres.

As to the shipping places along the coast of New South Wales which offer shelter for vessels of small draught, their utilisation for oversea purposes would involve large expense. As has been indicated, they are mostly anchorages with ocean jetties, or bar harbours at the mouths of the rivers. In many places the construction of breakwaters has been undertaken to afford additional shelter or to improve the entrances by preventing the ingress of sand from the ocean beaches.

Wollongong and Port Kembla are used mainly for the shipment of coal from the southern coal-fields, and in the trade connected with the smelting and other industries established in the vicinity. Wollongong is an artificial harbour, excavated out of rock, with a retaining wall to form a shipping basin. At Port Kembla, which for some years has been a coal-loading station, works are in progress for the purpose of forming an enclosed harbour, which, when complete, will have an area of about 334 acres at low water, or 165 acres at 30 feet. The entrance will be 900 feet wide, with a depth of 50 feet.

The trade of the Northern Rivers is considerably hampered by the unsatisfactory river entrances, the navigation of the bars being difficult and uncertain; a scheme is in progress to establish a deep-sea port at Coff's Harbour, 240 miles north of Sydney, and thereby provide reliable transport for the rich products of the district.

OVERSEA AND INTERSTATE SHIPPING.

The following statement shows in comparative form the number and tonnage of vessels, oversea and interstate, entered and cleared from the various ports of the State during the last eleven years, and the aggregate for all ports over the same period :—

Year.	Sydney.		Newcastle.		Kembla.		Twofold Bay (Eden.)		Other Ports.		Total.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
ENTRIES.												
1901	1,884	2,953,511	702	1,036,178	89	108,526	78	33,227	7	1,758	2,760	4,133,200
1902	2,043	3,283,399	652	970,918	53	67,558	89	38,978	51	8,886	2,883	4,367,739
1903	1,993	3,348,966	674	1,034,440	25	31,124	87	27,025	174	22,093	2,953	4,463,648
1904	1,372	3,320,953	692	1,022,066	30	37,297	63	33,300	56	5,563	2,718	4,419,179
1905	1,831	3,401,013	717	1,182,267	57	74,085	34	30,772	86	9,374	3,725	4,697,511
1906	1,919	3,751,458	815	1,404,844	68	85,324	35	33,276	56	8,817	2,893	5,283,719
1907	2,163	4,273,995	909	1,657,234	76	92,320	32	31,644	53	15,760	3,238	6,070,953
1908	2,128	4,469,021	908	1,746,070	39	58,910	50	54,908	71	29,875	3,196	6,298,784
1909	2,062	4,507,187	920	1,182,031	42	72,994	71	86,468	66	21,354	2,861	5,870,634
1910	2,021	4,791,029	694	1,303,133	64	87,831	69	78,340	89	29,786	2,937	6,290,119
1911	2,181	5,246,361	701	1,357,132	64	102,866	55	63,145	126	52,641	3,127	6,822,135
CLEARANCES.												
1901	1,444	2,460,166	1,114	1,573,633	178	192,173	95	41,176	22	6,903	2,853	4,274,101
1902	1,518	2,655,975	1,000	1,417,820	186	204,126	66	38,193	59	9,366	2,835	4,325,480
1903	1,409	2,585,445	1,143	1,639,165	146	173,606	100	38,806	209	29,894	3,007	4,466,916
1904	1,527	2,893,631	1,005	1,405,112	84	111,710	69	35,871	82	10,690	2,767	4,460,014
1905	1,413	2,922,461	1,062	1,586,134	103	135,193	36	31,479	80	8,841	2,694	4,684,108
1906	1,516	3,277,907	1,115	1,762,472	140	185,793	38	37,466	74	11,373	2,883	5,275,031
1907	1,718	3,717,792	1,221	2,044,706	155	197,832	32	31,957	79	16,995	3,205	6,009,282
1908	1,592	3,642,793	1,372	2,408,946	106	154,111	49	51,235	100	46,040	3,219	6,303,125
1909	1,559	3,795,231	979	1,676,750	93	123,761	49	61,417	87	32,258	2,767	5,689,426
1910	1,676	4,299,857	1,082	1,915,312	115	146,656	54	64,619	103	45,411	3,035	6,471,855
1911	1,691	4,459,030	1,151	2,106,013	104	141,332	51	61,380	149	66,027	3,146	6,833,782

Of "other ports," grouped together in the above table, the more important are Bellambi, and Ballina, Richmond River. Following are the figures for each of the "other ports," for 1911:—

Port.	Entries.		Clearances.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
Tweed River	11	859	10	785
Richmond River (Ballina) ...	40	11,535	42	12,114
Clarence River	23	5,230	29	7,038
Bellenger River	9	1,363	4	608
Nambucca River	8	1,186	10	1,500
Port Macquarie ... ..	...	...	1	152
Port Stephens	2	2,191	12	8,994
Bellambi	33	30,277	41	34,836

In these shipping records the total voyages of vessels are included, but account is not taken of ships of war, cable-laying vessels, and yachts, nor of vessels trading between ports in New South Wales. The tonnage quoted is net.

Vessels are entered at the first port of call in New South Wales, and cleared at the port from which final departure is taken from the State.

The aggregate number and tonnage of interstate and oversea vessels arriving in and departing from all ports of New South Wales, with the average tonnage per vessel, at intervals of five years since 1860, are as follows :—

Year.	Entries.		Clearances.		Average Tonnage per Vessel.
	Vessels.	Tonnage.	Vessels.	Tonnage.	
1860	1,424	427,835	1,438	431,484	300
1865	1,912	635,888	2,120	690,294	329
1870	1,858	689,820	2,066	771,942	373
1875	2,376	1,109,086	2,294	1,059,101	464
1880	2,108	1,242,458	2,043	1,190,321	586
1885	2,601	2,088,307	2,583	2,044,770	797
1890	2,326	2,340,470	2,317	2,294,911	998
1895	2,390	2,851,546	2,405	2,854,705	1,190
1900	2,784	4,014,755	2,714	3,855,748	1,432
1905	2,725	4,697,511	2,694	4,684,108	1,731
1910	2,937	6,290,119	3,035	6,471,855	2,137
1911	3,127	6,822,135	3,146	6,833,782	2,177

Between 1860 and 1911, the number of vessels engaged in the trade of the State more than doubled, the entries increasing from 1,424 to 3,127. In the same period the tonnage of the vessels increased nearly sixteen times.

The average tonnage has advanced steadily, and in the last twenty years very rapidly. In 1904 the average was 1,619, representing the highest figure recorded at that date; but in each subsequent year a new record has been made, the average for 1911 being 2,177, which is more than seven times the average for 1860, and 33 $\frac{1}{3}$ per cent. greater than the average of 1904. And side by side with an advance in tonnage has been an improvement in the class of accommodation provided both on passenger and on cargo steamers, special provision being made on the latter steamers for refrigerating space, to assure carriage in good condition of meat, fruit, butter, and other perishable produce.

Compared with other Australian States the shipping tonnage of New South Wales is greatest. The relative positions may be seen in the following statement of shipping entries from oversea, direct and indirect (via States), for 1911 :—

State.	Direct.		Via States.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales	813	1,637,480	523	1,866,050
Victoria	234	592,054	453	1,596,579
Queensland	240	377,533	208	793,196
South Australia	293	782,434	224	872,278
Western Australia	352	1,150,941	11	29,929
Tasmania	117	387,118	5	12,134
Northern Territory	32	65,660	...	.....
Total	2,081	4,993,220	1,424	5,170,166

The figures relating to clearances oversea, direct and indirect, correspond closely with the entries, and emphasise the importance of the New South Wales shipping trade. Summarising oversea and interstate trade, the following figures are obtained for entries and clearances for the different States and the Northern Territory of Australia, and show the relative pre-eminence of New South Wales, viz. :—

State.	Entries.		Clearances.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales	3,127	6,822,135	3,146	6,833,782
Victoria	2,335	5,148,184	2,347	5,156,952
Queensland	1,015	2,010,781	1,013	2,004,444
South Australia	1,366	3,625,202	1,305	3,627,174
Western Australia	778	2,559,670	781	2,566,090
Tasmania	986	1,294,708	984	1,292,639
Northern Territory	71	180,178	71	180,178
Total	9,618	21,590,948	9,647	21,611,259

That Sydney is one of the chief ports of the world is evident from a comparison of its oversea and interstate shipping entries (entirely exclusive of coastal trade) with the returns of other ports, as shown by the following table. The figures quoted relate to the latest years available, viz., 1911 for Australasia, and 1910 for the majority of foreign ports :—

Port.	Tonnage Entered.	Port.	Tonnage Entered.
<i>Sydney</i>	5,246,351	Aden	3,422,389
Melbourne	5,007,219	Singapore	7,407,143
Brisbane	1,827,036	Penang	3,683,138
Port Adelaide	3,104,641	Hong Kong	11,432,568
Fremantle	1,827,833	Cape Town... ..	1,746,146
Hobart	831,916	Durban	3,244,089
Auckland	733,311	Montreal	1,661,370
London	12,154,162	Halifax	1,285,858
Liverpool	7,588,653	Victoria (B.C.)	1,322,890
Cardiff	5,523,895	Hamburg	11,417,773
Tyne Ports	6,261,251	Marseilles	7,742,090
Hull	3,749,882	Havre	3,430,307
Southampton	4,342,459	Antwerp	12,587,366
Glasgow	2,037,332	Rotterdam	9,237,371
Leith... ..	1,416,931	Copenhagen	3,135,006
Calcutta	2,059,652	New York	13,042,818
Bombay	1,829,997	Boston	2,714,382
Colombo	6,937,361	Shanghai	4,201,058
Gibraltar	5,482,559	Monte Video	8,514,949
Malta	4,337,736	Rio de Janeiro	4,337,118

Sydney stands fifteenth in importance on the above list, which is fairly representative.

Inclusion of the coastal trade would distinctly improve the comparison, as the total shipping trade of Sydney is only exceeded by that of a few English ports.

The rate of progress of the shipping trade of Sydney has been uniform, the increase from the year 1860 to 1890 being at an average rate of about 5·6 per cent. per annum, and from 1890 onwards at the rate of 5·7 per cent. per annum. The vessels registered as entered at Sydney considerably exceed

in tonnage those cleared. This is accounted for by vessels, leaving Sydney for Newcastle for the purpose of shipping coal, being reckoned as departures from Newcastle, and not from Sydney. For this reason the clearances of Newcastle uniformly exceed the arrivals, as will be noticed in the following statement, which shows the shipping entered from and cleared to countries outside New South Wales at both Sydney and Newcastle for quinquennial periods from 1860 to 1910, and for 1911 :—

Year.	Sydney.		Newcastle.	
	Entered.	Cleared.	Entered.	Cleared.
	tons.	tons.	tons.	tons.
1860	292,213	275,630	111,274	134,480
1865	423,570	421,049	189,620	248,769
1870	385,616	364,758	283,091	383,242
1875	590,700	468,423	510,902	573,626
1880	827,738	641,996	400,598	516,480
1885	1,608,169	1,283,888	452,946	722,865
1890	1,644,589	1,356,632	625,398	842,180
1895	2,027,951	1,669,654	727,834	1,048,400
1900	2,716,651	2,109,739	1,160,758	1,523,976
1905	3,401,013	2,922,461	1,182,267	1,586,134
1910	4,791,029	4,299,857	1,393,133	1,915,312
1911	5,246,351	4,459,030	1,357,132	2,106,013

NATIONALITIES OF VESSELS.

The trade of the State of New South Wales is carried, to a very great extent, under the British flag, the deep-sea trade with the mother country and British possessions being controlled by shipowners of the United Kingdom, and the interstate trade chiefly by local shipowners. Foreign-owned shipping has become increasingly important in the last thirty years, and the greater portion of the direct trade transacted with foreign ports is now carried in non-British vessels. In the Australian trade the steamers of the Messageries Maritimes have been engaged since 1883, those of two German lines commenced later, and more recently the vessels of American, Japanese, and Dutch companies. From the table given below, distinguishing British and foreign shipping during the last fifty-one years, it will be seen that the British tonnage entered and cleared in 1860 was 689,251, or 80·2 per cent. of the total of 859,319 tons; while in 1880 the proportion was as high as 92·9, British vessels representing 2,259,924 tons out of a total of 2,432,779. In 1911, however, the British shipping had fallen to 82·31 per cent., the foreign tonnage being 17·69 per cent. :—

Year.	British.		Foreign.		Total.
	tons.	per cent.	tons.	per cent.	
1860	689,251	80·21	170,068	19·79	859,319
1865	1,248,249	94·12	77,933	5·88	1,326,182
1870	1,333,410	91·22	128,352	8·78	1,461,762
1875	2,001,641	92·32	166,546	7·68	2,168,187
1880	2,259,924	92·89	172,855	7·11	2,432,779
1885	3,015,582	87·48	517,495	12·52	4,133,077
1890	4,030,472	86·95	604,909	13·05	4,635,381
1895	5,061,387	88·70	644,864	11·30	5,706,251
1900	6,702,106	85·15	1,168,397	14·85	7,870,503
1905	8,033,943	85·63	1,347,676	14·37	9,381,619
1910	10,723,040	84·02	2,038,934	15·98	12,761,974
1911	11,239,844	82·31	2,416,073	17·69	13,655,917

Of the tonnage included as British, a large proportion is owned or registered in Australia and New Zealand.

In 1870, out of 1,333,410 tons of shipping entered and cleared under the British flag, 964,718 tons, or 72·3 per cent., belonged to British possessions, the great bulk being Australasian. In 1880, out of 2,259,924 tons of British shipping entered and cleared, 1,499,236 tons, or 66·3 per cent., belonged to British colonies. In 1890, 60·9 per cent. of British shipping was owned and registered in Australasia. In 1900 the shipping of British nationality entered and cleared this State amounted to 6,702,106 tons (of which 3,590,284 tons, or 53·6 per cent., were Australasian) out of a total of 7,870,503 tons. In 1901 the total tonnage of vessels trading with this State was 8,407,301 tons, and of these the vessels owned in the Australian Commonwealth represented 3,348,502 tons, or 39·8 per cent. of the total; while in 1911, only 34 per cent. of the total was Australian.

The tonnage of the foreign vessels trading with New South Wales exhibits an advance during the last twenty years, increasing from 13 per cent. of the total up to nearly 18 per cent. For the year 1911, the total tonnage of the principal nationalities is given below. Germany stands first with 8·74 per cent. of the total, then Norway with 2·7 per cent., and France with 2·3 per cent. The only other nation whose carrying trade with the State is important is Japan with 1·6 per cent.

The statement below shows the number and tonnage of shipping of the principal nationalities that entered and cleared the ports of New South Wales in 1905, 1910, and 1911, as well as the tonnage proportions per cent. :—

Nationality.	Entries and Clearances—New South Wales.						Tonnage— Percentage of each Nationality.		
	1905.		1910.		1911.		1905.	1910.	1911.
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.			
British—									
Australian	2,786	3,559,239	2,934	4,463,079	3,011	4,045,195	87·94	34·97	34·02
New Zealand	564	704,822	581	1,094,543	665	1,080,498	7·51	7·87	7·91
United Kingdom ..	1,411	3,748,056	1,524	5,229,381	1,519	5,475,280	30·95	40·98	40·69
Other British	13	21,926	19	26,037	32	38,871	·23	·20	·29
Total	4,774	8,033,943	5,058	10,723,040	5,227	11,239,844	85·63	84·02	82·31
Foreign—									
France	189	368,040	144	282,551	152	311,287	3·92	2·21	2·28
Germany	201	522,683	335	950,100	401	1,193,782	5·57	7·44	8·74
Norway	59	87,505	189	308,603	208	369,840	·98	2·42	2·70
Sweden	8	11,232	28	72,976	28	70,772	·12	·57	·52
Netherlands	5	10,429	48	91,859	50	97,028	·11	·72	·71
Italy	43	60,640	48	70,079	32	49,415	·65	·55	·36
Japan .. ..	..	..	54	160,413	74	218,036	..	1·26	1·60
United States of America	120	261,599	47	46,631	76	70,527	2·79	·37	·52
Other Nationalities	20	25,548	31	15,731	25	35,386	·28	·44	·26
Total	645	1,347,676	914	2,038,934	1,046	2,416,073	14·37	15·98	17·69
Grand Total	5,419	9,381,619	5,972	12,761,974	6,273	13,655,917	100·00	100·00	100·00

DIRECTION OF SHIPPING TRADE.

Of the tonnage engaged in the outward trade of New South Wales, approximately half goes to other Australian States. The following table shows, for the specified years in comparative form, the tonnage entered from and cleared for the countries within the British Empire, and the principal foreign countries; the figures represent the nominal tonnage or cargo space of the vessels carrying the goods, and not the actual weight of the goods carried, which latter information it is impossible to obtain:—

Country.	Entered from and cleared for various Countries.					
	1890.		1900.		1911.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
British Empire—						
Australian States	2,974	2,544,905	3,082	3,861,154	3,519	6,528,328
United Kingdom	318	651,133	341	954,232	491	2,156,818
New Zealand	460	332,793	540	598,710	623	1,223,238
India and Ceylon	33	61,820	57	138,993	60	182,118
Hong Kong	64	92,523	68	121,933	23	34,556
Canada	4	5,103	41	76,477	47	164,027
Union of South Africa—						
Cape Colony	12	18,744	152	240,755	44	90,578
Natal ... ..	...	...	40	60,701	81	156,393
Fiji	66	68,003	65	64,125	61	141,576
Straits Settlements	24	33,994	19	31,212	30	25,610
Papua ... ..	...	...	14	11,448	29	26,792
Ocean Island ... ..	...	...	...	...	28	64,210
Other British Possessions	13	9,079	46	46,653	...	.....
Total, British	3,963	3,818,097	4,465	6,206,393	5,036	10,794,244
Foreign Countries—						
France	25	57,096	44	100,793	46	131,138
Germany	69	133,368	70	234,817	191	631,983
Belgium	10	14,426	13	28,129	21	62,842
United States of America	154	222,483	157	303,187	195	448,798
China	8	10,385	19	41,161	1	2,469
Japan	4	5,150	34	83,179	99	251,972
New Caledonia	100	97,823	118	143,867	69	126,631
Java	20	26,837	45	89,129	48	113,247
Philippine Islands	14	19,323	31	44,825	44	125,848
Hawaiian Islands ... ..	...	...	94	107,248	20	43,367
Peru	15	17,676	28	37,411	51	74,977
Chile	100	115,222	211	295,829	245	564,608
Other Foreign Countries	156	97,515	169	154,535	207	281,793
Total, Foreign	675	817,284	1,033	1,664,110	1,237	2,861,673
All Tonnage	4,643	4,635,381	5,498	7,870,503	6,273	13,655,917

Out of a total tonnage amounting to 13,655,917 in 1911, vessels from other Australian States provided 6,528,328, or 47·8 per cent. of the whole. The United Kingdom furnished the next largest tonnage with 2,156,818 tons, or 15·8 per cent., followed by New Zealand with 1,223,238 tons, equal to 9·0 per cent. Germany is first among foreign countries with 631,983 tons, or 4·6 per cent.; Chile following with 564,608 tons, or 4·1 per cent.; and United States of America with 448,798 tons, or 3·3 per cent. of the total.

During the twenty years 1890–1910, the tonnage of the United Kingdom increased by 1,378,083 tons, or 212 per cent., while the tonnage of ships trading with British dominions increased by 6,423,276, or 168 per cent.; and with Germany by 377,142 tons, or 233 per cent. Between 1907 and 1911, there was a decrease in the tonnage of the United States of America

due to the discontinuance of a direct line of mail steamers between San Francisco and Sydney. This service was resumed in 1912, in addition to an extension to Sydney, which commenced in December, 1911, of a San Francisco-New Zealand service. The opening of the Panama Canal in 1913 will provide a direct sea-route to the east coast of America.

The growth of trade with Eastern Asia since 1900 is apparent from the large increase in the tonnage of vessels plying between this State and Japan, Java, and the Philippine Islands. A line of Dutch steamers to Java was established in 1907.

The tonnage for Chile shows a marvellous increase. Vessels from Chile and other South American countries arrive usually in ballast to load coal, which is the chief item of export from New South Wales to South America.

The great increase in German tonnage is due principally to the fact that Germans are large buyers of wool at the Sydney sales, and the wool purchased is sent by German steamers, to Germany direct, instead of London, for transhipment.

The tables given above do not disclose the full extent of the shipping communication between New South Wales and other countries, since the records, relating, as they do, only to terminal ports, entirely disregard the business of intermediate ports of call, which, being on the direct route of so many shipping lines, are visited regularly by vessels both on their outward and homeward journeys. Some idea of the extent of the State's shipping facilities may be gathered from the lists given elsewhere in this chapter, of places having direct and indirect communication with New South Wales; and in the chapter relating to Commerce, the value of the trade of New South Wales with various countries is classified according to continents, and indicates how closely this State is linked up commercially with countries overseas.

STEAM AND SAILING VESSELS.

Records prior to the year 1876 do not distinguish steamers from sailing vessels, but the tendency to supersede sailing vessels by steamers has been abundantly apparent in the years which have elapsed since. In 1876, about which time the change was making itself apparent, the steam tonnage was 912,554, as compared with 1,215,171 tons of sailing vessels, being 42·9 per cent and 57·1 per cent., respectively. The relative positions were transposed within the following ten years, and the tonnage of sailing ships in 1911 was lower than in any year since 1876, being 803,610 tons, or 5·9 per cent. of the total shipping, as compared with 12,852,307 tons of steam, or 94·1 per cent. of the whole. The steam tonnage in 1911 was fourteen times as great as in 1876. The progress of the tonnage of each class will be seen from the following table:—

Year.	Steam.		Sailing.		Proportion of Steam to Total Tonnage.	
	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.
	tons.	tons.	tons.	tons.	per cent.	per cent.
1876	473,821	438,733	600,604	614,567	44·10	41·65
1880	803,935	746,437	438,523	443,884	64·71	62·71
1885	1,413,551	1,378,292	674,756	666,478	67·69	67·41
1890	1,759,475	1,768,848	580,995	526,063	75·18	77·08
1895	2,132,753	2,161,176	718,793	693,529	74·79	75·71
1900	3,206,657	3,140,449	808,098	715,299	79·87	81·45
1905	4,051,884	4,042,703	645,627	641,405	86·26	86·31
1910	5,892,049	6,047,832	398,070	424,023	93·67	93·45
1911	6,427,442	6,424,865	394,693	408,917	94·71	94·02

VESSELS WITH CARGO AND IN BALLAST.

The following statement evidences the relative importance of British shipping among the number of vessels, with cargo and in ballast, entered and cleared New South Wales ports during 1911, viz. :—

Nationality.	Entries.				Clearances.			
	With Cargo.		In Ballast.		With Cargo.		In Ballast.	
	Steam.	Sailing.	Steam.	Sailing.	Steam.	Sailing.	Steam.	Sailing.
British—								
Australian	1,145	44	300	4	1,446	9	51	12
Other	860	55	153	30	983	30	93	...
Foreign	306	39	44	135	337	8	173	4
Total	2,311	138	500	178	2,766	47	317	16

Among vessels clearing in ballast the preponderance of foreign-owned vessels is noticeable. The majority of sailing vessels entered and cleared are foreign-owned, but the numbers are decreasing in proportion to the decline of sailing vessels among the world's shipping. Such sailing vessels as come oversea to the port of Sydney are attracted by the chances of securing wheat cargoes, and the increasing equipment of sailing vessels with auxiliary engines, by facilitating regular timetables, may result in greater employment for sailing vessels in this particular trade.

VESSELS IN BALLAST.

The advantage offered by the New South Wales trade to shipowners is illustrated by the rather peculiar feature of the large amount of tonnage entries in ballast, and the small number of clearances without cargo. Many vessels arriving in ballast come from ports of neighbouring States, where they have delivered a general cargo, and, having been unable to obtain full return freight, have cleared for Newcastle, in this State, to load coal. The largest amount of tonnage entered in ballast in any one year since 1876 was in 1907, when it reached 1,930,322 tons. In 1911 the tonnage entered in ballast amounted to 1,167,757 tons. The tonnage entered and cleared in ballast for the years shown was :—

Year.	Steam (Ballast).		Sailing (Ballast).		Proportion of Tonnage in Ballast to Total Tonnage.	
	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.
	tons.	tons.	tons.	tons.	per cent.	per cent.
1876	16,709	4,022	246,244	13,834	24·47	1·70
1880	73,006	3,015	144,757	13,204	17·53	1·36
1885	146,501	11,181	198,865	42,200	16·54	2·61
1890	309,780	3,767	228,699	18,620	23·01	·98
1895	375,589	26,802	466,401	6,630	29·53	1·17
1900	791,803	133,159	505,030	1,644	32·30	3·50
1905	882,539	127,268	466,774	16,956	28·72	3·08
1910	997,188	201,614	269,241	8,635	20·13	3·25
1911	891,978	110,474	275,779	4,690	16·12	1·68

Although the proportion of tonnage entered in ballast fluctuated between 16·5 per cent. in 1885, and 32·6 per cent. in 1907, the tendency is for the figure to stand at about one-quarter of the total tonnage entered. The reason for so small a proportion of shipping clearing New South Wales in ballast is not difficult to discover, for the export trade of the State is extending so rapidly that steamers have been constructed specially for its requirements.

COAST TRADE.

Particulars of the Coast-trade shipping of New South Wales for 1911 are contained in the following statement:—

Port.	Entries.			Clearances.		
	Vessels.	Tonnage.	Crews.	Vessels.	Tonnage.	Crews.
Tweed River	95	11,316	991	94	11,242	986
Byron Bay	168	66,735	4,482	168	66,735	4,482
Richmond River	312	101,813	6,491	310	101,870	6,506
Clarence River	221	74,909	4,840	220	74,582	4,829
Woolgoolga	114	27,451	1,878	114	27,451	1,878
Coff's Harbour	382	105,256	7,966	382	105,256	7,966
Bellinger River	205	20,394	2,129	206	20,511	2,132
Nambucca River	129	14,243	1,250	130	14,423	1,232
Macleay River	155	36,377	3,107	156	36,476	3,121
Port Macquarie	161	29,115	2,247	161	29,115	2,247
Camden Haven	162	18,954	1,417	162	18,954	1,417
Manning River	213	32,830	3,104	211	32,440	3,068
Port Forster (Cape Hawke)	210	20,372	2,038	210	20,372	2,038
Port Stephens	652	55,766	4,850	652	55,766	4,850
Lake Macquarie	101	8,473	937	100	8,432	933
Wollongong	669	156,760	9,337	669	156,760	9,337
Shellharbour	45	8,990	549	45	8,990	549
Kiama	220	50,009	3,502	220	50,009	3,502
Eden	248	167,675	7,558	248	167,675	7,558
Bateman's Bay	107	22,983	1,825	107	22,983	1,825
Moruya	69	9,013	933	70	9,107	946
Narooma	96	7,129	1,136	96	7,129	1,136
Shoalhaven	139	7,177	1,377	138	7,136	1,372
Total	4,873	1,053,740	73,944	4,869	1,053,414	73,910

RIVER TRAFFIC.

The extent of the waterways of New South Wales has been shown in the portion of this Year Book relating to Geography. Relatively to other countries New South Wales has few inland waterways, but is dependent upon railways and ocean shipping as the principal agencies of transportation. On the coastal rivers, of course, there is some traffic apart from the vessels trading between the river ports and Sydney, but the extent of this traffic is not recorded. On the Northern rivers the steamer trade, mostly engaged in transporting timber, and cream cans, is hampered by the growth of water hyacinth, so much so that a Bill to deal with the water hyacinth as a pest has been brought before the Legislative Assembly of the State.

On the inland rivers there is considerable traffic after a season of good rainfalls, *e.g.*, wool from Western New South Wales is carried down the Darling River.

The Murray River is navigable for some 150 miles above Albury, or 1,590 miles from its mouth. Its tributaries, the Edward and Wakool Rivers, are navigable for some 400 miles, as far as Deniliquin. The Murrumbidgee and the Lachlan Rivers combined provide some 900 miles of navigable waterway. The Darling is navigable in time of freshets as far as Walgett, 1,758 miles from its confluence with the Murray. Altogether the Murray River system provides some 4,200 miles of waterway, more or less navigable. The question of locking these waterways, especially the Darling, to make them permanently usable, has been mooted. The volume of traffic on these rivers is not now recorded.

CREWS.

In 1902, the crews of vessels entering New South Wales ports averaged 42 per vessel; in 1911, the average was 56.3. The following statement shows the aggregate crews of vessels, oversea and interstate, entered and cleared New South Wales ports, for the six years, 1906-1911, and for 1902:—

Nationality.	1902.	1906.	1907.	1908.	1909.	1910.	1911.
Entries :							
British—							
Australian ...	49,285,	54,327	60,189	62,783	59,197	61,387	65,351
United Kingdom ...	41,214	47,152	54,603	58,292	54,739	61,199	66,100
Other Possessions...	10,298	12,406	12,270	15,365	16,128	16,336	17,825
Total British ...	100,797	113,885	127,062	136,440	130,064	138,922	149,276
Foreign ...	20,680	22,407	24,637	23,502	24,217	23,698	26,876
Total Crews ...	121,477	136,292	151,699	159,942	154,281	162,620	176,152
Clearances :							
British—							
Australian ...	48,530	53,493	59,693	61,943	57,356	62,898	65,827
United Kingdom ...	41,286	49,418	55,980	58,579	53,349	62,423	65,195
Other Possessions...	9,608	11,863	12,055	14,534	15,932	16,287	17,291
Total British ...	99,424	114,774	127,728	135,056	126,637	141,608	148,313
Foreign ...	20,496	22,442	24,370	23,723	23,890	23,788	26,864
Total Crews ...	119,920	137,216	152,098	158,779	150,527	165,396	175,177

The crews of shipping on the New South Wales register at December, 1911, numbered 6,143, viz., 4,679 on steamers, and 1,464 on sailing vessels. On the shipping added to the registers during 1911, the crews were 435, viz., steam, 369; sailing, 66.

For the vessels engaged in the Coastal Trade of the State, as already shown, the crews averaged 15 per vessel entered.

CERTIFICATES AND LICENSES.

During 1911, the Department of Navigation issued 313 certificates to masters and officers of vessels. Over the ten years, 1902-11, the annual average of certificates issued was 298. Following are details regarding the certificates issued during 1911:—

Master—Extra ...	8	Engineer —1st ...	30
Foreign-going ...	22	—2nd ...	31
Coast Trade ...	4	—3rd ...	72
Harbours and Rivers ..	40	Marine Surveyor ...	1
Mate—Foreign-going —1st ...	25	Pilotage ...	56
—2nd ...	16	Compass Adjuster ...	1
Coast Trade —1st ...	6		
—2nd ...	1	Total ...	313

The qualifications of candidates, as to age and service, for the master's or mate's certificate, are—

Certificate.	Foreign-going.	Coast trade.
Master—	years.	years.
Minimum age ...	21	20
“ sea service ...	6	5
Mate—		
Minimum age ...	19	19
“ sea service ...	5	4

Vessels certificated at 31st December, 1911, numbered 366, distributed among coastal ports as follows :—

Port.	No.	Tonnage.	Passenger capacity.	Port.	No.	Tonnage.	Passenger capacity.
Sea-going Steamers—				Harbour and River Steamers (<i>contd.</i>)—			
Sydney	175	297,227	11,917	Port Stephens ...	3	79	225
				Richmond River	13	854	1,845
				Tweed River ...	4	168	428
Harbour and River Steamers—				Total	134	14,464	46,982
Sydney	71	10,861	37,685	Sailing Vessels—			
Newcastle ...	15	1,098	3,046	Sydney	57	12,984	...
Botany Bay ...	1	28	119				
Camden Haven ..	1	84	12	SUMMARY.			
Clarence River ...	9	351	1,321	Steamers	309	311,691	58,899
Darling River ...	2	150	35	Sailing Vessels	57	12,984	...
Broken Bay ...	5	300	891	Total	366	324,675	58,899
Lake Macquarie..	3	139	659				
Macleay River ...	3	193	389				
Manning River ..	2	66	247				
Port Macquarie...	2	93	80				

All vessels, steam or sailing, passenger or cargo, must be certificated, and the certificates are renewable at maximum intervals of twelve months. Watermen licensed by the Department of Navigation for 1911 numbered 100; viz., 45 at Newcastle; 15 at Clarence River; 9 at Hawkesbury River; 7 each at George's and Tweed Rivers; 6 at Port Stephens; 3 each at Botany Bay and Richmond River; 2 at Lake Macquarie; and 1 each at Bermagui, Merimbula, and Port Hacking. Thirty-eight watermen were licensed by the Sydney Harbour Trust to ply on Port Jackson. The shipping licensed by the Trust included the following :—

	No.	Tonnage.		No.	Tonnage.
Lighters	277	12,113	Water Boats	14	707
Ferry Steamers ...	61	6,596	Hulks	16	9,714
Tugs	53	1,394	Punts	14	262
Launches—Steam ...	4	47			
Oil	83	466			

STEAMSHIP SUBSIDIES.

At the Imperial Conference held in London in 1911, various resolutions related to Merchant Shipping, and to the advisableness of supporting, in the interests both of the United Kingdom and of the British Dominions beyond the seas, efforts in favour of British manufactured goods and British shipping. The majority of steamship lines trading to New South Wales have the benefit of mail contracts with their Governments, but in addition many of the foreign lines are assisted by subventions and contributions from national exchequers, e.g., the Norddeutscher Lloyd receives an annual subsidy for the mail service between Australia and Germany. The French and Japanese Governments also subsidise steamers trading to Australia.

Of the British lines the Peninsular and Oriental Steam Navigation Company is in receipt of a subsidy from the Imperial Government for the conveyance of mails to East India, China, and Australia. The Commonwealth Government has made a contract with the Orient Steam Navigation Company, Limited, for ten years from the 1st February, 1910, by which the Commonwealth has

agreed to pay a subsidy of £170,000 per annum for a fortnightly service between Australia and the United Kingdom, provided that each mailship is at least 11,000 tons gross registered tonnage, and capable of steaming at least 17 knots per hour. Space for certain cargo is to be provided, and each steamer fitted with wireless telegraphy installation. The flag of the Commonwealth of Australia is to be flown, only white labour is to be employed on the vessels, and the rates of freight payable on perishable produce are stipulated in the contract.

The Canadian-Australian Steamship Company till 1912 was subsidised by the Australian Government for carrying the mails between Canada and Australia; and a subsidy is given to Burns, Philp, & Co., for the maintenance of the service with Eastern Asian ports, and between Sydney and the New Hebrides, Papua, and Pacific Islands.

Among the companies engaged in the Australian shipping trade are several subsidised lines of foreign steamers whose vessels are, under agreement with their governments, available for service in case of war. Some of these vessels are manned by trained naval reserve men.

ROUTES.

Practically the whole Coastal trade centralises in Sydney, and from Sydney vessels trade to all the rivers and ports north and south.

As to Interstate trade the greater part is direct. Thus from Sydney there are direct routes to ports in Victoria, Queensland, South Australia, Western Australia, and Tasmania. To South Australia and Western Australia there is also indirect traffic *via* Victoria.

Oversea the New South Wales trade included during 1911 direct shipping to the following places within the British Empire:—

United Kingdom.*	Mauritius.
Canada.*	New Zealand.*
Fiji.	Ocean Island.
Friendly Islands.	Papua.*
Gilbert Islands.	Straits Settlements.*
India.*	

To the countries marked * there was also considerable indirect shipping trade, as also to Hong Kong and South Africa, to which places Sydney shipping goes *via* other Australian States.

To foreign ports the greater part of the trade goes direct, *i.e.* :—

Argentine Republic.	Mexico.
Belgium.*	Nauru Island.
Borneo.*	Netherlands.*
Caroline Islands.	New Caledonia.
Chile.	New Hebrides.
China.	Peru.
Ecuador.	Philippine Islands.*
France.*	Samoa.
Germany.*	Society Islands.
Hawaiian Islands.	Solomon Islands.*
Japan.*	South Sea Islands.
Java.*	Timor.
Marshall Islands.	United States of America.*

The Countries marked * also have the benefit of indirect trade, but to Portuguese East Africa there is no direct service.

In the New South Wales shipping trade the greater part of the business is conducted by regular liners. Those lines trading with ports outside Australia are generally owned and controlled by companies registered outside Australia. Interstate and coastal companies are for the most part Australian-owned. In addition to the regular lines a considerable amount of cargo is carried in tramp steamers, and a smaller proportion in sailing vessels.

During 1911 no new lines were opened between Sydney and oversea ports, but the Union Steamship Company's Wellington (New Zealand)-San Francisco service was in December extended to Sydney, and in May, 1912, the Oceanic Steamship Company's Sydney-San Francisco service, which had lapsed for several years, was resumed, the vessels being refitted with oil-burning engines. The establishment of a direct steamship service from Australian ports to Hull (England) is proposed.

The opening of the Panama Canal, projected for 1913, will involve the re-arrangement of ocean routes and itineraries, and will lessen the journey from New York and East Coast ports to Sydney, *e.g.*, New York-Sydney *via* Cape of Good Hope, 13,306 miles, *via* Panama, 9,691 miles. It also supplies an alternative route between New South Wales and English ports, of approximately the same distance as the Suez route. Following is a comparison of distances between Sydney and Plymouth (England) by various routes, *viz.* :—

Sydney-Plymouth, <i>via</i> —		miles.
Auckland, Tahiti, Panama	... ..	12,560
Cape of Good Hope	... ..	12,340
Wellington, Rapa, Panama	... ..	12,290
Suez Canal	... ..	11,200

Thus in the English-Australian trade zone, these distances indicate that the possible freight for the Panama Canal must be mainly marginal, the extent of diversion of such traffic being dependent primarily on the canal toll rates. In the Eastern American-Australasian trade the saving of nearly 4,000 nautical miles, as from New York *via* Panama, and, when the three-port service to Sydney, Melbourne, and Adelaide is completed, the fact that the return journey *via* Panama would be 1,700 miles shorter than *via* Cape of Good Hope, combined with the availability of New South Wales coal for coal-using ships, will incline this trade to the Panama Canal.

RATES OF FREIGHTS.

Distance from foreign trading centres renders freight a large item in the cost of placing the products of the State on oversea markets. The rates are subject to great fluctuation, and show considerable increases during the last quinquennium. The following statement gives the rates per steamer from Sydney to London during the last two years as compared with 1905, and shows that the increases have affected all the principal articles of export:—

Article.	Freight rate.		
	1905.	1910.	1911.
Wool greasy lb.	½d. to ¾d.	¾d. to 1d.	¾d. to 1½d.
Wheat ton	16/3 to 23/9	15/- to 25/-	17/6 to 30/-
Frozen meat lb.	½d.	¾d. to 1d.	¾d. to 1½d.
Preserved meat 40 cub. ft.	22/6 to 25/-	25/- to 27/6	30/-
Rabbits "	25/- to 40/-	20/- to 45/-	50/-
Butter 56 lb.	1/9 to 1/10	2/- to 2/6	2/- to 2/6
Tallow ton	22/6 to 35/-	35/- to 40/-	40/- to 42/6
Leather "	25/- to 40/-	55/- to 60/-	60/-
Hides "	27/6 to 32/6	35/- to 40/-	40/- to 52/6
Timber 100 sup. ft.	4/- to 5/-	5/-	6/-
Copra ton	20/- to 37/6	35/- to 40/-	40/-
Measurement goods ... 40 cub. ft.	25/- to 45/-	20/- to 45/-	25/- to 30/-

During 1911 the rates remained firm throughout, and on account of the bounteous seasons the supply of cargo was ample to fill the space available. Cargo is carried by sailing vessels at a cheaper rate, but this class of carrier is being rapidly replaced by large modern steamers designed specially for the Australian trade.

To European ports, *e.g.*, in France, Germany, and Belgium, the freights for products such as wool (greasy) are practically the same as to London, though the goods are transhipped at London for the European ports.

Freights to the East Coast of the United States of America by various routes are typified by the rates for wool (greasy) thus :—

Route.	Freight rate.		
	1905.	1910.	1911.
Via London or Liverpool	½d. to ⅔d.	⅔d. to ⅞d.	⅞d. to 1s.
„ San Francisco	¾d.	¾d.	¾d.
To Boston, direct... ..	.....	1s.	¾d. to 1s.

In connection with the question of freights, it is of interest to note that associated lines have been able to affect freights to such an extent that, as given in evidence before the Imperial Conference of 1911, in the case of wool the freight rate from South Africa is practically the same as from Australasia, double the distance.

For sheepskins, another substantial export item both of Australia and of South Africa, the position is similar, but for scoured wools the Australasian rates are less by some 5 per cent, than the South African rates.

Discrimination between producing countries is evident in the rates, for specified goods from the United Kingdom to South Africa and Australia, *e.g.* :—

Bicycles—United Kingdom to South Africa, 42s. 6d.

„ „ Australia, 37s.

Motor cars—Freight to Australian Ports is less by 5s. 6d. than to Cape Town.

Pianos— „ „ „ 8s. „ „

Agricultural implements—United Kingdom to Cape Town, 30s.

„ „ Australia, 37s.

Fares—United Kingdom to South Africa, £16 16s. (3rd class).

„ Melbourne, £17. „

COASTAL AND HARBOUR LIGHTS.

Lighthouses and Signal Stations.

The transfer to the Commonwealth of the control of lighthouses on the Australian coast has been in contemplation for some time, and the necessary legislation introduced in the Federal Parliament. Commander Brewis, R.N., was appointed in 1911 to advise the Commonwealth Government regarding the lighthouse services of the States and their requirements, and to collect all the information necessary for the preparation of a Federal scheme of administration. In regard to the northern and north-eastern coasts of Australia, preliminary reports as to existing lights and the requirements for increased efficiency, have been submitted, and in August, 1912, a survey of the eastern coast, embracing New South Wales, was in progress.

The coast of New South Wales, which is about 700 miles in length, has been, under State control, well provided with lighthouses and signal stations, the number of lighthouses at the end of 1911 being 27, averaging one light to 26 miles of coast line :—

Location of Lighthouse.	South Latitude.	Description of Light.	Colour of Light.	Distance visible (See note).
M. Green Cape	37 16	Revolving—Flash 50 sec.	White	Nautical miles 19
Twofold Bay (Eden) (Lookout Point).	37 4	Fixed	Red	7
M. Montagu Island—Summit	36 15	Fixed and Flashing—Fixed 33 sec., eclipse 16 sec., flash 5 sec., eclipse 16 sec.	White (Incandescent Petroleum Vapour).	22
Ulladulla (Warden Head)	35 22	Fixed	White	12
M. Jervis Bay (Point Perpendicular).	35 5	Group Flashing—Flash $\frac{3}{4}$ sec., eclipse 2 sec., flash $1\frac{1}{4}$ sec., eclipse 2 sec., flash $\frac{3}{4}$ sec., eclipse $13\frac{1}{4}$ sec.	White (Incandescent petroleum vapour).	24
Crookhaven River	34 54	Fixed	Red	7
Kiama	34 40	„	Green (gas)	9
Wollongong	34 26	„	White (gas)†	10
Port Jackson, Sydney—Macquarie (Outer South Head).	33 51	Revolving—Flash every min.	White (Incandescent Petroleum Vapour).	26
Hornby (Inner South Head).	33 50	Fixed	White (gas)	15
Broken Bay (Barrenjoey)	33 35	„	Red	15
M. Norah Head	33 17	Flashing—Flash $\frac{1}{2}$ sec. duration, eclipse $4\frac{1}{2}$ sec.	White	18
Port Hunter, Newcastle—M. Nobbys Head (Summit).	32 55	Fixed	„ (Incandescent petroleum vapour).	17
M. Port Stephens—Stephens Point.	32 45	Revolving—Red & white light alternately, short eclipse between the two colours.	Red and White alternately.	W. 17 R. 12
Nelson Head (Summit)...	...	Fixed	White and Red*	8
M. Sugarloaf Point (Seal Rocks)	32 26	Revolving—Flash every $\frac{1}{2}$ min.	White (Incandescent petroleum)	23
„ (same Tower) ...	...	Fixed	Green§ ... ..	...
Forster, Cape Hawke (anchorage).	32 11	Fixed	Green (acetylene gas).	5
Crowdy Head (Summit)	31 51	„	White and Red†	12
Tacking Point	31 29	„	White	12
M. Smoky Cape	30 56	Group Flashing—Flash 2 sec., eclipse 2 sec., flash 2 sec., eclipse 2 sec., flash 2 sec., eclipse 20 sec. triple flash every 30 sec.	„	28
Lagger's Point, Trial Bay	30 53	Fixed	„	5
Coff's Harbour Jetty ...	30 18	Fixed	Red	5

Location of Lighthouse.	South Latitude.	Description of Light.	Colour of Light.	Distance visible (see note).
M. South Solitary Island (Summit).	30 12	Revolving—Flash every ½ min.	White (Incandescent petroleum)	20
Clarence River ...	29 25	Fixed ...	White ...	12
Richmond River (2) ...	28 51	{ " ...	" ...	12
M. Cape Byron ...	28 37	{ " ...	" ...	10
		Flashing—Flash ½ sec. duration, eclipse 4¼ sec.	" ...	26
" (same Tower) ...		Fixed ...	Red ...	...
Tweed River (Fingal Head)	28 11	Fixed ...	White ...	12

* The light shows white to seaward, and over Entrance Shoal, red within the shoal, and up the Channel as far as Nelson Head, white up the Harbour.

† Showing red over Mermaid Reef.

‡ Shows red over Bellambi Reef.

§. Visible between N. and N. 62 deg W., covering Seal Rocks and adjacent dangers. This arc does not include Edith Breaker, from which the green light cannot be seen.

|| Showing over the Juan and Julia rocks

Distance visible.—The distance is calculated visible to an observer whose eye is elevated 15 feet from the sea level.

The lighthouses marked **M** above are equipped with Morse signalling lamps, and messages may be sent to them according to the rules laid down in the British Sign Manual, from vessels passing during night-time. At Newcastle and at South Head, Port Jackson, the Morse signalling equipments are at the signal stations adjacent to the lighthouses.

Lighted beacons and leading lights are placed for the safety of harbour navigation in the ports of Sydney, Newcastle, Ulladulla, Clarence River, Botany Bay, Wollongong, and Kiama. The Smoky Cape group-flashing light (visible 28 miles at sea), the Macquarie revolving light, on the South Head of Port Jackson, and the Cape Byron group-flashing light, each visible 26 miles, are amongst the most powerful lights in the world. In addition, the light on Point Perpendicular is visible 24 miles; at Seal Rocks, visible 23 miles; and at Montagu Island, visible 22 miles. An annual inspection is made of all lighthouses to ensure their satisfactory maintenance.

Harbour Lights.

In Port Jackson the question of efficient lighting has received considerable attention during the last three years. A conference of ship-masters (representing oversea, interstate, and coastal shipping companies) with the Harbour Trust Commissioners met in July, 1909, with the result that leading lights were erected at the entrance to the port, with occulting lights to mark the channels. Most of the lights are provided by acetylene installations. The harbour lights include two leading lights in the Eastern channel, and fourteen lights at points up to Goat Island, where also are two leading lights. On Shark Island a lighthouse, built in sections, of reinforced concrete, is under erection. Fog-bells are placed on the more prominent positions along ferry routes.

In Port Hunter leading lights (two each) are placed off Stockton, and in the Fairway; there is also a leading light on the South Breakwater. Lights are placed at five other points, and there are also two fog-bells.

For Ulladulla harbour, Kiama breakwater, and Wollongong, there are two leading lights each, and for navigation of the Clarence River leading lights are exhibited at Maclean, Lawrence, Elizabeth Island, and Ulmarra. Also at Sugarloaf Point (Seal Rocks) there is in addition to the Dioptric light, a Catadioptric, fixed, green light visible at three miles; and at Cape Byron there is a fixed red light (dioptric) showing over Juan and Julia rocks.

PILOT AND ROCKET STATIONS.

Pilotage on the coast of New South Wales is a State service, the pilots being Government officers employed at a fixed salary. Their services must be engaged for all vessels not specifically exempted, and certificates of exemption from pilotage for the various ports of the State are granted, after examination, only to British subjects, and are usable only in respect of British ships registered in the Commonwealth of Australia or in New Zealand, and engaged in trade in Australasia and the South Sea Islands, or in whaling.

The following statement shows the pilot stations along the coast from north to south, the pilot staff at December, 1911, and the number of vessels piloted in and out of port during each of the last five years. All the stations except Camden Haven, Lake Macquarie, and Moruya River, are also rocket stations; Port Jackson and Macleay River have two stations each, Port Hunter four, and each of the other ports one :—

Port and Pilot Station.	Pilots.	Crew.	Vessels Piloted In and Out.				
			1907.	1908.	1909.	1910.	1911.
Tweed River	1	2	8	5	4	18	32
Richmond River—Ballina	1	5	6	5	...	17	3
Clarence River—Yamba	1	4	18	7	13	13	10
Bellinger River	1	2	34	18	13	4	4
Nambucca River	1	2	6	8	15	7	2
Macleay River	1	4	13	6	8	11	...
Port Macquarie	1	3	10	8	6	1	7
Camden Haven	1	2	2	6	4	4	14
Manning River—Harrington	1	4	8	1	10	6	7
Port Forster—Cape Hawke	1	2	1	4	15	11	8
Port Hunter—Newcastle	11	18	1,562	1,562	1,008	1,042	1,113
Port Jackson—Sydney	8	17	1,896	1,700	1,540	1,731	1,844
Port Kembla	1	2	4	4	9	11	12
Shoalhaven River—Crookhaven	1	3	3	3	7	4	4
Moruya	1	2	20	11	4	7	10
Twofold Bay—Eden	1	3	12	7	16	19	34

The number of pilotage certificates is shown elsewhere.

The pilot vessel at Port Jackson is the Government steamer "Captain Cook," a main-deck vessel 156 ft. x 25 ft. x 13 ft., having a gross tonnage of 396, under-deck 376, net 172, and nominal horse-power 86. At Port Hunter the pilot vessel is the Government steamer "Ajax," an awning-deck vessel 129 ft. x 21 ft. x 12 ft. to main deck, and 19 ft. to awning deck, having a gross tonnage 344, net 189, and nominal horse-power 72. The Government have lately purchased a tug for pilot service at Clarence River. At each of the northern stations there are subsidised tugs for the use of pilots.

SAFETY EQUIPMENT FOR VESSELS.

Regulations for safety under the Navigation Act make the following stipulations of equipment to be carried :—

Sea-Going Vessels.

Sufficient boat and raft accommodation and life-belts for passengers and crew up to the numbers for which the vessel is certificated.

Life-buoys in proportion to boats carried, the minimum number being six.

Blue lights (12), deck flare lights (2), rocket distress signals (24), rockets (12).

Harbour and River Steamers.

Sufficient buoyant apparatus, flotation seats, rafts or life-belts to accommodate all persons on board.

At least four life-buoys.

Approved signals of distress.

CHARTS AND COASTAL SURVEYS.

The British Admiralty have two surveying ships employed constantly on the Australian Coast, and during the last few years they have been engaged principally on the northern and north-western portions of the continent. The importance of the Torres Strait route from Australia to Eastern Asian and Indian ports, and the opening up of the Northern Territory of Australia by the Commonwealth Government, have rendered such surveys necessary, and the shores of the Arafura and Timor Seas will shortly be as well charted as the more settled and better known southern and eastern shores of Australia.

The importance of a properly equipped and organised Hydrographic Department has not yet been fully realised by the Australian States, and with the exception of the work done on the New South Wales coast, comparatively little is known of the set of the ocean currents, with their seasonal or other variations, the meteorological influence on tidal flow, or the changes in temperature, density, velocity, or direction of the many currents on the Australian littoral. That these currents are subject to change at various seasons of the year, as well as to secular changes, is undoubted, and a knowledge of them is of primary importance to this island continent, which must of necessity depend mainly on its mercantile marine for its success. The effect of these changes is also of the greatest importance to the fishing industry, for without a knowledge of the currents which are the means by which fish and their food are transported from place to place, all investigations of fish life are admittedly incomplete.

In Queensland, Victoria, Tasmania, South Australia, and Western Australia, harbours and river entrances are surveyed by State officers, as in New South Wales, but nothing is done in the way of investigating ocean currents beyond the immediate vicinity of the entrances. In New South Wales some work of this description has been undertaken, and a considerable amount of useful material has been collected; the observations can be regarded only as items in a series, and their full value will not be apparent until that series is complete.

H.M.S. "Dart," manned by boys from the training ship "Sobraon," was used for about two years on this service, under the direction of the Hydrographic Officer. Some temperature and density sections of the ocean and littoral currents at various places on the coast from Byron Bay to Green Cape, were obtained, which will be useful for future investigations, as laying the foundations for more complete knowledge of the coast of New South Wales.

During 1912, it was found necessary to lay down measured distances on the coast for the use of high speed vessels, such as torpedo destroyers, when running their speed trials. Two sets of obelisks, one nautical mile apart, were set up at Marubra Bay, and another set near Cape Solander, Botany Bay, 4 nautical miles to the southward. By keeping a due magnetic north course, and noting the times of transit of each set of obelisks, distances of 5, 4, or 1 miles may be accurately timed, and by timing and running the same distances, steering due magnetic south, the effect of current and wind may be eliminated. The obelisks are conspicuous, easily picked up, and the transits well marked, at distances of from 1 to 3 miles off shore.

DREDGING.

The dredging service is controlled by the Department of Public Works for the ports and rivers other than Port Jackson, where the Sydney Harbour Trust is in control.

The following statement summarises the operations of the Dredge service for the year 1910-11, in the effort to prevent the shoaling of entrances, and to deepen existing channels wherever necessary:—

No. of Dredges.	Class of Dredge.	Tons Dredged.	Hours Dredging.	Expenditure.				
				Dredging only.			Dredging and Towing.	
				Total.	Per Ton.	Per Hour	Total.	Per Ton.
Harbours and Rivers.	6 Ladder	1,088,479	7,569	£ 25,802	pence. 5-69	£ s. d. 3 8 2	£ 33,073	pence. 7-29
	11 Sand-pump	3,318,559	10,964	47,981	3-47	4 7 6	54,070	3-91
	8 Combined Grab and Sand-pump.	848,272	13,856	22,344	6-32	1 12 3	23,582	6-67
	11 Grab	199,612	12,319	12,045	14-48	19 7	15,596	18-76
36	Total	5,454,922	44,708	108,172	4-76	2 8 5	126,321	5-56
Sydney Harbour Trust.	8 Sand-pump and Grab	1,875,945	10,986	19,059	2-73	1 14 8	24,470	3-50

In the towing of dredged material from harbours and rivers sixteen tugs were engaged for the year 1911. For the Sydney Harbour Trust, five tugs were engaged in towing during the year, in addition to one tug engaged on special service. The following statement shows the expenditure on dredging and towing services at each port for the last three years:—

Locality.	Cost of Dredging and Towing.		
	1909.	1910.	1911.
Tweed River	£ 5,743	£ 7,603	£ 7,062-
Richmond River	7,698	9,841	16,106
Clarence River	7,503	9,605	8,440
Bellinger River	2,696	2,372	2,874
Nambucca River	2,727	2,950	5,755
Macleay River	4,285	6,648	2,358
Port Macquarie	4,528	3,255	2,245
Camden Haven	5,449	2,964	2,693
Manning River	4,990	4,717	15,098
Port Forster (Cape Hawke)	4,073	2,462	2,953
Port Stephens	2,936	3,598	2,770
Hunter River	2,883	2,682	.....
Paterson (Port Hunter)	750	1,048	.....
Newcastle Harbour	48,277	37,639	41,072
Lake Macquarie	867	827	1,709
Wyang River	743	.....	.....
Tuggerah Lakes ... ..	.....	363	.....
Hawkesbury River and Brisbane Water	2,240	1,925	4,970
Cook's River and George's River	2,091	2,648	3,439
Port Hacking ... ..	.....	30	1,209
Wollongong ... ..	.....	810	51
Port Kembla ... ..	.....	537	.....
Shoalhaven and Crookhaven	692	.....	709
Moruya River	853	2,481	.....
Wagonga Inlet	2,401	.....	1,893
Twofold Bay ... ..	.....	.....	2,915
Total	£ 114,425	107,005	126,321
Port Jackson (Sydney Harbour Trust)	£ 18,252	22,893	24,470

DOCKS AND SLIPS.

Naturally as the shipping traffic employing vessels of considerable size concentrates at Sydney and Newcastle, accommodation, provided both by the Government and by private enterprise, for building, fitting, and repairing ships in the State also concentrates at these ports. At Sydney there are four graving docks, five floating docks, and five patent slips; at Newcastle there are three patent slips. Other docking and building yards are established along the coast to meet the necessities of the smaller vessels engaged in coastal trade.

Particulars as to dock accommodation at Sydney and at Newcastle at the end of 1911, are supplied in the following table:—

Dock Accommodation.

Name of Dock.	Where situated.	Length.	Breadth.	Draught limits.	Lifting Power of Floating Dock or Patent Slip.
SYDNEY HARBOUR—(PORT JACKSON).					
Graving Docks— Government— Sutherland Fitzroy	Cockatoo Island.	ft. From outer caisson, 638	ft. 84	ft. 32	tons.
Private— Mort's ...		" inner " 608			
		" outer " 506			
		" inner " 482			
Mort's ...	Mort's Bay, Balmain.	640.	69 at top, 49 at bottom.	18 high water 13½ low "	.....
Woolwich ...	Parramatta River.	700 at present; but in course of extension to 765.	100 at cope, 83 at entrance, 75 on floor.	28 high water 23 low "	.....
Floating Docks— Private— Ward's ... Drake's ...	Waterview Bay White Bay, Balmain.	163 150	42 60	11½ 7½	400 300
Woolwich Pontoon Dock. Jubilee ...	Woolwich, Parramatta	195	56 between altars.	12	1,500
Small ...	Johnson's Bay.	317	55; 44 at entrance.	15	1,300
		100	23	7½	120
Patent Slips— Government	Cockatoo Island.	105	Arms, 30 ... Cradle, 20 ...	9	300
Government Boatshed.	Dawes' Point	82	Arms, 17 ... Cradle, 10 ...	6	100
Private— Mort's No. 1	Mort's Bay, Balmain.	270	30	11 ft. forwd. 17 ft. aft.	1,500
" No. 2		200	25	8 ft. forwd. 14 ft. aft.	800
" No. 3		58	15	5½ ft. forwd. 10 ft. aft.	40

NEWCASTLE HARBOUR—(PORT HUNTER).

Name of Dock.	Where situated.	Length.	Breadth.	Draught limits.	Lifting Power of Floating Dock or Patent Slip.
Patent Slips— Private— O'Sullivan's ...	Stockton ...	220	40	9 ft. forwd. 12 ft. aft., up to 170 ft. 7 ft. forwd. if 220 ft. long.	1,000
Callen's No. 1	Stockton ...	150	30	8	100
" No. 2		150	30	8	100

Particulars as to the Government graving docks elsewhere along the coast are as follows :—

Locality.	Length on Top.	Breadth at Gates.	Draught Limits.
	ft.	ft.	ft.
Tweed River	115	42	10
Richmond River	214½	45	10
Clarence River	115	42	10
Macleay River	121	32	7
Manning River	128¾	40	6½
Shoalhaven River	130	26	6

Sutherland Graving Dock at Cockatoo Island, Port Jackson, is one of the largest single docks in the world. Woolwich Dock will be, when the present extensions are completed, the largest dock in the Southern Hemisphere. Fitzroy Dock is capable of receiving vessels drawing 21 feet 6 inches of water. Considerable extensions were carried out recently at the Government Dockyard, including the construction of two building slips, adjacent to Fitzroy Dock, commanded by cantilever electrically-driven cranes. One of the berths is capable of allowing the construction of a vessel of 50 feet beam, 450 feet in length, and 30 feet moulded depth, the other is capable of taking a vessel of a similar beam and depth and 350 feet in length. War vessels for the Australian Navy are being constructed at the Fitzroy Dock.

Transactions at Government docks, for the last ten years are recorded in the following statement of vessels docked :—

Year.	Port Jackson.		Tweed River.		Richmond River.		Clarence River.		Macleay River.		Manning River.		Shoalhaven River.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
1902	160	204,742	1	5	19	2,572	32	3,784	13	892	13	1,576	3	610
1903	92	85,371	5	712	25	3,119	16	1,744	1	66	14	1,435	4	237
1904	71	70,429	6	1,120	8	1,400	9	740	6	480	10	580	1	50
1905	89	64,185	13	1,577	11	1,590	17	1,530	8	740	9	345	...	...
1906	85	81,403	6	809	9	1,525	7	664	5	410	12	1,152	...	...
1907	78	62,639	4	239	8	1,155	9	749	...	...	6	370	...	...
1908	80	103,026	6	492	13	1,477	9	656	6	400	10	699	3	250
1909	59	79,170	9	770	9	1,540	10	645	6	640	4	598	3	260
1910	68	102,161	11	1,002	9	1,961	13	1,058	3	348	5	298	1	100
1911	60	79,243	8	497	10	2,376	16	900	6	1,038	6	496	...	...

At the Government docks in Port Jackson, British ships of war are docked. The lowest number docked in the last ten years was 13 in 1907; the highest, 24 in 1903, the average being 19 per annum.

At coastal docks the majority of vessels docked were Government dredges, tugs, and punts. Private vessels averaged 14 per annum for the decade.

SHIP-BUILDING.

The numbers and tonnage of steam and sailing vessels built in New South Wales are shown in the following statement for quinquennial periods from 1876 to 1905, and for each of the last six years separately, *viz.* :—

Vessels built.

Years.	Sailing.		Steam.*		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1876-1880	155	9,319	106	7,232	261	16,551
1831-1885	173	7,403	191	17,546	364	24,949
1886-1890	68	2,877	87	5,169	155	8,046
1891-1895	76	2,865	42	2,042	118	4,907
1896-1900	97	4,015	50	3,419	147	7,434
1901-1905	63	3,145	87	5,110	150	8,255
1906	4	336	17	567	21	903
1907	5	79	18	1,046	23	1,125
1908	3	146	16	943	19	1,089
1909	1	3	22	835	23	838
1910	2	92	18	1,067	20	1,159
1911	1	18	14	968	15	986

* The figures include motor vessels. In 1911 there were 4 motor vessels, tonnage 77.

Although the Merchant Shipping Act, which controls the registration of shipping in New South Wales, does not compel the registration of vessels under 15 tons burthen, few of such vessels remain unregistered. The rules of yachting clubs demand the registration of the yachts, steamers, and motor boats of the members, and for the purpose of sale or mortgage, business is facilitated by such registration.

In the first ten years of the period for which figures are given, the rate of construction averaged sixty-three vessels per annum, *viz.*, sailing vessels, thirty-three; steam, thirty. Taken on the tonnage, the construction was at the rate of 4,150 tons per annum, *viz.*, sailing, 1,672; steam, 2478. The replacement of sailing vessels by steamers, and the increasing size of the latter, were the evident tendencies of the period, in which the years 1883 and 1884 were characterised by the maximum activity in construction, both of sailing and steam vessels, fifty sailing and fifty-two steam vessels having been built in 1883, and thirty-nine sailing vessels and sixty-four steamers in 1884. But the promise, indicated by the extent of operations in this period, of a localised ship-building industry was not fulfilled, as is evident from the figures for subsequent years. Ketches and schooners were the principal types of sailing vessel constructed, and operations were restricted practically to the building of vessels with wooden frames and hull, only three vessels, with an aggregate tonnage of 712, being built of steel in the last six years.

SHIPPING REGISTERS.

The only ports in New South Wales at which shipping registers are maintained by the Navigation Department are Sydney and Newcastle, and the following statement shows the registrations at these ports on the 31st December, 1911, classified according to tonnage :—

Tonnage.	Sydney.				Newcastle.			
	Steam.		Sailing.		Steam.		Sailing.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
Under 50 ^a ...	351	6,758	237	3,518	42	961	21	566
50 and under 100 [†] ...	100	7,173	74	5,613	10	671	13	926
100 ,, 200 ...	63	9,169	20	2,842	2	217	2	244
200 ,, 300 ...	21	5,140	11	2,813	...	...	2	510
300 ,, 400 ...	16	5,483	12	4,176	...	...	4	1,393
400 ,, 500 ...	8	3,574	2	896	...	...	3	1,312
500 ,, 600 ...	12	6,715	2	1,108	2	1,136	...	...
600 ,, 1,000 ...	11	8,405	10	8,043	...	...	2	1,436
1,000 ,, 1,400 ...	7	8,254	5	5,904	...	...	...	...
1,400 ,, 1,800 ...	4	6,340	...	...	...	...	1	1,453
1,800 and over... ..	4	9,587	1	2,130	1	1,835	...	...
Total	610 [‡]	76,589	374	37,048	57 [§]	4,820	48	7,840

^a Includes under steam, Sydney, 122 motor vessels, tonnage 1,193, and under steam, Newcastle, 3 motor vessels, tonnage 41.

[†] Includes under steam, Sydney, 4 motor vessels, tonnage 264.

[‡] Includes 126 motor vessels, tonnage 1,457.

[§] Includes 3 motor vessels, tonnage 41.

The total tonnage registered at the end of 1911 was 126,297, *viz.*, steam, 79,911, motor 1,498, and sailing, 44,888. These figures are exclusive of lighters.

The aggregate numbers and tonnage of steam and sailing vessels on the register at each port at the close of each of the last six years are shown in the following statement :—

Year.	Sydney.				Newcastle.			
	Steam.*		Sailing.		Steam.*		Sailing.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1906	542	70,301	435	43,740	54	6,691	46	6,771
1907	555	72,226	416	43,674	56	5,116	46	6,771
1908	582	73,022	418	45,475	55	5,071	48	7,840
1909	627	74,784	408	43,207	55	3,732	48	7,840
1910	616	77,257	399	41,707	55	2,959	48	7,840
1911	610	76,589	374	37,048	57	4,820	48	7,840

* The figures include motor vessels. In 1911 there were at Sydney 126 motor vessels, tonnage 1,457, and at Newcastle, 3 motor vessels, tonnage 41.

At Sydney there has been an increase in the number of steam vessels registered, and a slight decrease in their average tonnage; at Newcastle the relative decrease in tonnage has been greater. The decrease in the number of sailing vessels registered at Sydney has been persistent, practically, over the period reviewed.

The new tonnage registered in New South Wales during each of the last ten years is summarised in the following table :—

Year.	Steam.*		Sailing.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1902	38	6,020	25	1,905	63	8,015
1903	42	6,424	28	1,742	70	8,166
1904	23	6,082	20	716	43	6,798
1905	37	3,018	11	1,103	48	4,121
1906	40	11,249	14	3,243	54	14,492
1907	35	7,664	15	3,294	50	10,958
1908	42	4,660	14	4,798	56	9,458
1909	43	6,646	5	1,783	48	8,429
1910	35	9,951	4	1,377	39	11,328
1911	36	7,502	10	1,945	46	9,447

* Includes motor vessels. During the Year 1911 there were registered 14 motor vessels, tonnage 284.

The number of vessels built outside New South Wales, which are included in these registrations, is as follows :—

Year.	Steam.*		Sailing.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1902	15	4,741	5	913	20	5,654
1903	6	4,396	2	739	8	5,135
1904	6	5,411	...	...	6	5,411
1905	7	1,511	6	827	13	2,338
1906	6	10,261	4	2,831	10	13,092
1907	9	6,487	7	3,144	16	9,631
1908	13	3,392	10	4,648	23	8,040
1909	7	5,525	4	1,780	11	7,305
1910	12	8,741	2	1,285	14	10,026
1911	10	6,085	7	1,813	17	7,898

* Includes motor vessels. During the year 1911 there was 1 motor vessel, tonnage 4.

Side by side with this statement of the origin of vessels registered, it is of interest to record the number and value of vessels built abroad and imported, duty free, into New South Wales for the local trade, in the last seven years :—

Vessels Imported into New South Wales.

Year.	From United Kingdom.		From Other Countries.		Total.	
	No.	Aggregate Value.	No.	Aggregate Value.	No.	Aggregate Value.
		£		£		£
1905	4	36,000	3	10,165	7	46,165
1906	6	160,000	3	8,300	9	168,300
1907	9	234,760	6	24,940	15	259,700
1908	19	179,000	7	10,450	26	189,450
1909	8	191,750	2	4,150	10	195,900
1910	9	304,000	2	23,750	11	327,750
1911	6	172,300	7	30,000	13	202,300

Changes on the register by sales are summarised as follows, for the last ten years. Sales to foreign buyers, of course, result in removal of the vessels from the registers :—

Year.	To British Buyers.				To Foreign Buyers.			
	Steam.*		Sailing.		Steam.*		Sailing.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1902	35	2,912	51	7,753	1	150	4	1,515
1903	39	3,849	37	3,192	...	...	6	1,167
1904	56	8,180	26	3,574	2	1,850	2	90
1905	43	4,100	37	2,898	4	2,468	1	54
1906	47	3,159	32	3,059	...	...	52	1,287
1907	38	3,161	29	2,269	2	1,849	21	443
1908	68	5,964	23	3,745	...	...	1	13
1909	36	4,137	32	3,749	...	...	2	1,939
1910	54	5,146	31	5,650	2	1,530	...	...
1911	57	5,072	31	2,466	2	50	3	57

*Includes motor vessels. During the year 1911, 19 motor vessels, tonnage, 254, were sold to British buyers, and 2 motor vessels, tonnage 50, were sold to foreigners.

HARBOUR REMOVALS.

In addition to piloting vessels in and out of ports, pilots are required to superintend removals of vessels, except such as are exempted within Port Jackson and Port Hunter. Following are the records of harbour removals for the last ten years :—

Year.	Port Jackson.		Port Hunter.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
1902	945	1,958,843	601	920,701
1903	900	1,920,420	601	1,042,106
1904	854	1,747,717	423	700,796
1905	676	1,682,809	565	1,066,047
1906	814	1,992,845	634	1,256,393
1907	1,178	2,704,323	710	1,448,843
1908	783	2,030,751	641	1,364,667
1909	698	1,795,286	389	786,733
1910	913	2,661,064	415	903,764
1911	991	3,009,123	426	960,718

TUGS.

To assure an efficient and ready service in towing vessels in and out of port, as required, the Department of Navigation subsidises one tug at each of nine stations for the ten ports named below. For the Nambucca and Macleay rivers there is a joint service by one tug. The tonnage of the tugs ranges from 32 at Port Forster (Cape Hawke), to 59 at Richmond River, and the special sanction of the Department must be given before the tugs may be removed from their stations. The masters must be in readiness to take all vessels out of port, and must render assistance promptly in case of any vessels in danger; they are required also to take pilots off to vessels signalling for the services of a pilot. The maximum towing rate is fixed at 4d. per registered ton, with a minimum fee of £1 10s, and the annual subsidy varies for each station.

The following statement shows the vessels towed in and out of each port and the amount of the subsidy for each of the last ten years :—

Year.	Tweed and Brunswick Rivers.*		Richmond River.			Clarence River.			Bellinger River			Nambucca River.†		Macleay River.†	
	In.	Out.	In.	Out.	Subsidy.	In.	Out.	Subsidy.	In.	Out.	Subsidy.	In.	Out.	In.	Out.
1902	77	78	23	33	£ 1,770	18	20	£ 750	53	115	£ 960	113	133	3	6
1903	113	104	18	19	1,770	28	30	900	75	104	1,008	120	135	7	13
1904	89	99	8	23	1,717	13	13	950	104	114	1,008	58	79	6	7
1905	84	94	1	18	1,369	10	9	900	92	139	1,008	70	107	...	1
1906	65	81	6	15	1,569	13	15	900	91	136	1,008	50	87	6	1
1907	61	79	4	8	1,560	13	13	900	154	177	1,008	48	114	3	5
1908	88	93	3	5	1,560	13	13	900	156	197	1,008	163	113	5	8
1909	82	93	...	4	1,569	13	12	900	140	194	1,008	76	129	5	4
1910	78	100	1*	7	1,560	9	8	‡	126	212	1,008	57	113	3	3
1911	84	82	6	24	1,560	10	9	‡	118	200	912	64	132	...	...

Year.	Port Macquarie.			Camden Haven.			Manning River.			Port Forster, Cape Hawke.			Total.§		
	In.	Out.	Subsidy.	In.	Out.	Subsidy.	In.	Out.	Subsidy.	In.	Out.	Subsidy.	In.	Out.	Subsidy.
1902	145	144	£ 360	214	214	£ 600	178	192	£ 400	121	223	£ 400	1,017	1,231	£ 7,649
1903	137	139	420	135	241	600	238	224	400	113	221	400	1,030	1,274	7,907
1904	108	114	420	148	206	600	204	209	400	83	168	400	829	1,046	7,754
1905	84	96	420	203	205	600	280	280	500	84	254	400	908	1,203	6,997
1906	73	104	420	203	207	600	64	64	500	130	274	400	701	984	7,197
1907	56	92	420	115	171	600	19	190	500	132	240	400	605	999	7,197
1908	48	82	540	5	8	960	112	163	500	239	239	400	832	921	7,677
1909	39	57	840	165	190	960	300	300	500	67	144	540	887	1,127	8,117
1910	37	38	840	152	178	960	249	247	600	62	107	540	774	1,013	7,317
1911	24	31	840	115	150	960	235	240	840	49	112	660	705	980	7,581

* For the Tweed and Brunswick station the subsidy has remained at £849 per annum throughout the ten years.

† For the joint service of the Nambucca and Macleay Rivers station the subsidy throughout the decade was £960 per annum.

‡ The tug was purchased by the Government, and the service is conducted by the Department of Navigation.

§ Includes Wollongong for the three years 1902-4.

In the three years 1902-4, during which a Government subsidy was paid, vessels were towed in and out of Wollongong as under :—

Years.	In.	Out.	Subsidy.
			£
1902	69	73	600
1903	46	44	600
1904	8	23	500

QUARANTINE.

Since the 1st July, 1909, the administration of all matters relating to seaboard quarantine, till then controlled in New South Wales by the Government of the State, has been under control of the Federal Minister for Trade and Customs. The Commonwealth Quarantine Act, 1908, defines the vessels which shall be subject to quarantine, and provides for the exclusion,

detention, observation, segregation, isolation, protection, and disinfection of vessels, persons, goods, animals, or plants, so as to prevent the introduction or spread of diseases or pests into the Commonwealth. Particulars of vessels examined by the Government Port Health Officers at Sydney and Newcastle, during the last ten years, are shown in the following table :—

Year.	Vessels.		Persons.		
	Ex- amined.	Detained for special action.	Passengers.	Crews.	Total.
1902	883	304	13,648	43,141	56,789
1903	804	144	17,449	44,542	61,991
1904	762	153	8,602	34,723	43,325
1905	655	159	8,700	29,737	38,437
1906	871	141	12,016	42,376	54,392
1907	969	160	9,656	39,298	48,954
1908	740	44	7,300	31,477	38,777
1909	628	67	8,227	29,075	37,302
1910	655	71	11,313	30,328	41,641
1911	737	196	25,160	38,755	63,915

Vessels arriving in Australian ports from overseas are examined at the first port of call, and also, in the case of vessels from places north of Australia, at the last port of call, and pratique is given ordinarily for the whole of the Commonwealth. The quarantine station at North Head, Port Jackson, as maintained by the State Government, was transferred to the Commonwealth for the purpose of human quarantine.

Stock quarantine is undertaken at Athol, Port Jackson.

Administration of the Federal Act, in relation to animals and plants from overseas, is undertaken by the Department of Agriculture of New South Wales.

Quarantinable diseases under the Commonwealth Act include small pox, plague, cholera, yellow fever, typhus fever, leprosy, and such other diseases as may be declared, and quarantine includes all measures inspired by medical science for the purpose of preventing the introduction of communicable disease to, or its spread from, specific localities. It is peculiarly an activity of countries which are relatively free from the diseases indicated as quarantinable.

The Commonwealth Government, in 1909, became a party to the Paris Convention of 1903, to which the United States of America, and the chief States of Europe are signatories, but in 1911, this adherence was qualified by certain conditions intended to secure to Australia even greater protection than the terms of the Convention assure. The most important article of the Convention stipulates that every signatory country shall provide at least one port on each of its seaboard with an organisation and equipment sufficient for the reception of a ship whatever its health conditions may be. The necessary organisation and equipment include—

- (1) A properly organised port medical service, and permanent medical supervision of the health conditions of the crews and of the population of the port.
- (2) Suitable accommodation for isolation and observation.
- (3) Bacteriological laboratories to facilitate diagnosis of quarantinable disease.
- (4) Water supply and sanitary systems.

The Paris Convention relates particularly to plague, cholera, and yellow fever; but as indicated above, the Commonwealth legislation has a somewhat wider scope.

The accepted standard of quarantine accommodation for isolation is one bed per 1,000 of population, which would mean 1,600 beds for New South Wales. As the chief terminal port in Australia, the necessity for extensive accommodation at Sydney is very evident.

The present accommodation of the quarantine station at Sydney is practically 700 beds, the estimate of requirements under Federal control is 1,130 beds, viz., 100 for first-class passengers, 250 for second-class passengers, 750 for steerage passengers and crew, and 30 for observation cases. Consequently, a considerable expenditure for extensions becomes necessary. The extensions include the following works:—

Administrative offices.

Officers' quarters.

Reclamations, &c., to provide luggage sheds, disinfection block, laundry, and power-house.

Personal disinfection and bathing blocks.

Modern isolation and observation blocks.

Dining and kitchen blocks for steerage passengers.

Dormitory block for steerage passengers.

Dormitory and living block for second saloon passengers,

Cable tramway from jetty to storeroom.

Tramway system connecting main buildings.

Electric light installation.

Crematorium.

SHIPWRECKS.

Casualties.

Wrecks and shipping casualties occurring to British merchant shipping on or near the coast of the State are subjects of investigation by Courts of Marine Inquiry, of which some account is given in the Chapter of this Year Book relating to Law Courts. The following statement shows such wrecks and casualties reported in each of the last ten years, viz. :—

Year.	British Vessels.			Total Tonnage.	Value of Vessels and Cargoes. £	Crews and Passengers.	Lives Lost.
	Steam.	Sailing.	Total.				
1902	6	2	8	2,493	45,215	108	28
1903	7	3	10	4,420	69,566	182	13
1904	5	7	12	5,509	52,862	286	36
1905	4	4	8	974	22,672	52	8
1906	4	...	4	89	4,063	22	3
1907	4	1	5	716	17,945	55	Nil.
1908	9	3	12	5,898	139,082	209	10
1909	4	...	4	520	18,750	60	1
1910	6	...	6	3,291	111,765	191	2
1911	7	2	9	2,546	50,600	112	41

The wrecks recorded above represent total losses which occurred on the coast of New South Wales. In addition to these, during 1911, three vessels outward bound from Newcastle for foreign ports were reported missing, and one from Newcastle to San Francisco foundered. A ketch bound from the North Coast to Sydney also foundered in April, 1911, and another vessel which stranded became a total constructive loss before being refloated.

The majority of the vessels reported are small coasters under 200 tons, *i.e.*, out of 78 vessels wrecked in the ten years, only seventeen were of 500 tons and over. As regards foreign shipping, inquiries as to vessels lost are made by foreign consuls. Following is the record since 1904 :—

Year.	Foreign Vessels.			Total Tonnage.	Crews and Passengers.	Lives Lost.
	Steam.	Sailing.	Total.			
1904	...	1	1	2,413	32	Nil.
1905	...	1	1	1,299	14	Nil.
1906	1	2	3	6,367	62	Nil.
1907	1	2	3	2,293	47	7
1908	1	1	2	3,605	40	Nil.
1909	...	1	1	1,364	22	17
1911	...	1	1	1,543	20	Nil.

Particulars as to value of vessels (which were all, except one, over 500 tons burden) and cargo lost are not obtainable for each year. During 1910 there were no such inquiries.

The particulars given in the two tables above do not include vessels which left the ports of the State and were not reported subsequently.

Relief.

Two lifeboat stations are maintained on the coast, one at the Sydney Heads, and the other at Newcastle; and the whale-boats at the pilot stations are fitted for rescue service. The steam tugs subsidised for the towing of ships in and out of port also are available for the purpose of rendering assistance to vessels in distress; and life-saving appliances are kept at certain places along the coast. A considerable number of vessels trading in Australian waters are fitted with wireless telegraphy apparatus, by which means aid may be summoned to vessels in distress.

The Seamen's Compensation Act, 1911, applies to ships in the service of the Commonwealth (exclusive of naval or military service), ships trading with Australia, or engaged in any occupation in Australian waters, or in trade and commerce with other countries or among the States. The schedules to the Act indicate the amount of compensation payable, in case of death or total or partial incapacity, resulting from personal injury by accident to seamen in the course of their employment. Regulations also indicate methods of procedure for recovery of compensation.

The Royal Shipwreck Relief and Humane Society of New South Wales is maintained by public subscriptions, unsubsidised by the State, to afford relief in cases of distress to dependents of New South Wales seamen who have lost their lives or sustained injury in the discharge of their duties, to relieve crews of vessels and necessitous passengers wrecked in New South Wales waters, and to encourage acts of bravery by granting awards for meritorious deeds in saving human life. The relief granted on account of maritime disasters during the year ended 30th June, 1912, amounted to £1,994, in addition to £274 expended on account of awards. The revenue of the Society for the year included £1,975 derived from public subscriptions and legacies.

Under the auspices of the religious denominations, several missions are interested in the welfare of seamen, such as the Sydney Mission to Seamen, the Catholic Mission, and the Central Methodist Mission, each of which maintains an institute in Sydney for the use of seafaring men while in the port.

GOVERNMENT SHIPPING OFFICES.

Government Shipping Offices are maintained at Sydney and Newcastle to deal with matters relating to the engagement and discharge of seamen of British vessels. Following are the records for the last five years of transactions at each of these shipping offices:—

Year.	Engagements registered.			Discharges registered.			Licenses to ship.		
	Sydney.	New-castle.	Total.	Sydney.	Newcastle.	Total.	Sydney.	New-castle.	Total.
1907	21,472	4,882	26,354	20,581	3,389	23,970	2,888	1,020	3,908
1908	22,845	3,995	26,840	22,829	2,875	25,704	3,726	746	4,472
1909	19,420	2,447	21,867	21,020	2,166	23,186	2,989	436	3,425
1910	22,791	2,989	25,780	20,939	2,014	22,953	3,405	732	4,137
1911	25,293	2,653	27,946	24,971	1,898	26,869	4,143	715	4,858

For 1911, seamen reported as deserters from British vessels trading on foreign voyages numbered 1,438, viz., 1,058 at Sydney, and 380 at Newcastle. The wages paid to seamen through the shipping offices amounted to £100,435, of which £87,502 was paid at Sydney. Wages issued in advance notes amounted to £4,696, of which the greater part, viz., £3,187 was recorded for Newcastle.

Masters of Foreign vessels engage and discharge seamen at the offices of the Consuls representing the countries to which the vessels belong, and no particulars are available in regard to these transactions.

FERRY SERVICES.

Linking up the highways in every direction are ferry services provided free by the State. At the end of 1911, there were 123 of these ferries, of which 11 were classed as national works, 107 were controlled by municipalities and shires, and 5 were in the unincorporated Western Division. These services are not to be regarded, in any way, as coming under the classification of shipping, being merely a necessary connection between roadways broken by rivers.

Sydney Harbour Ferries.

In Sydney Harbour, however, extensive ferry services are provided by various private companies, which, unlike the river ferries noted above, are not considered in the light of necessary links in the system of road communication, and the companies therefore are permitted to charge fares for these services. The total number of passengers carried on the Sydney Harbour ferries during 1911 was 32,500,000.

The following statement shows the length and time of journey, and the fare charged on the various routes:—

To—	Dis-tance.	Time of Journey.	Fare, Single Journey.	To—	Dis-tance.	Time of Journey.	Fare, Single Journey.
	m. ch.	min.	d.		m. ch.	min.	d.
Milson's Point ...	0 60	6	1	Cockatoo Island ...	2 71	19	3
McMahon's Point ...	1 0	8	1	Woolwich ...	3 13	22	3
Lavender Bay ...	1 23	10	1	Drummoyne ...	4 2	26	3
Cremorne Point ...	1 35	10	2	Hunter's Hill ...	4 43	30	3
Neutral Bay ...	1 58	17	2	Gladesville Bridge	5 17	36	4
Musgrave-street ...	2 29	12	2	Abbotsford ...	6 23	44	4
Mosman ...	2 37	20	2	Gladesville ...	6 40	47	6
Parsley Bay ...	4 24	25	4	Cabarita ...	6 66	50	6
Watson's Bay ...	4 37	30	4	Stephen-street ...	0 60	12	1
Manly ...	6 72	38	4	Balmain—			
Balmoral ...	5 65	45	4	Bald Rock ...	1 15	14	1
Clifton Gardens ...	3 31	25	4	Darling-street ...	0 62	6	1
Athol Gardens ...	2 15	15	4	Mort's Dock ...	1 39	16	1
Longnose Point ...	1 78	14	2				

FARES FROM SYDNEY.

The passenger fares current in December, 1911, between Sydney and Australasian ports, are as follows :—

Ports.	Single Fares.		Ports.	Single Fares.	
	First Class.	Second Class.		First Class.	Second Class.
New South Wales—	£ s. d.	£ s. d.	Queensland—	£ s. d.	£ s. d.
Ballina ...	1 12 6	0 15 0	Brisbane ...	3 3 0	1 11 6
Bateman's Bay ...	1 0 0	...	Bowen ...	8 8 0	5 15 6
Bellinger River ...	1 10 0	0 15 0	Burketown ...	18 7 6	7 12 3
Bermagui ...	1 5 0	0 12 6	Bundaberg ...	4 4 0	2 4 6
Berry ...	0 7 6	...	Cairns ...	9 19 6	6 16 6
Bomaderry ...	0 7 6	...	Cardwell ...	9 19 6	6 16 6
Booral ...	0 12 0	...	Cooktown ...	11 0 6	7 17 6
Bulahdelah ...	0 13 6	...	Innisfail ...	9 19 6	6 16 6
Byron Bay ...	1 15 0	17s. 6d.— £1 5s.	Gladstone ...	5 5 0	2 17 9
Camden Haven ...	0 15 0	...	Lucinda ...	9 14 3	6 11 3
Cape Hawke ...	0 15 0	...	Mackay ...	7 17 6	5 5 0
Clarence River—			Maryborough ...	3 18 9	2 4 9
Maclean ...	1 12 6	0 15 0	Mourilyan Harbour	9 19 6	6 16 6
Grafton ...	1 15 0	0 17 6	Normanton ...	16 5 6	7 1 9
Coff's Harbour ...	1 12 6	0 17 6	Port Douglas ...	10 15 3	7 7 0
Coraki ...	1 15 0	0 17 6	Rockhampton ...	5 10 3	3 3 0
Eden ...	£1 10s.—	15s.—	Townsville ...	8 18 6	6 0 9
	£1 11s. 6d.	15s. 6d.	Thursday Island ...	14 14 0	6 11 3
Hastings River ...	1 5 0	0 15 0	South Australia—		
Kiama ...	0 6 0	...	Adelaide ...	£3 18s. 9d. —£4 4s.	3 3 0
Lismore ...	1 15 0	1 0 0	Northern Territory—		
Macleay River ...	1 10 0	0 15 0	Darwin ...	18 0 0	12 0 0
Manning River ...	1 2 6	0 15 0	Western Australia—		
Merimbula ...	1 10 0	0 15 0	Albany ...	£9 9s.— £10 10s.	7 7 0
Moruya ...	0 17 6	...	Fremantle ...	£9 9s.— £10 10s.	7 7 0
Nambucca River ...	1 0 0	0 15 0	Tasmania—		
Narooma ...	0 17 6	...	Hobart ...	2 14 6	1 13 0
Nelligen (Clyde R.)...	1 0 0	...	Launceston ...	2 14 6	1 13 0
Newcastle ...	0 6 0	0 3 6	New Zealand—		
Nowra ...	0 7 6	...	Auckland ...	7 0 0	4 0 0
Port Macquarie ...	1 5 0	0 15 0	Gisborne ...	8 0 0	4 10 0
Port Stephens ...	0 10 0	...	Napier—		
Shellharbour ...	0 5 0	...	Via Auckland ...	8 10 0	4 15 0
Shoalhaven ...	0 7 6	...	Via Wellington...	7 15 0	4 5 0
Tathra ...	1 10 0	0 15 0	Wellington ...	7 0 0	4 0 0
Trial Bay ...	1 10 0	0 15 0	Lyttelton ...	7 15 0	4 5 0
Tweed River ...	1 10 0	...	Dunedin ...	8 10 0	4 15 0
Ulladulla ...	0 15 0	...	Bluff ...	9 0 0	5 5 0
Wagonga ...	0 17 6	...			
Wilson River ...	1 5 0	0 15 0			
Wollongong ...	0 4 0	...			
Woolgoolga... ..	1 0 0	...			
Victoria—					
Melbourne ...	£2 2s.— £2 10s.	1 11 6			

Between Sydney and foreign ports the fares were as follows:—

Ports.	Single Fares.		
	First Class.	Second Class.	Third Class.
	£ s. d.	£ s. d.	£ s. d.
Antwerp	} 66 0 0	38 10 0	£17—£21
Bremen			
Toulon	£67 2s.—£78 2s.	£39 12s.—£44	£15—£19
Brindisi	£67 2s.—£78 2s.	£44—£48 8s.	.....
Genoa*	£61 12s.—£78 2s.	£36 6s.—£44	£15—£19
London	£66—£82 10s.	£38 10s.—£46 4s.	£15—£21
Marseilles	£61 12s.—£78 2s.	£36 6s.—£44	.....
Naples*	£61 12s.—£78 2s.	£36 6s.—£44	£15—£19
Southampton	66 0 0	38 10 0	£15—£19
Venice	83 10 0	.....	.....
Aden	£62 14s.—£73 14s.	£37 8s.—£41 6s.	.....
Bombay	38 10 0	30 16 0	£12 5s.—£14 5s.
Calcutta	38 10 0	30 16 0	£12 5s.—£14 5s.
Colombo	35 4 0	28 12 0	£8 5s.—£10 5s.
Hong Kong	£30—£40	£19 10s.—£26	15 0 0
Java*	£25—£27	.....	£12 10s.—£13 10s.
Manila	£28 10s.—£38	£18 15s.—£25	£14 10s.—£15
Madras	38 10 0	30 16 0	.....
Penang	45 2 0	35 4 0	15 15 0
Port Moresby	12 0 0	.....	8 0 0
Shanghai	44 0 0	28 10 0	16 10 0
Singapore, <i>via</i> Brisbane	30 0 0	.....	15 0 0
Singapore, <i>via</i> Fremantle	28 0 0	.....	18 5 0
Mauritius	52 0 0	35 12 0	17 16 0
Port Said	£62 14s.—£73 14s.	.....	£15—£19
Reunion	51 0 0	37 0 0	17 15 0
Yokohama	47 0 0	30 0 0	18 0 0
Aneityum	10 0 0	.....	6 0 0
Fiji (Suva and Levuka)	£10—£10 10s.	.....	£6—£6 5s.
New Hebrides (Havannah)	£12—£14	.....	£6—£7
Honolulu	30 0 0	20 0 0	12 10 0
Noumea	10 0 0	7 0 0	4 8 0
Samoa Islands	15 0 0	.....	9 0 0
San Francisco	£40—£43 10s.	£25—£27 10s.	£16—£18 1s. 8d.
Tonga Islands (Nukualofa)	17 0 0	.....	11 0 0
Vancouver... ..	40 0 0	25 0 0	16 0 0
Cape Town	£31 10s.—£36 15s.	.....	£11 11s.—£17 17s.
Natal	£31 10s.—£36 15s.	.....	£11 11s.—£17 17s.
Monte Video	50 0 0	30 0 0	16 16 0

* At March, 1912.

DISTANCES FROM SYDNEY.

The distances by water between Sydney and some of the principal ports of the world are as follow:—

Sydney to—	Miles.	Sydney to—	Miles.
Adelaide	1,084	London, <i>via</i> Cape Horn	12,051
Auckland, N.Z.	1,277	London, <i>via</i> Cape of Good Hope... ..	13,379
Brisbane	500	Melbourne... ..	576
Capetown	6,774	Noumea	1,058
Fremantle	2,460	Port Said	8,605
Hobart	628	San Francisco	6,447
Hong Kong	5,888	Singapore	4,230
Honolulu	4,656	Suva	1,770
London, <i>via</i> Vancouver	12,925	Vancouver... ..	6,985
London, <i>via</i> Suez direct	11,603	Wellington, N.Z.... ..	1,200

ORGANISATION.

The following organisations of employees in connection with shipping have been registered under the Commonwealth Conciliation and Arbitration Acts :—

- Merchant Service Guild of Australasia.
- Federated Stewards and Cooks Union of Australasia.
- Australian Institute of Marine Engineers.
- Federated Seamen's Union of Australia.
- Waterside Workers' Federation of Australia.
- Marine Cooks, Bakers, and Butchers' Association of Australia.
- Federated Marine Stewards and Pantry-men's Association of Australasia.

The Commonwealth Steamship Owners' Association is an organisation of employers. All these organisations, except the Waterside Workers' Federation of Australia, are bound as to hours, wages, and conditions of employment, by awards of the Court, which are operative for five years from date of promulgation.

Between the Waterside Workers' Federation of Australia and the Commonwealth Steamship Owners' Association, an agreement was registered in the Commonwealth Court as to rates of pay and conditions of work, in the Port of Sydney.

WAGES AND AWARDS.

Australian Trade.

Minimum rates of wages payable to navigating officers, seamen, cooks, and stewards of vessels engaged in Interstate trade by the six companies which comprise the Commonwealth Steamship Owners' Association are fixed by awards of the Commonwealth Court of Conciliation and Arbitration.

Under the award relating to the masters and navigating officers of steamers in the Australian trade, and delivered in April, 1912, the minimum rate of wages per calendar month are graded, according to the size of the vessels, for the Interstate trade as follows :—

Gross Registered Tonnage.	Master.	Officers.		
		Chief.	Second.	Third.
Passenger vessels—	£	£	£	£
250 tons and under ...	21	15	12	...
251- 500	23	16	13	...
501-1,000	25	16	13	11
1,001-2,000	28	17	14	12
2,001-3,000	32	18	15	12
3,001-4,000	37	19	16	13
Over 4,000	43	20	17	14
Cargo vessels—				
250 tons and under ...	20	14	12	...
251- 500	22	15	12	...
501-1,000	24	15	12	11
1,001-2,000	27	16	13	12
2,001-3,000	30	17	14	12
3,001-4,000	33	18	15	13
Over 4,000	36	18	15	13

For coastal trade within a State the rates are fixed as follows, per month:—

Gross Registered Tonnage.	Master.	Officers.		
		Chief.	Second.	Third.
Passenger vessels—	£	£	£	£
Up to 125 tons	20	14	11	...
126- 250	21	15	12	11
251- 500	23	16	13	11
501-1,000	25	16	13	11
1,001-1,500	27	17	14	12
1,501-2,000	28	17	14	12
2,001-3,000	32	18	15	12
3,001-4,000	37	19	16	13
Over 4,000 tons	43	20	17	14
Cargo vessels—				
Up to 125 tons	19	13	11	...
126- 250	19	14	12	11
251- 500	22	15	12	11
501-1,000	24	15	12	11
1,001-1,500	26	16	13	12
1,501-2,000	27	16	13	12
2,001-3,000	30	17	14	12
3,001-4,000	33	18	15	13
Over 4,000 tons	36	18	15	13

For fourth and fifth officers in all classes the minimum is £10 per month.

Leave of absence for a continuous period on full pay has also been awarded—the masters being allowed from 21 to 28 days, and the officers 14 days per annum. If required to do duty at his home port from the expiration of one hour after the vessel has been berthed till two hours before its departure, or for more than eight hours per day in any other port, overtime must be paid to a master at the rate of 5s. per hour, and to an officer 2s. 6d. per hour.

For engineers, the minimum monthly rates were, by judgment given in May, 1909, fixed as follow:—

Class of Vessel.	Engineers.			
	Chief.	Second.	Third.	Fourth.
	£	£	£	£
With 100 n.h.-p.	20	16	14	...
100-149	21	16	14	...
150-199	22	17	14	...
200-249	24	18	15	12
250-349	25	18	15	12
349-449	27.5	19	16	13
450 and over	29	20	16	13

For fifth, sixth, and seventh engineers on vessels over 450 n.h.-p., the minimum rates are respectively £12, £11, and £10 per month.

The award relating to seamen became operative at the end of 1911. The minimum rates of wages per month are:—

Boatswain	£	Donkeyman... ..	£
A.B., employed as lamp-trimmer ...	9	Greaser	11
A.B.	8	Fireman	10
Ordinary seamen, 18 years and over	6	Trimmer	8
„ under 18 years... ..	5		

Working hours in port for seamen are fixed as between 7 a.m. and 5 p.m. the maximum being eight per day. At sea the hours for stokehold men have been fixed at eight per day, this provision being extended to deckhands from 1st July, 1912.

Seamen are not required to work on Sundays or holidays if in port, except for overtime pay, and each seaman is entitled to an extra day's pay or a day off ashore at his home port for each holiday spent at sea.

The award relating to marine cooks, bakers, and butchers dates from 31st December, 1908, the minimum wages per month being :—

Passenger vessels—			£	s.	Culleryman			£	s.
Chief cook ... ..	...	...	13	10	Sculleryman ... ..	...	...	5	10
Second cook ... ..	...	...	8	10	Galley boy ... ..	...	...	3	0
Third cook ... ..	...	...	6	10	Cargo and collier vessels—				
Ship's cook ... ..	...	...	7	10	Chief cook ... ..	...	...	10	0
Baker ... ..	...	...	9	10	Assistant cook ... ..	...	...	3	0
Butcher ... ..	...	...	7	0					

For passenger vessels trading within the limits of a single State the rates are as follow :—Chief cook £12, second cook £7, third cook and butcher £5 per month, respectively.

Extra payment at the rate of 1s. per hour is made to each member of the galley staff for work in port after 5.30 p.m., when there are no passengers on board, or after 6.30 p.m., when passengers are on board.

Stewards and pantrymen are governed by an award made in May, 1910. The minimum rates of pay per month are :—

			£	s.	Stewards of second grade,			£	s.
Second steward ... ..	...	...	7	10	Stewards of second grade,	...	...	2	0
Steward in charge of second saloon	...	...	7	10	under 17 years	...	...	2	0
Pantryman ... ..	...	...	6	10	" " 17-19 years	...	...	3	0
Fore cabin steward... ..	...	...	6	10	" " 19-21 years	...	...	4	0
Chief saloon steward ... ..	...	...	6	0	" " 21 years or over	...	...	5	0
Barman and storekeeper ... ..	...	...	5	10	Night-watchman ... ..	...	...	£7 to £8	
Other stewards of first grade	...	...	5	10	Cargo or collier steward	...	...	10	0

The rate of overtime is 10d. per hour for stewards of second grade, and 1s. per hour for others. Overtime is payable for all work in port after 5 p.m., and at terminal ports for work after 10 a.m., or one hour after arrival, whichever is the later.

COMMERCE.

UNDER the Commonwealth of Australia Constitution Act, 1900, power to make laws with respect "to trade and commerce with other countries and among the States," was vested in the Federal Parliament, and, accordingly, control of the Customs and Excise Department, till then maintained by the State, was transferred to the Commonwealth at the commencement of the Federation in 1901; and the duty of collecting statistics of the trade of the States, oversea and interstate, has devolved since that date on the Commonwealth Government. Following on alterations in the financial arrangements between the Commonwealth and the States, the Federal Government ceased to collect particulars of the interstate trade from 13th September, 1910; consequently the figures shown in this chapter relate only to oversea trade—that is, the trade of New South Wales with countries outside the Commonwealth.

DETERMINATION OF VALUES.

The recorded value of goods imported, as shown in the tables throughout this chapter, represents the amount on which duty is payable, or would be payable if the duty were *ad valorem*. The value of goods subject to duty is taken to be the fair market value in the principal markets of the country whence the same were exported, plus 10 per cent. to cover the cost of packing insurance, freight, and all other charges. The value of goods exported is the value in the principal markets of the State at the date of export.

LEGISLATION.

The legislation passed by the Commonwealth Government with respect to trade and commerce includes the following Acts:—

- Customs, 1901, 1910 (Nos. 9 and 36).
- Customs Tariff, 1902, 1906 (Nos. 14 and 17), 1908 (Nos. 7 and 13), 1910, 1911.
- Sea Carriage of Goods, 1904 [Bills of Lading].
- Secret Commissions, 1905.
- Commerce (Trade Descriptions), 1905 [Merchandise Marks].
- Australian Industries Preservation, 1906, 1907, 1909, 1910 [Trusts and Dumping].

CUSTOMS AND TARIFFS.

The first Customs Act provided for the necessary machinery to administer in matters relating to Customs, and also prescribed the manner in which duties were to be computed and paid. The Customs Act, No. 9 of 1910, related to interstate accounts and to dutiable goods passing between the States. Act No. 36 of 1910 assures to the Customs Department control over all goods designed for export, and, subject to restrictions under any enactment, extends the provisions of earlier Acts in regard to prohibited goods, payments of duty, weight and measurement, &c. It also provides for supervision of preparation or manufacture for export of articles used for or with food or drink for human consumption, and establishes conditions as to purity, soundness, and freedom from disease, of goods designed for export.

The various Customs Tariff Acts provide general and special tariffs, uniform for all the States, but not affecting the right of Western Australia under the Constitution Act to impose a local duty on goods imported from other States. Preferential rates of duty apply to certain goods imported from and being produced within the Union of South Africa.

SEA CARRIAGE OF GOODS.

The Sea Carriage of Goods Act nullifies any clause in a Bill of Lading or similar document, covenanting or agreeing—(a) that the owner, charterer, master, or agent of any ship, or the ship itself, is relieved from liability for loss or damage to goods arising from the harmful or improper condition of the ship's hold or any other part of the ship in which the goods are carried, or arising from negligence, fault, or failure in the proper loading, stowage, custody, care, or delivery of goods received . . . to be carried in or by the ship; (b) to lessen any obligations of owner or charterer to exercise due diligence, and to properly man, equip, and supply the ship, to make and keep it seaworthy, and to make and keep the hold, refrigerating and cool chambers and all other parts of the ship in which goods are carried, fit and safe for their reception, carriage, and preservation; (c) or to lessen the obligations of master, officers, agents, and servants of any ship carefully to handle and stow goods, and to care for, preserve, and properly deliver them.

SECRET COMMISSIONS.

The Secret Commissions Act in regard to agencies and contracts, prohibits any gift or consideration as an inducement or reward, in matters affecting the principal's affairs or business.

TRADE DESCRIPTIONS AND SUPERVISION OF EXPORTS.

Regulations under the Commerce (Trade Descriptions) Act, 1905, prohibit the importation of specified goods unless there is applied to such goods a trade description, *e.g.* :—

Articles used for food or drink by man, or used in the manufacture or preparation of articles used for food or drink by man.

Medicines or medicinal preparations for internal or external use.

Manures.

Apparel (including boots and shoes), and the materials from which apparel is manufactured.

Jewellery.

Agricultural seeds and plants.

With regard to exports, the undermentioned goods are prohibited from being exported unless there is a trade description applying to such goods:—

Butter.	Milk—
Cheese.	Concentrated.
Fruit.	Condensed.
„ preserved (including dried).	Condensed skimmed.
Honey.	Dried.
Jam.	Plants.
Leather.	Potatoes.
Maize.	Rabbits and hares.
Margarine.	Seeds.
Meat—	
Canned.	
Extract or essence.	
Other (except rabbits and hares).	

A high standard of the quality of exports is necessarily assured by the enforcement of the Regulations.

Goods are inspected and examined and in certain cases a declaration by the exporter must also accompany the notice of intention to export.

Approved goods for export are marked with an official stamp, and butter and cheese are also graded, whilst carcase meat, rabbits, and hares, are classified and marked.

Special instructions regarding the supervision and inspection of meat for export are issued, under the Commerce Act, to meat Inspectors, and standard requirements are set for abattoirs and premises where meat is preserved (corned or canned) for export.

There are now employed in the frozen meat trade between Australia and the United Kingdom and European countries at least 58 steamers with a carrying capacity aggregating 2,565,600 carcasses, all which vessels visit the State of New South Wales.

LOCAL INDUSTRIES.

Preservation and Encouragement.

The enactments relating to the preservation of Australian industries extend also to the repression of destructive monopolies, so that it is an offence for any person or corporation to make or engage or continue in any combination "to restrain trade or commerce to the detriment of the public, or to destroy or injure by means of unfair competition any Australian industry, the preservation of which is advantageous to the Commonwealth, having due regard to the interests of the producers, workers, or consumers." Monopoly of, or attempt or conspiracy to monopolise, any part of the trade of the Commonwealth, so as to control to the detriment of the public the supply or price of any service, merchandise, or commodity, is an offence, as is also the payment of rebates or the refusal to sell so as to promote exclusive dealing.

BOUNTIES ON EXPORTS.

With the object of encouraging local industries, general and specific legislation has been passed by the Commonwealth Parliament. The Bounties Act, 1907, provides for the payment of bounties on certain produce of primary industries, *e.g.*, on cotton, fibres, tobacco leaf for cigars, coffee, fruits, rice, oil materials (cotton-seed and linseed), wool tops. The bounty rate is in most cases fixed at 10 per cent. on the market value; exceptions occur in the case of jute fibre carrying a bonus of 20 per cent. of the market value, rice uncleaned carrying 20s. per ton, tobacco leaf 2d. per lb., and dates, dried, 1d. per lb. As to wool tops, the bounty was 1½d. per lb. for the three years 1909, 1910, and 1911; for 1912 and 1913 the bounty is fixed at 1d. per lb.

In regard to sugar production, several enactments have been made, and their main provisions are embodied in the Sugar Bounty Act, 1910, which stipulates a bonus rate of 6s. per ton of cane of 10 per cent. quality, grown by white labour, under reasonable wage and employment conditions.

Under the Manufactures Encouragement Act, 1908, special provision is made for the payment of bonuses of 12s. per ton for the production of iron, pig and puddled bar, and steel, made from Australian ore; on galvanized sheet or plate-iron or steel, wire or wire-netting, and iron or steel tubes or pipes, the bonus was fixed at 10 per cent. on the value of the produce, and was payable only to 30 June, 1912.

A specific enactment, the Shale Oils Bounties Act, 1910, assures a bounty bonus of 2d. per gallon on kerosene, and 2s. 6d. per cwt. on refined paraffin wax manufactured in Australia from Australian shale.

Practically all these enactments, with the exception of the Sugar Bounties Act, 1910, are of temporary application. The shale oils bounties expire on 30 June, 1913; bounties on iron and steel expire on 30 June, 1914; and under the Bounties Act, 1907, the period during which any bonus may be claimed ranges from five to fifteen years.

CUSTOMS AND EXCISE REVENUE.

Between the 1st January, 1901, when the Department of Customs and Excise was transferred to the control of the Commonwealth, and the 8th October, 1901, when the first uniform Federal tariff was introduced in the Federal Parliament, the State tariff, which had been on a freetrade basis, was administered by the Commonwealth. On 8th August, 1907, a new tariff superseded that of 1901, the duties in many cases being increased considerably. Duties of Customs and Excise are now collected under the Customs Act, 1901-10 (No. 36 of 1910), the Customs Tariff, 1908-1911, the Excise Tariff (No. 8 of 1908), the Excise Tariff (Starch) Act (No. 14 of 1908), and the Excise (Sugar) Act No. 17 of 1910.

The following statement shows the gross amounts collected in New South Wales under each division of the tariff during 1911, and also shows the drawbacks, refunds, and the net revenue:—

Division.	Article.	Gross Collections.	Drawbacks Paid.	Refunds.	Net Revenue.
		£	£	£	£
I.	Ale, Spirits, and Beverages	1,155,921	61	210	1,155,650
II.	Tobacco and Manufactures thereof	604,619	..	80,087	524,532
III.	Sugar	93,817	2,292	88	91,437
IV.	Agricultural Products and Groceries	866,151	9,874	1,192	355,085
V.	Textiles, Felts, and Furs, and Manufactures thereof, and Attire	876,871	14,702	3,098	859,071
VI.	Metals and Machinery	548,002	10,712	5,589	531,751
VII.	Oils, Paints, and Varnishes	101,058	4,077	691	96,290
VIII.	Earthenware, Cement, China, Glass, and Stone	149,224	1,597	786	140,841
IX.	Drugs and Chemicals	46,446	1,945	110	44,391
X.	Wood, Wicker, and Cane	187,872	2,039	654	184,679
XI.	Jewellery and Fancy Goods	136,125	3,933	450	131,742
XII.	Leather and Rubber	125,724	4,453	773	120,498
XIII.	Paper and Stationery	96,648	1,061	697	94,870
XIV.	Vehicles	79,444	648	528	78,268
XV.	Musical Instruments	60,984	402	139	60,443
XVI.	Miscellaneous	122,705	3,484	773	118,448
	Unclassified	12,787	..	105	12,682
	Total, Customs Duties	£ 4,757,848	61,300	95,920	4,600,628
	Excise—				
	Beer, viz. :—Ale, Porter, and other Beer	226,220	207	..	226,013
	Spirits	130,291	63	162	130,066
	Sugar	246,926	160	55	246,711
	Tobacco	193,667	..	..	193,667
	Cigars	992	..	..	992
	Cigarettes	282,789	..	..	282,789
	Licenses	2,317	..	9	2,308
	Total, Excise Duties	£ 1,083,202	430	226	1,082,546
	Total, Customs and Excise Duties	£ 5,841,050	61,730	96,146	5,683,174

The amounts collected in New South Wales from customs and excise, and the proportion per head of population during the last sixteen years, have been as follows :—

Year.	Net Amount collected from—		Total.	Per Head of Population.		Total.
	Customs.	Excise.		Customs.	Excise.	
1896	£ 1,367,431	£ 269,329	£ 1,636,760	£ s. d. 1 1 6	£ s. d. 0 4 3	£ s. d. 1 5 9
1897	1,239,084	279,909	1,518,993	0 19 2	0 4 4	1 3 6
1898	1,250,290	300,471	1,550,761	0 19 0	0 4 7	1 3 7
1899	1,335,194	323,925	1,659,119	1 0 0	0 4 10	1 4 10
1900	1,421,763	355,918	1,777,681	1 1 0	0 5 3	1 6 3
1901	1,871,248	401,546	2,272,794	1 7 3	0 5 10	1 13 1
1902	2,698,682	595,590	3,294,272	1 18 8	0 8 6	2 7 2
1903	2,761,757	619,296	3,381,053	1 19 0	0 8 9	2 7 9
1904	2,465,738	626,160	3,091,898	1 14 3	0 8 8	2 2 11
1905	2,451,564	658,010	3,109,574	1 13 4	0 8 11	2 2 3
1906	2,654,366	685,160	3,339,526	1 15 4	0 9 1	2 4 5
1907	3,367,286	808,827	4,176,113	2 3 9	0 10 6	2 14 3
1908	3,475,773	819,036	4,294,809	2 4 4	0 10 5	2 14 9
1909	3,642,297	744,138	4,386,435	2 5 9	0 9 4	2 15 1
1910	4,097,870	901,522	4,999,392	2 10 6	0 11 1	3 1 7
1911	4,600,628	1,082,546	5,683,174	2 15 4	0 13 0	3 8 4

It will be seen that the customs revenue for the years 1910 and 1911 shows a considerable increase over that received for the year 1909, both in the aggregate and per head of population.

While the general prosperity of the State would account for increases in the quantities of dutiable goods imported in late years, the fact should be remembered that in 1910 the system ceased by which, with the aid of inter-state debits and credits, accurate accounts for each State were compiled by the Commonwealth authorities to show the actual revenue received for goods imported by each State for its own home consumption.

As Sydney is a distributing centre for the whole of Australia, it follows that the customs revenue received at this port during 1910 and 1911 was large, and the figures for the State of New South Wales consequently include customs receipts for goods which were, in the course of trade, transferred to other States, and consumed therein.

In 1909 the corresponding amount collected from customs and excise duties was £5,005,613, equal to £3 2s. 11d. per head; whereas, after taking into account the debits and credits, the amount per head was reduced to £2 15s. 1d. as shown in the table.

The aggregate contributions to Customs and Excise per head of population have more than doubled under the Federal tariff.

The following statement shows the quantities of spirits, beer, and tobacco on which excise duty was paid in New South Wales during 1910 and 1911 :—

Article.	Rate of Excise Duty.	Quantity on which Excise Duty was Paid.	
		1910.	1911.
Spirits—	Per proof gal.	Gal.	Gal.
Brandy (pure Australian standard brandy)	10s.	41,762	47,814
Brandy (blended wine brandy, &c.)	11s.	5,351	7,587
Gin (distilled from barley, malt, grain, or grape wine)	12s.	1,190	1,968
Whisky (Australian standard malt whisky)	10s.	10,504	18,074
Whisky (Australian blended whisky)	12s.	323	137
Rum (Australian standard rum)	12s.	57,593	86,595
Rum (spirits, n.e.i.)	13s.	21,352	13,703
Spirits, n.e.i.	13s.	22,372	21,009
Spirits for industrial or scientific purposes	13s.	21,842	25,158
Do fortifying wine	6d.	38,040	30,680
Do making vinegar	6d.	...	10,280
Total, spirits		220,329	263,005
	Per gal.		
Beer, n.e.i.	3d.	15,775,120	17,690,560
Beer, brewed from malt and hops	2d.	482,520	622,320
Total, beer		16,257,640	18,312,880
	Per lb.	lb.	lb.
Tobacco—Manufactured, n.e.i.	1s.	3,626,040	3,798,340
Tobacco—Hand-made	9d.	92,000	100,000
Total, tobacco		3,718,040	3,898,340
	Per lb.		
Cigars—Machine-made	9d.	...	...
Cigars—Hand-made	3d.	75,120	79,440
Total, cigars		75,120	79,440
	Per lb.		
Cigarettes	3s.	1,500,000	1,871,327
Cigarettes—Hand-made	2s. 9d.	40,844	15,153
Total, cigarettes		1,540,844	1,886,520

During 1911, excise duty was paid also on 61,686 tons of sugar, at £4 per ton, and, at £3 per ton, on 20 tons of invert-sugar.

IMPORTS AND EXPORTS.

The following statement shows the annual values of the oversea imports and exports for the period 1885 to 1911 :—

Period.	Imports (Average Annual Value).	Exports (Average Annual Value).	Per head of Population.		
			Imports.	Exports.	Total Oversea Trade.
	£	£	£ s. d.	£ s. d.	£ s. d.
1885-89	13,514,534	10,624,323	13 10 2	10 12 6	24 2 8
1890-94	11,689,109	13,138,884	9 19 9	11 4 7	21 4 4
1895-99	12,233,446	16,985,808	9 9 5	13 3 0	22 12 5
1900-04	15,418,701	18,879,740	11 1 4	13 11 0	24 12 4
1905	14,485,123	24,518,534	9 17 4	16 14 0	26 11 4
1906	17,603,503	30,986,888	11 14 6	20 12 10	32 7 4
1907	20,860,391	32,894,073	13 11 3	21 7 10	34 19 1
1908	19,828,486	26,880,709	12 13 0	17 3 1	29 16 1
1909	20,888,019	26,044,789	13 2 4	16 7 2	29 9 6
1910	23,238,993	32,035,451	14 6 7	19 14 11	34 1 6
1911	27,343,423	32,161,401	16 9 0	19 7 0	35 16 0

From 1904 onwards the annual increases in the volume of trade have been considerable, with the exception of 1908 and 1909, and the figures for 1911 show a record of £59,504,829, or £35 16s., per head of population.

The value of the exports from year to year forms a sure index of the progress of a country like New South Wales, the result of a rise or fall in the value of the staple commodities, or of a depression in production, being readily traceable in the corresponding rise or fall in the export values. Oversea exports in 1907 were the highest for any year over the whole period; there was a decrease in value in 1908 and 1909 caused by the decline in the prices of pastoral and mineral products. In 1910 the value was almost equal to that of 1907. The question of imports bears a close connection with State financing, as loans raised outside the State reach the state in the form of goods, which are shown in the import returns. Thus 1881 to 1891, and 1899 to 1902, were years of large borrowing. In the years 1900 and 1901 also the imports underwent abnormal expansion on account of loading-up by merchants in anticipation of the Federal tariff. The value of oversea imports in 1911 was greater by more than £4,000,000 than in 1910, which was previously the highest for the whole period.

DISTRIBUTION OF TRADE.

The table following shows the distribution of the oversea trade of New South Wales, viz., values of imports from and exports to the various countries, and also the values of imports according to country of origin. It is not possible to trace exports to their ultimate destination.

The outstanding feature of the table is the extent of the trade with the United Kingdom. Its relative magnitude is demonstrated in the figures showing the proportion which the trade of each of the countries named bears to the total oversea trade of New South Wales :—

Country.	Values of				Proportion to Total.		
	Imports according to Country—		Exports.	Total Trade.	Imports according to Country—		Exports.
	Of Origin	Whence Imported			Of Origin.	Whence Imported.	
	£	£	£	£	%	%	%
Europe—							
United Kingdom	12,675,664	15,740,509	12,261,971	28,002,480	46·36	57·57	38·13
Austria	153,576	2,452	244,319	246,771	·56	...	·76
Belgium	372,049	820,074	2,431,797	3,251,871	1·36	3·00	7·56
France	916,918	225,804	3,640,477	3,866,281	3·35	·83	11·32
Germany	2,429,272	1,646,121	4,201,080	5,847,201	8·89	6·02	13·06
Italy	226,029	138,985	254,745	393,730	·83	·51	·79
Netherlands	143,906	77,473	71,799	149,272	·53	·28	·22
Norway	186,590	143,567	237	143,804	·68	·53	...
Portugal	33,801	4,232	850	5,082	·12	·02	...
Russia	21,875	...	2,690	2,690	·08	...	·01
Spain	50,928	5,769	100	5,869	·19	·02	...
Sweden	262,642	196,672	619	197,291	·96	·72	...
Switzerland	401,800	1,344	232	1,576	1·47	...	...
Turkey	17,130	1,159	2	1,161	·06	...	...
Rest of Europe	21,769	5,252	9,069	14,321	·08	·02	·04
Total	17,913,949	19,009,413	23,119,987	42,129,400	65·52	69·52	71·89
Asia—							
Burma	61,722	88,590	2,505	91,095	·23	·32	...
Ceylon	329,832	328,699	1,895,535	2,224,234	1·21	1·20	5·89
Hong Kong	1,901	143,766	440,384	584,150	...	·53	1·37
India	748,730	690,562	478,945	1,169,507	2·74	2·53	1·49
Straits Settlements	62,995	126,561	350,584	477,145	·23	·46	1·09
Arabia	12,708	1,280	...	1,280	·05	...	...
Asia Minor	10,770	15,247	45	15,292	·04	·06	...
China	191,083	33,878	92,481	126,359	·70	·12	·29
Japan	418,978	420,638	666,887	1,087,525	1·53	1·54	2·07
Netherlands India	370,408	320,220	218,431	538,651	1·35	1·17	·68
Philippine Islands	38,854	38,535	235,592	274,127	·14	·14	·73
Rest of Asia	9,865	4,785	11,189	15,974	·04	·02	·04
Total	2,257,846	2,212,761	4,392,578	6,605,339	8·26	8·09	13·65
Africa—							
Union of South Africa	173,670	30,617	323,792	354,409	·64	·11	1·01
Canary Islands	74	25	73,907	73,932	...	...	·23
Egypt	6,690	5,976	9,255	15,231	·02	·02	·03
Madeira Islands ... ..	...	...	44,087	44,087	...	...	·14
Portuguese East Africa	158	...	46,285	46,285	...	...	·14
Rest of Africa	8,752	2,971	122	3,093	·03	·01	...
Total	189,844	39,589	497,448	537,037	·69	·14	1·55
America, Northern—							
Canada	331,585	480,269	113,532	593,851	1·21	1·76	·35
United States of America	4,020,149	2,075,391	769,727	3,745,118	14·70	10·88	2·40
Rest of North America	130	...	...	...	...	...	...
Total	4,351,864	3,455,660	883,309	4,338,969	15·91	12·64	2·75
America, Central and Southern—							
British West Indies	17,000	40	9	49	·06	...	...
Brazil	21,152	1	...	1	·08	...	...
Chile	20,718	20,203	358,146	378,349	·07	·08	1·12
Cuba	37,486	21	...	21	·14	...	...
Mexico	794	6	12,056	12,062	...	...	·04
Peru	519	5	35,069	35,074	...	...	·11
West Indies	13,502	...	...	...	·05	...	...
Rest of Central and Southern America	23,246	3	3,569	3,572	·09	...	...
Total	134,417	20,279	408,849	429,128	·49	·08	1·27
Australasia—							
Australian States	20,896	...	...	...	·08	...	...
New Zealand	1,722,021	1,861,335	1,686,996	3,548,331	6·80	6·81	5·25
Papua	72,001	74,439	91,254	165,693	·26	·27	·28
Total	1,814,918	1,935,774	1,778,250	3,714,024	6·64	7·08	5·53

Country.	Values of				Proportion to Total.		
	Imports according to Country—		Exports.	Total Trade.	Imports according to Country—		Exports.
	Of Origin	Where Imported.			Of Origin.	Whence Imported.	
Polynesia—	£	£	£	£	%	%	%
Fiji	373,727	435,123	407,385	842,508	1.37	1.59	1.27
Ocean Island	16,919	17,043	22,426	39,469	.06	.06	.07
Hawaii	263	794	55,672	56,466	...	...	.17
Marshall Islands	77	1,398	18,277	19,675	...	...	.06
New Britain (New Tomern)	6,222	6,635	50,604	57,239	.02	.02	.16
New Caledonia	48,943	54,241	136,400	190,641	.18	.20	.42
New Guinea, German	140	143	10,671	10,814	...	...	.03
New Hebrides	35,407	37,195	83,899	121,094	.13	.14	.26
South Sea Islands	196,872	116,103	276,033	392,136	.72	.43	.86
Rest of Polynesia	2,520	1,277	19,613	20,890	.01	.01	.06
Total	681,090	669,952	1,080,980	1,750,932	2.49	2.45	3.36
Grand Total	27,343,428	27,343,428	32,161,401	59,504,829	100.00	100.00	100.00

Of the foreign countries the United States of America supply the largest proportion of imports to New South Wales; and formerly provided the largest foreign market for the exports of this State, but the steadily increasing direct shipments of wool to the Continent of Europe have rendered Germany, France, and Belgium, far better export markets. The import trade with America, however, is still greater than that transacted direct with the principal Continental countries, although the imports of German origin hold third place in order of magnitude.

The direct trade between this State and Belgium began in 1881, being attributable to a large extent, to the International Exhibition held in Sydney during 1879-80. In point of value the Belgian trade is larger than that of any foreign country, Germany, the United States of America, and France excepted; but the port of Antwerp, which receives the bulk of the trade, is the distributing centre for a great part of the wool destined for French, German, and other Continental markets, and it is not possible to say how much of the goods shipped to Belgium are for local requirements.

Trade with Germany, steadily maintained since 1879, has attained considerable dimensions, exceeding that with any other foreign country.

Trade with France has risen to importance since 1881, but has been accompanied by a corresponding falling-off in the trade with New Caledonia, the chief dependency of France in the South Pacific, and an important market of this State, which has been disturbed by the establishment of regular communication between France and her dependency, and by increases in the French tariff during recent years.

Regular communication with Java and other islands of the East Indies is effected by steamers of British, German, and Dutch lines, and there has been a considerable increase in the direct trade with New South Wales.

The other foreign countries whose trade with New South Wales is of importance, are China and Japan. The imports and exports of Hong Kong, however, belong in reality to the Chinese Empire generally, and the diminution which has taken place in the China trade since 1881 is to be attributed largely to transference of part of the trade from the ports of the Chinese Empire to Hong Kong; but, if allowance is made for this transference, it will be found that the actual loss of trade is considerable.

The war with China gave Japan a new importance, which was enhanced by the Russo-Japanese conflict, so that in the future Japan may be expected to offer a large market for many of the products of New South Wales.

The table given above shows that, between the imports according to country of origin and country whence shipped, there were appreciable differences in the cases of the United Kingdom, Belgium, France, Germany, Switzerland,

China, the Union of South Africa, and the United States of America, and smaller differences in the cases of other countries. Approximately 58 per cent. of the total imports were shipped from the United Kingdom, 16 per cent. from British possessions, and 26 per cent. from foreign countries ; but, according to the country of origin, the proportion of British goods imported was 61 per cent., and of foreign goods 39 per cent.

THE BRITISH EMPIRE AND FOREIGN COUNTRIES.

The distribution of the oversea trade of New South Wales for 1911, as between British and Foreign Countries, is summarised in the following statement :—

	Imports by Country—		Exports.	Total Trade.
	Of Origin.	Whence Shipped.		
	£	£	£	£
Europe—				
British	12,678,674	15,741,298	12,270,219	28,011,517
Foreign	5,235,275	3,268,115	10,849,768	14,017,883
Total	17,913,949	19,009,413	23,119,987	42,129,400
Asia—				
British	1,206,069	1,380,677	3,168,012	4,548,689
Foreign	1,051,777	832,077	1,219,266	2,051,343
Total	2,257,846	2,212,754	4,387,278	6,600,032
Africa—				
British	179,215	33,581	323,906	357,487
Foreign	10,129	6,008	173,542	179,550
Total	189,344	39,589	497,448	537,037
America, North—				
British	331,703	480,269	113,582	593,851
Foreign	4,020,161	2,975,391	769,727	3,745,118
Total	4,351,864	3,455,660	883,309	4,338,969
America, Central and Southern—				
British	20,295	40	14	54
Foreign	114,122	20,239	408,835	429,074
Total	134,417	20,279	408,849	429,128
Australasia—				
British	1,814,918	1,935,774	1,778,250	3,714,024
Foreign	140	150	15,971	16,121
Total	1,815,058	1,935,924	1,794,221	3,730,145
Polynesia—				
British	391,847	453,443	438,167	891,610
Foreign	289,103	216,366	632,142	848,508
Total	680,950	669,809	1,070,309	1,740,118
Totals—				
British	16,622,721	20,025,082	18,092,150	38,117,232
Foreign	10,720,707	7,318,346	14,069,251	21,387,597
Grand Total	27,343,428	27,343,428	32,161,401	59,504,829
British per cent. of total ...	60.79	73.24	56.25	64.06
Foreign „ „ ...	39.21	26.76	43.75	35.94

The proportion of British to total trade affords satisfactory evidence of the continued cohesion of Empire trade. Of oversea imports, according to country of origin, approximately 61 per cent. are of British manufacture or production, thus leaving only 39 per cent. of foreign origin. But rather more than 73 per cent. of the imports are shipped from British countries, the difference of 12 per cent. in favour of British countries being attributable practically to the importance of Great Britain as a transshipping country. Of the exports from New South Wales, rather more than 56 per cent. are shipped to British countries, while of the total trade, 64 per cent. is British.

The indicated trade of the State is greater with the United Kingdom than with any other country. The real trade with the United Kingdom is not shown, however, because, in addition to foreign goods sent to Australia *via* London, a proportion of the exports from New South Wales to Victoria and South Australia is shipped eventually to the United Kingdom, and also some of the goods shipped to the United Kingdom are destined for transhipment to foreign ports. The extent of the export trade with the United Kingdom may be gauged by the relation between the values of goods originating in, and the values of goods shipped from, the United Kingdom.

In quinquennial periods, since 1880, the volume of oversea imports divided under the heads of (a) British Empire—*i.e.*, United Kingdom and other British territory—and (b) Foreign countries, shows that in the last fifteen years, while the volume of trade with the British countries has increased absolutely year by year, relatively, to foreign countries, the position is not so satisfactory. Following are the import figures :—

Period.	Imports from—			Total Imports.
	British Empire.		Foreign Countries.	
	United Kingdom.	Other British Countries.		
	£	£	£	£
1880-84	48,726,544	7,092,661	9,502,846	65,322,051
1885-89	48,279,604	8,134,224	11,063,225	67,477,053
1890-94	41,293,833	6,943,513	10,208,197	58,445,543
1895-99	37,123,060	7,775,602	16,271,863	61,170,525
1900-04	43,118,128	10,147,402	23,827,977	77,093,507
1905-09	55,312,612	15,422,106	22,930,804	93,665,522
1910	14,385,633	3,240,358	5,613,002	23,238,993
1911	15,740,509	4,284,573	7,318,346	27,343,428

Stated as proportions per cent. of the total imports the following results are obtained :—

Period.	British Empire.			Foreign Countries.
	United Kingdom.	Other British Countries.	Total.	
	per cent.	per cent.	per cent.	per cent.
1880-84	74·59	10·86	85·45	14·55
1885-89	71·55	12·05	83·60	16·40
1890-94	70·65	11·88	82·53	17·47
1895-99	60·69	12·71	73·40	26·60
1900-04	55·93	13·16	69·09	30·91
1905-09	59·05	16·47	75·52	24·48
1910	61·90	13·95	75·85	24·15
1911	57·57	15·67	73·24	26·76

The oversea exports from New South Wales are shown under the same heads and for the same periods as in the preceding tables, and exhibit changes similar to those in the imports :—

Period.	Exports to—			Total Exports.
	British Empire.		Foreign Countries.	
	United Kingdom.	Other British Countries.		
	£	£	£	£
1880-84	39,964,529	5,449,726	5,925,747	51,340,002
1885-89	37,727,437	4,508,809	10,885,370	53,121,616
1890-94	39,358,695	4,742,725	21,592,966	65,694,386
1895-99	43,203,489	6,137,642	35,585,823	84,926,954
1900-04	40,732,026	14,441,877	39,224,800	94,398,703
1905-09	57,950,739	18,737,850	64,636,404	141,324,993
1910	13,318,099	3,081,387	15,635,965	32,035,451
1911	12,261,971	5,830,179	14,069,251	32,161,401

The proportions per cent. of the total exports are as follow :—

Period.	British Empire.			Foreign Countries.
	United Kingdom.	Other British Countries.	Total.	
	per cent.	per cent.	per cent.	per cent.
1880-84	77·84	10·62	88·46	11·54
1885-89	71·02	8·49	79·51	20·49
1890-94	59·91	7·22	67·13	32·87
1895-99	50·87	7·23	58·10	41·90
1900-04	43·15	15·30	58·45	41·55
1905-09	41·00	13·26	54·26	45·74
1910	41·57	9·62	51·19	48·81
1911	38·12	18·13	56·25	43·75

Both absolutely and relatively the exports to foreign countries have increased continuously; so that the proportion of goods sent to the United Kingdom is now considerably less than to foreign countries. The opening up of direct communication with the various countries is in great degree responsible for this apparent diversion of trade, as it has obviated the necessity for much transhipment, so much so, that even gold is shipped to different countries on account of the United Kingdom. The exports to British possessions show remarkable fluctuations throughout the period, mainly on account of the variations in the shipments of gold and silver to India and Ceylon.

THE UNITED KINGDOM.

As the previous tables show, direct trade with the United Kingdom is not advancing relatively to the total trade, the development of facilities for communication having given an impulse to direct trade with British possessions and with foreign countries ; yet, as has been shown, nearly 58 per cent. of New South Wales imports are shipped from the United Kingdom, where 46 per cent. of the State's imports are manufactured or produced.

The total value of the produce of the United Kingdom imported into the State during 1910 was £11,486,270. In 1911 the value of these imports was £12,675,664, and a classification of the principal articles is given below :—

Article.	Value.	Article.	Value.
	£		£
Ale and beer	137,901	Glass and glassware	65,911
Apparel and soft goods—		Hats and caps	117,172
Apparel and attire, n.e.i...	717,022	Instruments	142,953
Cosies, cushions, &c.	129,199	Iron and steel	923,330
Curtains and blinds	29,484	Jewellery	127,899
Piece goods	2,660,134	Leather and leatherware	80,645
Sewing silks, &c.	182,411	Machines and machinery	929,785
Arms, ammunition, and explosives	233,645	Matches and vestas	32,230
Articles for Army and Navy	56,840	Medicines	68,900
Articles for the Commonwealth	32,535	Metal manufactures	1,025,539
Bags and baskets	33,635	Milk and cream, preserved	47,527
Books	205,975	Oilmen's stores	90,207
Boots and shoes	113,702	Oil, linseed	101,773
Brushware	35,322	Paints and colours	124,089
Canvas and duck	91,035	Paper	284,085
Carpets and carpeting	73,182	Perfumery	26,013
Cocoa and chocolate	48,018	Photographic materials	26,135
Confectionery	124,872	Pickles, sauces, &c.	47,281
Copper	48,650	Pipes, smoking, and accessories	37,016
Cordage and Twines—		Rails, &c., for railways	52,109
Metal	43,183	Rubber and rubber manufactures	86,670
Other	52,687	Specie, silver	164,982
Cutlery	93,600	Spirits	326,185
Drugs and chemicals	91,663	Stationery	78,831
Earthenware, &c.	88,023	Tinned plates and sheets	196,493
Electrical articles and materials	161,738	Tools of trade	141,349
Fancy goods	109,706	Varnishes	304,313
Fish (all kinds)	51,418	Vehicles	321,841
Floor cloths and coverings	201,974	Vessels	172,300
Furniture... ..	59,968	Yarns	51,778

For the surplus products of New South Wales the largest market is found in the United Kingdom, which takes practically 40 per cent. of the exports to oversea countries. The value of domestic produce sent to the United Kingdom during 1911 was £10,954,429, the principal articles being as follows:—

Article.	Value.	Article.	Value.
	£		£
Butter	1,389,871	Meats	1,321,042
Copper	442,605	Oil—Cocconut	150,300
Gold, bullion	426,928	Skins and hides	502,752
Silver and lead	467,899	Tallow... ..	663,102
Tin, ingots	152,035	Wool	3,389,779
Wheat and flour	1,725,939	Zinc concentrates	19,890
Leather... ..	224,906		

FOREIGN COUNTRIES.

Taken absolutely, the trade between New South Wales and foreign countries has increased rapidly year by year, but, relatively to the total trade of New South Wales, the increase has been more gradual, especially in the fifteen years 1895–1910, when the trade with foreign countries increased from 35·5 per cent., to 38·4 per cent. of the total trade. In 1911, the relative value of foreign trade fell back to 35·9 per cent. of the total:—

Period.	Oversea Trade.			Proportion.	
	With Foreign Countries.	With British Countries.	Total.	Foreign.	British.
	£	£	£	per cent.	per cent.
1880–4	15,428,593	101,233,460	116,662,053	13·22	86·78
1885–9	21,948,595	98,650,074	120,598,669	18·20	81·80
1890–4	31,801,163	92,338,766	124,139,929	25·62	74·38
1895–9	51,857,686	94,239,793	146,097,479	35·50	64·50
1900–4	63,052,777	108,439,433	171,492,210	36·77	63·23
1905–9	87,567,208	147,423,307	234,990,515	37·26	62·74
1910	21,248,967	34,025,477	55,274,444	38·44	61·56
1911	21,387,597	38,117,232	59,504,829	35·94	64·06

The values of imports into New South Wales as shipped direct from the principal foreign countries at ten-year intervals in the forty years between 1870 and 1910, have advanced as follows:—

Country.	1870.	1880.	1890.	1900.	1910.
	£	£	£	£	£
Belgium... ..	...	...	130,819	147,661	555,298
France and New Caledonia	66,119	160,348	201,791	298,593	206,228
Germany ... ..	...	47,169	639,475	1,105,664	1,298,574
Netherlands and Java... ..	71,365	136,040	122,842	103,493	394,794
Norway ... ..	...	...	20,891	77,596	114,020
Italy ... ..	...	...	23,961	92,732	120,246
Sweden ... ..	...	...	9,852	31,801	123,824
China	258,412	358,129	241,840	190,456	38,720
Japan ... ..	...	5,419	22,040	122,041	335,320
South Sea Islands	18,024	42,739	40,214	107,488	104,530
United States of America	154,799	387,056	859,102	2,557,961	2,150,353
Other Foreign Countries	252,927	16,730	29,624	234,629	111,495
Total	£ 816,646	1,154,230	2,341,951	5,120,115	5,613,002

The aggregate values of foreign imports, classified according to country of origin, are shown below for each of the last three years in comparison with 1904 :—

Country.	1904.	1909.	1910.	1911.
	£	£	£	£
Arabia	9,902	10,845	10,076	12,708
Austria	34,275	118,196	123,850	153,576
Belgium	78,391	201,647	277,187	372,049
Brazil	698	17,489	22,458	21,152
Chile	9,835	6,632	7,439	20,718
China	110,446	128,600	153,088	191,083
Cuba	21,696	15,261	21,695	37,488
Denmark	7,740	6,910	7,619	10,769
France	435,484	677,868	722,391	916,918
Germany	1,005,184	1,645,556	1,878,057	2,429,272
Italy	77,002	153,939	179,387	226,029
Japan	192,360	282,100	335,388	418,978
Netherlands India	50,549	579,690	384,054	370,408
Netherlands	79,287	111,190	125,929	143,906
New Caledonia	27,561	27,314	32,094	48,943
New Hebrides	17,067	21,591	23,983	35,467
Norway	119,575	128,409	140,706	186,590
Philippine Islands	21,998	29,491	37,631	38,854
Portugal	4,644	21,978	28,524	33,801
Russia	11,318	12,637	17,430	21,875
South Sea Islands	66,412	195,121	210,877	196,872
Spain	18,669	36,140	40,490	50,928
Sweden	45,161	159,857	204,996	262,642
Switzerland	77,228	302,391	380,035	401,800
Turkey	24,321	11,802	19,557	17,130
United States of America and Alaska.	2,038,037	2,664,198	3,122,212	4,020,149
West Indies ... ..	.....	518	402	12,100
Other Foreign Countries	32,095	83,208	68,758	68,564
Total	£ 4,617,935	7,650,578	8,576,313	10,720,707

ARTICLES OF IMPORT.

To show as clearly and concisely as possible the class of goods imported into New South Wales, oversea imports during the last three years have been summarised as shown in the table below. The figures for 1909 include produce of oversea countries transhipped from other Australian States, but the figures for 1910 and 1911 show direct imports only, as the interstate

transfers are not available; goods of Australian produce re-imported from outside the Commonwealth, viz., £15,044 for 1910, and £20,896 for 1911, have been excluded:—

Articles of Import.	1909.	1910.	1911.
Food, Drink, Narcotics, and Stimulants—	£	£	£
Animal food	331,689	300,191	304,850
Vegetable food	1,418,866	1,110,354	1,327,999
Drinks—alcoholic	711,731	664,522	808,685
non-alcoholic	7,716	6,701	6,800
Tobacco and other narcotics	285,345	373,364	434,557
Other stimulants and condiments	799,849	603,378	607,186
Live Animals and Plants—	3,555,196	3,058,510	3,490,077
Animals of all kinds	61,686	205,744	248,996
Plants	35,138	29,059	27,543
	96,824	234,803	276,539
Textile Fabrics, Dress, and Manufactured Fibrous Materials—			
Silk manufactures	386,845	375,149	431,633
Woollen manufactures	1,023,904	1,069,600	1,154,707
Cotton and flax manufactures	1,456,916	1,783,335	1,784,574
Manufactures of mixed materials	803,912	1,253,646	1,280,077
Dress	1,571,672	1,615,712	1,900,214
Manufactures of fibrous materials	551,184	579,794	490,912
	5,794,433	6,677,236	7,042,117
Products of Arts and Manufactures, n.e.i.—			
Books and stationery and paper	882,750	968,991	1,104,340
Musical instruments	167,535	204,243	279,124
Works of art and art materials	68,733	21,398	35,852
Fancy goods	444,030	426,670	590,182
Timepieces, jewellery, and plated ware	427,487	395,139	483,050
Surgical and scientific instruments	234,000	270,942	292,806
Metal manufactures, including machinery	3,431,808	3,465,054	4,509,946
Harness, vehicles, and equipment	421,377	562,983	762,845
Ships, boats, and equipment	198,441	397,856	208,367
Building materials	221,031	937,552	1,310,606
Furniture	172,818	122,535	187,178
Arms and explosives	285,656	226,102	289,543
Drugs, chemicals, and by-products	553,647	471,300	563,776
Glass and earthenware manufactures	293,547	306,205	401,876
Soap, candles, and paint	232,385	246,756	247,711
Other manufactures, n.e.i.	808,108	656,359	622,140
	8,843,353	9,680,085	11,889,342
Staple Animal and Vegetable Substances, including Mineral Oils—			
Animal substances	406,424	378,607	365,871
Vegetable substances	1,096,436	419,836	470,223
Oils	439,771	526,727	658,341
	1,942,631	1,325,170	1,494,435
Staple Minerals and Metals, including Specie and Bullion—			
Specie and bullion	614,627	680,214	1,241,961
Iron and steel	1,235,374	1,015,954	1,119,349
Other metals	280,074	281,052	337,385
Coal and shale ... ..	.....	21,490	55
Stone, clay, and other minerals	58,934	61,949	152,411
	2,189,009	2,060,659	2,851,161
Unclassified articles	286,157	187,486	278,861
Total Imports	£ 22,707,603	23,223,949	27,322,532

The principal articles imported from abroad were those in the class comprising the products of arts and manufactures. By far the largest item in this class was metal manufactures, including machines and machinery; then followed books, stationery, and paper; building materials; harness, vehicles,

and equipment; drugs and chemicals; and fancy goods. The class next in importance comprised textile fabrics and dress, in which the most important items were cotton and flax manufactures, dress, and woollen manufactures. The class including articles of food and drink came third, the largest item being vegetable food.

BRITISH PRODUCE.

The following table shows the imports into New South Wales from the chief British possessions at decennial periods since 1870, including the year 1910, and in comparison the figures for 1911 :—

Country.	1870.	1880.	1890.	1900.	1910.	1911.
	£	£	£	£	£	£
Canada	1,726	17,530	18,784	114,321	356,593	480,269
Union of South Africa—						
Cape Colony .. .. .	....	5	55	943	12,950	5,550
Natal .. .. .	....	....	....	70	7,362	25,067
Ceylon	210,114	,668	43,702	213,195	357,522	328,699
Fiji .. .. .	....	54,135	99,853	60,831	161,894	435,123
Hong Kong	48,808	228,526	271,730	67,923	95,450	143,766
India	2,567	653	195,368	383,546	777,837	690,562
Mauritius	325,680	207,107	5,059	76,779	1,002	2,728
New Zealand.. .. .	298,951	460,735	932,073	1,348,605	1,180,011	1,861,335
Straits Settlements.. .. .	....	16,045	27,148	40,391	132,245	126,561
Aden .. .. .	....	....	....	432	2,802	2,444
Burmah .. .. .	....	....	....	2,107	71,260	88,590
Malta .. .. .	....	....	....	373	746	742
Papua .. .. .	....	....	....	33,474	50,411	74,439
Norfolk Island .. .. .	....	....	....	1,380	770	1,270
Ocean Island.. .. .	....	....	....	....	31,369	17,043
Other British Possessions ..	60	1,665	1,626	4,384	134	385
Total	£ 887,906	1,000,069	1,595,398	2,353,759	3,240,358	4,284,573

As the table shows, imports from New Zealand, India, Ceylon, Canada, Fiji, Hong Kong, and Straits Settlements amounting in 1911 to £4,066,315, cover 95 per cent. of the total from all British possessions.

During the last twenty years there has been a considerable extension of the trade between New South Wales and New Zealand, both as to imports and exports. The value of imports fluctuates with the character of the season—a bad year in New South Wales being always attended with large importations of New Zealand oats and other produce.

Commercially, Hong Kong is a port of China, and a considerable portion of the Chinese trade with New South Wales is transacted *via* that port. The Indian trade has grown up almost entirely since 1880, but fluctuates largely owing to the variable exports of gold specie. The Fiji trade is valuable, and shows a remarkable increase in the last ten years.

The imports from British possessions, classified according to country of origin, are shown below for the last three years in comparison with 1904 :—

Country.	1904.	1909.	1910.	1911.
	£	£	£	£
Burmah	32,459	55,305	75,681	61,722
Canada	131,487	373,403	353,874	331,585
Ceylon	252,609	361,036	356,580	329,832
Fiji	53,102	321,465	136,626	373,727
Hong Kong... ..	7,197	1,580	1,574	1,901
India	364,109	639,060	805,697	748,730
Jamaica	9,937	34,105	40,816	3,954
New Zealand	820,900	1,113,483	1,103,275	1,722,021
Ocean Island	6,986	28,209	31,292	16,919
Papua	40,012	58,397	49,923	72,001
Straits Settlements	33,382	59,166	51,983	62,995
Union of South Africa	3,227	145,540	129,899	169,274
Other British Possessions... ..	35,499	95,226	39,190	31,850
Total	£ 1,790,906	3,285,975	3,176,410	3,926,511

The principal articles of New Zealand produce imported during 1911 were :— gold bullion, £977,485; New Zealand pine, £335,195; hides and skins, £42,338; flax, £19,537; horses, £177,466; stud sheep, £19,991; fish, £14,043; barley, £16,350; hops, £6,294; seeds, £4,232; and articles for the army and navy, £28,500.

Amongst the chief imports of Indian origin were bags and sacks, £386,208; gemstones, unset, £12,289; hessians, £75,430; tea, £92,273; castor oil, £43,602; coffee, £6,721; nuts, £6,745; rice, £39,908; linseed, £16,565; and linseed oil, £5,582; matting, £6,346; and paraffin, £9,748. From Ceylon, tea to the value of £312,492 was imported during the year. Indian and Ceylon teas have quite displaced Chinese teas in public favour; in 1890 the value of tea imported from China and Hong Kong was £241,331, and from India and Ceylon, £43,317, but in 1910 the import of Chinese tea amounted only to £34,656, while the value of the Indian and Ceylon import was £475,158. In 1911 the figures were :—China, £42,657; India and Ceylon, £404,765.

The Fijian produce imported comprised copra, the value of which in 1911 amounted to £13,886; sugar (cane), £231,186; molasses, £10,771; and bananas, £107,664.

Since 1893 the maintenance of direct lines of steamers between Sydney and Vancouver has been instrumental in increasing the number of articles imported from Canada, and in creating an export trade. The chief imports in 1911 of articles of Canadian origin were machines and machinery (agricultural) £70,285; printing paper, £46,433; preserved fish, £14,278; metal manufactures, £11,068; apples, £8,047; timber, £71,187; vehicles and parts, £19,438; and furniture, £7,699.

Amongst the chief imports produced in other British possessions may be mentioned gold bullion from Papua, valued at £55,851, and copper ore, £5,363; from Ocean Island, manures (rock phosphates), £16,885; from Burmah, rice, £53,062.

The chief imports, the production of the Straits Settlements, were spices, £18,281; sago and tapioca, £26,013; rubber and rubber manufacturers, £7,691; bamboo and canes, £5,295; kapok, £3,017.

The products of Cape Colony which were imported in 1911, comprised precious stones, unset, £141,270; and of Natal, tanning bark, £23,676.

FOREIGN PRODUCE.

The principal articles of foreign produce imported during the year 1911, and the countries of origin are shown below :—

Austria.—Apparel and attire, £15,097; boots and shoes, £8,963; china-ware, £10,271; fancy goods, £7,582; furniture, £10,187; hair nets, £6,797; rails, fish-plates, &c., £15,242.

Belgium.—Apparel and attire, £16,404; glass and glassware, £56,473; dry gums, £6,154; iron and steel, £33,788; machines and machinery, £16,551; matches and vestas, £10,233; metal manufactures, £37,963; piece-goods, £50,028; paper, £8,980; rails, &c., for railways, £10,617; vehicles, £25,309; and zinc, £31,775.

France.—Acids, £9,533; apparel and attire, £34,092; cream of tartar, £71,885; fancy goods, £27,272; gloves, £25,201; instruments, £12,923; perfumery, £8,008; piece-goods, £226,099; smoking pipes, &c., £23,011; rubber and rubber manufactures, £18,099; brandy, £100,670; slates, £10,986; tiles, £8,249; trimmings, £36,945; vehicles and parts, £74,593; wines, £72,911.

Switzerland.—Apparel and attire, £19,531; cocoa and chocolate, £51,783; hats and caps, £8,747; piece-goods, £176,939; trimmings, £60,103; watches and clocks, £52,553.

Germany.—Ale and beer, £37,133; apparel and attire, £242,371; bags, baskets, &c., £64,729; brushware, £8,689; cement, £23,176; chinaware, £36,270; cosies and cushions, £19,010; cutlery, £14,484; drugs and chemicals, £38,435; electrical materials, £45,750; fancy goods, £64,645; glass and glassware, £54,192; gloves, £44,843; hats and caps, £15,139; hops, £7,026; instruments, £223,284; iron and steel, £91,541; jewellery, £35,631; lamps and lampware, £20,899; leaf and foil (metal), £10,056; leather and leatherware, £17,263; machines and machinery, £132,139; manures, £10,876; metal manufactures (wire), £199,919; (other), £159,002; paints and colours, £7,428; paper, £78,114; piece-goods, £192,866; rails, &c., for railways, £56,145; rubber and manufactures, £46,037; spectacles, &c., £10,483; stationery, £31,092; timber, £10,063; tools of trade, £14,785; trimmings, £49,187; vehicles, £24,896; and zinc, £48,728.

Netherlands.—Candles, £6,345; cocoa and chocolate, £20,759; straw-board, £11,534; piece-goods, £19,747; and gin, £55,355.

Norway.—Carbide of calcium, £16,151; fish, £24,399; printing paper, £47,434; other paper, £15,107; timber, £74,218; and vessels, £23,750.

Sweden.—Carbide of calcium, £24,567; machines and machinery: cream separators, £28,362; telephones and appliances, £19,052, other, £8,343; matches and vestas, £7,105; metal manufactures, £15,642; printing paper, £17,220; other paper, £48,941; and timber, £77,033.

Russia.—Oils, £8,887.

Spain.—Corks, £26,330; and nuts, £4,621; fruits, £2,618; liquorice, £4,369.

Portugal.—Corks, £11,209; and fish, £18,052.

Italy.—Citrus fruits, £3,727; fancy goods, £8,512; gloves, £6,399; hats and caps, £45,114; matches and vestas, £14,885; nuts, £5,082; oils, £8,187; rubber and manufactures, £10,881; silk piece-goods, £25,132; stone, £20,628; sulphur, £3,330; and motor chasses, £27,374.

Greece.—Dried fruits, £6,496.

Turkey.—Dried fruits, £4,305; seeds, £6,787.

Arabia.—Dates, £10,660.

China.—Rice, £23,596; fruits, £9,519; hats and caps, £5,729; nuts, £13,942; silk piece-goods, £33,259; tea, £42,657; pig-iron, £5,284.

Japan.—Apparel and attire, £39,958; bags, baskets, &c., £11,374; brush-ware, £10,388; cosies and cushions, &c., £24,380; rice, £4,987; gloves, £8,543; hats and caps, £20,294; superphosphates, £22,542; oils, £33,358; silk piece-goods, £114,011; other piece-goods, £9,620; sulphur, brimstone, £14,916; timber, £45,447.

Formosa.—Tea, £2,354.

Java.—Kapok, £72,757; sugar, £10,139; tea, £90,833; rice, £6,179.

Sumatra.—Naphtha, £23,883; benzine, &c., £39,159; and kerosene, &c., £15,717.

Philippine Islands.—Cigars, £17,370; flax and hemp, £20,788.

United States of America.—Apparel and attire, £67,966; arms, ammunition, and explosives, £19,119; bags and baskets, &c., £6,782; books, &c., £19,822; boots and shoes, £46,402; clocks and watches, £19,862; cordage and twines, £21,087; drugs and chemicals, £13,559; electrical articles and materials, £16,492; fancy goods, £79,630; fish, £86,511; fruits, £21,866; furniture, £32,789; glass and glassware, £19,681; glucose, £11,386; gums, £32,230; instruments, £122,864; iron and steel, £60,162; lamps and lampware, £18,888; leather and leatherware, £108,042; machinery, agricultural, £70,625; other, £578,495; medicines, £53,022; metal manufactures, £213,612; naphtha, £21,644; oilmen's stores, £20,165; oils, kerosene, £136,415, other, £83,862; paints and colours, £22,392; paper, £111,014; piece-goods, £70,834; rails, &c., for railways, £101,007; rubber and rubber manufactures, £31,038; sausage casings, £28,471; soap, £23,227; stationery, £16,990; timber, £528,739; tobacco, £333,641; vehicles, £180,018; tools of trade, £96,978; turpentine, £59,346; watches and clocks, £18,634; paraffin, £7,234; articles of wood, £22,862.

Chile.—Nitrate of soda, £7,161; barley, £10,355.

Brazil.—Cameos, gem stones, &c., £14,209.

Colombia.—Hats and caps, £8,359.

Ecuador.—Hats and caps, £2,642.

Cuba.—Cigars, £36,908.

Dutch Borneo.—Residual oils, £8,194.

South Sea Islands.—Copra, £190,646.

New Hebrides.—Copra, £31,035; maize, £2,664.

Neu Pommern (New Britain).—Gold bullion, £6,051.

New Caledonia.—Rubber and rubber manufactures, £3,645; skins and hides, £16,086.

Mauritius.—Sugar (cane), £2,728.

EXPORTS.

Exports from New South Wales consist chiefly of goods produced or manufactured in the State, which comprised, for 1911, 85·5 per cent. of the total exports.

Re-exports include produce of other Australian States, and produce of other countries.

For 1911, Australian produce represented 7·6 per cent., and other produce 6·9 per cent. of the total exports. The following statement shows, for each of

the last six years, the values of exports under the three heads of "Domestic produce," "Produce of other Australian States," and of "Other countries," viz. :—

Value of Exports.

Year.	Domestic Produce.	Produce of Other Australian States.	Produce of Other Countries.	Total.
	£	£	£	£
1906	20,642,867	7,749,852	2,594,169	30,986,888
1907	25,231,804	5,458,953	2,203,316	32,894,073
1908	21,602,424	3,537,814	1,740,471	26,880,709
1909	21,771,580	2,644,381	1,628,828	26,044,789
1910	27,677,088	2,660,263	1,698,100	32,035,451
1911	27,491,326	2,447,089	2,222,986	32,161,401
Proportion of total, 1911...	85.5%	7.6%	6.9%	100%

DOMESTIC PRODUCE.

Under the present conditions of development in the State, the export of domestic produce is a very fair indication of its progress in productive pursuits. Wool constitutes the largest item of domestic export, and any fluctuation in the production or market value of the staple is plainly marked in the whole trade.

As the Customs Department no longer records the interstate movement of goods, it is not possible to ascertain the value of New South Wales produce exported through other States, and the following table shows the direct oversea exports only :—

Year.	Oversea Exports of Domestic Produce.			
	Gold (Bullion and Specie).	Commodities.	Total.	Per head of Population.
	£	£	£	£ s. d.
1900	956,147	10,754,608	11,710,755	8 12 11
1901	288,702	12,978,848	13,267,550	9 14 1
1902	489,862	11,217,252	11,707,114	8 8 3
1903	837,097	11,897,495	12,734,592	9 0 1
1904	718,490	14,517,315	15,235,805	10 11 10
1905	762,058	17,628,763	18,390,821	12 10 7
1906	757,064	19,885,803	20,642,867	13 15 1
1907	731,094	24,509,710	25,231,804	16 8 2
1908	2,410,323	19,192,101	21,602,424	13 15 9
1909	787,377	20,984,203	21,771,580	13 13 6
1910	732,134	26,944,954	27,677,088	17 1 3
1911	2,800,921	24,690,405	27,491,326	16 10 9

In the presentation of these figures the value of commodities has been separated from that of gold, although in dealing with the exports of the Australian States, gold should be reckoned a commodity as much as wool, wheat, or any other article.

The value of domestic exports in 1910 was the highest recorded, this satisfactory result being due to prosperous seasons, as the prices of pastoral and mineral products which prevailed during 1908 and 1909, made only a slight improvement.

The following table shows the nature of the domestic exports from New South Wales to oversea countries during the last four years, the classification being similar to that adopted for the imports :—

Articles of Domestic Produce Exported.	1908.	1909.	1910.	1911.
Food, Drink, Narcotics, and Stimulants—	£	£	£	£
Animal food... ..	1,753,845	1,906,605	3,104,873	3,096,392
Vegetable food	356,122	1,020,101	2,772,848	2,658,379
Drinks—alcoholic	21,205	16,115	18,195	24,101
„ non-alcoholic	1,476	2,455	2,269	2,979
Tobacco and other narcotics	2,334	3,468	3,113	3,562
Other stimulants	1,211	1,052	560	339
Total	2,136,193	2,949,796	5,901,858	5,785,752
Live animals	99,801	57,320	76,508	68,263
Plants	21,777	17,105	26,826	26,364
Total	121,578	74,425	103,334	94,627
Textile fabrics, dress, and manufactured fibrous materials	39,727	50,131	52,060	49,776
Products of arts and manufactures, n.e.i.	547,462	503,578	562,304	618,603
Staple Animal and Vegetable Substances, including Mineral Oils—				
Animal substances... ..	12,888,807	13,941,484	16,679,549	14,495,939
Vegetable substances	23,102	33,674	22,391	14,079
Oils	114,206	132,106	199,116	188,328
Total	13,026,115	14,107,264	16,901,056	14,698,346
Staple minerals and metals	3,062,975	2,644,749	3,245,939	3,269,801
Specie and bullion	2,663,487	1,433,483	903,759	2,978,016
Unclassified articles	4,887	8,154	6,778	6,405
Grand Total	£ 21,602,424	21,771,580	27,677,088	27,491,326

The exports consist chiefly of raw materials. The following table shows the quantities and values of the principal articles of New South Wales produce exported during the last four years direct to countries beyond the Commonwealth, and indicates that the export trade depends on the production from primary industries, and is affected by the variation in prices :—

Articles Exported Oversea.	Quantity.				Value.			
	1908.	1909.	1910.	1911.	1908.	1909.	1910.	1911.
Wool lb.	262,260,071	279,852,326	320,481,133	295,315,438	11,219,666	11,654,406	13,734,456	11,704,409
Leather					281,790	268,361	319,977	323,517
Tallow cwt.	311,515	521,573	630,193	612,911	424,676	634,189	950,440	871,018
Skins and Hides					822,660	1,173,125	1,499,852	1,145,138
Meats, all kinds					933,264	1,147,761	1,873,103	1,570,818
Butter lb.	17,261,331	17,381,117	27,047,481	32,623,324	813,490	752,487	1,223,518	1,500,709
Wheat cental	248,135	1,913,052	6,696,968	7,334,047	92,621	634,901	2,381,141	2,168,852
Flour ton	16,453	20,336	28,467	40,410	168,132	216,846	261,839	335,843
Gold, ingot and matte oz.	195,717	209,645	160,760	133,555	748,577	787,323	575,586	474,651
Copper, ingots and matte .. cwt.	193,700	259,574	359,831	392,222	554,599	756,075	1,029,986	1,121,850
Copper ore	5,434	1,075	54,592	28,037	5,422	592	26,832	11,488
Silver and Lead					824,832	437,688	513,328	458,036
Spelter and Concentrates .. cwt.	930,961	1,409,381	1,669,945	1,926,943	141,139	278,051	337,385	367,960
Tin, ingots	39,661	34,018	35,771	24,802	262,763	227,817	277,037	229,458
„ ore	16,801	19,331	20,400	19,114	79,122	85,938	100,393	116,089
Coal and Coke ton	2,535,945	1,604,872	1,710,417	1,694,890	1,375,195	854,867	916,281	907,509
Timber, dressed and undressed					282,248	240,344	240,182	268,839
Coconut Oil .. cwt.	79,210	90,022	105,069	101,892	105,378	123,122	192,145	180,978

The figures in the above table represent the direct exports only. In every case, but especially for wool and silver-lead, the real exports would appear very much larger if interstate transfers in transit were added.

The relative importance of these articles will be seen from the following statement, which is based on the experience of the four years in the above table, and which shows the proportion per cent. of the value of the export of each article to the total oversea export of domestic produce :—

Article.	Proportion per cent.	Article.	Proportion per cent.
Wool	42·6	Copper	4·1
Leather	1·2	Silver and Lead	1·7
Tallow	3·2	Spelter and Concentrates	1·3
Skins and Hides	4·2	Tin	1·3
Meat	5·7	Coal and Coke	3·3
Butter	5·5	Timber	1·0
Wheat and Flour	9·1	All other articles... ..	14·1
Gold	1·7		100·0

Wool.

Wool is the great staple export, constituting nearly one-half of the value of the domestic exports. A marked feature of the wool trade is the disposition of buyers on the Continent of Europe to purchase their supplies direct from the State instead of obtaining them through the London brokers. Year by year the representatives of foreign manufacturers who visit Sydney for the purpose of attending the wool sales become more numerous. A little more than twenty years ago all the wool destined for Europe was transhipped in London, but in 1911 the shipments of the staple of local growth to Belgium, France, Germany, and Italy represented 66 per cent. of the total value of oversea shipments. A direct trade with the Continent is desirable, and its growth will be seen from the following table, giving at intervals since 1881 the destination of the wool exported, and the proportion taken by each country :—

Country.	Value.					Proportion.				
	1881.	1891.	1901.	1910.	1911.	1881.	1891.	1901.	1910.	1911.
	£	£	£	£	£	%	%	%	%	%
United Kingdom ...	4,062,766	5,741,350	3,858,008	3,036,035	3,389,779	98·9	74·9	51·9	26·5	29·0
Belgium	3,933	1,019,614	874,012	2,010,910	1,467,546	·1	13·3	11·3	14·6	12·6
Germany	988	407,924	1,238,492	3,845,505	3,086,807	..	5·3	16·7	28·0	26·4
France ... ..	.....	409,553	1,295,274	3,602,923	3,045,095	..	5·3	17·5	26·2	26·0
United States of America	40,008	88,981	39,159	136,757	107,584	1·0	1·2	·5	1·0	·9
Other Countries—Oversea	20	3,038	120,174	502,326	607,508	..	·0	1·6	3·7	5·1
Total	4,107,715	7,670,400	7,420,119	13,734,456	11,704,409	100·0	100·0	100·0	100·0	100·0

Since 1881 the wool exported to the United Kingdom has decreased from 98·9 to 29·0 per cent. of the total. France and Germany both show proportionate increases throughout the whole period, rising from nil in 1881 to 26·0 per cent. for France, and 26·4 per cent. for Germany in 1911.

Other Staple Products.

The other products of the pastoral industry—leather, tallow, skins, hides, and meats—form an export of considerable value, amounting to 14 per cent. of the total.

Shipments of the principal minerals are also made on a large scale. Coal exports represented in 1911 3·3 per cent. of the total of domestic exports, and the more important minerals specified above, together represented 10·1 per cent. of exports.

The export of silver, silver-lead, and ore has become important since 1884, but the total exports as shown in a previous table are exclusive of large quantities sent to other States for export abroad, notably the production of the Broken Hill mines, which is transferred to South Australia.

Timber exports represent only 1.0 per cent. of the total, and do not form an item of increasing importance relative to the whole export trade.

RE-EXPORT TRADE.

The re-export trade of the State was of some importance until 1889, but for several years thereafter a marked decline was experienced till 1895, when an improvement was manifested. The shipping facilities of Sydney formerly attracted to the port a large amount of trade from New Zealand, Queensland, and the South Seas, for transshipment to Europe; but the establishment of direct communication between these countries and Europe checked to some extent the expansion of the re-export trade.

Gold, consisting mainly of Queensland and New Zealand metal coined at the Sydney branch of the Royal Mint and shipped by the banks to London, the United States of America, and Eastern Asia, forms a large proportion of the trade. There is also a large re-export of wool, chiefly the produce of Queensland, and a fairly large trade in provisions and manufactured articles of British and foreign production with New Zealand, New Caledonia, Fiji, and other islands of the Pacific.

The total value of the re-exports in 1911 was £4,670,075, of which £2,447,089 was the produce of other Australian States, and £2,222,986 the produce of other countries.

Amongst raw commodities the principal articles re-exported are tallow, skins and hides, silver and lead, tin, and other metals, and wool; while the manufactured articles are chiefly apparel and soft goods, metal manufactures, iron and steel, machinery, drugs and chemicals, books and stationery, boots, beer and spirits, tobacco, cigars and cigarettes, and also large quantities of provisions.

The following statement summarises the re-export trade for 1911 :—

Article.	Australian.	British and Foreign.
Food and drink, &c.—	£	£
Animal food	73,581	20,001
Vegetable food	73,362	189,224
Drinks, alcoholic	6,436	31,106
„ non-alcoholic	78	289
Tobacco, &c. ... ..	.....	47,904
Other stimulants, &c.	3,592	35,539
Total	157,049	324,063
Live plants and animals—		
Animals	2,916	9,847
Plants	787	2,299
Textiles	2,684	149,930
Arts and manufactures, n.e.i.	25,258	468,927
Staple products—		
Animal substances	339,290	26,859
Vegetable substances	2,214	16,177
Oils	461	38,135
Minerals and metals	1,614,527	69,694
Specie and bullion	300,579	1,096,936
Unclassified articles... ..	1,324	20,119
Total	£ 2,447,089	2,222,986

EXPORTS TO BRITISH POSSESSIONS.

The export trade from New South Wales with the chief British possessions has altered considerably in the forty years between 1870 and 1910, as the following values at decennial periods plainly show :—

Country.	1870.	1880.	1890.	1900.	1910.
	£	£	£	£	£
Canada .. .. .	....	....	10	66,408	76,866
Cape Colony .. .. .	....	712	1,014	600,233	135,603
Ceylon	1,258,813	1,781	4,080	58,402	33,211
Fiji .. .. .	....	120,518	98,951	183,579	410,926
Hong Kong	51,651	137,577	255,060	218,986	414,042
India	11,176	19,511	253,280	115,894	153,917
Mauritius	73,307	14,990	25,815	8,613	4,813
Natal .. .. .	....	....	....	155,254	154,200
New Zealand	197,025	525,174	294,113	820,602	1,319,358
Straits Settlements	2,421	5,392	34,347	39,898	246,513
Other British Possessions .. .. .	....	2,015	1,654	40,973	131,929
Total	£ 1,594,393	828,079	908,314	2,314,807	3,081,387

From the above table it will be seen that the bulk of the exports is taken by New Zealand, Hong Kong, Fiji, and Straits Settlements, in the order named, New Zealand receiving nearly 43 per cent. of the total exports to all British possessions in 1910.

EXPORTS TO FOREIGN COUNTRIES.

Details as to exports during 1911 of domestic produce to the different countries include the following as the most important items :—

India.—Bullion, gold, £45,025; silver, £17,100; specie, gold, £200,890; horses, £13,392; tallow, £6,449; timber, undressed, £61,179; coal, £18,924. Ceylon.—Gold specie, £1,281,175.

Cape Colony.—Leather, £61,993; tallow, £9,533; timber, £11,458; meats, £20,659; and butter, £2,636.

Natal.—Meats, £48,929; leather, £9,003; cocoanut oil, £15,830; tallow, £31,615; butter, £13,542; timber, £3,958; ammonia, anhydrous, £2,652; sheep, for breeding, £4,886.

Transvaal.—Leather, £1,737; meats, £4,296.

Hong Kong.—Butter, £14,852; flour, £13,990; leather, £10,081; meats, £9,328; specie, gold, £207,409.

New Zealand.—Books, £8,020; butter, £4,478; coal, £111,474; copper ingots, £5,843; drugs and chemicals, £5,932; fruits, citrus, £24,041; other, fresh, £7,472; glassware, bottles, empty, £2,622; horses, £4,440; bran, pollard, and sharps, £5,980; flour, £3,174; lead, pig, £11,516, sheet and piping, £11,115; leather, £5,801; rice-meal, £4,483; meats, £3,472; medicines, £21,213; timber, undressed, £84,831; tin ingots, £12,942; wines, £4,547; manures, £52,280; machines, £5,121; metal manufactures, £10,801; rubber manufactures, £10,243; seeds, £10,669; soap, £25,029; paper, £2,508; perfumery, £2,329; plants, trees, and bulbs, £2,931; specie, gold, £450,954; spirits, £10,786; vessels, £3,600; wool, £3,591.

Fiji.—Ammonia, £5,223; apparel and attire, £7,704; biscuits, £8,551; boots, shoes, &c., £4,234; coal, £16,776; bran, pollard, and sharps, £19,965; flour, £14,250; leather manufactures, £3,044; metal manufactures, £10,013; specie, gold, £56,722; timber, £12,987; vehicles and parts, £11,073; and vessels, £6,000.

Straits Settlements.—Coal, £69,655; horses, £2,332; flour, £58,301; milk and cream, £3,329; tin ore, £116,054; specie, gold, £34,170.

Canada.—Butter, £8,592; skins and hides £35,081; meats, £39,805; timber, £6,441; tin ingots, £8,333.

Papua.—Biscuits, £3,090; cement, Portland, £2,399; flour, £2,463; meats, £10,013; and medicines, £21,213.

Malta.—Frozen mutton, £7,334.

Ocean Island.—Biscuits, £2,754.

The values of exports from New South Wales to the principal foreign countries are shown at decennial periods from 1870 to 1910; the figures show a gratifying advance in the latter half of the period, viz. :—

Country.	1870.	1880.	1890.	1900.	1910.
	£	£	£	£	£
Belgium .. .. .	.. .. .	.. .. .	1,011,846	620,349	2,970,187
France and New Caledonia	53,257	181,847	427,813	1,204,059	4,347,595
Germany .. .. .	.. .. .	.. .. .	404,280	844,495	4,924,474
Netherlands and Java	25,381	11,042	50,358	86,203	216,546
Italy .. .. .	.. .. .	.. .. .	24,498	61,132	284,419
Norway .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	5
Sweden .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	713
China	17,516	14,844	1,087	68,004	64,102
Japan	52	6,581	7,156	133,989	524,598
South Sea Islands	131,918	52,657	66,714	126,851	214,651
United States of America	38,817	172,648	1,300,375	3,981,232	865,326
Other Foreign Countries	35,340	32,869	169,988	470,809	1,263,259
Total	£ 302,800	472,488	3,463,565	7,507,133	15,635,965

Most of the exports were sent to Belgium, France, Germany, and the United States of America, these four countries taking 34 per cent. of all exports, or rather more than three-quarters of the exports to all foreign countries. A classification of the chief articles of New South Wales produce exported to these countries during 1911 is appended :—

Article.	Belgium.	France.	Germany.	United States of America.
	£	£	£	£
Butter .. .. .	.. .. .	13,517	.. .. .	.. .. .
Coal .. .. .	.. .. .	.. .. .	.. .. .	99,201
Cocconut Oil .. .. .	.. .. .	.. .. .	8,466	.. .. .
Copper	151,578	121,395	394,079	16,044
Concentrates—Silver and silver-lead	110,492	.. .. .	25,951	.. .. .
Zinc	187,774	15,850	90,137	.. .. .
Sausage-casings	1,076	.. .. .	46,340	.. .. .
Scheelite .. .. .	.. .. .	1,731	9,611	.. .. .
Silver and silver-lead ores	31,647	.. .. .	37,178	.. .. .
Sheepskins with wool	8,832	167,154	9,638	16
Hides and other skins	103,251	15,372	81,982	149,714
Tin ingots	9,073	.. .. .	13,323	33,167
Tallow	53,819	21,773	17,739	.. .. .
Timber, undressed	6,547	.. .. .	17,141	5,453
Wheat	105,445	160,342	31,572	.. .. .
Wolfram ores	1,240	3,141	19,342	.. .. .
Wool	1,467,546	3,045,095	3,086,697	107,584

In consequence of the removal of the American duty there has been a great increase in the export of hides and skins to the United States of America since 1908. In addition to the articles quoted above, minor items, as shown below, were sent to these countries, viz., gold bullion, valued at £1,424, was sent to the United States of America, and glue pieces, £2,441.

Germany.—Ferns, dried, £8,561; bran pollard, and sharps, £4,229; cameos and gem stones, unset, £4,341; oil cake, £3,000; eucalyptus oil, £1,524.

France.—Horns, £4,428.

Belgium.—Glue pieces, £3,444; seeds, £2,756.

Netherlands.—Kerosene shale, £8,966; and zinc concentrates, £54,309; concentrates, silver, and silver-lead, £5,000.

- Italy.—Wool, £152,547; skins and hides, £21,040; and tallow, £28,573.
- Japan.—Wheat, £17,211; wool, £227,006; wool tops, £177,465; manures, £15,076; ammonia, £3,393; bones, £3,761; butter, £3,072; tallow, £13,721.
- China.—Butter, £7,831; flour, £7,947; leather, £2,031.
- Java.—Butter, £7,593; coal, £65,819; flour, £75,920; horses, £13,134.
- Philippine Islands.—Horses, £2,140; butter, £11,833; coal, £82,914; flour, £78,988; meats, £19,197.
- Hawaiian Islands.—Ammonia sulphate, £5,197; coal, £28,999; meats, £6,209.
- South Sea Islands.—Biscuits, £16,050; boats, launches, &c., £5,574; flour £11,349; meats, £10,825; metal manufactures, £3,528; soap, £3,004; gold, specie, £32,823.
- New Caledonia.—Flour, £27,147; butter, £3,601; coal, £9,022; leather, and manufactures, £3,644; potatoes, £2,992.
- Peru.—Coal, £34,650.
- Canary Islands.—Wheat, £73,907.
- Siam.—Apparel and attire, £4,618.
- Austria.—Wool, £239,133.
- New Hebrides.—Biscuits, £3,272; flour, £2,431; meats, £5,038; specie, gold, £4,082.
- Netherlands India—Celebes.—Flour, £6,853. Sumatra.—Flour, £9,190
- Neu Pommern.—Meats, £8,773.
- Egypt.—Butter, £3,510.
- Chile.—Wheat, £11,198; tallow, £7,259; coal, £338,350.
- Madeira.—Wheat, £44,080.
- Mexico.—Coal, £11,881.
- Cochin China.—Flour, £7,556.
- Portuguese East Africa.—Meats, £25,796; tallow, £5,563.

DIRECTION OF RE-EXPORT TRADE.

Following are details as to the direction of the re-export trade of produce of other Australian States, viz. :—

- United Kingdom.—Bullion, gold, £207,384; silver, £33,271.
- Fiji.—Ammonia sulphate, £704; biscuits, £1,897; potatoes, £1,160.
- New Zealand.—Animals, living, £1,653; bark, tanning, £1,880; books, £1,141; fodder, £1,999; lard, £1,163; lead, pig, £2,766; leather, £1,335; onions, £1,428; salt, £2,543; timber, £1,652; wines, £4,843.
- Canada.—Onions, £4,967.
- India.—Lead, pig, £10,551.
- Ceylon.—Lard, &c., £1,169; lead, pig, £3,000.
- Hong Kong.—Copper ingots, £5,426; flour, £11,818; lead, pig, £63,126; soap, £4,160.
- Union of South Africa—Natal.—Animals, living, £1,405. Cape Colony.—Lead, pig, £1,162; meats, preserved, £1,044.
- South Sea Islands.—Biscuits, £1,580.
- Straits Settlements.—Butter, £1,504; tin, £29,326.
- Ocean Island.—Meats, preserved, £1,332.
- Japan.—Ammonia sulphate, £1,703; lead, pig, £183,378.
- China.—Butter, £2,466; copper ingots, £16,500; lead, pig, £48,394.
- Java.—Butter, £13,093; flour, £1,688.
- Belgium.—Ores and concentrates, silver and silver lead, £31,228; zinc, £18,855; copper ingots, £17,100; lead, pig, £6,625; skins and hides, £6,558; tin, £14,997; wool, £29,001.

Germany.—Ores and concentrates, silver and silver lead, £58,972; copper, £11,445; lead, pig, £7,075; molybdenite, £2,100; scheelite, £1,540; wolfram, £40,515; zinc, £7,750; sausage casings, £3,139; skins and hides, £4,345; tin, £5,073; wool, £44,934.

United States of America.—Bullion, gold matte, £45,951; silver, £13,776; copper matte, £221,151; onions, £1,578; skins and hides, £54,753; stearine, £1,007; tin, £1,700.

New Caledonia.—Potatoes, £2,686.

Italy.—Meats, preserved, £1,388; skins and hides, £34,130; wool, £5,512.

Hawaiian Islands.—Cameos and unset gem-stones, £1,140; onions, £1,168.

France.—Copper ingots, £7,300; lead, pig, £33,916; molybdenite, £4,111; wolfram, £8,217; wool, £7,310.

Philippine Islands.—Fodder, £3,828; oats, £1,113; flour, £14,366; lead, pig, £1,104; onions, £1,597.

For foreign produce re-exported, the trade was distributed as follows:—

Cape Colony.—Sugar (cane), £28,398.

Natal.—Sugar (cane), £29,125.

New Zealand.—Soda nitrate, £2,549; animals, living, £8,614; apparel and attire, £6,628; bags and sacks, £1,890; books, £13,122; calcium carbide, £1,214; canvas and duck, £1,394; confectionery, £1,517; copper, £1,386; cordage and twine, £8,174; drugs and chemicals, £6,752; electrical materials, £7,259; fancy goods, £2,031; glassware, £4,886; rice, £23,773; hessians, £1,428; insecticides, £1,453; instruments, £41,231; iron and steel, £7,106; jewellery, £2,868; kapok, £4,053; lamps, &c., £2,101; leather, £15,470; machines and machinery, £39,617; medicines, £11,350; metal manufactures, £22,764; oilmen's stores, £5,862; lubricating oil, £2,536; papers, £7,365; perfumery, £2,433; photographic goods, &c., £2,132; piece-goods, £28,446; rails, &c., £2,837; rubber manufactures, £2,159; sausage casings, £1,499; specie, gold, £209,046; whisky, £3,900; essences, £2,588; sugar (cane), £6,440; tea, £27,270; timber £3,094; tobacco, &c., £14,128.

Fiji.—Ale, porter, &c., £1,560; arms, ammunition, &c., £1,783; rice, £4,907; iron and steel, £12,830; machines and machinery, £8,709; metal manufactures, £12,758; milk and cream, £1,896; benzine, £2,259; kerosene, £1,420; linseed oil, £1,210; lubricating oil, £1,253; paints and colours, £1,882; piece-goods, £7,117; rails, &c., £3,960; specie, gold, £26,278; silver, £7,295; sugar (cane), £6,010; whisky, £5,259.

Fanning Island.—Apparel and attire, £3,203; fish, £14,860.

Papua.—Ale, porter, &c., £1,250; boats, launches, &c., £1,104; fish, £1,337; rice, £8,575; iron and steel, £3,086; benzine, £1,155; kerosene, £1,466; piece-goods, £1,804.

Ceylon.—Specie, gold, £593,825; sugar (cane), £5,396.

Straits Settlements.—Specie, gold, £15,830.

Hong Kong.—Specie, gold, £96,145.

India.—Specie, gold, £93,110.

Germany.—Copra, £2,345; furs, £1,038; rubber manufactures, £1,407.

Belgium.—Metals, scrap, £4,741.

New Hebrides.—Apparel and attire, £2,914; arms, ammunition, &c., £2,345; cutlery, £1,170; fish, £1,921; rice, £4,705; iron and steel, £1,946; kerosene, £1,298; piece-goods, £3,688; specie, gold, £1,860; silver, £4,068; sugar (cane), £2,000; tobacco, &c., £2,818.

South Sea Islands.—Ale, porter, £1,084; apparel and attire, £6,468; cutlery, £2,127; fish, £3,696; rice, £16,334; iron and steel, £5,831; machines and machinery, £2,810; metal manufactures, £5,827; benzine, £2,688; kerosene, £2,297; piece-goods, £18,095; specie, gold, £14,880; silver, £6,055; tobacco, &c., £12,717.

New Caledonia.—Rice, £3,906; instruments, £1,665; iron and steel, £2,046; benzine, £1,108; kerosene, £4,630; specie, gold, £1,535; sugar (cane) £7,539.

Neu Pommern.—Iron and steel, £2,440; benzine, £1,659; piece-goods, £1,543; tobacco, &c., £3,404.

Tahiti.—Iron and steel, £1,403.

United States of America.—Machines and machinery, £2,287.

Portuguese East Africa.—Sugar (cane), £10,602.

SHIPS' STORES.

In addition to the values of oversea exports shown already, considerable quantities of goods are sent away from New South Wales each year in the form of ships' stores. The following statement shows the aggregate values of ships' stores exported in each of the last five years, classified as Australian produce, and other produce being really re-exports, viz. :—

Year.	Value of Ship's Stores.		
	Australian Produce.	Other Produce.	Total.
	£	£	£
1907	693,959	80,917	774,876
1908	846,672	72,378	919,050
1909	701,563	59,816	761,379
1910	654,068	69,935	724,003
1911	839,700	76,547	916,247

Practically the whole Australian produce is of New South Wales origin. Following are details of the most important items in the entries for 1911 of this Australian produce, viz. :—

	Quantity.	Value.
		£
Bunker coal,	tons 1,187,968	650,259
Meats	lb. 4,034,813	58,582
Butter	lb. 415,000	18,284
Flour ... ..	...centals 32,357	14,652
Potatoes ... ..	...cwt. 40,022	12,239
Milk, preserved	lb. 657,399	11,096

COMMERCIAL COMMISSIONERS.

In Eastern Asia.

Mr. J. B. Suttor, A.M.I.C.E., represents the State of New South Wales as Commercial Commissioner in Eastern Asia, with headquarters at Kobe, Japan. The Commissioner, who is responsible for the fostering of the trade of the State in the important markets of eastern countries, makes periodical tours of Japan, China, India, Philippine Islands, Netherlands India, and other portions of the East, closely watching for new opportunities for trade for this State as well as taking steps to ensure the maintenance of the existing trade.

Annual reports, giving in much detail the market prices, &c., for each commodity exported from New South Wales and valuable advice to shippers and the commercial community, are furnished by the Commissioner.

These reports are published as Bulletins by the Immigration and Tourist Bureau, and may be obtained upon application.

In addition to the valuable assistance given to commerce the Commissioner does useful work in diverting the stream of tourists in the East towards Australia.

In America and Canada.

During 1911, preliminary inquiries were made as to the possibility of improving the trade relations between the United States of America, and also Canada, and New South Wales, and the advisableness of establishing a Trade Commissioner's Office on the West Coast of America. A result of these inquiries was to disclose an "almost unlimited market for all pastoral primary products, and a considerable number of agricultural primary products, for hardwood timber, coal, coconut oil, for some fruits in all seasons, and for all fruits in the off season in America, and for such vegetables as will stand carrying, *e.g.*, onions and potatoes.

CHAMBERS OF COMMERCE.

Chambers of Commerce have been formed in New South Wales at important trading centres, the principal being at Sydney and Newcastle, Parramatta, Lismore, and Grafton. The membership of the Sydney Chamber of Commerce as at June, 1912, was 490, including 44 firms and public companies. Amongst matters relating to the commercial interests of the State which the Sydney Chamber endeavoured to advance during 1911-12, may be mentioned the inspection of frozen meat prior to export, the improvement of the post, telegraph, and telephone services, the extension of wharfage and shipping facilities in Sydney Harbour, and the establishment of a Faculty of Commerce within the Sydney University. The Sydney Chamber also fixes the F.A.Q. standard for wheat in each year.

The seventh congress of the Chambers of Commerce of the British Empire was held in Sydney in September, 1909, and delegates from New South Wales attended the eighth Congress held in London in 1912.

PRIVATE FINANCE.

CURRENCY AND COINAGE.

In terms of the Coinage Act, 1909, passed by the Commonwealth Government, and operating throughout Australia, "every transaction, dealing, matter, and thing whatever relating to money, or involving the payment of, or the liability to pay any money, shall be made, executed, entered into, done, and had, according to the coins which are current and are legal tender under the Act." Previously the coins current corresponded to the British Monetary System, and were issued by the Royal Mint of England through its Sydney Branch.

Under the Act, authority is vested in the Federal Treasurer to issue silver and bronze coin made to his order, of specified denominations; and in addition, a nickel coinage is authorised, the denominations, fineness, and weight of which will be specified by proclamation.

A tender of payment, made in coins of British or Australian issue, is legal, if made in gold coins, for any amount; in silver coins, for a maximum amount of forty shillings; and in bronze, to a maximum of one shilling. Australian notes are legal tender throughout the Commonwealth.

Consequent upon the passage of the Commonwealth Coinage Act, 1909, an Order-in-Council and a Proclamation were issued in England revoking the order of 1896, by which certain parts of the Imperial Coinage Act, 1870, and its subsequent amendments, were made applicable to the several colonies of Great Britain.

Standard Coinage.

The standards of weight and fineness of the coins denominated in the Schedule to the Coinage Act, 1909, are as follows:—

Denomination of Coin.	Imperial Weight.	Metric Weight.	Remedy Allowance.	
			Imperial grains.	Metric grams.
Gold—	grains.	grams.		
Five pounds	616·37239	39·94023	1·00	0·06479
Two	246·54895	15·97611	·40	·02592
Sovereign	123·27447	7·98805	·20	·01296
Half-sovereign	61·63723	3·99402	·15	·00972
Silver—				
Florin	174·54545	11·31036	·997	·0646
Shilling	87·27272	5·65518	·578	·0375
Sixpence	43·63636	2·82759	·345	·0224
Threepence	21·81818	1·41379	·212	·0138
Bronze—				
Penny	115·83333	9·44984	2·91666	·18899
Halfpenny	87·50000	5·66990	1·75000	·11339

In case of British coin in circulation, the current weight is as specified in the law of the United Kingdom applicable to the coin.

It will be seen that the principal variation of the Australian from the British System lies in the elimination of the half-crown from the Australian silver coinage.

For gold coins, the standard fineness is $\frac{11}{12}$ gold, $\frac{1}{12}$ alloy, or millesimal fineness, 916.6; for silver coins, $\frac{37}{40}$ fine silver, $\frac{3}{40}$ alloy, or millesimal fineness, 0.925; bronze coins are of mixed metal—copper, tin, and zinc.

Standard or sovereign gold of 22 carats fineness is worth £3 17s. 10½d. per oz.; pure or 24 carat gold is worth £4 4s. 11 $\frac{5}{11}$ d. per oz., but the gold contained in deposits sent to the Sydney Branch of the Royal Mint, for melting, assaying, and coining, is valued at the rate of £3 17s. 10½d. per oz. standard or sovereign gold, and there is thus no premium on gold.

Standard silver, owing partly to the greatly increased output, and still more to its demonetisation in a large part of Europe, and the restrictions placed upon its free coinage in countries which still have a double standard of coinage, has decreased in value by nearly 57 per cent. since 1875. The average price of standard silver in the London market for various years since that year is given in the annual reports of the Deputy Master of the Royal Mint as follows:—

Year.	Price per standard oz.	Year.	Price per standard oz.	Year.	Price per standard oz.
	d.		d.		d.
1875	56 $\frac{1}{8}$	1900	28 $\frac{5}{8}$	1908	24 $\frac{3}{8}$
1880	52 $\frac{1}{4}$	1905	27 $\frac{1}{8}$	1909	23 $\frac{1}{4}$
1885	48 $\frac{3}{4}$	1906	30 $\frac{3}{4}$	1910	24 $\frac{1}{4}$
1890	47 $\frac{3}{4}$	1907	30 $\frac{3}{16}$	1911	24 $\frac{9}{16}$
1895	29 $\frac{7}{8}$				

It will be noticed that the average price for 1911 showed a decline of $\frac{1}{16}$ d. per oz. as compared with the previous year; the fluctuations in value during 1911 are shown in the following table of average monthly prices:—

Month.	Price per standard oz.	Month.	Price per standard oz.	Month.	Price per standard oz.
	d.		d.		d.
January ...	24 $\frac{7}{8}$	May ...	24 $\frac{9}{16}$	September ...	24 $\frac{9}{16}$
February ...	24 $\frac{1}{16}$	June ...	24 $\frac{1}{16}$	October ...	24 $\frac{9}{16}$
March ...	24 $\frac{5}{16}$	July ...	24 $\frac{5}{16}$	November ...	25 $\frac{3}{8}$
April ...	24 $\frac{9}{16}$	August ...	24 $\frac{1}{16}$	December ...	25 $\frac{3}{8}$

The nominal value of one ounce of silver coined into eleven sixpences is 5s. 6d., and of one pound (avoirdupois) of bronze coined into pence is taken as 4s., and into halfpence or farthings 3s. 4d.

MINTING.

The Royal Mint of England has four branches, viz., one each at Sydney, Melbourne, Perth, and Ottawa (Canada). The earliest established of the Australian Branches was the Sydney Branch, opened on 14th May, 1855, the Melbourne Branch being opened in 1872, and the Perth in 1899.

Only gold coins have been struck at Sydney Mint, but silver and bronze of English coinage were also issued. By arrangement, the Australian coins issued up to the present date have been struck at the London Mint, and forwarded to the Sydney Branch, whence they were distributed at the order of the Federal Treasurer.

Gold Coinage.

The total weight of gold sent for coinage to the Sydney Branch in the period from its foundation, to the 31st December, 1911, was 35,090,949 oz., valued at £129,656,839. Of this quantity New South Wales produced 11,407,503 oz., of the value of £42,373,258, the amount from each source being as follows:—

Where produced.	Weight.	Value.
	oz.	£
New South Wales	11,407,503	42,373,258
Victoria	1,447,103	5,939,130
Queensland	16,759,893	59,597,420
South Australia	96,964	334,594
Tasmania	139,072	488,422
New Zealand	4,840,105	19,401,265
Other Countries	77,971	271,675
Old Coin, &c.	322,332	1,251,075
Total	35,090,949	129,656,839

Nearly the whole of the gold mined in New South Wales and Queensland, and a big proportion of the output of the other States and New Zealand, is received at the Sydney Mint for coinage. The value of gold coin and bullion issued up to the end of 1911 was £129,385,036 of which £122,941,500, represented coin, the value of sovereigns and half-sovereigns being as follows:—

Year.	Sovereigns.	Half-sovereigns.	Total.
	£	£	£
1855 to 1901	93,688,500	2,867,500	96,556,000
1902	2,813,000	42,000	2,855,000
1903	2,806,000	115,500	2,921,500
1904	2,986,000	.....	2,986,000
1905	2,778,000	.....	2,778,000
1906	2,792,000	154,000	2,946,000
1907	2,539,000	.....	2,539,000
1908	2,017,000	269,000	2,286,000
1909	2,057,000	.....	2,057,000
1910	2,135,000	237,000	2,372,000
1911	2,519,000	126,000	2,645,000
Total... £	119,130,500	3,811,000	122,941,500

The gold bullion issued from the Mint includes pure gold in small quantities for the use of jewellers, chemists, and others, but the bulk consists of small bars of fine gold for export to India. The amount of gold bullion issued during 1911 was valued at £83,310, the total from 1855 to the end of 1911 being 1,561,678·37 ounces, valued at £6,433,536.

The issues of gold coin from the various branch Mints in Australia and Canada during 1911 compare as follows:—

	Sovereigns.	Half-sovereigns.	Total.
	£	£	£
Sydney	2,519,000	126,000	2,645,000
Melbourne	2,851,451	...	2,851,451
Perth	4,373,165	65,186½	4,438,351½
Ottawa	256,395	...	256,395
Total	10,000,011	191,186½	10,191,197½

Silver and Bronze Coinage.

The first issue of bronze coin from the Sydney Mint took place in 1868, of silver, in 1879, the values of each to the end of the year 1910 being—bronze, £106,450, and silver, £1,239,400. The value of the British coins issued is shown in the following table:—

Year.	Silver Coin.							Bronze Coin.
	Crowns and Double Florins.	Half-crowns.	Florins.	Shillings.	Six-pences.	Three-pences.	Total.	
	£	£	£	£	£	£	£	£
1868 to 1900	1,300	217,600	164,600	172,000	69,800	92,300	717,600	56,310
1901	.....	25,000	23,000	24,000	5,000	6,400	83,400	5,500
1902	.....	200	1,000	1,000	4,800	4,800	11,800	3,000
1903	.....	2,400	4,200	2,800	1,400	5,200	16,000	3,720
1904	.....	23,600	6,800	200	5,600	7,000	43,200	2,320
1905	.....	3,800	.....	.....	3,600	3,400	10,800	2,000
1906	.....	35,000	15,000	12,000	8,600	8,000	78,600	4,000
1907	.....	68,000	55,000	30,000	14,800	10,000	177,800	10,000
1908	.....	7,000	22,600	20,000	7,000	10,800	67,400	5,600
1909	.....	5,000	2,400	6,000	3,200	4,200	20,800	5,000
1910	.....	6,000	.....	.....	3,000	3,000	12,000	9,000
Total...	£ 1,300	393,600	294,600	268,000	126,800	155,100	1,239,400	106,450

The issue of British silver and bronze coin in the Commonwealth ceased in 1910, the new Australian coins being first issued in that year.

The Australian silver and bronze coins issued from the Sydney Mint to the end of 1911, were valued at £275,340, made up as follows:—

Coin.	1910.	1911.	Total.
Silver—			
Florins	£ 61,500	£ 22,950	£ 84,450
Shillings	42,200	39,900	82,100
Sixpences	28,100	22,200	50,300
Threepences	10,500	37,400	47,900
Bronze—			
Pence	.....	7,840	7,840
Halfpence	.....	2,750	2,750
Total	£ 142,300	133,040	275,340

Profit on Silver and Bronze Coinage.

The coinage or nominal value of silver per standard ounce is 5s. 6d., and the average price per ounce paid by the London mint during 1911 was 2s. 0 $\frac{1}{2}$ d., the difference representing the seigniorage or gross profit. Full allowance being made for mint expenses and the loss incurred by the purchase of worn silver at its nominal value, the British Government has derived a substantial profit from the silver coin issued in Australia. The profit on the local silver currency now accrues to the Federal Government. The net profit on the Australian silver coinage in 1910 was £66,845, and in 1911, £182,661; while on bronze coin the net profit in 1911 was £4,398.

Withdrawals.

The withdrawal of light gold coin in Australia is effected through the Sydney and Melbourne Mints, each branch having been authorised to receive such coin to the amount of £250,000 during the financial year 1911-12.

Worn gold coins have been received at the Sydney Mint for recoinage since 1876, silver coins since 1873. The nominal value of gold coin withdrawn from circulation during 1911 was £11,467, and for the whole period since the opening of the Mint, £1,070,166.

Worn silver coin of the value of £10,458 was withdrawn from circulation, through the Sydney Mint, during 1911. The aggregate value of silver coin withdrawn to the end of 1911 was £278,534, this being forwarded to London for recoinage. During the last two years British silver coin of the value of £25,000 has been withdrawn and exported for re-issue in other parts of the British Empire, being replaced by Australian silver coin of equivalent value and denomination.

Mint Receipts and Expenditure.

The receipts of the Mint, which are paid into the Consolidated Revenue of New South Wales represent charges for coining gold, fees for assays, &c., and hitherto, profits on sale of silver. Payment is made for all silver contained in deposits in excess of 8 per cent., of the gross weight, at a rate fixed by the Deputy Master from time to time. On the 12th May, 1902, the rate was proclaimed at 1s. 6d. per oz. fine, and this is still ruling.

For assaying and coining gold, the charge is 1d. per ounce standard, and on all gold insufficiently refined and toughened for direct conversion into coin, a charge is made, the maximum being at the rate of 3d. per ounce gross, and the minimum 1d., with 1s. per ounce for all base metal extracted, on deposits containing more than 5 per cent. of base metal, the minimum charge on one deposit being 6s.

The total receipts of the Sydney Mint since its establishment are shown below:—

Year.	Charges on Gold.	Profit on Sale of Silver.	Fees for Assays and Crushings, and Proceeds of Sweep.	Total Mint Receipts (paid into Consolidated Revenue).
	£	£	£	£
1855 to 1901	493,446	114,249	88,342	696,037
1902	8,108	5,254	2,034	15,396
1903	8,793	8,499	2,116	19,408
1904	11,145	8,869	1,725	21,739
1905	10,158	8,196	1,068	19,422
1906	9,083	7,846	2,565	19,494
1907	6,836	4,884	2,136	13,856
1908	6,484	3,440	922	10,846
1909	6,141	4,141	698	10,988
1910	6,143	3,926	643	10,712
1911	6,320	3,496	455	10,271
Total £	572,665	172,800	102,704	848,169

The cost of maintenance of the Sydney Branch of the Royal Mint is borne by the State Government, £15,000 being set apart annually for that purpose. Special additional votes for limited amounts for construction, repairs, and furniture have also been made. The expenditure from Consolidated Revenue during 1911, amounted to £16,071.

PAPER CURRENCY.

Bank Notes.

Prior to 1910 the control of paper currency vested in the several private banking institutions which had used their right to issue bank notes, but note circulation in New South Wales, in conformity with the general tendency throughout the financial world, has not expanded during recent years, in proportion either to population or to the volume of business transactions,

the principal cause operating to curtail such circulation being the increase of facilities for operating on deposits by cheques, as evidenced by the growing volume of business in the Banks Exchange Settlement Office. In New South Wales, note currency issued by banks was subject to a note tax at the rate of 2 per cent. per annum, by which the State benefited to the extent of £33,900 for the year 1909-10, but which has now been replaced by a 10 per cent. Commonwealth tax. The result of this tax has been to force the banks' notes out of circulation.

Of the sixteen banks operating in New South Wales, three have had no note issue whatever, being simply trading banks of discount and deposit; of the remainder the note circulation in proportion to the deposit liability has been little more than 3 per cent., being almost a negligible quantity in the total liabilities. Against this note liability no special reserve was required by law, but in cases of institutions registered under the Companies Act, 1899, as limited companies, a specific provision renders such companies as issue notes subject to unlimited liability in respect thereof.

The following figures relating the total liability as regards notes and bills of banking institutions operating in New South Wales, to the population show the stationary position in regard to note circulation, prior to the issue of Australian notes and the imposition of the 10 per cent. tax, and the large decrease in the ratio after the imposition of the tax :—

Year.	Circulation in—		Total.	Per capita.
	Notes.	Bills.		
	£	£	£	£
1860	949,849	62,505	1,012,354	2·95
1870	695,366	50,515	745,881	1·52
1880	1,260,772	51,698	1,312,470	1·80
1890	1,557,805	127,442	1,685,247	1·53
1900	1,447,641	209,905	1,657,546	1·22
1910	2,243,128	370,199	2,613,327	1·59
1911	400,784	411,792	812,576	0·48

The purpose of the note issue was primarily to obviate the necessity for keeping gold reserves in branch banks, the circulation being confined practically to country districts, and the lowest value for which notes were issued being £1.

Australian Notes.

As a consequence of the Australian Notes Act passed in 1910 by the Federal Parliament, the Commonwealth Treasurer was authorized to issue notes, which are legal tender throughout the Commonwealth, and are redeemable in gold at the seat of Federal Government. These notes are issuable in the following denominations :—10s., £1, £5, £10, and any multiple of £10, and against the note liability the Treasurer was bound in terms of the Act, to hold in gold coin a reserve of not less than one-fourth of the notes in circulation up to £7,000,000, and a pound for pound equivalent of notes issued in excess of £7,000,000. By an amending Act passed in 1911, and devised to operate from July, 1912, this pound for pound reserve above £7,000,000 was repealed, and a minimum 25 per cent. reserve fixed against all issues.

Queensland was the only State affected by the prohibition of a State issue, its note issue not redeemed representing at 30th June, 1912, £61,018, for which Australian notes are being substituted gradually. The imposition of a 10 per cent. tax upon notes issued or re-issued, as against the 2 per cent.

taxation imposed formerly by the New South Wales Government, must necessarily result in the speedy replacement of bank notes by Australian notes. At December, 1910, the value of bank notes in circulation in Australia was nearly £6,000,000, at December, 1911, the Australian notes issued and unredeemed represented £10,156,358, and at 30th October, 1912, £9,602,017. The increase of between three and four millions sterling does not represent an increased circulation, but the amount that is held by the banks as "till money" in place of their own notes. The denomination and value of the Australian notes issued as at various dates since December, 1911, are shown below:—

Denomination.	Value.		
	Dec., 1911.	June, 1912.	Oct., 1912.
£	£	£	£
1	3,511,163	3,031,058	3,044,027
5	3,263,445	3,098,575	3,233,760
10	1,724,210	1,635,630	1,692,140
20	397,740	407,380	427,240
50	890,700	839,700	819,950
100	369,100	473,600	384,900
Total £	10,156,358	9,485,943	9,602,017

Against this issue the Federal Treasurer held in gold coin a reserve amounting as at 30th October, 1912, to £4,055,081, which is equal to 42·23 per cent. of the amount of notes issued. Under the Act of 1910, the balance of the reserve, or any part thereof, can be invested by deposit in a bank, or in securities of the United Kingdom, of the Commonwealth, or of a State. Further, as cover for the notes additional to the gold reserve, Treasury bills to the total amount of the notes may be issued by the Treasurer, within or beyond the limits of the Commonwealth. A maximum penalty of £100 may be imposed for any attempt whatever to copy the Australian notes.

MONEY ORDERS AND POSTAL NOTES.

Exchange by means of the money order and postal note is conducted by the Post and Telegraph Department of the Commonwealth. By money order, remittances may be forwarded from the principal post offices of New South Wales to any part of the world, the orders being sent either direct to the place of payment if within the Commonwealth, or through intermediary agencies to places outside Australia. The postal note system enables exchanges to be effected throughout the Commonwealth, its original object being to afford means of transmitting small amounts of less than £1 to places within the State. So far as small remittances within the State are concerned, the money order and postal note systems are both effective; but as public convenience is met by the postal note, the money order system is in fact confined almost entirely to amounts exceeding £1.

Money Orders.

The money order system was initiated in January, 1863. In that year there were 3 orders issued for every hundred persons in the State, and the total value of the orders was £53,862; in 1911 the number was 640,357, or 39 per 100 inhabitants, and the total value £2,819,183. The growth of the business has been due mainly to the extension of the sphere of

The total amount of commission collected from the public for the intervening years quoted above, and the excess of receipts over payments, are recorded as follows:—

Year.	Gross Commission Collected from the Public.	Net Receipts from Other Countries.	Net Commission received by New South Wales.
	£	£	£
1895	14,863	(-) 234	14,629
1900	16,296	51	16,347
1905	19,313	419	19,732
1906	19,377	438	19,815
1907	20,251	316	20,567
1908	20,539	350	21,189
1909	21,121	316	21,437
1910	20,962	220	21,182
1911	21,677	83	21,760

The maximum amount allowable for a single order is £40, but no single order is issued for more than £20 to be paid in the Commonwealth of Australia and Papua, in Finland, in various French colonies, Congo, Cuba, Dahomey, Ivory Coast, Madagascar, New Caledonia, Niger, in Guam, Guinea, Hawaii, Mauretania, Philippines, Senegal. Turkey in Europe, United States of America, Mexico, and Upper Senegal. To Russia the maximum is £30, to Angola, Mauritius, British North Borneo, Cape Verde Islands, Portuguese Guinea, St. Thomas, and Principe the limit is £10.

The rates of commission on money orders payable in the Commonwealth and Papua are respectively 6d. and 9d. for every £5. The charges on those payable in New Zealand and Fiji are:—Not exceeding £2, 6d.; £2 to £5, 1s.; £5 to £7, 1s. 6d.; £7 to £10, 2s.; and in the same proportion up to £40. The commission on orders payable in the United Kingdom, other British Possessions, and foreign countries, is at the rate of 6d. for any amount up to £2 and 3d. for each additional pound or fraction thereof. In case of remissions to foreign countries through London, a second commission of 3d. for each £5 or fraction thereof is charged, this commission being added to the amount of the order. In cases where there is no direct exchange through London the business is transacted through the agency of a foreign office, which deducts its commission, ranging from $\frac{1}{4}$ per cent. to 1 per cent., from the amount of the order.

Within Australasia remittances may be made by telegraph to and from money order offices, which are also telegraph or telephone offices, and a charge is made for the telegram of advice, in addition to the ordinary commission.

Postal Notes.

Postal notes were first issued in New South Wales on the 1st October, 1893. The transactions for intervening years were as follow:—

Year.	New South Wales Postal Notes.			Postal Notes of other Australian States paid in New South Wales.					
	Paid in New South Wales.	Paid in other Australian States.	Total Value.	Issued in—					Total Value.
				Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	
	£	£	£	£	£	£	£	£	£
1895	243,188	16,369	259,557	7,627	3,863	1,431	.....	441	13,362
1900	462,087	26,396	488,483	12,207	9,899	2,209	.....	1,047	25,262
1905	637,465	85,703	723,168	35,034	28,535	8,752	9,170	5,712	87,203
1906	710,053	98,706	808,759	36,672	34,616	10,092	10,347	6,193	97,920
1907	776,931	117,343	894,274	37,282	38,177	11,893	11,083	6,694	105,129
1908	817,213	113,911	931,124	39,162	41,409	12,337	11,014	7,184	111,106
1909	851,166	148,146	999,312	42,794	45,919	14,645	11,167	7,737	122,262
1910	910,136	181,999	1,092,135	45,725	49,873	14,211	11,821	7,674	129,354
1911	977,451	216,574	1,194,025	46,234	50,010	14,268	10,980	7,621	129,113

The total number of notes issued in New South Wales during 1911 was 3,239,585, of which 2,586,323 were paid in the State, in addition to 322,027 notes issued in other States, and paid in New South Wales.

The poundage collected on postal-note issues in New South Wales during the same years was as follows :—

Year.	Poundage.	Year.	Poundage.
	£		£
1895	6,317	1908	18,116
1900	11,850	1909	19,380
1905	14,262	1910	21,309
1906	15,962	1911	23,389
1907	17,615		

SAVINGS BANKS.

The declared objects of savings banks are to encourage individual thrift, and to provide a safe channel of investment for funds, especially of charitable institutions and friendly societies. To foster public confidence and assure soundness in financing, a measure of State control or supervision is regarded as essential. Two institutions exist in New South Wales, the Government Savings Bank of New South Wales and the Savings Bank of New South Wales. The former bank is under the control of Commissioners appointed, the latter of Trustees nominated, by the Government of the State, and it will be seen from the balance sheets of the institutions that in both cases the bulk of the funds is invested with the Government in various ways.

Prior to Federation the Government Savings Bank was worked as the Post-Office Savings Bank, and has since been operated in conjunction with the post-offices. As, however, the Commonwealth Government has determined to establish a Savings Bank, branches will be opened at the post-offices in New South Wales early in 1913, and the Commonwealth Government has given notice to the New South Wales Government to remove its agencies from the post-offices as from 1st January. Separate branches and agencies are, therefore, being provided throughout the State by the Commissioners, to take the place of the branches formerly situated at the post-offices.

In both institutions sums over 1 shilling may be deposited; but, with the exception of the funds of charitable institutions and friendly societies—in which cases interest on the full deposit is allowed—deposits exceeding £500 do not bear interest on such excess in the Government Savings Bank; in the Savings Bank of New South Wales the maximum interest-bearing deposit which can be made by any one individual is £200. The rate of interest allowed by the Government Savings Bank was 3 per cent. to 30th June, 1912, but from that date the rates were—ordinary depositors, 3½ per cent., to £300, and 3 per cent. from £300 to £500; Friendly Societies and similar institutions 3½ per cent. to £500. During the year ended 31st December, 1911, the Savings Bank of New South Wales allowed 3½ per cent. on balances during 1911, and on accounts closed during 1912, but accounts remaining open on 31st December, 1912, will be paid interest at the rate of 4 per cent. for the whole year.

The returns show a rapid development since the foundation of the banks, and the large accessions of depositors indicate that the less affluent classes of the community are represented in the books of the banks to a great extent.

The following statement shows the number of depositors and amount of deposits at the end of each year since 1860 for the Savings Bank of New South Wales, and since 1880 for the Government Savings Bank, together with the average amount of deposit per depositor :—

Year ended 31st December.	Government Savings Bank.		Savings Bank of New South Wales.		Total.		Average Amount per Depositor.
	Depositors.	Deposits.	Depositors.	Deposits.	Depositors.	Deposits.	
1860	No.	£	No.	£	No.	£	£ s. d.
1870	Not open.		12,027	557,197	12,027	557,197	46 6 7
1880	24,602	586,496	23,570	936,465	23,570	936,465	39 14 7
1890	83,312	1,875,905	36,929	1,489,360	61,531	2,075,856	33 14 9
1890	83,312	1,875,905	60,514	2,854,564	143,826	4,730,469	32 17 10
1900	198,014	6,045,622	84,629	4,855,760	282,643	10,901,382	38 11 5
1905	*270,982	*8,883,651	101,383	5,545,367	372,365	14,429,018	38 15 0
1906	283,401	9,322,923	108,649	5,997,609	392,050	15,320,532	39 1 7
1907	305,265	11,128,495	116,663	6,401,632	421,928	17,530,157	41 10 11
1908	314,284	12,118,574	121,745	6,686,508	436,029	18,805,082	43 11 2
1909	334,381	13,303,421	125,870	6,847,154	460,251	20,150,575	43 15 7
1910	368,306	15,190,820	130,352	7,263,104	498,658	22,452,924	45 0 7
1911	407,011	17,595,695	137,012	7,765,643	544,023	25,361,338	46 12 4

* At 30th June, 1906.

The State business relating to loans to landholders previously administered by the Advance to Settlers' Board was transferred to the control of the Commissioners of the Government Savings Bank on 1st January, 1907. Particulars relating to the Advance Department will be found in the chapter relating to Agriculture.

At the 31st December, 1911, the liabilities of the Government Savings Bank amounted to £17,779,489, of which £17,595,695 represented deposits, £37,957 Advance Department deposit at call, and £18,822 balance of profit and loss account; the reserve fund amounted to £120,000, and other liabilities £7,015. The investments made on behalf of the bank, and other assets, including accrued interest, were as follows :—

Government Stocks—	£
New South Wales, Funded	12,232,437
Other States	109,945
Treasury Bills—New South Wales	115,940
Deposits at New South Wales Treasury	2,115,505
Debentures—	
Advance Department	1,222,682
Municipal	607,191
Fixed Deposits at various Banks	308,309
Mortgage Securities, including accrued interest	624,965
Bank Premises	166,000
Sundry accounts due to Bank	1,859
Commercial Banking Co. of Sydney, Ltd.	58,318
Cash at Branches, Agencies, and in transit	205,505
Balances due from other Saving Banks	16,833
Total	£17,779,489

It is to be noted that the Commissioners are obliged, in terms of the Government Savings Bank Act, 1906, to retain at least 15 per cent. of the assets of the bank on call or at short notice.

The following statement shows the classification of depositors' balances at the Government Savings Bank for the years 1910 and 1911 :—

Classification.	1910.		1911.	
	Depositors.	Deposits.	Depositors.	Deposits.
	No.	£	No.	£
£20 and under	255,022	915,427	276,760	985,122
Over £20 to £50	42,896	1,359,859	49,198	1,566,645
„ £50 to £100	26,350	1,836,177	30,471	2,117,891
„ £100 to £200	20,938	2,877,880	23,936	3,294,101
„ £200 to £300	9,490	2,281,901	10,658	2,562,161
„ £300 to £400	5,322	1,819,800	5,851	2,009,429
„ £400 to £500	3,519	1,571,796	4,151	1,854,373
„ £500	4,769	2,527,601	5,986	3,205,973
Total... ..	368,306	*15,190,820	407,011	17,595,695

* Includes £979 in transit.

The average amount of deposit has increased from £32 17s. 11d. in 1906, to £41 4s. 11d. in 1910, and £43 4s. 8d. in 1911.

During 1910 the home-savings bank system was inaugurated, 5,631 boxes being issued. In 1911, 16,422 boxes were issued, including 3,382 in lieu of those returned to the Bank, containing £5,334, or an average of £1 11s. 6d. per box.

A Reciprocity Agreement exists between the various Savings Banks in Australia for the transfer of money for depositors, the amount transferred from the Government Savings Bank of New South Wales to the other States in 1911 being £137,753, while the transfers from the other States amounted to £225,455. Under similar arrangement with the United Kingdom, the amount of £17,674 was transferred to the Government Savings Bank of New South Wales, and £16,823 from that bank to the Post-Office Savings Bank of the United Kingdom.

The Savings Bank of New South Wales was originally administered by nine trustees; under the Savings Bank Act, 1902, and its amendment, the maximum is eighteen, and the trustees are authorised to appoint a managing trustee, who, if not already a trustee, becomes so *ex-officio*. The number of trustees at the end of 1911 was thirteen, exclusive of the managing trustee. The funds of this institution are applicable to investments of a general nature, such as mortgages, Government and municipal securities, and deposits with banks of issue and the Treasury. The amount invested under each head, including interest accrued, at the close of 1911, was as follows :—

Investment.	Amount.
	£
Mortgages	1,058,498
New South Wales Government Stock	3,796,993
Municipal Debentures	1,545,861
Fixed Deposits in various Banks	1,304,414
“ Working Account ” (Bank of New South Wales)	88,131
Deposit with Colonial Treasurer	254,726
Land and Banking-houses	89,229
Cash received after 31st December, 1911	47,513
Total... ..	£ 8,185,365

The reserve fund, depreciation account, and profit and loss account, on the 31st December, 1911, amounted to £419,132. The classification of the deposits at the Savings Bank of New South Wales on the 31st December, 1910 and 1911, was as follows:—

Classification.	1910.		1911.	
	Depositors.	Deposits.	Depositors.	Deposits.
	No.	£	No.	£
£20 and under	71,892	290,581	74,570	305,436
Over £20 and under £50	16,930	545,673	17,842	575,118
£50 and under £100	12,209	859,124	13,163	924,926
£100 ,, £200	13,581	1,916,201	14,488	2,054,691
£200 ,, £300	14,896	3,160,959	16,007	3,395,191
£300 and upwards	844	490,566	942	510,281
Total... ..	130,352	7,263,104	137,012	7,765,643

The average deposit in 1911 was £56 13s. 7d., as compared with £55 14s. 5d. in 1910, and £55 4s. in 1906.

Connected with the Savings Bank of New South Wales are five penny-savings banks established in various districts. The aggregate deposits at December, 1911, were £988, and this amount is included in the figures previously shown concerning the bank's operations.

Similarly, deposits in the school savings banks of the State are transferred to the Government Savings Bank when they amount to £1.

A comparison of the respective positions of the two institutions at December, 1911, may be obtained from the following statement. The comparison, however, is affected by the fact that by the Act under which it operates the Savings Bank of New South Wales may not pay interest on sums greater than £200. In the Government Savings Bank the amount is limited to £500. Moreover, the agencies of the latter bank, numbering 613, were, with few exceptions, located at post offices, and were, therefore, conducted at a nominal cost to the institution:—

	Branches and Agencies.	Accounts open.	Deposits.	Withdrawals.	Balance of Depositors Accounts.
	No.	No.	£	£	£
Government Savings Bank... ..	650	407,011	13,899,540	11,947,707	17,595,695
Savings Bank of New South Wales	27	137,012	4,495,646	4,229,825	7,765,643

The following table shows the number of depositors in the savings banks, the total amount standing to their credit, the average amount per depositor in New South Wales, and in comparison, similar figures for other Australian States:—

State.	Depositors.	Amount of Deposits in all Savings Banks.	Average Amount per Depositor.
	No.	£	£ s. d.
<i>New South Wales</i>	544,023	25,361,338	46 12 4
Victoria	641,736	19,662,466	30 12 11
Queensland	139,091	7,342,811	52 15 10
South Australia	232,971	8,248,396	35 8 1
Western Australia... ..	96,569	4,400,391	45 8 6
Tasmania	67,105	1,934,089	28 16 6

Of the aggregate amount, £67,000,000, deposited in the savings banks of Australia, over 70 per cent. is reinvested by the controlling bodies in Government and municipal securities.

COMMONWEALTH BANK OF AUSTRALIA.

During 1911, the Federal Parliament passed an Act to provide for the establishment of a Government Bank, to be called the Commonwealth Bank of Australia. The Act confers on the Bank authority to carry on general banking business and other incidental powers relating to acquisition of land, deposits, and advances, discounting and issue of bills and drafts, dealing in exchanges, specie, bullion, &c., and borrowing money. In accordance with the policy of conserving the control of the Australian note issue in the hands of the Federal Treasury, the Commonwealth Bank may not issue bank notes.

The capital of the bank is fixed at £1,000,000, to be raised by the sale and issue of debentures. The management is entrusted to the Governor of the bank, appointed by the Governor-General of Australia for a term of seven years. In addition to ordinary banking business the Governor is empowered to establish a department for the transaction of savings bank business.

The Commonwealth Bank was established on 15th July, 1912, by the opening of the Postal Savings Bank Department in Victoria. A savings department was also commenced in Queensland on 16th September, and in the Northern Territory on 21st October, and arrangements are being made for its gradual extension throughout the other States. The rate of interest for deposits is fixed at 3 per cent. up to a maximum of £300.

The work of organisation with regard to the ordinary banking business is proceeding, and it is expected that a commencement will be made early in the year 1913.

The first quarterly statement issued by the Commonwealth Bank shows the following summary of the Savings Department transactions, as at 30th September, 1912 :—

State.	Accounts.		Deposits.	Withdrawals.
	Opened.	Closed.		
Victoria	No. 7,033	No. 140	£ 263,999	£ 26,382
Queensland... ..	1,626	7	50,909	579
Total	8,659	147	314,908	26,961

TRADING BANKS.

Banking institutions transacting ordinary banking business within the State number sixteen, of which four have their head offices in Sydney, four in Melbourne, two in Brisbane, one in Wellington, N.Z., four in London, and one in Paris. Of the four local banks, three have branches outside the State, but the fourth confines its operations to New South Wales. Two of the local banks—the Bank of New South Wales and the City Bank of Sydney—carry on business under the provisions of special Acts of Incorporation, and in each case the reserve liability attaching to the shares is equivalent to the amount originally subscribed; the Commercial Banking Company of Sydney (Limited) and the Australian Bank of Commerce (Limited) are registered as

limited companies under the Companies Act, 1906, the latter bank having registered in September, 1909, and commenced operations on the 1st January, 1910; previously it was registered and operated as the Australian Joint Stock Bank (Limited). Including branches and head offices, New South Wales is served by 655 banking establishments.

Institutions which transact the business of banking are required under the existing law, contained in the Banks and Bank Holidays Act, 1898, and its subsequent minor amendments, to furnish, in a prescribed form, quarterly statements of their assets and liabilities, from which statements and from the periodical balance-sheets, the information here collated has been prepared. The returns furnished comply with the requirements of the existing law, but are unsuited to the modern methods of transacting banking business, and cannot be accepted as disclosing fairly the stability or otherwise of the institutions by which they are issued.

BANKING INSTITUTIONS AND THEIR CAPITAL.

The paid-up capital of the sixteen banks doing business in New South Wales is stated as £24,562,561, of which £2,281,754 carry a preferential claim on the profits of the companies.

In the following table is a statement of the ordinary and preferential capital of each bank at the date shown, with the amount of the reserve fund of the institution. In the case of some of the companies which were reconstructed, certain reserves, of which no account has been taken in the table, are held in suspense pending realisation of assets:—

Bank.	Offices, including Head Office, in New South Wales.	Date of Balance-sheet.	Capital Paid up.			Reserve Fund.
			Ordinary.	Preferential.	Total.	
HEAD OFFICE, SYDNEY.						
Bank of New South Wales	No. 169	Mar., 1912	£ 3,000,000	£	£ 3,000,000	£ 2,085,000
Commercial Banking Co. of Sydney (Limited)	175	June, 1912	1,718,894	.....	1,718,894	1,540,000
Australian Bank of Commerce (Limited)	†3	June, 1912	1,194,899	.....	1,194,899	Nil.
City Bank of Sydney	44	June, 1912	400,000	.....	400,000	20,000
HEAD OFFICE, MELBOURNE.						
Commercial Bank of Australia (Limited)	20	June, 1912	1,310,013	.....	1,310,013	Nil.
Royal Bank of Australia (Limited)	1	Mar., 1912	300,000	.....	300,000	160,000
National Bank of Australasia (Limited)	8	Mar., 1912	1,192,440	305,780	1,498,220	350,000
Colonial Bank of Australasia (Limited)	1	Mar., 1912	135,236	304,044	439,280	180,000
HEAD OFFICE, BRISBANE.						
Queensland National Bank (Limited)	1	June, 1912	412,591	.....	412,591	170,000
Bank of North Queensland (Limited)	7	June, 1912	100,000	.....	100,000	25,000
HEAD OFFICE, WELLINGTON.						
Bank of New Zealand	1	Mar., 1912	500,000	1,500,000	2,000,000	1,200,000
HEAD OFFICE, LONDON.						
Bank of Australasia	49	Oct., 1911	1,600,000	.....	1,600,000	1,910,000
Union Bank of Australia (Limited)	36	Aug., 1911	1,500,000	.....	1,500,000	1,370,000
London Bank of Australia (Limited)	30	Dec., 1911	376,297	171,930	548,227	120,000
English, Scottish, and Australian Bank (Limited)	49	June, 1911	539,437	.....	539,437	215,000
HEAD OFFICE, PARIS.						
Comptoir National d'Escompte de Paris	1	Dec., 1911	8,000,000	.....	8,000,000	1,488,574
Total	655	.....	22,280,807	2,281,754	24,562,561	10,719,474

In addition to the paid-up capital shown above, an amount of £36,563 had still to be paid in respect of calls made on the shareholders of four banks—Commercial Banking Company of Sydney, £31,106; Australian Bank of Commerce (Limited), £3,635; Queensland National Bank (Limited), £1,657; and London Bank of Australia, £165.

The following table shows the amount of the paid-up capital and reserve funds of all banks operating in the State, at intervals since 1890:—

Year.	Banks.	Capital Paid up.		Total.	Reserve Funds.
		Ordinary.	Preferential.		
	No.	£	£	£	£
1890	17	.....	.....	13,929,326	7,832,047
1895	13	14,610,177	5,094,780	19,704,957	4,175,912
1900	13	12,212,120	4,594,940	16,807,060	4,529,109
1905	13	9,870,871	4,095,060	13,965,931	5,474,199
1906	13	10,084,856	4,095,060	14,179,916	5,818,412
1907	14	16,615,104	4,095,060	20,710,164	7,498,130
1908	14	17,672,047	1,977,710	19,649,757	7,681,208
1909	15	21,084,062	1,977,710	23,061,772	9,017,659
1910	16	21,911,796	2,281,754	24,193,550	9,909,711
1911	16	22,280,807	2,281,754	24,562,561	10,769,574

LIABILITIES AND ASSETS OF BANKS.

The aggregate liabilities to the public of the banks enumerated, as at the given dates, were £242,185,568, against which there were assets representing £279,337,805. The following table gives the liability for each institution, notes in circulation and deposits being separated from other liabilities. In some cases small items which should be classed with "other liabilities" are included with deposits, as they cannot be distinguished in the balance-sheets, and in the case of the Commercial Bank of Australia (Limited), the accounts of the Assets Trust of the old bank have been excluded:—

LIABILITIES TO THE PUBLIC.

Bank.	Notes in Circulation.	Deposits (approximate).	Other Liabilities.	Total.
	£	£	£	£
Bank of New South Wales.. .. .	344,203	35,158,354	5,839,968	41,342,225
Commercial Banking Co. of Sydney (Limited).. .	48,894	20,823,625	922,318	21,795,267
Australian Bank of Commerce (Limited) .. .	6,312	4,185,486	440,909	4,632,707
City Bank of Sydney	12,783	1,890,899	..	1,903,682
Colonial Bank of Australasia (Limited).. .. .	27,758	4,157,674	416,530	4,601,962
Commercial Bank of Australia (Limited) .. .	21,216	6,508,822	1,531,190	8,061,228
National Bank of Australasia (Limited).. .. .	64,056	11,392,613	1,184,234	12,640,903
Royal Bank of Australia (Limited)	1,640	2,119,381	682,967	2,803,997
Queensland National Bank (Limited)	Nil.	8,791,911	336,581	9,128,592
Bank of North Queensland (Limited)	Nil.	891,058	71,155	962,213
Bank of New Zealand	1,030,966	15,833,868	1,567,483	18,232,317
Bank of Australasia	227,860	17,414,474	2,753,640	20,395,974
Union Bank of Australia (Limited)	291,168	22,576,644	1,697,377	24,568,189
London Bank of Australia (Limited)	23,226	5,464,362	779,185	6,266,773
English, Scottish, and Australian Bank (Limited) .. .	13,086	7,989,595	513,256	8,520,937
Comptoir National d'Escompte de Paris	Nil.	49,818,346	6,510,256	56,328,602
Total	£ 2,116,177	215,017,012	25,052,379	242,185,568

The assets which each bank shows against its liabilities to shareholders and the public are given in the following table:—

Bank.	Coin and Bullion and Cash Balances.	Australian Notes.	Advances.	Other Assets.	Total.
	£	£	£	£	£
Bank of New South Wales..	9,273,094	1,320,649	26,147,854	9,921,444	46,663,041
Commercial Banking Co. of Sydney (Limited).	3,756,740	548,056	14,378,428	6,500,477	25,183,701
Australian Bank of Commerce (Limited).	570,582	241,381	4,158,487	882,777	5,853,227
City Bank of Sydney	356,273	67,264	1,636,201	277,941	2,337,679
Colonial Bank of Australasia (Limited)	752,927	...	3,190,979	1,297,421	5,241,327
Commercial Bank of Australia (Limited).	1,336,668	...	5,779,864	2,242,693	9,404,227
National Bank of Australasia (Limited)..	2,906,616	...	9,577,225	2,067,846	14,551,687
Royal Bank of Australia (Limited)	565,715	...	1,570,155	1,154,070	3,289,940
Queensland National Bank (Limited)	1,513,320	382,915	6,412,347	1,387,760	9,696,342
Bank of North Queensland (Limited)	222,261	42,995	702,918	123,469	1,091,633
Bank of New Zealand	3,104,513	Nil.	10,888,823	7,544,569	21,537,905
Bank of Australasia	5,178,150	...	15,892,891	2,987,007	24,058,048
Union Bank of Australia (Limited)	6,111,229	...	16,454,910	5,019,560	27,585,699
London Bank of Australia (Limited)	1,134,892	...	4,374,023	1,481,568	6,990,483
English, Scottish, and Australian Bank (Limited).	1,332,828	...	5,802,464	2,241,124	9,376,416
Comptoir National d'Escompte de Paris.	4,973,989	Nil.	59,695,582	1,801,879	66,471,450
Total	£ 43,139,797	2,603,250	186,663,153	46,981,695	279,337,895

The values of Australian notes held by the banks with headquarters in Melbourne and in London have not been distinguished from the value of coin, &c. In all cases, the assets and liabilities quoted represent the total of the various banks, wherever situated, not merely those in New South Wales, which are treated subsequently. The difference between the assets and liabilities shown in the table amounts to £37,152,237, and consists of the paid-up capital and reserves (£35,824,645), and dividends paid (£1,327,592).

LOCAL BUSINESS OF BANKS.

To render comparable the figures of the various banks, necessary adjustments have been made by excluding from the assets of two of the banks the balances due, by branches and agencies outside New South Wales, to the head office in Sydney. The following table shows the assets and liabilities and the surplus assets of the banks, at intervals from 1860 onwards. These figures represent the averages for the quarter ended 31st December in each year:—

Year.	Banks.	Assets within the State.	Liabilities within the State.	Surplus Assets.
	No.	£	£	£
1860	...	8,053,463	6,480,642	1,572,821
1870	...	9,863,071	7,198,680	2,664,391
1880	11	21,658,317	19,455,862	2,172,455
1890	17	52,436,977	37,248,937	15,188,040
1900	13	43,036,427	33,969,731	9,066,696
1905	13	43,694,137	38,860,062	4,834,075
1906	13	44,457,957	41,416,737	3,041,220
1907	14	49,345,915	44,937,466	4,408,449
1908	14	51,428,158	46,140,027	5,288,131
1909	15	51,914,494	48,330,893	3,583,601
1910	16	58,276,278	54,667,088	3,609,190
1911	16	64,881,499	58,349,554	6,531,945

In New South Wales the excess of the assets over liabilities reached the highest point in 1891 and 1892; in the latter year the excess was shown as £16,146,513. From this date it was reduced in 1901 to £8,359,727, and in June, 1906, to £3,041,220, since which date there has been some fluctuation to a maximum of 6½ million pounds in 1911.

The classification, both of assets and liabilities, required by the schedule to the Act is too general to admit of detailed analysis; thus under the term "deposits not bearing interest," most of the banks are accustomed to return interest accrued and all debts due by them other than deposits at interest, notes, and bills.

Coin and bullion together represent only 20·1 per cent. of the average assets of the banks within New South Wales, and no dissection is made of the various classes of advances, which represent in the aggregate 72·3 per cent. of the total assets which the banks hold against their liabilities.

The tables show the preponderance of deposits among the liabilities, and of advances among the assets, and it may perhaps assist to a fuller realisation of the extent to which the banking business of the State depends on these two factors, to emphasise the fact that deposits represent 97·9 per cent. of liabilities (exclusive of shareholders), while advances are 72·3 per cent. of assets, as quoted above. These items call for more extensive discussion in the returns.

The assets show coin and bullion separately, but 90 per cent. of the other assets are placed together under the term "notes and bills discounted, and all other debts due to the bank." The following statement of liabilities relates to local business only:—

AVERAGE LIABILITIES WITHIN NEW SOUTH WALES.
(Exclusive of Liabilities to Shareholders.)

Year.	Notes.	Deposits.			Other Liabilities.	Total Liabilities.
		At Interest.	Without Interest.	Total Deposits.		
	£	£	£	£	£	£
1881	1,390,376	11,869,979	7,719,236	19,589,215	416,535	21,426,126
1885	1,714,095	18,387,705	8,819,979	27,207,684	923,843	29,845,622
1890	1,503,404	25,114,127	9,932,310	35,046,437	278,792	36,828,633
1895	1,223,864	20,406,822	10,222,437	30,629,259	183,929	32,037,052
1900	1,447,641	29,009,081	12,224,510	32,233,591	288,499	33,969,731
1905	1,430,335	22,211,627	14,859,427	37,071,054	358,673	38,860,062
1906	1,564,670	22,585,802	16,834,690	39,420,492	431,575	41,416,737
1907	1,756,696	24,034,857	18,729,709	42,764,566	416,204	44,937,466
1908	1,759,020	25,958,298	17,951,589	43,909,887	471,120	46,140,027
1909	1,758,913	25,926,547	20,198,450	46,124,997	446,983	48,330,893
1910	2,243,128	27,824,972	24,068,552	51,893,524	530,436	54,667,088
1911	400,784	30,089,470	27,050,686	57,140,156	808,614	58,349,554

Against these liabilities, in which the steady growth of deposits is the outstanding feature, the average assets were as follows:—

Year.	Coin and Bullion.	Advances.	Landed Property.	Other.	Total.
	£	£	£	£	£
1881	3,674,982	19,038,386	585,224	3,183,395	26,481,987
1885	4,233,109	30,556,628	958,349	2,067,490	37,815,576
1890	5,659,057	41,623,049	1,601,589	2,796,100	51,679,795
1895	7,516,278	35,707,153	1,919,017	479,881	45,622,329
1900	6,126,126	34,385,388	1,874,099	650,814	43,036,427
1905	8,823,260	32,447,659	1,799,231	623,987	43,694,137
1906	7,507,363	34,415,596	1,819,417	715,581	44,457,957
1907	9,552,085	37,244,216	1,746,940	802,674	49,345,915
1908	9,600,866	39,213,472	1,793,518	820,302	51,428,158
1909	10,717,751	38,485,738	1,814,351	896,654	51,914,494
1910	13,724,285	40,854,690	1,822,997	1,874,306	58,276,278
1911	13,026,727	46,916,008	1,887,261	3,051,503	64,881,499

Under the heading of "other assets" are grouped notes and bills of banks, including Queensland Government Treasury notes, balances due from other banks, and for 1910 and 1911, Australian notes. In view of the steady increase since 1905 of the assets so grouped, some interest may attach to a detail statement of such items for the past six years, viz. :—

Year.	Liabilities.	Other Assets.		
	Balances due to other Banks.	Notes and Bills of other Banks.	Balances due from other Banks.	Australian Notes.
	£	£	£	£
1905	140,118	326,750	297,237	.....
1906	117,629	335,979	379,602	.....
1907	133,186	359,038	443,636	.....
1908	176,122	388,925	431,377	.....
1909	131,067	374,522	522,132	.....
1910	160,237	906,857	675,702	291,747
1911	303,822	292,854	390,269	2,168,380

From preceding tables it is apparent that the deposits in banks are increasing very rapidly, while the advances made, though larger from year to year, have not increased in the same proportion; thus, in 1881 the excess of deposits over advances was little more than half a million pounds; in 1890 and onwards till 1905, advances were considerably in excess of deposits; since 1905 deposits have increased 54 per cent. and advances 45 per cent. Considerable sums of money of Australian origin are held on deposit in London, and these amounts form a source of profit to the institutions though they cannot be used for investment locally.

METALLIC RESERVES OF BANKS.

The proportion of metallic reserves which banking institutions should keep constantly in stock is not fixed by any enactment. Compared with the total liabilities, and with deposits at call and note circulation, the amount of coin and bullion has varied very considerably from year to year, as indicated below :—

Year.	Coin.	Bullion.	Total.	Proportion of Metallic Reserves—	
				To Total Liabilities.	To Deposits at Call and Note Circulation.
	£	£	£	per cent.	per cent.
1860	1,578,424	90,052	1,668,476	25·7	*
1870	1,291,177	86,744	1,377,921	19·1	*
1880	3,488,554	75,008	3,563,562	18·3	49·5
1890	5,619,111	87,659	5,706,770	15·3	49·1
1900	5,933,076	193,050	6,126,126	18·0	44·8
1901	5,814,180	171,545	5,985,725	17·1	41·7
1902	6,329,551	223,172	6,552,723	18·8	46·7
1903	5,824,539	226,307	6,050,846	17·7	43·3
1904	6,175,911	276,446	6,452,357	18·5	46·1
1905	8,624,083	199,177	8,823,260	22·7	54·2
1906	7,247,347	260,016	7,507,363	18·1	40·8
1907	9,342,631	209,454	9,552,085	21·3	46·6
1908	9,350,942	249,924	9,600,866	20·8	48·7
1909	10,521,262	196,489	10,717,751	22·2	48·8
1910	13,527,019	197,266	13,724,285	25·4	52·2
1911	12,841,780	184,947	13,026,727	22·3	47·5

* Amount of deposits at call unobtainable.

In the foregoing table the figures represent the weekly average amounts during the quarter ended 31st December in each year; the Comptoir National d'Escompte de Paris is included since 1907, and the Royal Bank of Australia Limited, and the Colonial Bank of Australasia Limited, since 1910.

ADVANCES BY BANKS.

Under the head of advances are included bills and promissory notes discounted, cash credits, and miscellaneous debts. The bulk of the advances are secured by the mortgage of real estate or by the depositing of deeds over which the lending institution acquires a lien; but the extent of the discounting of trade bills is not apparent. A most interesting summary is supplied in the following table:—

Year.	Advances.	Ratio of Advances to Deposits.	Advances per cent. of Total Assets.	Amount of Advances per Inhabitant.
	£	per cent.		£ s. d.
1860	5,780,700	111·9	71·8	16 17 6
1870	7,814,116	127·9	79·2	15 18 11
1880	17,210,205	96·2	79·5	23 12 4
1890	43,009,559	121·3	84·7	39 0 8
1900	34,385,388	101·2	79·9	25 4 0
1905	32,447,659	87·5	74·3	21 17 3
1906	34,415,596	87·3	77·4	22 14 0
1907	37,244,216	87·1	75·5	23 19 8
1908	39,213,472	89·3	76·2	24 16 8
1909	38,485,738	83·4	74·1	23 19 11
1910	40,854,690	78·7	70·1	24 18 4
1911	46,916,008	82·1	72·3	27 14 1

DEPOSITS IN BANKS.

The total amount of money deposited with the sixteen banks operating in New South Wales during 1911 was, approximately, £215,017,012, of which sum £57,140,156 were received locally. The excess of the total over local deposits was employed in the various countries to which the banks' business extended, some, of course, being used in New South Wales; but, from the very nature of the transactions of the banks, it is possible only to surmise the amount so used. Dealing only with local deposits, the following statement shows the average amount of money deposited at various periods commencing with 1860; the distinction between interest-bearing deposits and those at call was first made in 1875:—

Year.	Deposits bearing Interest.	Deposits not bearing Interest.	Total Deposits.	Proportion of Deposits not bearing Interest to Total Deposits.	Proportion of Deposits to Liability (to Public).
	£	£	£	per cent.	per cent.
1860	.....	.....	5,164,011	...	79·7
1870	.....	.....	6,107,999	...	84·8
1880	11,948,383	5,934,641	17,883,024	33·2	91·8
1890	25,395,600	10,064,518	35,460,118	28·4	95·2
1900	20,009,081	12,224,510	32,233,591	37·9	94·9
1905	22,211,627	14,859,427	37,071,054	40·1	95·4
1906	22,585,802	16,834,690	39,420,492	42·7	95·2
1907	24,034,857	18,729,709	42,764,566	43·8	95·2
1908	25,958,298	17,951,589	43,909,887	40·9	95·2
1909	25,926,547	20,193,450	46,124,997	43·8	95·4
1910	27,824,972	24,068,552	51,893,524	46·4	94·9
1911	30,089,470	27,050,686	57,140,156	47·3	97·9

The deposits reached their highest level in December, 1911, when there was entrusted to the banks an average total of £57,140,156. In 1891 the deposits amounted to £35,659,690, but in the subsequent ten years fully £5,000,000 were withdrawn, the reduction being entirely in interest-bearing deposits. Since 1894 there has been a tendency to restrict fixed deposits, and to extend the operations in current accounts, which have increased from 9¼ millions to 27 millions during the interval; the total deposits have increased to £57,140,000, while fixed deposits now show an increase on the high-water mark of 1890. A feature of the movement in deposits is the rapid advance of current accounts during the last three years.

INTEREST, DISCOUNT, AND EXCHANGE RATES.

The interest offered for fixed deposits is 3 per cent. for sums deposited for twelve months; for six months' deposits the interest allowed is at the rate of 1½ per cent., occasionally rising to 2 per cent. For periods of two years the interest rate rises to 3½ per cent. The practice of allowing interest on money fixed for less than six months was discontinued in May, 1894. The rates quoted are low, and the strength of deposits shows that money equal to requirements is freely offered. The following is a statement of the average rates for twelve months' deposits from 1860 onwards. The figures do not include interest payable on deferred deposits, by reconstructed banks:—

Year.	Bank Interest on Deposits for twelve months.	Year.	Bank Interest on Deposits for twelve months.
	per cent.		per cent.
1860	5	1906	3 to 3½
1870	5	1907	3
1880	5	1908	3
1890	4½	1909	3
1900	3	1910	3
1905	3 to 3½	1911	3

Under normal conditions the annual rate of interest paid on fixed deposits is uniform for all banks, and discount and overdraft rates should move down with the interest rates paid to depositors; it is evident, from a consideration of the profit and loss accounts of the various institutions, that the business of the banks is in a healthy condition.

The rates for overdrafts and discounts during interval years from 1890 to 1911 were as follow:—

Year.	Overdraft Rates.	Discount Rates.	
		Bills at 3 months.	Bills over 3 months.
	per cent.	per cent.	per cent.
1890	9	7	8
1895	7 to 8	6 to 6½	7
1900	6 „ 7	5 „ 5½	5½ to 6½
1905	6 „ 7½	5½ „ 6	6 „ 6½
1906	6 „ 7½	5½ „ 6	6 „ 6½
1907	6 „ 8	5 „ 6	6 „ 7
1908	6 „ 8	5 „ 6	6 „ 7
1909	6 „ 7½	5 „ 6	6 „ 7
1910	6 „ 7½	5 „ 6	6 „ 7
1911	6 „ 7½	5 „ 6	6 „ 7

The bank exchange rate on London, at sixty days' sight, averages about 1 per cent., but is subject to some fluctuation. In May, 1893, it was $3\frac{1}{2}$ per cent., the banks at that date requiring all their available assets. The rates from 1890 to 1911 were:—

Year.	Exchange rate on London at 60 days' sight.	
	Buying.	Selling.
	per cent.	per cent.
1890	99 $\frac{3}{4}$ to 100	100 $\frac{3}{4}$ to 101 $\frac{3}{4}$
1895	99 $\frac{1}{4}$,, 99 $\frac{3}{4}$	100 $\frac{5}{8}$,, 100 $\frac{3}{4}$
1900	98 $\frac{3}{4}$,, 99 $\frac{1}{2}$	100 $\frac{1}{4}$,, 100 $\frac{5}{8}$
1905	99 $\frac{1}{4}$,, 99 $\frac{1}{2}$	100 $\frac{1}{8}$,, 100 $\frac{1}{2}$
1906	99 $\frac{1}{4}$,, 99 $\frac{1}{2}$	100 $\frac{1}{8}$,, 100 $\frac{1}{2}$
1907	98 $\frac{3}{4}$,, 99 $\frac{3}{8}$	99 $\frac{5}{8}$,, 100
1908	98 $\frac{3}{4}$,, 99 $\frac{3}{8}$	99 $\frac{5}{8}$,, 100 $\frac{1}{4}$
1909	98 $\frac{3}{4}$,, 99 $\frac{1}{4}$	99 $\frac{5}{8}$,, 100 $\frac{1}{8}$
1910	98 $\frac{3}{4}$,, 99	99 $\frac{5}{8}$,, 99 $\frac{7}{8}$
1911	98 $\frac{3}{4}$,, 99	99 $\frac{5}{8}$,, 99 $\frac{7}{8}$

PROFITS OF BANKS.

The results of the transactions of each bank for the latest period for which information is available, are given in the following table. With the exception of the Bank of New Zealand, the English, Scottish, and Australian Bank (Limited), the London Bank of Australia (Limited), and the Comptoir National d'Escompte de Paris, for which the figures relate to twelve months' operations, the amounts given cover a period of six months. The dates of the balance-sheets are as shown previously:—

Bank.	Balance brought forward.	Net Profits for half-year.	Total.	Half-yearly Dividend.		Amount transferred to Reserve Fund, &c.	Amount carried forward.
				Rate per cent. per annum.	Amount.		
Bank of New South Wales	£ 80,701	£ 215,115	£ 295,816	10	£ 150,000	£ 60,000	£ 85,816
Commercial Banking Company of Sydney (Limited)	45,557	123,983	169,540	10	75,000	40,000	54,540
Australian Bank of Commerce (Limited)	1,372	24,249	25,621	2 $\frac{1}{2}$	14,436	..	10,685
City Bank of Sydney	2,395	13,102	15,497	5	10,300	3,000	2,497
Colonial Bank of Australasia (Limited)	1,221	28,863	30,084	7	15,375	11,000	3,709
Commercial Bank of Australia (Limited)	4,877	65,109	69,986	3	31,760	32,000	6,226
National Bank of Australasia (Limited)	8,459	119,104	127,563	6	44,947	72,000	10,616
Royal Bank of Australia (Limited)	3,172	22,771	25,943	8	12,000	10,000	3,943
Queensland National Bank (Ltd.)	Nil.	48,159	48,159	..	38,159	12,000	..
Bank of North Queensland (Ltd.)	3,357	6,063	9,420	6	3,000	5,214	1,206
Bank of New Zealand	34,405	271,182	305,587	10 Ord., 6 Bonus, 3	65,000	200,000	40,587
Bank of Australasia	16,185	205,888	222,073	Div'nd. 14 Bonus, 3	136,000	70,000	16,073
Union Bank of Australia (Limited)	42,189	135,321	177,510	Div'nd. 10 Bonus, 2	105,000	30,000	42,510
London Bank of Australia (Ltd.)	24,951	99,697	124,648	10 Pref., 7 Ord., 5	30,440	69,165	25,043
English, Scottish, and Australian Bank (Limited)	30,761	85,280	116,041	7	37,761	46,686	31,594
Comptoir National d'Escompte de Paris	73,126	634,582	707,708	7	560,000	53,434	94,274

BANKS' EXCHANGE SETTLEMENT.

The Banks' Exchange Settlement Office, which was established in Sydney on the 18th January, 1894, is not a clearing-house in the accepted meaning of the term, since the exchanges are effected daily at the banks by clerks of each institution; the results of the daily operations being notified to the secretary of the Banks' Exchange Settlement, who establishes the daily credit of each bank with the "pool," which is under the control of three trustees, and consists of £700,000 in gold; this money is deposited in the vaults of three of the banks, and may not be circulated or disturbed. The contributions to the "pool" are according to the volume of the operations of each bank. The secretary notifies each bank daily of the amount of its credit with the "pool," and it is not permissible for any balance to remain below 25 per cent. of the fixed contribution. In the event of its credit reaching this margin, the bank is required to make up its deficiency with gold; this payment, however, is not made to the "pool," but to such other banks as may happen to have at their credit with the "pool" a larger sum than is required by the agreement. This arrangement retains intact the £700,000 comprising the "pool."

The growth in the volume of exchanges is shown in the following table:—

Year.	Amount of Exchanges.	Year.	Amount of Exchanges.
	£		£
1895	108,509,860	1906	220,860,512
1900	144,080,314	1907	234,169,822
1901	167,676,707	1908	227,736,243
1902	178,637,708	1909	240,645,737
1903	180,961,406	1910	274,343,666
1904	177,797,335	1911	304,488,435
1905	189,826,381		

The transactions of this office have grown steadily since its establishment; the large annual increases during the last six years indicate a remarkable activity in trade due to a succession of good seasons, and to the consequent general prosperity throughout the State.

INCORPORATED COMPANIES.

The legislation relating to incorporated companies in New South Wales is contained principally in the Companies Act 1899, consolidating earlier statutes, the amending Acts of 1900, 1906, and 1907, and the Companies (Death Duties) Act, 1901. These enactments follow the general provisions of Imperial Acts relating to companies up to 1877, with deviations embodying the results of local experience. With the object of preparing the way for co-ordination of the laws which govern the formation, management, and winding-up of joint stock companies in different parts of the British Empire, and so securing a practical basis for uniformity of mercantile law, in this respect the question of company law was made a subject for consideration at an Imperial Conference held in London in 1907, at which date the Statutes then operative numbered seventeen for the United Kingdom, seventy-five for Canada (embodying nine different systems of company law), forty-six for

Australia (embodying six different systems), twenty-one for South Africa (embodying five systems), and two statutes each for India and New Zealand.

A later analysis of company law for the Imperial Conference of 1911 showed that as the result of fresh or of consolidating enactments the laws affecting companies was contained in one enactment for the United Kingdom; in sixty-seven Acts and ordinances, comprising eleven different systems, for Canada; in forty-three statutes for Australia, comprising six different systems; in South Africa the number of statutes was reduced to sixteen; in India and New Zealand the position remained the same as in the earlier year. At the 1911 Conference a resolution was carried unanimously that it is in the best interests of the Empire that there should be more uniformity throughout the centres and dependencies in the law of copyrights, patents, trade-marks, and companies.

Under the Companies Act, 1899, of New South Wales, the liability of members of limited companies may be limited either by shares, or by guarantee; unlimited companies are those in which no limitation is placed on the liability of members. A special feature of the Act is the embodiment of provisions for the formation and registration of companies in connection with the mining industry under the "No-Liability System," as previously defined in the No-Liability Mining Companies Act, 1896. Societies worked only for the mutual benefit and advantage of the subscribing members are registered under the Building and Co-operative Societies Act, 1901. From the date of passing of the Companies Act, 1899, the formation of a company, association, or partnership of more than ten persons in a banking business, or of twenty in other businesses trading for profit is prohibited, except such company, association, or partnership be registered under the Act, or formed or incorporated in pursuance of some other enactment, or of a royal charter or letters patent. Special provision is made for associations formed for the purpose of promoting commerce, art, science, religion, charity, or other useful object, rather than of making profit for the members. Companies existing at the passing of the Act, and having a minimum of seven members, may register under the Act, particular provision existing to enable joint stock companies, having a permanent paid-up or nominal capital of fixed amount divided into shares of fixed amount, or held and transferable as stock, and having for members only holders of such shares or stock, to register as companies with liability limited by shares.

The trend of recent legislation in England has been to render available information concerning joint stock companies, on the ground that publicity is the best safeguard devisable for the protection of creditors and of investors, and that, moreover, the privilege of limited liability confers a right to demand publicity and disclosure of material facts, which can make it possible for creditors or investors to form a sound opinion. In New South Wales the particulars required to be filed in regard to companies registered include the following:—Address of the registered office; memorandum and articles of association; and in the case of companies not having a capital divided into shares, a list of directors; particulars are also required as to contracts, capital, nominal, subscribed, and paid-up, with a list of shareholders; copies of special or extraordinary resolutions, and of winding-up orders have also to be filed. In the United Kingdom, India, British Columbia, the Transvaal, and in Victoria, an annual balance-sheet is filed; and in the United Kingdom and in other parts of the British Empire, *e.g.*, in New Zealand, details are required regarding the prospectus, or the statement in lieu of the prospectus, and allotments, mortgages, charges, or debentures.

In regard to limited companies in New South Wales, the following particulars are recorded for the past ten years :—

COMPANIES—*Limited Companies.*

Year.	New Companies registered.	Nominal Capital.	Members (associations not for profit. Sec. 52).	Summary and List of Members received.	Increase of Capital authorised.	Amount of Aggregate Increase.	Statements, &c., that Companies are defunct.	Wind-ing-up.	Liqui-dators' Return.	Total Fees re-ceived.
		£				£				£
1902	102	4,156,707	1,610	592	12	547,250	10	42	27	1,561
1903	154	4,933,105	515	598	13	125,100	32	56	23	2,099
1904	127	2,755,777	1,557	648	12	1,210,600	1	64	44	1,567
1905	170	3,185,390	2,357	730	10	340,300	22	53	36	1,901
1906	189	4,528,900	1,800	801	10	149,500	67	67	33	2,239
1907	189	3,777,307	4,100	903	17	1,760,795	34	62	26	2,302
1908	196	3,850,175	3,250	973	29	1,360,500	26	63	24	2,487
1909	251	6,791,157	915	1,042	20	548,700	22	68	40	3,064
1910	329	6,975,691	590	1,218	41	1,234,055	29	73	33	4,107
1911	400	10,827,217	3,670	1,347	72	4,713,300	13	82	41	5,427

Of mining companies registered as with "no-liability," the following particulars are recorded in the same period :—

Year.	New Companies.	Nominal Capital.	Balance-sheets filed.	Increase of Capital.	Amount of Increase.	State-ments, &c., that Companies are defunct.	Wind-ing-up.	Liqui-dators' Return.	Total Fees received.
		£			£				£
1902	27	273,130	87	4	16,950	3	21	10	103
1903	29	237,160	77	2	8,900	22	19	6	98
1904	14	160,765	57	3	17,800	3	9	6	59
1905	23	225,725	91	5	10,500	33	10	6	84
1906	51	571,629	67	6	18,300	22	8	7	135
1907	65	493,510	95	9	71,210	31	17	5	179
1908	30	238,195	73	4	5,125	2	23	12	106
1909	49	573,705	43	9	35,110	1	14	4	132
1910	30	273,520	56	5	18,425	1	16	9	95
1911	24	359,500	52	2	12,000	..	13	7	80

Certain of these companies carry on bank deposit business in addition to their ordinary business; but the number of such companies and the extent of their deposit business is steadily declining. The number of such deposit

companies is ten, and their liabilities, assets, and paid-up capital for the quarter ended June, 1912, were as follows:—

Companies.	Number.	Liabilities (excluding Shareholders).			Assets.			Paid-up Capital.
		Deposits.	Other Liabilities.	Total.	Landed Property.	Other Assets.	Total.	
Investment	8	£ 176,733	£ 108,645	£ 285,378	£ 313,084	£ 515,209	£ 823,293	£ 537,283
Trading	2	64,225	1,760,377	1,824,602	652,376	4,675,132	5,327,308	3,100,000
Total	10	240,958	1,869,022	2,109,980	965,260	5,190,341	6,155,601	3,637,283

Under the Companies (Death Duties) Act, 1901, every company incorporated outside New South Wales for the purpose of mining, or of carrying on an agricultural industry in New South Wales, is obliged to have a registered office in the State, and is liable to the Government of the State for the payment of death duties on the decease of a member of the company, wherever such member may have been domiciled. This latter obligation, however, only operates where the value of shares held by the member at time of his death exceeds £1,000.

CO-OPERATIVE TRADING SOCIETIES.

Registrations under that section of the Building and Co-operative Societies Act, 1901, which relates to co-operative societies, number 129, of which only thirty-eight were still on the register at the end of 1911. There is, however, evidence of increased activity in the co-operative movement, as denoted by the number of new societies formed, viz., twenty-nine in the five years 1905-1909, ten in 1910, and four in 1911.

The working of the co-operative societies during the last five years will be seen below:—

	1907.	1908.	1909.	1910.	1911.
No. of Societies	36	39	40	49	38
Liabilities—	£	£	£	£	£
To Shareholders	74,882	90,690	97,891	121,241	138,201
Depositors and Other Creditors	42,355	48,479	73,140	66,580	86,672
Profits and Reserves	71,019	75,010	81,356	96,963	101,471
Total Liabilities	£ 188,256	£ 214,179	£ 252,387	£ 284,784	£ 326,344
Assets—					
Stocks	96,759	107,660	117,865	132,609	144,972
Freeholds, &c.	40,636	45,624	71,254	80,430	101,290
Other Assets	50,861	60,895	63,268	71,745	80,082
Total Assets	£ 188,256	£ 214,179	£ 252,387	£ 284,784	£ 326,344

In the period from 1907 to 1911 the share capital of the societies has increased by 85 per cent., and during each year the societies paid dividends ranging up to 10 per cent., in addition to bonuses, on trading accounts, to shareholders up to 5s. per £, and to non-shareholders up to 1s. per £. Considering the small amount of capital invested, the results obtained were

surprisingly good, and afford liberal inducements for the further development of these institutions. The majority of existing societies are engaged in general trading, but individual societies are engaged in the produce trade, in baking, dispensing, timber-cutting. Societies established outside the metropolitan and suburban districts are almost, without exception, established in the more or less densely populated mining districts.

During the year 1911, the sales amounted to £1,032,086, and the expenses, including interest and depreciation, to £162,442, equal to 15·8 per cent. on the amount of sales. The balances of profit amounted to £104,452, but in two cases there were losses amounting to £167. The profit on sales was at the rate of 10·1 per cent. A summary of the results of 2,331 societies in the United Kingdom shows that the proportion of expenses and of profit to sales were 8·27 per cent., and 9·83 per cent., respectively.

BENEFIT BUILDING AND INVESTMENT SOCIETIES.

The provisions of the Building and Co-operative Societies Act, 1901, enable any number of persons to form themselves into a benefit building and investment society for the purpose of subscribing money to enable members to erect or purchase dwellings, &c., by loans secured to the society by mortgage until the amount of the shares has been fully paid. These institutions are established solely for the benefit and advantage of the subscribing members, and their receipts are confined, as a rule, to the subscriptions. At the close of 1911 the building societies which had been registered under the Act numbered 225, of which only 100 remained in existence at that date, 82 being Starr-Bowkett, and 18 Permanent Building Societies. Of the remainder, some, being terminating societies, had ceased to exist; others had become Limited Companies under the Companies Act, and consequently ceased to operate under the Building Societies Act; and a large proportion had become defunct.

Returns from the existing institutions show the aggregate liabilities and assets, &c., of these societies at the date of their latest balance-sheets as follows:—

Societies.	Number.	Liabilities.				Assets.			Profit and Loss Credit.
		Deposits.	Subscriptions and Shares.	Other Liabilities.	Total.	Advances.	Other Assets.	Total.	
		£	£	£	£	£	£	£	£
Starr-Bowkett ..	82	....	419,500	27,616	447,116	414,108	70,073	484,181	37,065
Land, Building, and Investment.	18	473,910	320,213	126,804	920,927	349,801	111,681	961,482	40,555
Total ..	100	473,910	739,713	154,420	1,368,043	1,263,909	181,754	1,445,663	77,620

During the past eight years the societies of the Starr-Bowkett type, which are usually terminating societies working by ballot and sale of advances, have increased from 17 to 82. The Permanent Building Societies have made relatively little progress numerically, but the volume of business has shown satisfactory expansion.

In the five years 1907 to 1911, the number of Starr-Bowkett societies has doubled, while the assets have increased from £195,364 to £484,181; advances to members have increased in the same period from £162,618 to £414,108.

Particulars relating to Starr-Bowkett Societies for the years 1907 to 1911 are shown below :—

	1907.	1908.	1909.	1910.	1911.
No. of Societies	41	50	56	66	82
Liabilities—	£	£	£	£	£
Members Subscriptions	156,972	192,864	254,130	324,452	419,500
Other Liabilities	22,199	23,299	29,313	36,057	27,616
Balance of Profit	16,193	19,202	24,478	28,608	37,065
Total	£ 195,364	235,365	307,921	389,117	484,181
Assets—					
Advances	162,618	202,427	264,980	331,653	414,108
Other Assets	32,746	32,938	42,941	57,464	70,073
Total	195,364	235,365	307,921	389,117	484,181

Of 48 Starr-Bowkett societies formed during the last four years, 30 were established in Sydney and suburbs, the probable incentive to their rapid multiplication in the metropolitan and suburban area being the generally increasing rental rates.

LIFE AND ENDOWMENT ASSURANCE.

Particulars relating to life assurance institutions are obtained from the reports published and circulated by the companies, not from official returns, and unfortunately their statements do not sufficiently separate local from foreign business. During 1911 there were fifteen institutions operating in the State. Of these, six were local, four had their head offices in Victoria, one in New Zealand, one in the United Kingdom, and three in the United States of America. The volume of the local business of the English and American societies, proportionately to the total, is, however, very small, and the business outside Australasia has been omitted from the returns relating to such offices. Several companies, uniting life with other classes of insurance, have local branches or agencies, but their transactions in life risks in the State are unimportant.

Of the local institutions, the Australian Mutual Provident Society is incorporated under a special Act; and the following were registered under the Companies Act: The City Mutual Life Assurance Society (Limited) in 1879, the People's Prudential Assurance Company (Limited) in 1896, the Standard Life Association (Limited) in 1899, and amalgamated in 1911 with the Colonial Mutual Life Assurance Society (Limited); the Phoenix Mutual Provident Society (Limited) registered in 1902, and the Mutual Life and Citizens' Assurance Company (Limited), formed by amalgamation of two local companies in January, 1908, and further fortified by the amalgamation with it, in 1910, of the Australian Widows' Fund Life Assurance Society (Ltd.).

The Phoenix Mutual Provident Society (Limited), a local institution, transacts only industrial business.

The results of the latest actuarial investigation of each society are given in detail in Part "Private Finance" of the New South Wales Statistical Register.

Nine of the companies are mutual, and the remainder are "mixed"—that is, proprietary companies, dividing profits with the policy-holders. In addition to life assurance, eight of the institutions transact industrial business; two, accident and invalidity insurance; and one (the Australian Alliance Assurance Company), fire, marine, and guarantee insurance; and the Liverpool, London, and Globe, fire and accident insurance. Most of the offices have representatives in all the Commonwealth States and New Zealand; four of the Australasian institutions have extended their operations to the United Kingdom, and two also to South Africa.

Ordinary Branch.

The following table gives the total business in force in the ordinary branch in detail, for each society at the close of 1911. The item "Sums assured" means the sums payable, exclusive of reversionary bonuses, at death, or on attaining a certain age, or at death before that age:—

Institution.	Policies in Force.	Sums Assured.	Bonus Additions.	Total, excluding Annuities.	Annual Premium Income.
<i>Head Office in New South Wales.</i>					
	No.	£	£	£	£
Australian Mutual Provident Society	258,536	72,287,585	14,660,059	86,937,644	2,322,486
Mutual Life and Citizens' Assurance Company (Ltd.)	116,714	21,775,434	1,594,750	23,370,184	759,764
City Mutual Life Assurance Society (Ltd.)	18,629	2,608,227	116,940	2,725,167	109,286
Australian Metropolitan Life Assurance Company (Ltd.)	2,660	260,161	3,213	263,374	11,511
People's Prudential Assurance Company (Ltd.)	2,988	159,920	3,000	163,010	7,965
<i>Head Office in Victoria.</i>					
Australian Alliance Assurance Company	459	161,264	17,804	179,068	3,839
National Mutual Life Association of Australasia (Ltd.)	100,437	24,687,982	1,970,889	26,658,871	862,276
Colonial Mutual Life Assurance Society (Ltd.)	58,333	13,805,566	597,043	14,402,609	477,872
*Australasian Temperance and General Mutual Life Assurance Society (Ltd.)	39,127	4,115,692	117,754	4,233,446	158,011
<i>Head Office in New Zealand.</i>					
Provident Life Assurance Company	1,330	200,104	Nil.	200,104	6,470
<i>Head Office in United Kingdom.</i>					
†Liverpool, London, and Globe Insurance Company	382	179,013	†	179,013	5,292
<i>Head Office in United States.</i>					
†Equitable Life Assurance Society of the United States	7,731	2,674,610	22,286	2,696,896	90,933
†Mutual Life Insurance Company of New York	4,088	1,561,807	†	1,561,807	50,190
†New York Life Insurance Company	6,339	2,475,977	‡	2,475,977	91,134
Total	617,813	146,953,342	19,093,828	166,047,170	4,957,029

* 30th September, 1911.

† Australasian business only.

‡ Information not available.

‡ Included in previous column.

The business in force at the end of 1911 in the State of New South Wales only, under headings similar to those of the preceding table, is given below:—

Institution.	Policies in Force, exclusive of Annuities.	Amount Assured, exclusive of Bonuses.	Bonus Additions.	Total.	Annual Premium Income.
	No.	£	£	£	£
Australian Mutual Provident Society	72,639	21,038,787	4,287,322	25,326,109	673,293
Mutual Life and Citizens' Assurance Company (Ltd.)	31,893	6,107,427	463,509	6,570,936	207,468
City Mutual Life Assurance Society (Ltd.)	8,227	1,123,014	†	1,123,014	†
Australian Alliance Assurance Company	Nil.	Nil.	Nil.	Nil.	Nil.
National Mutual Life Association of Australasia (Ltd.)	16,497	3,621,848	†	3,621,848	129,146
Colonial Mutual Life Assurance Society (Ltd.)	11,381	1,950,222	61,798	2,012,020	69,392
*Australasian Temperance and General Mutual Life Assurance Society (Ltd.)	8,603	870,629	21,751	892,380	33,506
Australian Metropolitan Life Assurance Company (Ltd.)	1,262	130,658	1,567	132,225	5,712
Equitable Life Assurance Society of the United States	1,703	637,487	5,979	643,466	19,220
Mutual Life Insurance Company of New York	2,294	986,144	†	986,144	31,156
New York Life Insurance Company	2,252	895,964	†	895,964	33,115
Liverpool and London and Globe Insurance Company	150	62,511	†	62,511	2,226
People's Prudential Assurance Co. (Ltd.)	2,988	159,920	3,090	163,010	7,965
Provident Life Assurance Company	39	6,700	Nil.	6,700	210
Total	159,928	37,591,311	4,845,016	42,436,327	1,212,409

* 30th September, 1911.

† Information not available.

‡ Included in previous column.

Industrial Branch.

In addition to the ordinary life transactions, a large industrial business has grown up during recent years. The policies in this class are usually for small amounts, and the premiums, in most cases, are payable weekly or monthly. The assurances may be effected on the lives of infants and adults, and the introduction of this class of business has proved of great benefit to the industrial population.

Six of the Australasian companies combine industrial with ordinary business, while two limit their operations to industrial and medical benefit transactions. The balance-sheets of the companies, however, do not admit of a satisfactory comparison of the business transacted, as the two branches are not always treated separately. For the year 1911 the total and local business of the eight companies showing transactions in the industrial branch, are contrasted in the following table:—

Institution.	Total Business.			Local Business.		
	Policies in Force.	Amount Assured.	Annual Premium Income.	Policies in Force.	Amount Assured.	Annual Premium Income.
Australian Mutual Provident Society	No. 74,948	£ 2,513,866	£ 156,808	No. 23,846	£ 762,628	£ 49,334
Mutual Life and Citizens' Assurance Company (Ltd.)	235,143	4,376,934	230,545	70,621	1,313,908	72,383
Australasian Temperance and General Mutual Life Assurance Society (Ltd.)	130,660	†2,579,133	165,593	26,746	547,668	36,691
Colonial Mutual Life Assurance Society (Ltd.)	50,851	1,327,003	74,145	17,049	390,102	22,201
Provident Life Assurance Company	24,412	641,606	36,986	2,257	54,904	2,945
Australian Metropolitan Life Assurance Company (Ltd.)	18,278	†408,176	25,424	10,225	†230,681	14,111
†People's Prudential Assurance Company (Ltd.)	5,320	108,788	8,022	5,320	108,788	8,022
‡Phoenix Mutual Provident Society (Ltd.)	130	2,454	199	130	2,454	199
Total	539,742	11,957,900	697,722	156,194	3,411,133	205,886

* 30th Sept., 1911.

† Includes Bonus additions,

‡ Sick Benefit Business is excluded.

Summary—Ordinary and Industrial.

A summary of the local business, ordinary and industrial, of the institutions operating in the State, in comparison with their total business, is shown below. In regard to the English and American offices, the business outside Australasia has not been included:—

Branch.	Total Business.			Local Business.		
	No. of Policies.	Amount Assured.	Annual Premium Income.	No. of Policies.	Amount Assured.	Annual Premium Income.
Ordinary	617,813	£ 146,953,342	£ 4,957,029	159,928	£ 37,591,311	£ 1,212,409
Industrial	539,742	11,957,960	697,722	156,194	3,411,133	205,886
Total	1,157,555	158,911,302	5,654,751	316,122	41,002,444	1,418,295

In the ordinary branch the policies in force in New South Wales represent 26·9 per cent., and the amount assured 25·6 per cent. of the total ordinary business. In the industrial branch the proportions in New South Wales are—policies, 23·9 per cent.; amount assured, 23·5 per cent.

Local Business.

The next statement shows the ordinary and industrial business in force in New South Wales in each year since 1906 :—

Year.	Ordinary Branch.			Industrial Branch.		
	No. of Policies.	Amount Assured.	Annual Premium Income.	No. of Policies.	Amount Assured.	Annual Premium Income.
1906	123,072	£ 30,352,302	£ 1,000,260	104,236	£ 2,338,987	£ 129,662
1907	130,296	31,592,379	1,038,828	116,795	2,631,476	146,356
1908	137,852	32,993,481	1,080,236	125,476	2,881,417	155,260
1909	147,632	34,446,756	1,166,697	129,180	2,782,868	160,348
1910	155,531	35,972,590	1,164,948	143,209	3,123,666	184,607
1911	159,928	37,591,311	1,212,409	156,194	3,411,133	205,886

A feature of this table is the steady increase in industrial insurance; since 1906 the increase in the number of these policies amounted to 50 per cent. and in the amount assured 46 per cent.

The number of ordinary and industrial policies per 1,000 of population at 31st December, 1911, was 187, as compared with 150 in 1906, and the total sum assured advanced from £20 11s. 3d. to £24 4s. 3d. per head of population :—

Year.	Policies per 1,000 of population.	Amount Assured per head of population.		
	No.	£	s.	d.
1906	150	20	11	3
1907	159	22	0	9
1908	167	22	14	4
1909	172	23	3	3
1910	182	23	16	10
1911	187	24	4	3

New Assurances.

The new business, ordinary and industrial, effected in New South Wales during the last two years is compared in the following table. There was a decrease of 7 per cent. in the amount of new assurances in the ordinary branch, and of 21 per cent. in the industrial :—

Ordinary Branch.

Institution.	1910.			1911.		
	No. of Policies.	Amount Assured.	Annual Premiums.	No. of Policies.	Amount Assured.	Annual Premiums.
Australian Mutual Provident	5,619	£ 1,508,521	£ 48,258	5,732	1,679,351	53,407
Mutual Life and Citizens' Assurance	4,239	798,896	26,170	3,500	721,460	23,500
City Mutual Life Assurance	1,059	156,646	7,354	1,057	170,975	7,829
Australian Alliance Assurance	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
National Mutual Life of Australasia	2,676	565,378	22,262	2,282	530,687	20,074
Colonial Mutual Life Assurance	6,462	845,198	31,340	3,385	603,775	20,141
Australasian Temperance and General Mutual Life Assurance	4,475	372,130	14,239	2,205	308,770	8,058
Australian Metropolitan Life Assurance	390	35,297	1,580	362	36,716	1,559
Equitable Life Assurance of the United States	1	50	1	3	300	17
Mutual Life Insurance of New York	36	14,833	661	45	25,850	1,176
New York Life Insurance	46	20,861	837	82	37,274	1,620
Liverpool and London and Globe Insurance	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
People's Prudential Assurance (Ltd.)	1,153	62,787	2,811	1,171	77,512	3,269
Provident Life Assurance	21	2,600	83	7	1,150	35
Total	26,176	4,383,197	155,596	19,831	4,093,820	140,685

Industrial Branch.

Institution.	1910.			1911.		
	No. of Policies.	Amount Assured.	Annual Premiums.	No. of Policies.	Amount Assured.	Annual Premiums.
Australian Mutual Provident	6,482	224,024	14,543	8,954	304,092	20,544
Mutual Life and Citizens' Assurance	9,781	194,252	13,392	9,396	189,213	12,783
Australasian Temperance and General Mutual Life Assurance	13,544	399,385	24,375	13,437	350,916	21,155
Colonial Mutual Life Assurance	27,360	713,985	38,935	12,869	312,861	19,705
Provident Life Assurance	1,818	49,507	3,259	863	25,499	1,537
Australian Metropolitan Life Assurance	4,431	123,799	6,515	4,950	133,195	7,366
People's Prudential Assurance	*4,070	*84,426	*6,148	*4,267	*97,162	*7,365
Phoenix Mutual Provident	*14	*185	*16	*19	*349	*29
Total	67,500	1,794,563	107,213	54,755	1,419,167	90,304

* Exclusive of Medical business.

The decrease in new business within the State has, in most cases, been counterbalanced by the extension outside New South Wales. The returns of the total new business of the institutions show an increase of nearly 6 per cent. in the amount of new assurances in the ordinary branch, while the decrease in the industrial branch was 7 per cent. as compared with 21 per cent. shown above.

The following is a comparison of the total and local new business during the last two years:—

	Total New Business.		New Business in New South Wales.	
	1910.	1911.	1910.	1911.
Ordinary—				
Policies No.	84,568	79,040	26,176	19,831
Amount Assured £	16,279,781	17,201,752	4,383,197	4,093,820
Annual Premiums £	575,822	592,540	155,596	140,685
Industrial—				
Policies No.	199,630	184,905	67,500	54,755
Amount Assured £	5,264,693	4,894,825	1,794,563	1,419,167
Annual Premiums £	311,371	308,680	107,213	90,304

Receipts and Expenditure—Australasian Societies.

The receipts of the societies are represented chiefly by the collections from premiums on policies and by interest arising from investments of accumulated funds; the payments on account of policies matured and surrendered, cash bonuses, and expenses of management constitute the bulk of the disbursements.

The excess of receipts over expenditure represents the annual additions to the reserves. The general direction of business of the Australasian societies is shown in the following table; the figures for 1910 include the Standard Life Association (Limited), but combined with the society with which it amalgamated early in 1911:—

Year.	Societies.	Policies in Force.	Receipts.	Expenditure.	Excess.	Excess per Policy.
	No.	No.	£	£	£	£
1895	10	268,242	3,392,423	2,334,481	1,057,942	3.94
1900	11	331,868	4,093,376	2,648,303	1,445,073	4.35
1905	14	*756,585	5,437,589	3,834,272	1,603,317	2.12
1906	14	*776,970	5,780,943	3,959,541	1,821,402	2.34
1907	14	*857,364	6,143,067	4,070,350	2,072,717	2.42
1908	13	*915,452	6,376,051	4,323,264	2,052,787	2.24
1909	13	*972,467	6,947,941	4,550,195	2,397,746	2.46
1910	11	*1,056,173	7,131,250	4,619,440	2,511,810	2.38
1911	11	*1,157,555	7,650,230	4,875,974	2,774,256	2.40

* Includes Industrial business.

The aggregate receipts and disbursements for the eleven institutions for 1911 were as follow, ordinary and industrial branches being included:—

Receipts.		Expenditure.	
	£		£
Premiums—		Claims	2,927,223
New	589,082	Surrenders	505,291
Renewal	*4,748,766	Annuities	111,907
Consideration for Annuities ...	161,396	Cash Bonuses and Dividends ...	133,498
Interest	2,111,417	Expenses	1,137,165
Other Receipts (Rents, &c.) ...	39,569	Amount written off to Depreciation, Reserves, &c. ...	60,890
Total	£ 7,650,230	Total	£ 4,875,974

* Includes new Industrial premiums.

Accumulated Funds—Australasian Societies.

The additions to the funds from year to year have shown a considerable increase. The amount of funds and the interest received thereon were as follows:—

Year.	Accumulated Funds.		Interest.	
	Additions during year.	Total Amount.	Amount received.	Average Rate realised.
	£	£	£	per cent.
1890	1,404,215	14,580,210	827,909	5·97
1895	1,057,942	20,438,224	1,037,477	5·21
1900	1,445,073	26,491,025	1,161,696	4·51
1905	1,603,317	34,915,842	1,527,690	4·48
1906	1,821,402	37,486,144	1,565,611	4·32
1907	2,072,717	39,558,861	1,679,440	4·36
1908	2,052,787	41,611,648	1,764,845	4·24
1909	2,397,746	43,226,872	1,877,593	4·47
1910	2,511,810	45,668,204	1,963,425	4·42
1911	2,774,256	48,511,274	2,111,417	4·48

The decrease in earning power over the period reviewed is noticeable; but comparison with the bank rate of interest on fixed deposits, given on a previous page, shows that diminished rates are general, and that the fall in interest earned by the insurance companies is in steady proportion to the general decline.

Expenses of Management—Australasian Societies.

The expenses of management for 1911 in the aggregate represent 14·86 per cent. of total receipts, or 20·99 per cent. of premium income. The ratio between management expenses and premium income must necessarily vary with the volume of new business transacted and the age of the society.

quite apart from the intensity of competition for the new business. The following figures show the cost of management per policy and per cent. of premium income and gross income:—

Year.	Management Expenses.	Premium Income.	Gross Receipts.	Policies.	Management Expenses.		
					Per Policy.	Per cent. of—	
	£	£	£	No.	£	Premium Income.	Gross Receipts.
1895	438,524	2,380,167	3,392,423	268,242	1·635	18·42	12·93
1900	565,380	2,799,512	4,093,376	331,868	1·703	20·19	13·81
1905	*858,741	3,500,448	5,437,589	756,585	1·130	24·53	15·79
1906	*878,299	3,840,504	5,780,943	776,970	1·133	22·87	15·19
1907	*941,695	4,330,701	6,143,067	857,364	1·098	21·74	15·33
1908	*992,771	4,554,211	6,376,051	915,452	1·084	21·80	15·57
1909	†1,022,932	4,788,506	6,947,941	972,467	1·052	21·36	14·72
1910	†1,016,153	5,074,204	7,131,250	1,056,173	·962	20·03	14·25
1911	*1,137,165	5,417,202	7,650,230	1,138,955	·998	20·99	14·86

* Includes Industrial business. † Includes Industrial and Accident and Invalidity business.

The expenses of the industrial branch are necessarily very high in proportion to the receipts on account of the house to house method of collection, which is considered an essential feature of the system.

* The total receipts and disbursements relating to industrial branch are given below, as derived from the latest balance-sheets in 1911:—

Institution.	Receipts.	Expenditure.		Excess (Reserves Additions).	Management Expenses per cent. of Receipts.
		Management.	Total.		
	£	£	£	£	per cent.
Australian Mutual Provident Society	140,560	65,959	73,330	67,230	46·92
Mutual Life and Citizens' Assurance Company (Ltd.)	264,237	103,712	177,600	86,637	39·25
Colonial Mutual Life Assurance Society (Ltd.)	72,033	42,702	51,652	20,401	59·26
Australasian Temperance and General Mutual Life Assurance Society (Ltd.)	170,358	61,003	111,540	58,818	35·80
Australian Metropolitan Life Assurance Company (Ltd.)	22,946	15,257	21,478	1,468	66·49
Phoenix Mutual Provident Society (Ltd.)	2,806	1,067	2,545	261	38·03
*Provident Life Assurance Company	42,005	22,905	32,887	9,118	54·53
Total	714,965	312,605	471,052	243,933	43·72

* Includes ordinary business.

From information given above it is apparent that expenses of management represent 66·4 per cent. of the total expenditure, including claims, surrenders, and cash dividends, or 43·7 per cent. of receipts. On the average, an amount of 11s. 8d. per policy was spent during 1911 in collecting and handling the total premium income of £1 5s. 10d. per policy.

Assets and Liabilities—Australasian Societies.

The aggregate assets and liabilities are shown in the subjoined table:—

Year.	No. of Societies.	Liabilities.			Assets.		
		Paid-up Capital and Accumulated Funds.	Other Liabilities.	Total.	Loans on Mortgages and on Policies.	Securities, Freehold Property, &c.	Total.
		£	£	£	£	£	£
1895	10	21,497,059	.....	21,497,059	15,600,229	5,896,830	21,497,059
1900	11	27,471,223	.....	27,471,223	19,013,579	8,457,644	27,471,223
1905	14	35,867,362	.....	35,867,362	22,072,061	13,795,301	35,867,362
1906	14	37,486,144	88,272	37,574,416	24,618,651	12,955,765	37,574,416
1907	14	39,015,198	638,889	39,654,087	25,710,088	13,943,999	39,654,087
1908	13	40,710,897	1,035,323	41,746,220	27,071,093	14,675,122	41,746,220
1909	13	43,226,872	777,556	44,004,428	28,642,723	15,361,702	44,004,428
1910	11	45,668,204	775,785	46,443,989	30,625,778	15,818,211	46,443,989
1911	11	48,511,274	762,155	49,273,429	33,115,573	16,157,856	49,273,429

Loans on mortgage and on the policies of the societies represent 66 per cent. of the total assets. In former years insurance companies sought only these forms of investment, but recently attention has been given to Government securities, loans to municipalities, and investments in shares, and considerable sums are deposited with banks, or in freehold and leasehold property. Investments on personal security are unusual, advances being generally combined with life policies. In some of the States, companies are obliged by law to deposit certain sums with the Treasury as a guarantee of good faith, and the amount so lodged is included in their balance-sheets, under the head of Government securities or of deposits. The ratio of loans on mortgage for policies to total liabilities over the years quoted in the previous table is as follows:—

1895	72·57 per cent.	1908	64·85 per cent.
1900	69·21 "	1909	65·09 "
1905	61·54 "	1910	65·94 "
1906	65·52 "	1911	67·21 "
1907	64·83 "		

ACCIDENT AND INVALIDITY INSURANCE.

Following the passing of the Workmen's Compensation Act, 1910, the majority of societies doing business in New South Wales promptly extended their operations to cover the liabilities of employers in the industries specified as insurable, but no records are yet available to show the magnitude of the business done under this head.

FIRE INSURANCE.

The Fire Brigades Act, 1909, which commenced to operate on 1st January, 1910, embraces a wider area than the earlier Act, which, in practice, applied only to the metropolitan area of Sydney, though it was permissible to extend its provisions to any borough or municipal district of New South Wales. The present Act applies to the city of Sydney, to suburban and country municipalities and shires, numbering in all 139, and grouped in Fire Districts numbering 77. By proclamation the provisions of the Act may be extended to other municipalities and shires.

The Board of Fire Commissioners of New South Wales, consisting of four representatives, being one each elected by the city and suburban area, the country area, the volunteer brigades, and the insurance companies—with a President appointed by the Government—exercises full control in regard to

fire prevention in declared districts, and has power to recover charges for attendance at fires outside such districts. On the passing of the Fire Brigades Act, 1909, all existing Fire Brigades Boards were dissolved, their property, real and personal, vesting automatically in the Board of Fire Commissioners, subject to any trusts and liabilities attaching to such property. The board is charged with the establishment and maintenance of permanent fire brigades, and the authorisation and subsidising of volunteer brigades, for which purposes the funds of the Board are maintained by contributions of one-third each of estimated requirements for each district by insurance companies, municipalities, and the Government; and responsibility for a *pro rata* contribution is cast upon each owner of property assured in any company, as defined, which is not registered within the State. To ensure efficient operation of these provisions returns are required periodically by the Board from municipalities, insurance companies, and property owners.

The estimates of necessary revenue adopted by the Board for 1911 amounted to £91,392, being £64,929 for Sydney Fire District, and £26,463 for the 76 country Fire Districts.

The amount of the net risks held in the metropolitan area was obtainable previously under the Fire Brigades Act of 1902, which required each company holding risks within the proclaimed area under the Fire Brigades Board to furnish annually to the Board the amount held at risk on the preceding 31st December within that area, less the sum reinsured with other contributory companies. This information was for assessment purposes only, the companies contributing one-third of the total annual expenditure of the Board, in sums proportionate to the amount of net risks held by each company within the given area. The total amount levied on the companies towards the expenses of the Board during 1909 was £19,100.

The declared amount of risks held in the metropolitan district from 1884 to 1908 are shown below. The figures are as at the 31st December in each year:—

1884 ...	£36,691,000	1893 ...	£59,844,701	1902 ...	£71,750,461
1885 ...	41,631,582	1894 ...	59,340,096	1903 ...	73,083,028
1886 ...	46,253,370	1895 ...	59,720,282	1904 ...	75,147,807
1887 ...	49,209,395	1896 ...	59,907,953	1905 ...	78,108,749
1888 ...	53,583,000	1897 ...	60,426,170	1906 ...	81,364,129
1889 ...	57,148,388	1898 ...	61,861,909	1907 ...	86,563,304
1890 ...	58,207,183	1899 ...	63,689,331	1908 ...	89,971,992
1891 ...	58,415,945	1900 ...	66,427,642		
1892 ...	61,185,715	1901 ...	69,495,391		

Under the Fire Brigades Act, 1909, the contributions payable by insurance companies are proportionate to the premiums received by or due to the companies during the year; for 1911 contributions amounting to £30,010 were received from insurance companies, and in addition contributions amounting to £454 were received from individual firms who insured goods with companies not registered in New South Wales.

During 1911, returns were received from 57 fire insurance companies operating in New South Wales. Twelve of these have their head offices in the Commonwealth, 4 in New Zealand, 1 in Canada, 1 in India, 34 in the United Kingdom, and 1 outside the British Empire. With regard to the remainder of the companies which contribute to the maintenance of the Fire Brigades Board, the purely marine offices, which carry fire risks on

goods in transit, have been omitted, while in three cases the information is not available. The life assurance figures of those institutions which combine fire and life business have also been excluded where possible :—

Receipts.		Disbursements.	
	£		£
Premiums (less reinsurances) ...	44,398,244	Claims paid ...	24,248,946
Interest, rent, fees, &c. ...	2,700,539	Expenses of management, &c. ...	15,822,777
Total ...	47,098,783	Total ...	40,071,723

The total liabilities and assets of the same companies were as follows :—

Liabilities.		Assets.	
	£		£
Paid-up Capital ...	18,673,076	Investments, including accrued interest ...	122,433,547
Reserve Funds, &c. ...	45,826,561	Real Estate ...	13,989,346
Other Liabilities ...	113,723,536	Other Assets ...	57,253,116
Balance of Profit and Loss Account ...	10,452,836		
Total ...	193,676,009	Total ...	193,676,009

BANKRUPTCY.

Transactions in insolvency were conducted by the Commissioner of Insolvent Estates till 1888, but under the Bankruptcy Act of 1887, and subsequent amending Acts, which were consolidated under the Act of 1898, the law is administered by a Supreme Court Judge in Bankruptcy. The following statement shows the number of bankruptcy petitions for each of the last six years :—

Year.	Petitions in Bankruptcy.			Petitions withdrawn, refused, &c.	Sequestration Orders granted.
	Voluntary.	Compulsory.	Total.		
1906	337	91	428	22	406
1907	256	111	367	34	333
1908	272	84	356	24	332
1909	297	84	381	15	366
1910	255	97	352	27	325
1911	213	118	331	39	292

A fairly consistent decrease in the number of sequestrations has taken place since 1893, and, studied in conjunction with the increase in savings bank deposits, and the position disclosed by the life assurance returns, offers substantial proof of the continued prosperity of the State.

The estates freed from sequestration during the time the Act has been in force number 2,718, including 137 for 1911, being 15 per cent. of the total sequestrations. Occasionally application made for a certificate is refused, and taking these into consideration it would appear that out of 100 bankrupts, 85 are unable, or too indifferent, to take the necessary steps to free themselves from bankruptcy. The property of an uncertificated bankrupt, even if acquired subsequently to sequestration, is liable to seizure on behalf of unsatisfied creditors, and as applications for certificates of discharge are apparently the exception rather than the rule, it would appear that the great majority of bankrupts do not attain a position in which they are likely

to be disturbed by unsatisfied creditors. The number of sequestrations for the years the Act has been in force is 18,288, and of these 15,510 remain uncertificated.

During 1911, on a total of 292 sequestrations, the liabilities, according to bankrupts' schedules, were £109,359, and the assets amounted to £49,390. The qualification "according to bankrupts' schedules" is necessary, as the returns of assets and liabilities established after investigation by the Court differ widely from those furnished by bankrupts:—

Quinquennial Period.	Sequestrations.	Nominal—		
		Liabilities.	Assets.	Ratio of Assets per £1 of Liability.
	No.	£	£	s. d.
1888-1892	5,730	5,682,689	2,644,382	9 4
1893-1897	6,235	5,760,282	3,406,148	11 10
1898-1902	2,864	2,159,659	994,803	9 3
1903-1907	2,084	1,359,121	781,108	11 6
1908	332	322,850	185,507	11 6
1909	366	168,169	82,563	9 10
1910	325	176,088	119,377	13 7
1911	292	109,359	49,390	9 0
Total ...	18,228	15,738,217	8,263,278	10 6

The dividend rates paid on the amount of proved liabilities of estates which have been wound-up are not given, as it would involve an investigation of the transactions in each estate; and even this operation would not result in complete returns, as there are estates which remain unsettled during many years.

Official assignees assist the Court in winding-up the estates, each paying all money received by him to the Registrar in Bankruptcy, who places the amount to the credit of the Bankruptcy Estates Account, from which all charges, fees, and dividends are met. The official assignees are required to furnish quarterly statements of the transactions in each estate.

District Registrars in Bankruptcy have been appointed throughout the State, the positions being filled generally by Police Magistrates or other court officials. District Registrars have the same powers and jurisdiction as the Registrar in respect to examinations of bankrupts and the technical business of the court. In this connection reference should be made to the chapter relating to the procedure of the Law Courts.

A Bankruptcy Bill has been introduced into the Federal Parliament which, if passed, will supersede the State Act, and place the bankruptcy jurisdiction under Federal control.

TRANSACTIONS IN REAL ESTATE.

The Real Property Act, commonly known as "Torrens Act," passed in 1862 to regulate the procedure in regard to land transfers, was modelled on the lines of legislation in South Australia, adopted at the instance of Sir R. R. Torrens. The main features of the Act which were embodied in the Real Property Act, 1900, consolidating the original Act and its amendments, were the transfer of real property by registration of title instead of by deeds; the absolute indefeasibility of the title when registered; and the protection afforded to owners against possessory claims, as a title issued under the Act stands good notwithstanding any length of adverse possession. From the passing of "Torrens" Act all lands sold by the Crown have been conveyed to the purchasers under its provisions, the provisions of the old law being restricted to transactions in respect of grants issued prior to 1862, and

governed by the Deeds Registration Act, 1843. The area for which such grants were issued was 7,478,794 acres; of these grants, 2,087,744 acres have since been brought under the provisions of "Torrens" Act, so that the area still held under the earlier Act is 5,391,050 acres.

Lands may be placed under the Real Property Act or "Torrens" Act only when their titles are unexceptional; and as thousands of acres are brought under the Act during the course of every year, it is merely a question of time when the whole of the lands of the State will be under a uniform system. The areas of Crown lands conveyed, and of private lands brought under the Real Property Act during the decade ended 1911, were as follows:—

Year.	Area.			Value.		
	Crown Lands.	Private Lands.	Total.	Crown Lands.	Private Lands.	Total.
	acres.	acres.	acres.	£	£	£
1902	897,591	46,678	944,269	813,015	1,089,235	1,902,250
1903	1,403,994	56,492	1,460,486	1,181,102	1,045,780	2,226,882
1904	1,557,667	33,890	1,596,557	1,109,688	907,371	2,017,059
1905	1,834,802	55,251	1,890,053	1,390,255	725,508	2,115,763
1906	1,743,210	98,722	1,841,932	1,486,489	968,449	2,454,938
1907	1,750,597	54,205	1,804,802	1,552,049	1,349,351	2,901,400
1908	1,604,062	85,917	1,689,979	1,502,640	1,173,042	2,675,682
1909	1,227,312	54,903	1,282,215	1,147,768	1,093,796	2,241,564
1910	864,857	74,986	939,843	775,211	1,300,661	2,075,872
1911	820,728	79,778	900,506	769,723	1,488,238	2,257,961

For the whole period during which the "Torrens" system has been in operation, 33,513,347 acres, valued at £33,367,078, have been conveyed under its provisions; and 2,087,744 acres, valued at £35,191,997, have been brought under it, the deeds under the old Act having been cancelled.

The transfers and conveyances of private lands which take place during ordinary years indicate in some measure the condition of business in real estate; the volume of these transactions, however, in some years cannot be relied upon as giving more than an indication of speculation or inflation. In the following table, which covers ten years, the money consideration paid on sales of private lands during each year is shown, excluding, of course, lands sold on long terms. During 1888 land to the value of £11,068,873 changed hands, but in 1905 the amount had fallen to £6,865,053; in 1911, the total for the year was £21,028,304, this being the maximum value transferred in any year. The records of recent years, as shown below, indicate that there is an upward tendency in transactions in real estate of a permanent character.

Year.	Conveyances or Transfers.		
	Under Deeds Registration Act.	Under Real Property (Torrens) Act.	Total.
	£	£	£
1902	2,519,247	4,350,050	6,869,297
1903	3,316,360	4,025,286	7,341,646
1904	2,524,799	4,138,994	6,663,793
1905	2,197,031	4,668,022	6,865,053
1906	2,820,456	7,346,558	10,167,014
1907	3,342,526	9,366,063	12,708,589
1908	2,879,955	9,880,177	12,760,132
1909	2,312,529	9,416,875	11,729,404
1910	4,057,760	11,958,783	16,016,543
1911	4,602,322	16,425,982	21,028,304

As already mentioned, the Real Property Act provides that on the issue of a certificate the title of the person named on the certificate is indefeasible. Provision is made, however, for error in transfer, by which persons might be deprived of their property; as, should the transfer be made to the wrong person, the holder of the certificate cannot be dispossessed of his property unless he has acted fraudulently. To enable the Government to compensate persons who, through error, may have been deprived of their properties, an assurance fund was created by means of a contribution of one half-penny in the pound on the declared capital value of property when first brought under the Act, and upon transmissions of titles of estates of deceased proprietors. It is a sterling testimony of the value of the Act, and of the facility of its working, that payments from the assurance fund to the 31st December, 1907, in respect of titles improperly granted, amounted to £16,326 only.

In 1907 the assurance fund, as a separate account, was closed, and the balance at credit, £157,569, was transferred to the Closer Settlement Account in accordance with the provisions of section 6 of the Public Works and Closer Settlement Funds Act, 1906. All assurance contributions under section 119 of the Real Property Act, 1900, and claims for compensation in pursuance of that Act, are now respectively paid to and discharged from the Closer Settlement Fund.

MORTGAGES.

All mortgages, except those regulated by the Bills of Sale Act of 1898 and the Merchant Shipping Act of 1894, are registered at the Registrar-General's office, and it is a fair assumption that the number recorded represents the bulk of the mortgages effected. Where more than one mortgage has been effected on the same property, the mortgages take priority according to the time of registration, not in accordance with the respective dates of the instruments. The amount of consideration for which a mortgage stands as security is not always stated in the deeds, the words "valuable consideration" or "cash credit" being inserted instead of a specific sum in many of the transactions of banks and other loan institutions, in cases where the advances made are liable to fluctuation; and as this frequently occurs when the property mortgaged is of great value, an exact statement of the total advances against mortgages cannot be given. Consequently the figures in the tables given below relate only to cases in which a specific amount is stated in the deeds, whether that amount be the sum actually advanced or not. The same remark applies also to discharges, the amount of which, as shown in the tables, is still further reduced by the exclusion of mortgages which have been satisfied by foreclosure or seizure, a record of which is not available. Many mortgages, therefore, appear in the official records as current, although the property which they represent has passed away from the mortgagor.

MORTGAGES OF REAL ESTATE.

Mortgages of land are registered either under the Deeds Registration Act or the Real Property Act, according to the Act under which the title of the property stood at the date of mortgage. The mortgages registered for each of the five years ended 1911 were:—

Year.	Mortgages.			Consideration.		
	Under Deeds Registration Act.	Under Real Property Act.	Total.	Under Deeds Registration Act.	Under Real Property Act.	Total.
	No.	No.	No.	£	£	£
1907	4,642	8,783	13,425	5,621,296	8,885,375	14,506,671
1908	5,160	9,726	14,886	6,062,147	10,490,957	16,553,104
1909	5,126	10,380	15,506	5,578,095	9,517,116	15,095,211
1910	5,084	11,329	16,413	6,629,211	10,436,733	17,065,944
1911	5,818	13,042	18,860	8,137,625	13,580,750	21,718,375

The consideration given generally represents the principal owing; in some cases, however, it stands for the limit within which clients of banks and of other loan institutions are entitled to draw, though many of these clients may be in sound positions financially, notwithstanding that their property is mortgaged and unreleased.

The amount of mortgages discharged has always been much less than the amount registered, since the discharges do not include foreclosures, which, if not formally registered as discharges, are nevertheless mortgages cancelled. The volume of the releases is also reduced by mortgages paid off in instalments, as the discharges may be given for the last sum paid, which might happen to bear a very small proportion to the total sum borrowed; and further, the total of discharges is reduced owing to the practice, now largely followed, of allowing mortgages maturing on fixed dates to be extended for an indefinite period.

MORTGAGES ON LIVE STOCK, WOOL, AND CROPS.

Liens on wool, mortgages on live stock, and liens on growing crops are registered under special Acts, the first two under a temporary measure passed in 1847, which was continued from time to time and became permanent by a special enactment in 1860, and the liens on growing crops under the law of 1862, all which enactments are consolidated with Liens on Crops and Wool and Stock Mortgages Act, 1898. Mortgages on live stock are current till discharge, and liens on wool mature at the end of each season, terminating without formal discharge. The duration of liens on agricultural and horticultural produce may not exceed one year. Such advances do not usually reach large sums, either individually or in the total, as there is an element of uncertainty in the security offered. Mortgages are valid without delivery of the stock or crops to the mortgagees.

The figures relating to live stock throw considerable light on the condition of the pastoral industry of the country. They must, however, be taken with this qualification, that the amount stated represents in many cases merely nominal indebtedness, the advances being not necessarily made to persons financially embarrassed. In the table, amounts secured both by lien on the wool and by mortgage of the sheep, are included under both heads. The amount so secured in 1911 was £277,775, so that the net amount of loans was £380,742.

Classification.	1907.	1908.	1909.	1910.	1911.
Wool—					
Liens No.	1,751	1,755	1,778	1,600	1,427
Sheep „	3,931,620	3,750,145	4,197,519	3,625,589	3,010,173
Consideration ... £	834,747	799,172	947,858	657,215	658,517
Growing Crops—					
Liens No.	917	921	1,115	798	785
Consideration ... £	96,363	111,320	134,500	94,804	111,904
Live Stock—					
Mortgages No.	3,176	3,318	2,984	3,142	3,265
Sheep „	3,401,888	3,014,031	3,053,456	3,488,617	3,395,547
Cattle „	139,091	137,003	113,416	125,588	149,131
Horses „	13,481	18,926	16,057	19,894	24,222
Consideration ... £	1,723,708	1,952,210	1,737,047	1,404,957	1,133,489

DISCHARGES OF MORTGAGES ON LIVE STOCK.

The number of discharges registered amounted to one-third of the number of mortgages of live stock registered during last year; the difference is partly due to the fact that in many cases one discharge covers several mortgages. The figures for the ten years ended 1911 were:—

Year.	Dis- charges.	Amount.	Year.	Dis- charges.	Amount.
	No.	£		No.	£
1902	387	751,455	1907	914	1,236,705
1903	397	532,868	1908	873	838,609
1904	410	402,398	1909	912	684,714
1905	509	644,569	1910	1,038	1,232,079
1906	768	1,184,201	1911	1,091	1,144,461

MORTGAGES ON SHIPS.

Mortgages of registered British vessels are arranged under the Imperial Merchant Shipping Act of 1894. The mortgages are divided into two classes, one in which the ship is the sole security, and the other in which the advances are made on the security of the "account current," which may consist of ships, wharfage appliances, &c. Registrations are effected at the two ports of registry, Sydney and Newcastle; and the returns are given in the sub-joined statement.—

Year.	Mortgage on Ships only.				Mortgage on Account Current.			
	Sailing Vessels.		Steam Vessels.		Sailing Vessels.		Steam Vessels.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		£		£		£		£
1907	3	990	11	18,240	2	2,001	9	20,008
1908	4	1,705	14	7,906	3	4,001	16	15,712
1909	11	1,832	12	19,500	5	2,363	8	10,504
1910	...	.....	18	37,320	1	*	1	*
1911	1	245	15	21,350	1	74	18	6,213

* Information not available.

BILLS OF SALE.

All mortgages on personalty other than ships and shipping appliances, wool, live stock, and growing crops, are filed at the Supreme Court under the Bills of Sale Act, 1855, and its amendments, as consolidated by the Bills of Sale Act, 1898, which was also amended in 1903 to secure that a bill of sale shall be ineffective as to certain household furniture unless the consent of the wife or husband of the maker or giver of the bill is endorsed thereon. The Act provides that each document shall be filed within thirty days after it is made or given, otherwise the transaction is illegal; also, that the registration shall be renewed every twelve months; and to prevent fraud and imposition the records are open to the inspection of the public. The total amount of advances made annually on bills of sale is not readily available; but, judging from the number of bills filed, the sum must be considerable. All classes of the community participate in the advantages of the Act, but brewers and money-lenders appear conspicuously among the transferees. No complete record is made of the bills terminated voluntarily

or by seizure, the official records showing only those discharged in the ordinary way. Seizures of the security given, which generally consists of household furniture and stock-in-trade, are frequent, and it is to be regretted that no record of them is kept; but, as previously stated, the neglect in the registration of foreclosures is a weakness in the procedure under all Acts regulating mortgage transactions. The bills filed and the discharges registered for the five years ended 1911 are as follow :—

Year.	Registrations.		Renewals under Bill of Sale Act of 1898.
	Filed in Supreme Court.	Satisfied or orders for discharge made.	
1907	2,238	304	1,894
1908	2,481	251	1,725
1909	2,212	265	1,779
1910	2,335	282	1,713
1911	2,430	352	1,689

DISTRIBUTION OF PROPERTY.

In making estimates of the wealth of a country, the probate value of estates has frequently been taken as the basis of the calculations. This, however, is hardly correct, as the probate returns give only the gross value of property left by deceased persons, irrespective of debts. To assume that the average amount of property left by each adult who dies during a given period represents the average possessed by each living adult is open to two objections. First, the average age of adults who die is greater than of those still surviving; and secondly, the wealth of an individual increases with years, and, generally speaking, is greater at death than at any period during life.

The valuations of estates for stamp duty purposes are, however, on a different plane. Such valuations are far below those exhibited in the probate returns, and a table is annexed showing the number of estates and amount entered for probate in each of the calendar years 1902 to 1911, the number of estates and amount on which stamp duty was paid during the corresponding financial years ended 30th June following in each case being given in the last two columns :—

Year.	Probate Court Returns, Year ended 31st December.		Stamp Duty Returns, Year ended 30th June following.	
	Estates.	Amount.	Estates.	Amount.
	No.	£	No.	£
1902	2,782	5,807,620	2,740	5,385,467
1903	2,767	7,179,882	2,750	5,205,045
1904	2,850	6,155,963	2,712	5,297,552
1905	2,804	7,714,416	2,802	6,066,182
1906	2,852	7,529,437	2,797	6,400,392
1907	3,084	7,563,499	3,172	6,655,673
1908	3,094	7,838,572	3,239	7,215,018
1909	3,185	11,142,068	3,187	10,417,169
1910	3,336	8,834,934	3,303	7,827,275
1911	3,589	13,138,068	3,648	13,389,806
Total ...	30,343	82,904,459	30,350	73,859,579

As the table shows, the number of estates during the ten years reached 30,343, the total assessed value for probate being £82,904,459. According to these figures, the average value of estate left by each person who died

possessed of property was £2,732. A much better guide, however, is furnished by the net value of estates on which stamp duty is paid. According to these figures, as shown in the above table, stamp duty was paid from 1st July, 1903, to 30th June, 1912, on 30,350 estates, valued at £73,859,579. This gives an average value per estate of £2,434.

In the next table relating to the year 1911, information is given for the first time, as regards New South Wales, concerning the property left by deceased persons classified according to age at death. From this table it is possible to obtain the average amount of property left by each person who died in 1911; and on the assumption that each person living possessed the same average amount of property as those dying at the same age, it would be possible to estimate the value of the private wealth of the people. It is felt, however, that such an estimate based on the results of one year would very probably be misleading, because the values of estates fluctuate from year to year, as will be seen from the preceding table, and it has been thought better to wait until the experience of four or five years is available. The table shows in various age-groups, the number and value of estates of deceased persons of each sex in 1911, in respect of which probate was granted. The values given represent the net values of estates for stamp duty purposes:—

Age-group.	Number of Estates.		Value of Estates.		Average Value—		Amount of Duty.
	Total.	Intestate— included in total.	Total.	Intestate— included in total.	of each Estate.	of Estate per total Deaths at each age.	
MALES.							
Under 15	8	8	£ 2,450	£ 2,450	£ 306	£ 1	£ 18
15—20	19	19	3,004	3,004	158	12	11
21—29	141	113	35,970	29,285	255	66	299
30—39	212	143	147,785	87,894	697	228	2,600
40—49	388	203	420,427	88,424	1,084	447	10,030
50—59	492	194	955,046	84,281	1,941	797	33,149
60—69	559	205	1,323,005	128,674	2,367	1,005	53,126
70—79	604	198	1,870,479	70,360	3,097	1,160	94,152
80—89	221	54	649,552	24,654	2,939	923	26,269
90 and over	37	8	48,319	284	1,306	525	745
Absentees	203	88	1,359,890	53,218	670	.....	106,976
Total ...	2,884	1,233	6,815,927	572,528	2,363	681	327,375

FEMALES.

Under 15	4	4	£ 3,330	£ 3,330	£ 833	£ 2	£ 24
15—20	4	4	1,210	1,210	303	6	.....
21—29	37	31	7,329	6,049	198	15	12
30—39	107	78	88,078	32,407	823	158	1,764
40—49	119	64	88,761	25,205	746	157	1,141
50—59	200	81	140,849	20,711	704	212	2,149
60—69	266	91	314,250	40,015	1,181	353	4,150
70—79	256	75	439,756	43,721	1,718	428	22,440
80—89	128	29	1,152,585	6,284	9,005	2,256	100,216
90 and over	14	3	63,331	905	4,524	681	2,574
Absentees	60	18	307,927	87,516	5,132	.....	15,071
Total ...	1,195	478	2,607,406	267,353	2,182	363	149,541

The total number of deaths in 1911 was 10,004 males, and 7,175 females. It appears, therefore, that of the males 29 per cent. left property, and of the females 17 per cent. Taking only adults of the males who died, 41 per cent. left property, and of the females 25 per cent.

The above statement, on the whole, bears out the remark made previously that as the age increases, wealth increases. Among males in 1911, the average value of estates increased up to age 80, and then declined. Among females the average increased up to age 90.

Of the male adults who died, 17 per cent. were intestate, and of the female adults 10 per cent.

The average value of estates in relation to the total number of persons who died was £681 per male, and £363 per female. Taking only persons leaving property, the estates of males were valued on the average at £2,363, and of females at £2,182.

Comparing the above statement with one prepared similarly in Victoria, it is found that among males up to age 70 and at ages over 90 the Victorian estates on the average were of higher value than in New South Wales. Between ages 70 and 90 the New South Wales estates had the higher value; and also the general average was higher in New South Wales. Among females up to age 60 the Victorian estates were generally of higher value, but over 60 the New South Wales estates were much higher, and the general average in New South Wales was more than twice that of Victoria. The figures are below in each case relating to 1911:—

Age Group.	New South Wales.				Victoria.			
	Males.		Females.		Males.		Females.	
	Total Number of Estates.	Average Value of Estates.	Total Number of Estates.	Average Value of Estates.	Total Number of Estates.	Average Value of Estates.	Total Number of Estates.	Average Value of Estates.
		£		£		£		£
Under 15	8	306	4	833	1	561	3	465
15—20	19	158	4	303	14	255	1	2,367
21—29	141	255	37	198	94	425	32	476
30—39	212	697	107	823	182	743	102	460
40—49	388	1,084	119	746	309	1,921	176	709
50—59	492	1,941	200	704	386	2,433	211	1,503
60—69	559	2,367	266	1,181	464	2,909	311	969
70—79	604	3,097	256	1,718	755	2,490	480	1,057
80—89	221	2,939	128	9,005	489	2,810	222	965
90 and over	37	1,306	14	4,524	36	1,835	28	2,242
Absentees	203	670	60	5,132	211	1,872	107	923
Total ...	2,884	2,363	1,195	2,182	2,941	2,304	1,673	1,012

In Victoria and in South Australia, wealth is apparently more widely diffused than in New South Wales, as will be apparent from the following statement, the results in which are based on the experience of four years, 1903-11 :—

State.	Estates of Deceased Persons.		Average Deaths of Adults.	Adults at Census, 1911.	Estates per 1,000 Deaths of Adults.	Average Estate per Adult Dying.	Average Value per Estate.
	Mean Number.	Mean Value.					
New South Wales	3,344	£ 9,712,317	11,137	921,731	300	£ 872	£ 2,904
Victoria ...	4,289	7,377,143	11,021	752,486	389	669	1,720
Queensland ...	705	1,736,856	3,983	329,091	177	436	2,465
South Australia...	1,020	2,298,271	2,883	232,625	353	797	2,254
Western Australia	453	921,317	1,709	166,813	265	539	2,032
Tasmania ...	361	847,695	1,283	100,895	281	661	2,350

Of the adults who died in New South Wales, rather less than one-third was possessed of property, with regard to which it was necessary to obtain probate. In Victoria the proportion was nearly two-fifths, and in South Australia it was slightly lower. It was lowest in Queensland, where the proportion was less than one-fifth. It should be remembered however that the populations of Victoria and South Australia are older than in the other States, and that the proportions, at ages over 50, after which age, judging from New South Wales and Victoria, the values of estates increase quickly, are higher than in New South Wales and much higher than in Queensland and Western Australia. For instance, in Victoria the proportion of the population aged 50 and over is 15·0 per cent., in South Australia 14·9 per cent., in New South Wales and Tasmania 13·5 per cent., in Queensland 12·7 per cent., and in Western Australia 10·4 per cent.

ESTATES OF DECEASED PERSONS.

In the following table a comparison is afforded for quinquennial periods since 1880, of the proportion of persons dying possessed of property per hundred of the total deaths in each quinquennium. The figures shown in this and the succeeding tables for the years prior to 1911 are exclusive of estates administered by the Curator of Intestate Estates. In 1911, such estates, numbering 654, have been included for the first time :—

Period.	Proportion of Estates per 100 deaths of total population.
	per cent.
1880-84	11·0
1885-89	11·6
1890-94	13·2
1895-99	14·9
1900-04	17·0
1905-09	19·1
1910	19·3
1911	23·7

The above figures indicate a widely diffused basis of prosperity, which is being continually enlarged.

A still more convincing illustration of the wide distribution of property in New South Wales is afforded by the next table, which shows the proportion of estates per 100 deaths of adult males, as well as the proportion per 100 deaths of adult males and females. The latter method of comparison is frequently neglected, which should not be, because large numbers of females are possessors of valuable property. The figures are given for quinquennial periods, commencing with the year 1880:—

Period.	Proportion of Estates per 100 deaths of adult Males.	Proportion of Estates per 100 deaths of adult Males and Females.
1880-84	34·6	22·3
1885-89	37·5	23·8
1890-94	41·2	25·8
1895-99	42·7	26·2
1900-04	46·0	27·8
1905-09	48·8	29·2
1910	49·9	29·4
1911	57·8	34·4

Information regarding the ages of persons leaving property was not ascertained until 1911; therefore it was not possible to exclude from the above calculations the estates of persons under 21 years of age. In 1911, as has been shown of the adult males who died 40·5 per cent. were possessed of property, and the proportion of adult females was 24·7 per cent.

The same weakness exists in these figures as in the case of those previously given in regard to the values, for approximately three in every hundred estates, concerning which probate or letters of administration are granted, prove to be without assets, so that the proportions must be somewhat reduced.

The statement that there is a wide distribution of property in New South Wales must be taken relatively. The following table is of interest as showing the distribution of property amongst the persons who died during the ten years ended June, 1912. The figures are exclusive of estates administered by the Curator of Intestate Estates:—

Category.	Number of Persons with Property, Deceased.	Proportion per cent. in each Group.	Value of Estates of Deceased.	Proportion per cent. in each Group.
£50,000 and over	170	·32	£ 27,023,180	36·59
£25,000 to £50,000	251	·46	8,633,666	11·69
£12,500 to £25,000	460	·74	7,925,497	10·73
£5,000 to £12,500	1,272	1·94	9,929,391	13·44
£200 to £5,000	18,703	28·02	19,462,103	26·35
Under £200	9,494	14·27	885,742	1·20
Total	30,350	100·00	73,859,579	100·00

Original 1909-12
Y/c 3as
18·26
8·76
15·83
16·13
39·32
2·17
31·26
25·04
42·54
100·00

ABSENTEES.

Analysis of the returns collected by the Stamp Office in Sydney shows that 94 per cent. of estates represented persons domiciled in New South Wales, leaving only 6 per cent. of absentees, that is, persons who died outside the State, leaving property in New South Wales. In 1911, the number of estates of male absentees was 203, and the average value £6,699; there were 88 estates of female absentees of an average value of £5,132.

INCOMES ASSESSED FOR TAXATION.

Prosperity as indicated by the number and amount of incomes assessed for income tax during the past four financial years shows as follows :—

Annual Income.	1908.		1909.		1910.		1911.	
	No.	Net Income.	No.	Net Income.	No.	Net Income.	No.	Net Income.
£		£		£		£		£
Under 1,000...	4,723	1,042,468	4,274	997,592	4,406	1,105,645	4,261	1,118,623
1,001—1,200...	139	151,849	147	162,986	145	159,971	173	190,698
1,201—2,000...	364	562,069	343	569,226	423	659,684	462	718,943
2,001—5,000...	378	1,168,614	378	1,217,581	463	1,434,196	542	1,660,591
5,001—10,000...	180	1,235,745	172	1,131,902	198	1,385,458	213	1,474,850
10,001—20,000...	89	1,203,870	75	1,031,875	107	1,474,589	114	1,613,656
20,001 & upwards	60	3,486,411	53	2,642,689	68	3,347,377	81	4,318,502
Total ...	5,933	8,851,026	5,442	7,753,851	5,810	9,566,920	5,846	11,095,863

Under the Income Tax Deduction Act, 1907, no tax has been levied during the past four years on incomes of less than £1,000 per annum derived from personal exertion; but with the enactment of the Income Tax Act, 1911, an income tax is leviable upon incomes under £1,000 per annum, the maximum income derived from personal exertion exempt from the tax being £300 per annum. This Act operates on the incomes of 1911, as from the beginning of 1912, and it is anticipated that much valuable information will result from an analysis of the returns. Up to the present, however, it has not been possible to do this, as owing to the heavy pressure of work caused by the new Act, the Taxation Commissioners have been unable to collate any statistical information.

MINING INDUSTRY.

THE discovery of gold in payable quantities in the year 1851 was a powerful factor in promoting the settlement of population in New South Wales, and consequently in Australia, and during the succeeding decade gold-mining became the leading industry, easily eclipsing in quantity and value of production the mining of coal, which previously was the only mineral mined. In the earlier stages of gold-mining, when alluvial deposits were being worked, and diggers could obtain the metal readily, the knowledge of these conditions induced a great influx of population from other countries, and attracted the attention of the resident population from existing industries, so creating a local market for commodities of all descriptions. As alluvial deposits became exhausted, the characteristic fluctuations of the prospecting period gave way to more settled conditions of an industry, offering employment to fewer men and requiring large capital and expensive machinery, which were provided under the direction and control of companies, mainly organised on the no-liability system; and the surplus population of the early gold-field days was gradually and necessarily diverted to the development of other industries, such as agriculture, which, with the increased population, became remarkably profitable.

In the last thirty years other metals have been discovered and worked in New South Wales, and though gold still occupies a prominent place in the mineral wealth of the State, such metals as silver, tin, copper, and iron now contribute considerably to the importance of metal mining as a primary industry.

SUPERVISION AND REGULATION.

In the chapter of this Year Book relating to "Employment and Arbitration," a summary is given of the principal clauses of the statute laws affecting the mining industries of this State, as contained in the Mining Acts, 1906-7, the Mines Inspection Acts, 1901-4, the Coal Mines Regulation Acts, 1902-4-5-8, and the Miners' Accident Relief Act, 1900, with its subsequent amendments. Regulations under these Acts are made and administered by the Department of Mines; and it will be sufficient here briefly to outline the general conditions under which mining is carried on within the State.

Miners' Rights and Business Licenses.

Authority must be obtained for all operations for the mining of gold, or other minerals, whether such operations are to be on, in, or under, Crown or private lands, a penalty attaching for unauthorised mining or unauthorised occupation of Crown lands.

The miner's right entitles the holder to occupy Crown land for the purpose of mining for gold and minerals, for constructing works, conserving water, or obtaining timber in connection with mining, and for residence.

A business license entitles the holder to occupy one quarter of an acre of Crown land in a town or one acre outside town boundaries, for the purpose of carrying on business and for residence respectively.

A miner's right or a business license is issuable for any period from six months up to twenty years, the fees payable being determined according to the currency of the right or license. For a miner's right, the fee is 5s. per annum, and for a business license £1 per annum.

Under a provision of the Crown Lands (Improvement Purchase) Act, 1909, holders of business areas exceeding the limit allowed by the Mining Act, 1906, within the suburban boundaries of any town, may obtain by purchase a freehold title to such areas, provided that registration was effected prior to July, 1907, and that the areas do not exceed one acre.

Regulations prescribe the areas which may be held as prospecting areas or claims for dam or machinery sites, and the contingent labour conditions; and provision is made for registration and survey in certain instances, transfer, creation of shares, and all other matters affecting holdings under miner's right or business license.

Special provision is made for the issue, to any holder of a miner's right, of an authority to prospect upon any Crown land, whether exempted from ordinary occupation under miner's right or not. Such authority is subject to payment of rent, and upon finding gold or minerals the holder must report the discovery within fourteen days and may be required to take out a lease.

Leases of Crown Lands.

The term "Crown Lands" embraces all lands vested in the Crown or in any trustee or constructing authority for public purposes, all lands held under lease from the Crown (except conditional lease or conditional purchase lease), and any navigable water road, street, or highway.

Leases of Crown lands are divided into two classes—(a) Mining leases, and (b) leases for "mining purposes."

Mining leases are for either gold or minerals, the annual rent in each case being 5s. per acre, except in the case of leases for coal or shale, which are subject to a rental of 1s. per acre, and a royalty of 6d. per ton on all shale or large coal, and 3d. per ton on all small coal raised. The amount paid as rent may be deducted from the royalty.

Gold-mining leases are limited to 25 acres, mineral leases (other than coal, shale, or opal) to 80 acres, coal or shale leases to 640 acres, and opal leases to 10 acres; and the maximum term for which a lease may be granted is twenty years, with the right of renewal for a similar term.

Under special conditions, where there are exceptional difficulties in mining the land, leases for larger areas may be granted, subject to report by the Prospecting Board. Such special leases are subject to payment of a rent or royalty to be fixed by the Minister in each case.

The definition of "mining purposes" covers all operations in connection with mining, such as erecting buildings or machinery, conserving water, treatment of tailings, or any other purpose in connection with mining for gold or minerals. These leases for mining purposes are limited to the surface and to a specified depth, and do not authorise the holder to mine for any minerals contained in the land.

Mining on Private Lands.

Holders of miners' rights may obtain from Mining Wardens authority to enter upon any private land to prospect for gold, or upon land granted with the reservation of minerals to the Crown, to prospect for minerals other than coal or shale. The fee for such authority is 5s., and the holder must pay to the owner of the land such rent and compensation for surface damage as the Warden, after inquiry, may assess.

Having obtained authority to enter, the holder may search for the specified mineral on the area granted (not more than 25 acres for gold nor 80 acres for minerals), and may apply for a lease of the whole or any part of the land. Such lease may be for any term not exceeding twenty years, with the right of renewal for a like term. The rent to the owner of the land is £1 per acre, payable in respect only of such part of the surface as is granted. A royalty of 1 per cent. on the gross value of the gold and minerals won is payable to the Crown. The owner of private land, or the occupier, with the owner's consent, may obtain authority to enter or lease any area, not exceeding that prescribed for an ordinary lease, and to mine for gold or for any minerals, without any payment of rent or compensation, and such owner or occupier may also obtain a lease of any area not exceeding 640 acres to mine for coal or shale. Such owners' leases are subject to the payment to the Crown of 1 per cent. royalty on gold or minerals, 6d. per ton on large coal or shale, and 3d. per ton on small coal.

The owner of any private land may enter into an agreement with the holder of a miner's right, giving him permission to mine for gold or minerals (if reserved to the Crown) on any area not exceeding that prescribed for an ordinary lease. Such agreement must be submitted for the Minister's concurrence, and is subject to the payment of 1 per cent. royalty to the Crown on all gold or minerals won. All agreements must be registered.

All lessees or holders of agreements are entitled to deduct rent paid from the amount of royalty payable.

Under special conditions, or where there are exceptional difficulties in mining the land, leases for extended areas may be granted, subject to report by the Prospecting Board.

The Closer Settlement (Amendment) Act, 1909, provides that all grants of land under that Act shall contain a reservation of all minerals in such land. The effect of this provision is to make such lands "private lands" within the meaning of the Mining Act, 1906.

Dredging.

Leases of Crown or of private land may be granted for the purpose of mining for gold or any mineral by dredging, sluicing, or other method. Such leases may cover any area not exceeding 100 acres, and continue for any term not exceeding twenty years, with the right of renewal for a similar term. The lessee is required to employ a certain number of men, and to expend a certain sum in the purchase and erection of machinery and appliances. The rent of Crown land is 2s. 6d. per acre, and of private land such amount as may be assessed by the Warden. Compensation for surface damage to private land may also be assessed by the Warden. Rent paid may be deducted from the royalty payable.

Labour Conditions.

The minimum labour conditions fixed by Regulation are as follow:—

For gold: 1 man to 5 acres for the first year, and thereafter 1 man to 2 acres.

For minerals other than gold, coal, or shale; 1 man to 20 acres for the first year, and thereafter 1 man to 10 acres.

For coal or shale: 2 men to 320 acres.

The Mining Act empowers the Warden to grant suspension of the labour conditions on any lease if the mine is unworkable, or if the lessee is physically or financially unable, for a limited period, to work the mine.

been supplemented by the "Memoirs of the Geological Survey of New South Wales," and the series of "Monographs on the Mineral Resources of the State," issued by the Department of Mines, as well as Pittman's "Mineral Resources of New South Wales." Reports of Royal Commissions have also been consulted, *e.g.*, On the best methods of working the thick coal seams of the Maitland-Cessnock district; On the iron and steel industry.

PROSPECTING.

In 1878 the Legislature voted a sum of £7,000 to be expended as subsidies to encourage prospecting for gold. In subsequent years further small sums were voted and expended, till in 1887, by resolution of Parliament, an annual vote was established; and in 1889 the conditions of the vote were so amended as to embrace all minerals. The original annual vote was £20,000. For the year 1892, however, it was fixed at £40,000; but thereafter, until 1902, the maximum sum available was £25,000. For the year 1902-3 the amount voted was reduced to £20,000, and further decreased to £15,000 for each of the following years.

The Prospecting Board, constituted of the Under Secretary for Mines and Government Geologist, as Chairman, the Assistant Government Geologist, the Chief Inspector of Mines, and three Inspectors, the Chief Mining Surveyor, and a Geological Surveyor, deals with all applications for aid, and miners desiring a grant from the vote have to satisfy the Board that the locality to be prospected is likely to yield the mineral sought, and that the mode of operation is suitable for its discovery. Aid given may represent, as the maximum, 50 per cent. of the value of the developmental work done, inclusive of the cost of the necessary implements and materials. Assistance for sinking from the surface is not usually given, applicants being required generally to prove their *bona-fides* by carrying out a certain amount of work unassisted. Miners assisted from the vote are not entitled to claim any reward that may be offered for the discovery of a new gold or mineral field.

Under the regulations governing the distribution of the vote, the amount advanced must be refunded in the event of the discovery of payable mineral by means of the aid granted.

During 1907 provision was made by Parliament, to the extent of £5,000, for the erection of Government crushing batteries; and in 1911 arrangements were made to assist prospectors to erect plants. To procure the erection of a State battery, reasonable evidence must be adduced that the plant can be kept employed, or that there are prospects of new lodes being opened up as a result of the installation.

The proposal to make advances to prospectors to assist them to purchase plants was designed to meet the case of small mine-owners, as, while satisfying their requirements, it would relieve the Government of the cost of operating and maintaining State batteries. Assistance up to 75 per cent. of the cost of the plant and water supply may be advanced, and the prospector's contribution may be made up, either wholly or in part, of labour and material. No interest is chargeable for the advance, but the Government imposes a condition that the prospector shall crush parcels of ores for the public on a specified number of days, the maximum charges being fixed by regulation.

During 1911 the total amount expended from the prospecting vote was £9,927, out of £13,084 allotted to eligible applicants. Of the 499 applications for aid received during the year, 194 were approved as

satisfactory. Of numerous applications for the erection of Government crushing batteries, none were regarded as satisfactorily proving that sufficient stone was available to justify the expenditure.

The following statement summarises the prospecting votes and the amount of the grants made therefrom for the various minerals, in quinquennial periods since the establishment of the annual vote in 1897. The figures are for calendar years from 1887 to June, 1895, thereafter for the financial years ended 30th June, viz.:—

Period.	Amount Available.	Amounts granted to Prospectors for—						Total.
		Gold.	Silver and Lead.	Copper.	Tin.	Coal.	Other Minerals.	
	£	£	£	£	£	£	£	£
1887-9	55,000	26,332	866	138	34	338	288	28,011
1890-4	130,000	111,378	7,254	1,367	1,261	3,752	3,283	128,795
1895-1900	120,673	107,581	4,886	7,762	3,389	.....	4,021	127,639
1901-1905	101,122	80,636	5,108	10,136	7,828	40	1,430	105,178
1906-1910	75,000	38,822	7,986	20,765	3,146	310	871	71,900
1911	15,000	8,470	1,286	2,635	543	.....	451	13,379
1912	15,000	7,040	2,429	1,929	1,854	.....	382	13,634

In the aggregate, approximately 90 per cent. of the amount granted has been expended, the total sum disbursed to the end of 1911 being £426,142.

No large payable field has yet been discovered through the agency of the prospecting vote; but several rich mines have been opened up with the aid granted, notably the Mount Boppy mine, which is now the premier gold-mine of the State, having produced gold to the value of £986,166 during the ten years, 1900-1910, the output for 1911 being valued at £111,410. The Queen Bee copper mine owes its present successful position to the aid granted, and the Crowl Creek mine at Shuttleton was opened up indirectly as the result of assistance from the same source. In addition to the employment of labour, the proving of a lode or reef invariably leads to the development of large areas of adjoining land under the Mining Act, from which increased revenue is derived by the State.

MINING AND GEOLOGICAL SURVEYS.

During 1911, 763 surveys were carried out, the majority of which were for gold and mineral leases.

The geological survey of the State is conducted by the Geological Survey Branch of the Department of Mines. The main objects of its operations are (1) the mapping of the various geological formations, so that geological maps of the State may be prepared, and (2) the examination of the mineral deposits and the preparation of reports for scientific and economic purposes. A new edition of the geological map of the State is in course of preparation, in addition to detail maps of special areas.

CERTIFICATES OF COMPETENCY.

To the end of 1911 the records of 1,498 mines were filed under the Mines Inspection Act, 1901, and 3,700 certificates of competency have been issued by boards of examiners, for the positions for which certificated men are required, viz., mine manager, under manager, &c.

Under the Coal Mines Regulation (Amending) Act, 1908, sixty-five certificates of competency as Mine Electrician have been issued, viz.:—
Year 1909, 40; 1910, 15; 1911, 10.

BORES AND DRILLS.

During 1911, bores were sunk at Hebburn (No. 4), Mount Edgcombe, Aberdeen Northern (State) coal mine, Newnes Western (State) coal mine, Nos. 1 and 2, Flemington State brickworks (3), and Wyalong (7).

An innovation in regard to core boring was introduced during the year, following upon an investigation of the system in use elsewhere, and notably in Victoria, of core boring with the aid of chilled shot or steel cutters, as opposed to boring with diamond drills through bands or patches of loose conglomerate. In applying this system in New South Wales, a large drill (No. 11) was remodelled to bore with diamond, shot, or steel cutters, and the first bore was put down at Aberdeen.

MINING PLANT AND MACHINERY.

The aggregate value of the plant and machinery in operation at the mines of the State was estimated at £6,653,237 at December, 1911. Following are the figures showing the estimated value of the plant and machinery in operation at metalliferous mines, and at coal and shale mines, and also the value of the haulage plant used for conveying products from mines to railway stations or ports, at the close of each of the last nine years, for which the information is available, viz:—

Year.	Mining plant and machinery—		Conveyance plant of coal and shale mines.	Total estimated value of mining machinery.
	At metalliferous mines.	At coal and shale mines.		
	£	£	£	£
1903	2,097,710	910,000	860,000	3,867,710
1904	2,031,436	898,000	836,000	3,765,436
1905	2,021,923	967,000	859,000	3,847,923
1906	2,345,392	1,079,000	912,000	4,336,392
1907	2,630,692	1,171,000	973,000	4,774,692
1908	3,316,069	1,242,000	1,071,000	5,629,069
1909	3,993,265	1,366,000	1,405,000	6,764,265
1910	3,684,848	1,438,000	1,145,000	6,267,848
1911	3,850,237	1,546,000	1,257,000	6,653,237

The increases in value between 1903 and 1911 represent an addition of 83.6 per cent. to the plant and machinery of metalliferous mines; while the operating plant and machinery of coal and shale mines was increased by 70 per cent. and the conveyance plant by 46.2 per cent. within the period. The figures given above are exclusive of the values of smelting plants, copper reducing and refining plants, and the plant of the Lithgow ironworks.

Subdividing for the group of metalliferous mines, the following statement shows the value of plant and machinery used in the various

branches, and also emphasises the extent of dredging operations in gold and tin mining during the period under review, viz., 1903-1911:—

Year.	Gold.		Silver, lead, and zinc.	Copper.	Tin.		Other minerals.	Total.
	Dredging and Sluicing.	Other.			Dredging.	Other.		
	£	£	£	£	£	£	£	£
1903	229,840	724,130	679,980	306,443	23,640	28,226	110,451	2,097,710
1904	204,562	708,808	764,333	253,415	31,014	15,779	53,525	2,031,436
1905	211,143	662,114	838,949	196,168	53,791	11,567	48,191	2,021,923
1906	212,194	649,182	949,790	218,282	96,843	21,829	197,272	2,345,392
1907	204,140	572,835	1,238,086	230,498	143,434	13,918	227,781	2,630,692
1908	192,179	518,602	1,785,001	463,310	153,376	22,355	181,246	3,316,069
1909	164,427	543,842	1,709,696	442,943	145,406	18,626	268,325	3,293,265
1910	218,125	480,424	1,942,324	550,700	146,130	39,786	307,359	3,684,848
1911	208,368	475,554	2,015,157	577,331	180,623	12,976	380,178	3,850,237

As regards coal and shale mines, the value of plant and machinery in the three fields of the State since 1903 is shown in the following table:—

Year.	Mining Plant and Machinery.			Conveyance Plant.		
	Northern.	Southern.	Western.	Northern.	Southern.	Western.
	£	£	£	£	£	£
1903	693,000	168,000	50,000	609,000	211,000	40,000
1904	650,000	202,000	46,000	598,000	217,000	21,000
1905	707,000	215,000	45,000	627,000	209,000	23,000
1906	805,000	222,000	52,000	663,000	219,000	30,000
1907	863,000	231,000	77,000	725,000	217,000	31,000
1908	935,000	240,000	67,000	782,000	252,000	37,000
1909	950,000	330,000	86,000	807,000	263,000	35,000
1910	984,000	318,000	136,000	849,000	255,000	41,000
1911	1,036,000	344,000	166,000	947,000	256,000	54,000

In regard to electricity and compressed air machines in coal mines, some particulars are given under the heading of coal-cutting by machinery.

SCIENTIFIC ADVANCEMENT IN MINING.

Apart from the University of Sydney and the Technical College, the scope for scientific training in mining subjects is strictly limited. A school of mines is contemplated for Broken Hill, where probably much could be taught in respect of metallurgical processes and mining methods.

There is an Australian Institute of Mining Engineers.

The incompleteness of the statistics, as evidenced by the fact that in many instances the export trade is taken as the measure of production, because *e.g.*, returns from quarries, which would give domestic consumption, are not prepared, is to be regretted. From quarries, particulars should be made available as to:—

Building stone: Sandstone, granite, basalt, syenite (trachyte), limestone marble, slate, &c.

Limestone (crude).

Road Metal: Basalt (bluestone) and sandstone.

Others: Sand, gravel, clays (brick and pottery) pigments, kaolin.

EMPLOYMENT IN MINES.

The extent to which mining industries provide employment is indicated in the following statement of the approximate number of men employed in the various groups during each of the years 1901-1911 :—

Year.	Metalliferous.						Coal and Shale.	Total number of men employed.
	Gold.	Silver, Lead, and Zinc.	Copper.	Tin.	Other.	Total.		
1901	12,064	6,298	2,964	1,428	1,446	24,200	12,415	36,615
1902	10,610	5,382	1,699	1,288	1,602	20,581	13,114	33,695
1903	11,247	6,035	1,816	2,502	1,842	23,442	14,117	37,559
1904	10,648	7,071	1,850	2,745	1,377	23,691	14,146	37,837
1905	10,309	7,887	2,171	2,884	1,544	24,795	14,137	38,932
1906	8,816	9,414	3,047	3,795	2,275	27,347	15,199	42,546
1907	7,463	10,021	3,764	3,173	1,976	26,402	17,356	43,758
1908	6,363	7,560	2,745	2,456	1,757	20,881	18,084	38,965
1909	5,585	6,207	2,024	2,037	1,983	17,836	18,569	36,405
1910	5,247	7,999	2,286	2,028	1,809	19,369	18,044	37,413
1911	4,650	8,495	2,151	2,225	1,839	19,360	17,657	37,017

These figures do not include persons employed in works manufacturing lime, cement, or coke.

The outstanding feature of this statement is a considerable and persistent decline in the numbers employed in gold-mining. In other branches of metalliferous mining the movement, over the whole period, has been rather progressive than otherwise, as may be more clearly evidenced by comparison of quinquennial averages for 1901-5 and 1906-1910, with the numbers for 1911, viz. :—

Period.	Metalliferous.					Coal and Shale.	Total.	
	Gold.	Silver, Lead, Zinc.	Copper.	Tin.	Total Metalliferous.			
Annual average number employed.	1901-5	10,976	6,535	2,100	2,169	23,342	13,586	36,928
	1906-10	6,696	8,400	2,773	2,698	22,367	17,450	39,817
	1911	4,650	8,435	2,151	2,225	19,360	17,657	37,017

Metal Mines.

In gold-mining, the decrease in the numbers employed in the last ten years has been most noticeable as regards the alluvial mining, viz. :—

Gold Miners.				Gold Miners.			
Year.	Alluvial.		Quartz.	Year.	Alluvial.		Quartz.
	European.	Chinese.			European.	Chinese.	
1903	5,515	391	5,341	1908	2,640	211	3,512
1904	4,926	327	5,395	1909	2,176	208	3,201
1905	4,786	305	5,218	1910	2,230	125	2,892
1906	3,948	307	4,561	1911	1,706	130	2,814

In quartz gold-mining, few, if any, Chinese are engaged.

In tin-mining, as in gold-mining, the number of Chinese engaged is decreasing, as the following statement of the persons employed since 1900 will show :—

Year.	Tin Miners.			Year.	Tin Miners.		
	European.	Chinese.	Total.		European.	Chinese.	Total.
1900	1,050	363	1,413	1906	3,157	638	3,795
1901	972	456	1,428	1907	2,739	434	3,173
1902	986	302	1,288	1908	2,076	380	2,456
1903	2,047	455	2,502	1909	1,688	349	2,037
1904	2,150	595	2,745	1910	1,868	160	2,028
1905	2,212	672	2,884	1911	2,049	185	2,225

Coal and Shale Mines.

Coal and shale mines are subject to supervision under the Coal Mines Regulation Act, 1902. The following statement shows the number of mines in operation during the last ten years in each mining district, and the employees on surface work and underground :—

Year.	Northern.		Southern and South-Western.		Western.		Total, New South Wales.						
	Mines Operating.	Employees.		Mines Operating.	Employees.		Mines Operating.	Employees.		Total.			
		Underground.	Surface.		Underground.	Surface.		Underground.	Surface.				
1902	63	7,588	2,142	17	2,006	559	17	658	161	97	10,252	2,862	13,114
1903	65	8,161	2,300	17	2,273	634	21	614	135	103	11,048	3,069	14,117
1904	63	8,217	2,243	15	2,450	594	18	527	125	96	11,194	2,962	14,146
1905	67	8,265	2,240	15	2,397	653	23	469	113	105	11,181	3,006	14,187
1906	73	8,482	2,532	15	2,540	709	23	751	185	111	11,773	3,426	15,199
1907	71	9,697	2,906	17	2,673	739	25	1,187	254	113	13,557	3,799	17,356
1908	80	10,072	3,171	16	2,863	724	24	988	266	120	13,923	4,161	18,084
1909	81	10,102	3,186	19	2,995	819	27	1,112	351	127	14,213	4,356	18,569
1910	98	9,425	3,380	21	3,024	870	29	1,037	308	148	13,486	4,558	18,044
1911	88	8,809	3,583	22	2,995	894	25	1,068	308	135	12,872	4,785	17,657

The employment of boys under 14 years of age or of women and girls in or about a mine is prohibited, and restrictions are placed upon the employment of youths. The following statement shows the number of boys between 14 and 16 years of age included in the above table :—

Year.	Northern.		Southern and South-western.		Western.		Total.		
	Underground.	Surface.	Underground.	Surface.	Underground.	Surface.	Underground.	Surface.	Total.
1902	269	209	58	25	8	6	335	240	575
1903	256	215	95	39	9	9	360	263	623
1904	229	206	93	39	4	11	326	256	582
1905	259	257	77	44	6	5	342	306	648
1906	251	257	93	57	6	6	350	324	674
1907	371	277	104	49	14	13	489	339	828
1908	341	314	78	38	9	9	428	361	789
1909	246	235	78	45	26	21	350	351	701
1910	271	246	70	44	22	11	363	301	664
1911	229	231	85	42	19	13	333	289	622

Full particulars are not available to show the number of days worked in all coal and shale mines, but the following figures relating to 70 of the more important collieries may be taken as representative of operations in the State during 1911, viz. :—

District.	Collieries Recording.	Days Worked.	Average days worked per Colliery.
Northern	47	8,923½	190
Southern	10	2,424	242
Western	13	3,334½	257
Total	70	14,681½	210

The slackest months were in the first quarter of the year.

WAGES.

In regard to wages and rates of pay, details are given in the part of this Year Book relating to Employment and Arbitration. To make this part self-contained, however, the following summary is extracted, and may be taken as illustrative of all the branches of the mining industry :

Trade or Calling.	1895.		1900.		1905.		1909.		1910.		1911.	
Coal-mining—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Miners ... per ton	2 0	to 2 11	1 10	to 3 2	1 9½	to 3 0	2 0½	to 4 2	2 0½	to 4 2	2 0½	to 4 2
Wheelers .. per day	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Screenmen ,,	7 0	7 0	8 6	6 6	8 9	6 6	8 9	8 3	7 0	9 6	8 0	9 6
Engine-drivers ,,	7 6	10 0	11 0	12 6	11 0	12 6	8 9	13 0	8 9	13 0	8 9	11 0
Labourers .. ,,	5 6	8 6	6 6	7 6	6 6	7 6	6 9	7 9	7 0	8 0	8 0	8 0
Metal-mining—	s. d.	s. d.										
Miners ... ,,	9 0	9 0	9 0	9 0	10 0	10 0	11 0	11 0	11 0	11 0	11 0	11 0
Truckers .. ,,	7 6	7 6	7 6	7 6	8 7½	8 7½	9 6	9 6	9 6	9 6	9 6	9 6
Engine-drivers ,,	9 0	to 10 0	9 0	to 10 0	9 0	to 10 0	10 0	to 11 0	11 0	to 12 0	11 0	to 14 0
Labourers .. ,,	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	7 6	7 6	7 6	7 6	8 7½	8 7½	9 6	9 6	9 6	9 6	9 6	9 6

In the mining industry, wages have been fixed to a considerable extent hitherto, by agreement between the mine-owners, and miners' associations, but at the end of 1911 wages boards awards, under the Industrial Disputes Act, 1908, applied in Sydney, Southern and Western collieries to miners; in the majority of mines, including the Newcastle-Maitland mines to non-miners; to the miners at Mt. Boppy; and to workers at smelting works.

Under the Industrial Arbitration Act, 1912, six boards for the metal-mining group have been constituted, on the basis of industry. Full details as to the operations of these boards are given in part Employment and Arbitration of this Year Book.

In addition to these boards, Conciliation Committees have been appointed to deal with the following industries :—Cobar Metalliferous Miners, Broken Hill Metalliferous Miners, Newcastle Miners, Western Collieries, Southern Collieries, Gas Employees, Ironworks (G. and C. Hoskins, Limited).

MINERAL PRODUCTION

The variety of the units of measurement employed in the different branches of the mining industry militates against comparison of the output of the several minerals, except by the standard of value of the

products. And even in measuring the production by the standard of value, it is necessary to remember that these values are taken at different stages of production, as *e.g.*, the value of the tin output includes the values of ingots and ore; with some metals also, the export trade, which is accepted as representing the total production, is mainly in ore.

The summary given below shows the value of the production of the various minerals during the last five years:—

Minerals	Value.				
	1907.	1908.	1909.	1910.	1911.
<i>Metals.</i>					
Gold—domestic ores	£ 1,050,730	£ 954,854	£ 869,546	£ 802,211	£ 769,353
Silver—					
Silver and silver-lead	3,915,946	2,160,195	1,653,615	1,861,479	2,442,764
Zinc—Spelter and Concentrates	536,620	600,883	1,041,280	1,289,634	1,414,980
Lead—pig, &c.	374,182	186,746	186,073	248,561	209,784
Copper—Metal and ore	727,774	502,812	424,737	486,257	590,102
Tin—Ingots and ore	293,305	205,447	211,029	228,156	307,089
Iron—					
Pig-iron	60,550	98,777	100,357	161,948	145,416
Iron oxide	1,961	1,857	4,948	714	2,377
Ironstone flux	7,707	6,199	3,471	1,321	861
Tungsten—					
Wolfram	26,235	6,742	11,249	16,258	29,991
Scheelite	23,781	11,082	14,618	15,747	11,342
Platinum	1,014	439	1,720	1,418	2,999
Molybdenum	3,564	929	3,249	5,667	2,591
Antimony	46,278	1,141	711	1,450	2,010
Bismuth	5,268	2,017	1,624	2,004	1,800
Chromite	105	.....	.....	.....	300
Cobalt ... ..	.....	.....	55	55	.....
Manganese ... ..	.....	7	.....	.....	.....
<i>Non-metals.</i>					
Fuels—					
Coal	2,922,419	3,353,093	2,618,596	3,009,657	3,167,165
Coke	159,316	199,933	137,194	189,069	184,337
Shale (oil)	32,055	26,068	23,617	33,896	36,980
Structural Materials—					
Portland cement	144,548	184,400	202,200	251,110	315,569
Lime	19,458	21,610	24,283	30,189	32,918
Limestone—flux	16,162	14,779	13,851	16,946	12,541
Stone (building)	119	229	378	2,792	2,417
Marble	2,200	2,200	1,700	2,134	1,610
Slates ... ..	.....	.....	.....	.....	.....
Chemical material—Alunite	5,115	2,705	8,791	2,840	3,795
Gem Stones—					
Noble Opal	79,000	41,800	61,800	66,200	57,300
Diamonds	2,056	1,358	3,959	2,881	4,064
Abrasives—Grindstones	194	204	192	325	191
Minerals unclassified	1,334	1,654	4,850	5,550	5,360
Total	£ 10,459,296	£ 8,590,160	£ 7,629,693	£ 8,736,469	£ 9,758,006

The totals quoted are exclusive of iron made from scrap in 1907-8-9, the value of the product being £118,082, £19,447, and £6,000 for the respective years.

To the end of 1911 the aggregate value of the mineral output of the State was approximately 216½ million pounds. The following statement shows the aggregate values of production at the end of 1906 in comparison with 1911 for each of the minerals quoted in the previous

summary. It will be noticed that figures for scrap-iron, Portland cement, and lime are shown, although these products are also to be considered in connection with the manufacturing industry:—

Minerals.	Value of Production to the end of—	
	1906.	1911.
<i>Metals.</i>		
Gold—	£	£
Domestic ores	54,314,152	58,760,846
Silver—		
Silver and Silver Lead	42,705,724	54,739,723
Zinc—Spelter and Concentrates	890,274	5,773,671
Lead—Pig, &c.	531,035	1,736,381
Copper—		
Metal and ore	8,472,629	11,204,311
Tin—		
Ingots and ore	7,744,509	8,989,535
Iron—		
Pig-iron—from domestic ore ... ..	.....	567,048
Iron oxide... ..	14,128	25,985
Ironstone flux	61,298	80,857
Tungsten—		
Wolfram	25,458	115,933
Scheelite	19,315	95,885
Platinum	17,540	25,130
Molybdenum	16,330	32,330
Antimony	253,279	304,869
Bismuth	114,614	127,327
Chromite	101,003	101,408
Cobalt	7,955	8,065
Manganese	1,655	1,662
<i>Non-metals.</i>		
Fuels—		
Coal	50,356,743	65,427,673
Coke	1,106,365	1,976,214
Shale (Oil)... ..	2,135,445	2,288,061
Structural Materials—		
Portland Cement... ..	373,577	1,471,404
Lime	104,991	233,449
Limestone—flux	617,469	691,748
Stone (Building)	17,682	23,617
Marble	11,880	21,724
Slates	890	890
Chemical Material—		
Alunite	82,597	105,843
Gem Stones—		
Noble Opal	989,099	1,295,199
Diamonds	104,089	118,407
Abrasives—		
Grindstones	1,560	2,666
Other Minerals unclassified	94,596	113,644
Total	£ 171,287,881	216,461,505
Iron made from scrap... ..	£ 1,272,501	1,416,030

Taking the value of production in ten-year periods for the past 50 years, following is a summary of progress:—

Period.	Output Value.
	£
1862-1871	16,579,371
1872-1881	20,464,276
1882-1891	35,358,953
1892-1901	52,107,908
1902-1911	78,327,801

The aggregate value of the mineral production for 1907, viz., £10,459,296, exclusive of iron made from scrap, represents the maximum for any year in the history of the State. In 1908 and 1909 there was a marked decrease in the annual output, due, in part, to prevailing low prices for metals, and in a less degree to industrial dislocations affecting particularly the output of coal and coke, silver, lead, and copper. During 1910 and 1911, however, there was a marked recovery, so much so that the output for 1911 is second only to that for 1907, a satisfactory increase being realised for almost every mineral except gold.

In the United States of America, iron and gold are the most valuable mineral products; in New South Wales gold, coal, and silver now rank close together in importance as measured by aggregate output, but whereas in 1906 the gold output was of highest value, at the end of 1911 coal and silver-lead products had easily exceeded gold in value, in spite of occasional industrial difficulties. As compared with the total mineral output of Australia for 1911, the position of New South Wales is shown by the following percentages:—

	New South Wales Production in proportion to Australian. per cent.
Gold	7.29
Silver and Lead... .. .	94.44
Copper	23.01
Tin	25.38
Coal	80.60
All Minerals (excluding lime and cement)	40.00

The outstanding features of mining operations in New South Wales in 1911 were: the great progress made in the recovering of zinc tailings, an increase in the output of silver-lead, and the resumption of work underground at the Broken Hill Proprietary mine, which had been closed down during 1910; an increase in the output of copper, and high prices for tin.

Related to the number of men employed, the output in the different branches of mining varies greatly. Following are the average values per head of miners for the last five years. The totals are exclusive of the values of lime and cement:—

Year.	Gold.	Silver, Lead, and Zinc.	Copper.	Tin.	Coal.
	£	£	£	£	£
1907	141	482	193	92	171
1908	150	390	183	84	189
1909	156	464	210	104	144
1910	153	425	213	113	171
1911	165	479	275	138	182

As an offset to the relatively high values of the silver, lead, zinc, and the copper mines, it is to be noted that these ores require expensive treatment, which compensates the larger output per head as compared with coal and gold and tin.

PRICES.

With all the minerals which contribute any considerable value to the New South Wales production, prices are regulated naturally by the

world's production in relation to the world's demands, *i.e.*, there is really no local market. The price of standard or sovereign gold is fixed at £3 17s. 10½d. per oz. of 22 carats fineness. Practically the whole of the gold mined in New South Wales and Queensland, and a large proportion of the output of the other Australian States and of New Zealand, is sent to the Sydney Mint for coinage. As regards silver, production is very largely influenced by prices realisable. Since 1875 the value of standard silver of .925 fineness has fallen by nearly 58 per cent., and the steady fall in the price of the metal, which had already set in before the opening of the Broken Hill mines, and which, notwithstanding a slight recovery in 1890, has persisted since with slight fluctuations, helped greatly to diminish the output of the New South Wales mines and its value. In 1890 the price of silver was 47½d. per oz. standard; in 1893, when the Indian mints were closed, the price was 35½d., falling to 29d. in 1894; in 1910 the average for the year was only 25d. per oz. The variations in the price of lead have likewise affected the value of the output. From 1904 nearly to the end of 1907 the price rose with corresponding benefit to the industry; but in 1908 the prices of silver, lead, and zinc dropped considerably, and for silver and lead have not greatly improved since. With zinc, however, the average price has risen steadily in the last four years, and the market prices of the three metals, which form the output of the Broken Hill field, *viz.*, silver, lead, and zinc, have again advanced steadily since the middle of 1911. The average prices during the last five years are quoted by the Department of Mines as follows:—

Year.	Silver.	Lead.	Zinc.
	per oz. s. d.	per ton. £ s. d.	per ton. £ s. d.
1907	2 6½	19 1 9	23 15 9
1908	2 0	13 10 5	20 3 5
1909	2 0	13 1 8	22 3 0
1910	2 1½	12 19 0	23 0 0
1911	2 1½	13 19 3	25 3 2

On the whole, for 1911, market prices favoured the production of zinc, tin, and tungsten. Producers of copper were not so favoured, but since the beginning of 1912 the price of the latter metal has advanced sufficiently to promote greater activity in this field. The range of prices of tin and copper on the London Metal Exchange in the ten years 1902-1911, has been as follows:—

Year.	Yearly Average.		Year.	Yearly Average.	
	Per metric ton of Tin.	Per ton of Standard Copper.		Per metric ton of Tin.	Per ton of Standard Copper.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
1902	120 14 5	52 9 2	1907	172 12 9	57 0 2
1903	127 6 5	57 19 5	1908	133 2 6	59 18 0
1904	126 14 8	58 17 7	1909	134 15 6	58 14 7
1905	143 1 8	69 9 5	1910	155 6 2	57 1 0
1906	180 12 11	87 5 7	1911	192 7 1	55 19 6

In regard to coal, average prices have been quoted in connection with the values of production elsewhere in this chapter.

METALS AND METALLIC ORES.

The value of the output from metalliferous mines, and mines other than coal and shale mines, in the last three years, is summarised in the following statement:—

	1909.	1910.	1911.	Value per Person Employed, 1911.
	£	£	£	£
Gold	869,546	802,211	769,353	192
Silver, lead, zinc	2,880,968	3,399,674	4,067,528	479
Copper	424,737	486,257	590,102	275
Tin	211,029	228,156	307,089	138
Other Metals	470,006	587,549	635,452	340
Total	4,856,286	5,503,847	6,369,524	329

Even in these three years the dwindling gold yield is noticeable, and in comparison with other metals the value of the output per person employed is low.

GOLD.

Amongst the metals which occur in the State, gold occupies an important place, both on account of the quantity which has been raised and of the influence of its discovery on the settlement of the country.

Early Discoveries.

The first definite record of the discovery of gold in New South Wales was made by Assistant Surveyor Jas. McBrien, in February, 1823. He found numerous particles of gold while surveying in the Fish River district, between Rydal and Bathurst, a locality where, in recent years, surfacing operations have enabled considerable amounts of gold to be obtained.

In 1839, Count Strzelecki, while engaged in geological exploration, discovered auriferous pyrites in the Vale of Clwydd, but for fear of serious consequences to the colony, the discovery was not advertised by the Government. Between 1841 and 1851 various other discoveries were made, leading to a systematic investigation by Hargraves, who proved the existence of gold in payable quantities, principally in the localities of Wellington, Dubbo, and Guyong. Prospecting operations resulted in the discovery, during 1851, of the principal goldfields of New South Wales and Victoria. Subsequently, rich alluvial leads were discovered at Forbes in 1862, in beach sands on the North Coast in 1870, at Mount Drysdale in 1892, and at Wyalong in 1893.

Occurrence.

Gold is traceable in more or less quantity in rocks of almost every geological age throughout New South Wales.

The deposits which have been worked profitably in the last sixty years include the following types:—

- (1) Alluvial or detrital gold.
- (2) Auriferous reefs or lodes.
- (3) Impregnations in (a) stratified deposits and (b) igneous rocks.
- (4) Irregular deposits, as in auriferous ironstone.

Payable deposits of detrital gold have been found in the Recent and Pleistocene alluvials, in Tertiary and Cretaceous alluvial leads, in the Permo-carboniferous conglomerates, in the north coastal beach sands,

and in gravel beds of running streams. The oldest payable alluvial deposits worked are at Mudgee, and the important centres of alluvial gold-mining at the present time are the Bathurst and Mudgee districts; the country watered by the various feeders of the Upper Lachlan, Araluen, Braidwood, Tumut, and Adelong districts; and, in the north of the State, the New England district. Auriferous reefs are numerous in the Silurian and Carboniferous rocks, but generally the gold occurs in chutes, productive ore alternating with unproductive zones of quartz, which is the principal vein-stuff in auriferous lodes, though in association with gold may be found potash and mica, as at Hill End, and calcite barytes, iron pyrites, galena, &c. Gold-bearing quartz veins occur as fissure veins, as at Temora, Grenfell, Wyalong, and Parkes; as bedded veins, at Hargraves, and contact veins at Gundagai. The extraction of gold from quartz veins requires extensive machinery and gold-saving appliances, involving a large capital outlay, consequently this branch of mining is generally controlled by companies.

Impregnations of gold have been found in slate, quartz, volcanic tuff, the discoveries being made in localities widely separated, as at Mount Allen, Narrandera, and Cobar, where gold has been found in slate rocks. At Gundagai, Albury, and Orange, talc, mica, and chlorite schists were found to be auriferous, and in the locality of Bathurst, bunches and impregnations of auriferous mispickel pyrrhotine, and iron pyrites were found to be analogous to deposits at Tamworth in tuffs and clay stones. In igneous rocks gold has been found in granite, invariably in association with hornblende; in quartz porphyry; in diorite serpentine, feldspar, and garnet rock. Irregular deposits of auriferous ironstone have been worked at Mount Allen, the deposits, first opened up for the ironstone as a flux for siliceous copper ores, being worked since 1891 as a gold mine.

Production.

Below will be found the quantity and value of the gold produced during each quinquennial period between 1851 and 1910, and for 1911. New South Wales gold which was received at the Sydney Mint for coinage in 1911 amounted to 125,499 oz., of the gross value of £432,494, the average price being £3 8s. 11d. per oz.

Period.	Quantity.	Equivalent in oz. fine.	Value.
	oz. crude.	oz. fine.	£
1851—1855	1,920,200	1,492,154	6,338,257
1856—1860	1,360,763	1,222,377	5,192,326
1861—1865	2,233,001	2,026,093	8,606,290
1866—1870	1,309,911	1,193,535	5,069,812
1871—1875	1,613,049	1,462,040	6,210,345
1876—1880	640,210	557,076	2,366,310
1881—1885	626,931	549,319	2,333,358
1886—1890	546,954	464,527	1,973,183
1891—1895	1,176,325	1,002,527	4,258,462
1896—1900	1,691,012	1,429,860	6,073,658
1901—1905	1,353,526	1,133,143	4,813,285
1906—1910	1,316,144	1,119,708	4,756,207
1911	215,274	181,121	769,353
Total ...	16,003,300	13,833,480	58,760,846

The aggregate value of the output of New South Wales up to 1911 represents approximately 11 per cent. of the total output for the Commonwealth; the value recorded for this State for 1911 is the lowest since 1902, when the output was valued at £684,970 as against £737,164 in

1901, these two years being the exceptions to a series of years between 1894 and 1907, when the lowest output value was £1,050,730 in 1907, and the highest £1,623,320 in 1899. In the last six years there has been a persistent decline in the value of the gold production of the State. The crude quantities of quartz and alluvial gold won during each of the last 10 years are estimated as follows:—

Year.	Production.			Year.	Production.		
	Alluvial.	Quartz.	Total.		Alluvial.	Quartz.	Total.
	oz. crude.	oz. crude.	oz. crude.		oz. crude.	oz. crude.	oz. crude.
1902.	55,349	134,967	190,316	1907	76,478	212,565	289,043
1903	69,413	226,365	295,778	1908	62,390	199,293	261,683
1904	79,040	245,956	324,996	1909	55,435	182,612	238,047
1905	80,512	248,235	328,747	1910	51,681	173,134	224,815
1906	78,690	223,866	302,556	1911	43,326	171,948	215,274

As before stated, the value of the gold of domestic production received at the Sydney branch of the Royal Mint during 1911 was £432,494, representing rather more than half the gold won in the State. Following is a statement showing the gross weight of the gold received at the Mint from the more important mining districts during 1911, viz.:—

Mining District.	Ounces.	Mining District.	Ounces.
Mudjee	24,049·63	Peel and Uralla	14,736·48
Southern	20,730·09	Bathurst	9,224·80
Lachlan	18,709·65	Tambaroora and Turon	1,716·08
Tumut and Adelong	18,011·56	Other... ..	2,401·16
Cobar	15,919·51		
		Total	125,498·96

Of the aggregate production of domestic ores during 1911, rather more than one-third, viz., 69,054 oz., valued at £265,876, was obtained from the mines of the Cobar district, as may be seen from the available records of the chief mining districts contributing to the aggregate production during the year, viz.:—

Mining District.	Alluvial.		Quartz.	Total.
	By Dredging.	Otherwise.		
	oz. crude.	oz. crude.	oz. crude.	oz. crude.
Cobar ... ..	.....	.....	69,054	69,054
Southern	11,959	2,448	7,670	22,077
Lachlan	1,709	514	19,376	21,599
Mudjee	2,489	1,077	11,462	15,028
Peel and Uralla	2,072	793	11,483	14,300
Tumut and Adelong	3,762	886	5,390	10,032
Bathurst	4	834	4,597	5,435
Tambaroora and Turon	3,466	1,121	123	4,710

Much of the pre-eminence of the Cobar district is due to the Mount Drysdale gold-field, discovered in 1892; a most important find was made at Wyalong, in the Lachlan district, in 1893, and for the period 1897-9 the production of Wyalong was the highest from any gold-field; but the yearly output since 1900 has been exceeded by that of the Cobar and Mount Drysdale field. Since 1908 there has been a marked decrease

in the output from the Wyalong mines; the yield has fallen below those, obtained chiefly by dredging, in the Adelong, Wellington, and Araluen districts.

The annual gold yield for the Cobar district since 1900 is shown below:—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	oz. crude.	£		oz. crude.	£
1900	44,676	157,108	1906	68,685	224,052
1901	42,299	145,146	1907	58,399	228,981
1902	26,956	90,209	1908	82,474	271,682
1903	79,860	266,355	1909	78,206	246,567
1904	69,140	262,213	1910	68,534	260,254
1905	70,109	230,386	1911	69,054	265,870

The low yield in 1902 was due to the cessation of work at most of the mines for varying periods on account of drought, and the decreases exhibited in 1904 and subsequent years, as compared with 1903, are attributable to the restricted operations of the Cobar gold-mines, where the number of persons employed was considerably reduced, pending the adoption of new methods for economically treating the gold-copper ore in sight. For this purpose additional machinery was erected, and the result is shown in the increased output since 1908. The figures for 1909 were affected by the cessation of smelting operations at the Great Cobar mine owing to industrial troubles. In connection with the operations of the Cobar mining field, some further details are given in relation to the production of copper, which is equally as important as the gold contained in the ore bodies. A general report upon the Cobar copper-gold-field is in course of preparation in the Department of Mines.

DREDGING.

Development.

During 1899, great interest was displayed in the introduction to New South Wales of dredging, to turn over alluvial flats which from the point of view of the individual miner were already worked out. The Macquarie was the first stream on which operations were tried, the success achieved resulting in the extension of operations to the Clarence, Araluen, and other rivers, till in practically all the rivers of New South Wales, which drain auriferous country, dredging leases have been taken up. In addition to dredging for gold only, as elsewhere in Australia and in New Zealand, the alluvial tin deposits known to exist in New South Wales were also exploited, and the value of stream-tin won annually now exceeds the value of gold recovered by dredging. The Gold and Mineral Dredging Act, passed in the latter part of 1899, assured security of tenure, and greatly facilitated dredging operations over leased areas; and an amending Act passed in 1902 fixed the rental of Crown lands leased for dredging operations at 2s. 6d. per acre per annum, with a tax of 1 per cent. on the net profits of such operations. Thence forward dredging has maintained its importance as a branch of the mining industry.

Plant.

Three dredges were at work during 1899, but at the end of 1900, 22 were operating, and applications had been received for 21,331 acres under dredging leases. At the end of 1901 the dredges operating, and in course of construction numbered 43, their value being estimated at £289,333; 40 of them were equipped for gold dredging, 2 for tin dredging, and 1 was arranged to treat both gold and tin. The following

statement shows the number and the aggregate value of dredges and pumping plants in operation at the end of each year since 1902:—

Year.	Dredging Plants.		Value.	Year.	Dredging Plants.		Value.
	Gold.	Tin.			Gold.	Tin.	
			£				£
1902	33	3	262,700	1907	32	37	335,000
1903	35	6	253,480	1908	31	32	345,555
1904	36	6	235,576	1909	31	35	309,833
1905	34	15	264,934	1910	38	32	364,255
1906	36	32	315,537	1911	35	36	338,991

The plants equipped for tin as well as gold dredging have been classified as for gold dredging. Figures are available for the last two years to show the numbers of bucket dredges and suction pumping plants engaged, viz. :—

Year.	Bucket Dredges.		Suction Pumping Plants.	
	Gold.	Tin.	Gold.	Tin.
1910	23	3	15	29
1911	21	4	14	32

The records of twenty "bucket" dredges working for gold in 1911 show that 5,122,476 cubic yards of material were treated, the gold won amounting to 19,939 oz., valued at £78,192, or an average of 1·87 grains, worth 3·66d. for every yard. The records of nine "pump" dredges show that 1,260,429 cubic yards of material treated yielded 5,179 oz. of gold, valued at £19,624, or an average of 1·97 grains, worth 3·81d. per cubic yard.

Output.

Dredging for tin, four bucket dredges treated 577,977 cubic yards of material, recovering 147 tons of ore, valued at £17,565, the average yield being ·57 lb., valued at 7·29d. per cubic yard treated. The records of twenty-eight pump dredges show that 2,533,782 cubic yards of material treated yielded 1,418 tons of ore, valued at £167,284, the average being 1·25 lb., valued at 15·84d. per cubic yard of material treated. The following table demonstrates the value of the metals recovered by dredging since the inauguration of dredging in this State:—

Year.	Area under Lease at 31st Dec.	Gold.			Stream-tin.	
		Quantity.	Value.	Quantity.	Value.	
	acres.	oz. crude	oz. fine	£	tons.	£
1900	6,943	8,882	7,924	33,660	.....	.....
1901	8,702	23,585	21,100	89,628	49	3,542
1902	11,719	25,473	23,046	97,891	110	8,300
1903	9,015	27,237	24,555	104,303	244	20,100
1904	9,855	32,345	29,111	123,656	319	26,180
1905	13,571	35,388	32,038	136,090	532	50,904
1906	15,595	36,649	33,218	141,101	1,032	120,661
1907	16,614	39,946	36,136	153,498	1,692	176,212
1908	16,117	40,890	37,917	161,059	1,562	129,952
1909	11,132	36,168	32,635	138,626	1,677	146,842
1910	16,442	31,487	28,660	121,741	1,607	158,467
1911	10,292	25,509	23,364	99,245	1,742	208,095

The aggregate yield of gold from dredging during 1911 represents 12·9 per cent. of the total output of gold for the year. Araluen is the principal centre of gold-dredging operations, and here, during the past twelve years, gold to the value of £556,685 has been obtained, representing practically 40 per cent. of the total return from dredging operations. The other districts which have contributed considerably are Adelong, Stuart Town, Sofala, Wellington, Tumbarumba, Nerrigundah, Nundle, and Hill End.

Tingha and Emmaville are the chief centres of dredging for stream-tin, the value of the ore recovered during 1911 being £95,825 and £83,308 for the two districts respectively.

SLUDGE ABATEMENT.

In connection with dredging and sluicing operations, proper provision must be made for settling the silt, the maximum allowance being 800 grains of solid matter per gallon of discharged water.

SILVER ORES.

Occurrence and Development.

The principal ores from which silver is obtained in New South Wales are argentiferous galena, cerussite, zinc blende, mispickel, iron and copper pyrites, and limonite; the important minerals located in various argentiferous lodes include, in New South Wales, native silver, antimonial silver, silver chloride, silver bromide, silver iodide, silver chlorobromide, and several other compositions; and the progress of silver-ore development has been so considerable in recent years that the value of the output quite eclipses other metals, even gold, in spite of a persistently low price for silver itself.

The earliest mention of the discovery of silver in the rocks of New South Wales was made in 1839 by Count Strzelecki, who, following up his geological investigations, recorded the further discovery, in 1845, of native silver at Piper's Flat. In connection with the southern gold-fields of the State, references were made by Rev. W. B. Clarke in 1860 to the presence of silver in alluvial drifts; but the first effort to test the commercial value of the argentiferous ores of New South Wales consisted of a shipment to London for smelting, in 1864, of 120 tons of ore from the Moruya Silver Mine. This ore proved extremely refractory, yet averaged 22 oz. of silver and 1 oz. 8 dwt. of gold per ton; but costs of freight and treatment rendered the venture unprofitable, and the quantity of silver raised in New South Wales was very small until the year 1882, when extensive discoveries of the metal, associated principally with lead and copper ores, were made in various parts of the State, notably at Boorook, in the New England district, and later at Sunny Corner, near Bathurst, at Thackaringa, Silvertown, Broken Hill, and at other places on the Barrier Range.

Production.

Assessment of the total output and value of production of silver ores mined in New South Wales is hampered by the fact that the process of extracting the metallic contents of domestic ores has been undertaken within the Commonwealth only on a small scale hitherto, and even then is for the most part carried on outside the boundaries of the State; while

large quantities of concentrates are exported to Europe for treatment. The following statement shows the estimated net value as declared to the Customs Department, at date of export from the State, of the ore concentrates, bullion, &c., taken from the silver-lead mines of the State, during the last ten years, viz. :—

Year.	Silver, Silver-lead, Concentrates, Ores.	Lead (Pig, &c.)	Zinc (Metal and Concentrates).	Total.
	£	£	£	£
1902	1,440,179	47,658	10,625	1,498,462
1903	1,501,403	38,586	86,587	1,626,576
1904	2,065,540	65,964	117,978	2,249,482
1905	2,494,052	2,657	221,155	2,717,864
1906	2,862,973	1,084	292,806	3,156,863
1907	3,915,946	374,182	536,620	4,826,748
1908	2,160,195	186,746	600,883	2,947,824
1909	1,653,615	186,073	1,011,280	2,880,968
1910	1,861,479	248,561	1,289,634	3,399,674
1911	2,442,764	209,784	1,414,980	4,067,528

The quantity and values of the silver, lead, and zinc obtained in the process of separation from ores mined in this State have been determined by independent records collected during the last nine years by the Department of Mines, from mining and smelting companies and ore buyers; and, in regard to concentrates exported, the gross metallic contents have been estimated on the basis of average assays, the combined output representing the actual value accruing, within the Commonwealth from the silver and silver-lead mines of New South Wales, viz. :—

Year.	Metal produced.				Concentrates exported.				Assessed Value of the Concentrates.	Total Value of Production from Silver Ores of New South Wales.
	Silver.	Lead.	Spelter.	Aggregate Value.	Quantity.	Contents by average assay.				
						Silver.	Lead.	Zinc.		
oz. fine.	tons.	tons.	£	tons.	oz. fine.	tons.	tons.	£	£	
1903	6,489,689	92,293	286	1,700,929	76,824	1,786,512	29,703	14,025	398,714	2,099,643
1904	7,751,667	106,038	299	2,088,784	140,404	2,945,058	59,507	22,318	642,125	2,730,909
1905	6,804,934	93,182	544	2,131,317	270,474	3,450,561	69,044	30,637	1,181,720	3,313,037
1906	5,575,410	79,925	1,008	2,112,977	165,151	3,111,013	68,633	33,427	1,876,334	3,989,811
1907	5,921,457	79,870	984	2,228,420	337,823	6,323,225	111,830	76,945	3,574,775	5,803,195
1908	6,484,288	103,371	1,065	2,008,410	330,812	5,499,381	69,501	113,853	2,400,997	4,409,407
1909	3,717,016	64,821	..	1,176,394	409,438	6,367,775	90,307	144,018	2,707,680	3,884,074
1910	5,196,323	94,818	489	1,755,220	506,950	7,608,336	85,035	184,408	3,180,850	4,936,070
1911	5,731,468	94,966	1,703	1,949,271	559,591	8,797,677	111,795	188,669	3,259,246	5,208,517

In connection with the above figures, it should be mentioned that, although the metallic contents are based on average assays, it is impossible to say what proportion of the bulk quantities was recovered. In the case of zinc contents, the quantities have been estimated only when payment is allowed for them, that is to say, the possible zinc content of the lead concentrates is not considered.

The output in 1909 was lower than in previous years, as a result of a miners' strike which extended over the first five months of the year, and involved, principally, two mines which contributed a large proportion of the annual production.

The quantity and value of silver and silver-lead ore exported from New South Wales to the end of 1911 are shown in the following table:—

Period.	Silver.		Silver-sulphides, Silver-lead, and Ore.			Total Value.
	Quantity.	Value.	Quantity.		Value.	
			Ore.	Metal.		
To 1885	1,730,297	382,884	7,074	191	237,810	620,694
1886-1890	2,481,253	464,081	165,756	94,092	6,478,515	6,942,596
1891-1895	3,009,187	445,873	663,754	231,847	12,615,432	13,061,305
1896-1900	2,352,092	269,663	1,771,983	86,005	9,592,856	9,862,519
1901-1905	4,154,020	445,051	1,877,515	108,353	8,910,586	9,355,637
1906	284,994	36,431	349,720	22,218	2,826,542	2,862,973
1907	2,043,887	237,314	413,720	20,360	3,658,632	3,915,946
1908	2,490,163	253,920	358,730	.....	1,906,275	2,160,195
1909	1,718,005	168,974	269,306	.....	1,484,641	1,653,615
1910	1,773,913	175,775	317,697	.....	1,685,704	1,861,479
1911	1,767,490	177,095	338,469	.....	2,265,669	2,442,764

The mines on the Broken Hill field are the chief contributors to the silver and silver-lead output of Australia. The argentiferous lead ores of the Barrier Ranges and Broken Hill districts were discovered in 1883 by a boundary-rider on Mount Gipps run. The field extends over 2,500 square miles of country, and has developed into one of the principal mining centres of the world. It is situated in western New South Wales, beyond the River Darling, and on the confines of South Australia. In the Barrier Range district, the lodes occur in Silurian metamorphic micaceous schists and banded gneisses, intruded by granite, porphyry, and diorite, and traversed by numerous quartz reefs, some of which are gold-bearing. The Broken Hill lode is the largest as yet discovered; it varies in width from 10 feet to 200 feet, and may be traced for several miles, the country having been taken up all along the line of the lode, and subdivided into numerous leases, held by mining companies and syndicates.

The output of ore from the Broken Hill mines for each of the last nine years is shown in the following statement:—

Year.	Quantity.		Total.
	Oxidised Ore.	Sulphide Ore.	
	tons.	tons	tons.
1903	22,072	1,078,442	1,100,514
1904	14,895	1,327,381	1,342,276
1905	11,157	1,327,877	1,339,034
1906	20,943	1,231,193	1,252,136
1907	32,142	1,620,749	1,652,891
1908	38,241	1,409,263	1,447,504
1909	23,478	1,006,809	1,030,287
1910	24,102	1,219,532	1,243,684
1911	26,501	1,457,896	1,484,397

In the enormous deposits of sulphide ores at Broken Hill, zinc-blende is a principal constituent.

The estimated quantities of silver, lead, and zinc contained in the sulphide ores won during the last nine years are summarised as follows:—

Year.	Silver.	Lead.	Zinc.
	oz. fine	tons.	tons.
1903	8,226,201	121,999	14,911
1904	10,696,725	165,545	22,617
1905	10,285,495	162,226	31,181
1906	8,686,423	138,608	34,435
1907	12,149,682	191,700	77,629
1908	11,983,669	172,872	114,918
1909	10,584,791	155,128	144,018
1910	12,804,659	179,853	184,897
1911	14,529,145	206,761	190,372

The total value of the mineral output of the Barrier district during 1911 was £3,832,431, as compared with £3,033,541 in 1910. In addition, the treatment of zinc tailings in 1911 yielded an output valued at £1,123,033, bringing the total production of the Broken Hill field to £4,955,464 for the year.

As a natural result of the early success of the Broken Hill mines, numbers of miners were attracted to the district, and the population of the municipality, which prior to 1883 consisted of only a few station hands, at the census of 1911 numbered 30,972, viz.:—16,921 males, and 14,051 females. At the end of 1911, 7,704 men were employed in the mines along the line of lode, viz.:—3,041 underground, 4,513 on the surface, and 150 at isolated mines. The surface workers include 920 men employed at zinc-treatment plants.

The following statement summarises the recorded operations of the companies engaged in mining on the Broken Hill field:—

Name of Company.	Authorised Capital.	Value of Output from inception of Operations to December, 1911.	Dividends and Bonuses paid, to December, 1911.
	£	£	£
Broken Hill Proprietary (Limited)	384,000	33,994,053	9,992,000
Broken Hill Proprietary, Block 14	155,000	3,352,798	462,827
British Broken Hill Proprietary	264,000	2,307,595	367,500
Broken Hill Proprietary, Block 10	1,000,000	3,856,666	1,255,000
Sulphide Corporation (Limited), Central Mine ...	1,100,000	12,186,471	941,875
Broken Hill South Silver-mining	200,000	4,139,500	905,000
North Broken Hill Mining	175,000	2,005,930	405,190
Broken Hill Junction Lead-mining	150,000	813,055	85,000
Broken Hill Junction North Silver-mining... ..	180,000	1,153,682	79,793
Broken Hill South Blocks (Limited)... ..	200,000	655,819	10,000
Broken Hill South Extended (Limited) late Consols	337,500	150,344	50,000
Tailings Treatment Companies (3)	1,125,000	1,126,033	169,325
Total	5,270,500	65,742,346	14,723,510

In addition to the dividends and bonuses paid is to be considered the nominal value, £1,744,000, of shares in Block 14, British, and Block 10 Companies, allotted to shareholders of the Broken Hill Proprietary Co.

SILVER.

As the bulk of the silver production is exported in the form of silver-lead bullion and ore, it is impossible to ascertain the quantity of pure silver won except for the last nine years. The net value of the ores won

during these years is set down at £20,957,967, and from the tables already given it will be seen that the estimated gross silver, lead, and zinc contents amounted to 99,946,890 oz. fine and 1,494,692 and 814,978 tons respectively; but the lack of similar data for previous years, and the great improvements effected recently in the method of extraction and treatment of the ores generally, militate against the completeness of statistics in regard to the metallic contents of the total production of the silver-lead-zinc ores of the State.

LEAD.

Mining for the lead product alone has not been carried on extensively in New South Wales, because all the lead ores yet discovered have contained more or less silver; and naturally the ores richest in silver were exploited first, since the market price of lead was not high enough to encourage its production except as a by-product, or in simplifying smelting operations.

The earliest record of lead-mining in the State relates to a mine opened in 1848 at Yass, and promptly closed down as unprofitable. The principal ores of lead discovered in New South Wales are galena and cerussite; but less common ores, viz., oxide, sulphate, phosphate, arseniate, molybdate, and tungstate of lead have been found in varying quantities in several localities. The chief source of lead supplies in New South Wales is the Broken Hill silver lode; its ores consist mainly of argentiferous cerussite in the upper oxidised zone, and in the lower portion, of argentiferous sulphides of lead and zinc, consisting of a crystalline mixture of galena and zinc-blende. As the ore from the lower workings of the Broken Hill lode shows in recent years a decreasing proportion of silver, and as the price of silver declined, the production of lead at increasingly profitable prices has become greater, so equalising the aggregate values of the total output from the mines on the field.

Next in importance to the Broken Hill field is the Yerranderie Division in the Southern district. The operations of mines on this field in the last twelve years are shown in the following statement:—

Year.	Ore raised and sold.	Metallic contents of Ore.			Net value received.
		Gold.	Silver.	Lead.	
	tons.	oz.	oz.	tons.	£
1900	616	101	58,527	118	9,125
1901	152	174	86,017	125	11,000
1902	1,553	306	146,018	229	18,373
1903	1,293½	308	145,275	217½	18,304
1904	3,733	550	263,621	448¼	32,088
1905	3,527	707	243,403	451	37,599
1906	2,473	557	223,572	439	39,156
1907	4,469	862	479,243	1,005	80,582
1908	7,402	1,293	828,129	1,892	114,029
1909	6,650	1,231	719,264	1,654	99,374
1910	7,338	1,399	783,295	1,873	113,071
1911	6,606	1,025	723,340	1,674	105,600

ZINC.

Ores of zinc have been located in various parts of New South Wales, viz., red oxide of zinc in the Vegetable Creek district, carbonate of zinc in the Cooma district, and the oxidised ores of the Broken Hill silver lode. Zinc-blende, the most common ore of zinc, is found in association with galena in the majority of the silver mines of the State; yet, though thus

widely distributed, zinc-blende is not mined specially for the production of metallic zinc. On the contrary, till recently its occurrence was regarded as militating against the successful extraction of the silver and lead with which the zinc-blende is associated, and for several years after the opening of the Broken Hill mines the zinc content of the ore was lost in smelting. Improvements in methods of treatment, however, resulted in the saving of a proportion of the zinc concentrates, and subsequently rendered possible the profitable extraction of zinc from the tailings accumulated since the opening of the mines. The formation of companies to recover the zinc contents of large quantities of tailings, and the installation by mining companies of treatment plants have added greatly to the vast wealth of minerals extracted from this field, and indicate this State as one of the principal producers of spelter in the future.

The following statement shows the quantity and value of zinc (spelter and concentrates), the product of domestic ores, exported, since 1889. These exports represent practically the total production :—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	tons.	£		tons	£
1889	96·85	988	1903	20,754·30	86,587
1890	210·45	2,378	1904	57,602·70	117,978
1891	218·60	2,622	1905	103,532·50	221,155
1892	444·55	5,055	1906	103,665·60	292,806
1897	28,841·80	23,688	1907	237,218·95	536,620
1898	38,941·30	28,941	1908	276,720·05	600,883
1899	49,873·90	49,207	1909	373,906·20	1,041,280
1900	20,269·05	44,187	1910	468,627·00	1,289,634
1901	631·99	4,057	1911	516,378·00	1,414,980
1902	1,260·75	10,625			

Between 1893 and 1896 no output was recorded.

In the utilisation of tailings, during 1911 three companies were actively engaged in treating zinciferous tailings, &c. The Broken Hill Proprietary Company commenced the production of spelter at Port Pirie (S.A.) with a plant of ten furnaces, of which only three were in operation during the year. The result of the operations of the companies thus engaged in zinc recovery was an output for 1911 valued at £1,126,033; the return to shareholders in those companies was £169,325 for the year. The number of men employed by these companies has increased considerably in the last seven years, viz. :—

Year.	Men employed.	Year.	Men employed.
1905	70	1909	784
1906	177	1910	895
1907	520	1911	920
1908	330		

As to the New England mining district, the following assays during 1911 of ore (not picked) shipped to London for experimental treatment indicate a profitable field for zinc recovery works, viz. :—

Sample.	Results per ton.			
	Silver.	Zinc.	Lead.	Gold.
	oz.	%	%	dwt.
Zinc-blende	45	3·6	...	...
Silver-lead Ore	140	3·5	15·5	2
Dry Silver-lead Ore	176	3·3	37·1	2

COPPER.

Ores of copper are worked chiefly in the central part of the State, between the Macquarie, Bogan, and Darling Rivers. Deposits occur also in the New England and Southern districts, as well as at Broken Hill; thus showing a wide distribution.

The principal useful ores are native copper found in most of the cupriferos deposits; red, black, and grey oxides, yellow sulphide, and green and blue carbonates of copper. The earliest effort to develop copper-mining in this State dates from 1844, and in 1851 the first geological examination of the known copper deposits of the State was made by Surveyor Stutchbury. As with the development of mining generally, but particularly with the copper-mining industry, disadvantages of distance from commercial centres, and lack of transportation facilities, militated against steady development, and in the majority of cases, after the extraction of the richest oxidised ores in the upper levels, the mines closed down, especially when the market value of the metal showed any tendency to depreciate. In the last fifteen years an increasing demand for copper for industrial purposes has assured a fair price, and with extension of transportation facilities and improvement in methods of treatment, particularly of low-grade sulphide ores, copper has advanced to third place in the aggregate value of production from the metal mines of the State, the total output of metal and ore being assessed at nearly £11¼ millions at December, 1911.

The copper-mining industry reached its highest point of production in 1906, when the value of the output was £789,527, the year of highest production previously was 1883, when copper to the value of £472,982 was obtained; but in the following years the industry rapidly declined through the heavy fall in the price of the metal, till in 1894 the year's production was valued at £63,617, the average price of the metal for the year being only £40 per ton. During the last decade the average production has been maintained on a high level, far in advance of that of any other decennial period.

Production.

The copper lodes of New South Wales contain ores of a high grade as compared with those of many well-known mines worked in other parts of the world, and, given a fair price and transportation facilities, are capable of yielding satisfactory returns. The net export of copper ingots, matte, and regulus and ore is taken as the production of the State. The quantities and values are shown below from the year 1858 to the present time:—

Period.	Quantity.		Value.
	Ingots, Matte, and Regulus.	Ore.	
	tons.	tons.	£
1858-1879	14,876.35	2,102.05	1,067,670.
1880-1884	23,715.15	18.75	1,554,326.
1885-1889	15,159.75	536.90	778,804.
1890-1894	10,195.45	1,738.05	454,765.
1895-1899	25,408.25	852.00	1,286,094.
1900-1904	32,173.15	8,791.30	2,014,040.
1905-1909	41,425.20	3,056.75	2,972,253.
1910	8,435.00	4,455.00	486,257.
1911	10,618.00	1,482.00	590,102.

Several important centres of production have been opened up in recent years.

At Nymagee, copper to the value of £236,845 was produced during the three years, 1905, 1906, and 1907; but in 1908 operations were suspended, as low market prices, combined with the heavy cost of transport, rendered it impossible to treat the ore profitably. At Crowl Creek, Shuttleton, in 1911, 45 tons of blister copper, valued at £2,430, were produced, and at Adaminaby, Cangai, and Dandaloo satisfactory outputs were recorded.

Cobar field.—The Cobar mines, however, constitute the chief centre of the copper-mining industry, contributing almost 63 per cent. of the value of the year's production. From the point of view of combined output, the gold-copper mines worked in the Cobar district rank next, in value of production, to the silver-lead mines of the Broken Hill field. The following statement shows the quantities and values of the minerals taken from the Cobar field in each of the last ten years:—

Year.	Quantity.				Value.				
	Gold.	Silver.	Copper, Metal, and Ore.	Lead.	Gold.	Silver.	Copper, Metal and Ore.	Lead.	Total.
	oz., fine.	oz.	tons.	tons.	£	£	£	£	£
1902	1,236	34,488	2,500	...	90,209	3,688	130,802	...	224,699
1903	62,705	50,841	3,642	...	266,355	5,089	221,242	...	492,686
1904	61,730	50,334	3,825	...	262,213	5,033	239,510	...	503,756
1905	54,480	91,440	6,303	225	231,418	9,366	444,858	3,000	688,642
1906	52,746	80,751	5,950	957	224,052	10,034	516,320	17,416	767,822
1907	53,946	84,375	5,647	317	229,150	10,117	474,681	4,258	718,206
1908	64,082	90,218	6,099	...	272,204	9,343	347,429	...	628,976
1909	58,047	79,887	5,680	...	246,567	5,991	253,378	...	505,936
1910	61,328	114,467	6,270	37	260,506	8,710	282,348	485	552,049
1911	62,591	125,276	6,611	147	265,870	9,463	370,109	1,911	647,353

The history of development of the Cobar lode dates from 1869, when a rusty sediment at the bottom of a native well attracted the attention of men who were engaged in boring for water in the district. In 1870 a mineral conditional purchase of 40 acres was worked; and between 1870 and 1876, when the Great Cobar Copper Mining Co. (Limited) was formed, some 3,000 tons of ores were sent *via* Bourke and the Darling River to Port Adelaide for smelting. In 1889 the collapse of the world-wide copper boom interrupted a period of progressive development, and in 1893 the Great Cobar Mine was let on tribute, and with the average value of copper at £39 per ton, blast furnace reduction was introduced.

The Cobar lode forms a low ridge, having a north and south trend, in a country of sandstone and slate, the elevated areas being the direct result of mineralisation. The principal indurating agencies in the high metalliferous areas are silica and iron. Where possible, the contract system is operative in stopping and trucking below ground. The copper sulphides are eminently suitable for pyritic smelting, but up till 1901 the ores as they came from the stopes were roasted. After the first reduction at Cobar, the ores are sent to Lithgow for treatment.

An assay made in 1881 of Cobar copper revealed 92.65 per cent. copper, 1 oz. 5 dwts. of silver, and 2 oz. 12 dwts. 4 grs. of gold; but, though gold was a known content of the copper ores, no attempt at recovery was made till 1893-4, the copper ore being exported and sold at lower prices than Chilian copper, notwithstanding its gold and silver content.

The following statement shows the quantity of ore treated, and the amount of the copper output of the Great Cobar Mine since 1876 :—

Period.	Ore treated.	Copper produced.	Period.	Ore treated.	Copper produced.
	tons.	tons.		tons.	tons.
1876-1889	213,182	23,611	1905-9	984,934	22,432
1895-9	401,116	14,160	1910	293,324	6,248
1900-4	599,891	16,010	1911	352,149	6,548

In the last six year's returns are included quantities of ore obtained from subsidiary mines, and also purchased ores; to facilitate smelting the different furnace ores are blended.

SMELTING AND REFINING.

Smelting as a distinct industry is carried on in several centres in New South Wales, the most important works being at Cockle Creek, in the northern district, and at Port Kembla in the south. At Cockle Creek the ores treated are obtained from Broken Hill, as well as from other mines of the State; at the Electrolytic Refining and Smelting Works at Port Kembla, the greater portion of the output is derived from blister copper produced at Mount Morgan, Queensland, though a small proportion is derived from New South Wales ores. Complete statistics are not available as to the capital invested in smelting works in New South Wales and the numbers of persons employed, but the extent to which domestic ores are exported is an indication of the restricted area of local smelting and refining operations. The following statement shows the recorded operations of smelting companies during 1911 :—

Works.	Output.					Value.
	Gold.	Silver.	Lead.	Copper.	Tin.	
	oz. fine.	oz.	tons.	tons fine.	tons.	£
Cockle Creek	12,945	975,261	15,324	...	...	322,075
Port Kembla	90,256	209,680	...	13,132	...	1,119,406
Waratah ... ..	...	...	...	504	...	26,893
Woolwich ... ..	...	...	...	...	958	191,000

The output shown above for the works at Waratah and Woolwich is from domestic ores only. At Port Kembla local ores included in the above statement yielded as follows :—Gold, 882 oz. fine; silver, 2,135 oz.; copper, 726 tons; total value, £44,470.

In November, 1912, a demonstration was given at Woolwich of processes of elimination by which almost pure radium bromide was produced. The ore treated consists of ilmenite coated with carnotite and obtained from a lode at Olary, South Australia, which has been proved for 1,825 feet, with an average width of 5 feet. After being crushed at the mine the ore is treated in a magnetic separator, and the concentrates, when bagged, are sent to Sydney for further treatment. Besides radium salts, oxide of uranium in marketable quantity and of fair quality is obtained.

Further details in regard to smelting works, &c., are given in connection with that section of the Manufacturing Industry of this Year Book which relates to metal works and machinery.

TIN.

Tin, unlike copper, is relatively restricted in its geographical and petrological range, and the principal centres of tin-mining in New South Wales have been surveyed geologically. The ore occurs in the extreme Northern, Southern, and Western divisions of the State, but the proved area of workable quantities is limited practically to the western fall of the New England Tableland, with Emmaville and Tingha as the chief centres.

Location.

Tin ore has been discovered also in small quantities in the Barrier district, at Poolamacca and Euriowie; near Bombala, in the Monaro district; at Gundle, near Kempsey; at Jingellie and Dora Dora, on the Upper Murray; in the valley of the Lachlan; and in fine particles in beach sands along the coast, in association with gold, platinum, and monazite. The earliest traceable reference to tin in Australia was made by Governor Phillip in September, 1788, who suggested the probability of mining development; and the first record of local occurrence of the mineral was noted by Josiah Wedgwood, in 1790, in a rock specimen sent to him by Governor Phillip. In 1824 W. C. Wentworth included tin as a fossil production of New South Wales; the Rev. W. B. Clarke, writing in 1849, predicted the discovery of tin in abundance; in 1851 he recorded his first authentic discovery of tin ore in New South Wales, in the Snowy Range, locality of Jindabyne; in 1853 he followed up his predictions and discovery by reporting the occurrence of tin in the New England Range. In subsequent years discoveries were made in various localities, and specimens of tin ore and stream tin were exhibited, but till 1871 the discoveries had no commercial value. In that year large deposits of tin ore were opened up near Inverell. Numerous companies were formed and leases taken up, and in 1872 tin ore was smelted at Newcastle. In addition to alluvial deposits, tin ore occurs *in situ* in granite and adjacent contact rocks, usually occupying fissures or penetrating walls; the majority of the tin lodes yet discovered are on a small scale, but the lodes, developed or undeveloped, are very numerous. The average depth of the tin lodes in New South Wales is, approximately, 150 feet. Tin is usually contaminated by iron, arsenic, antimony, lead, copper, tungsten, molybdenum, and stannous oxide, but the impurities are removable readily if advantage be taken of the high specific gravity of tinstone, its stability at red heat, and its insolubility in acids. Samples of native tin have been reported in New South Wales, but the common tin ores are cassiterite and stannite. The latter ore was, till the location of deposits at Howell, and later at Tolwong, New South Wales, and at Zeehan, Tasmania, too rare to be commercially valuable. Other ores of tin are comparatively rare in New South Wales, *e.g.*, caulfiedite, cylindrite, francelite, stokesite, and tealite. From the opening of the fields, in 1872, the annual output of tin increased rapidly until 1881, when its value was £568,795, being almost equal to the output of gold for the year, and but slightly behind coal. From 1881 to 1902 the effects of periods of dry weather, and consequent restriction of water supplies combined with fluctuations in the price of the metal, tended to make the output very variable from year to year, the minimum output being £45,638 for 1898. Since 1902 the activity which has characterised tin-mining on the various fields throughout the State, owing to the satisfactory prices obtained, has resulted in a steadily increased output value, so that tin has contributed in a very considerable degree to the total production of the mineral wealth of the State, its aggregate yield, in point of value, standing in the fifth place, after coal, gold, silver, and copper.

Output.

The output and the value of production of tin since 1872 have been as follows:—

Period.	Ingots.	Ore.	Aggregate Value.
	tons.	tons.	£
1872-1879	18,363·95	12,995·55	2,015,407
1880-1884	22,841·70	2,699·70	2,194,533
1885-1889	12,973·75	1,635·20	1,415,374
1890-1894	7,196·05	1,039·95	677,392
1895-1899	4,608·45	196·75	342,503
1900-1904	4,219·90	1,221·80	617,446
1905-1909	5,567·10	3,712·45	1,191,635
1910	847·00	1,021·60	228,156
1911	953·00	971·00	307,089

In the years 1908 and 1909 the value of the output showed a decrease below the records of the preceding years, due to a drop in the market price and to the lesser output of ore principally from the dredges in the Tingha division. In 1910 the value of production was £228,156, as compared with £211,029 in the previous year; the increase was due to the high price ruling, as the quantity produced was less than in 1909; and the same conditions prevailed in 1911, viz., a largely increased aggregate value on an output but slightly in excess of the previous year.

The proportion of ore to ingots, as may be seen, has been very variable. The output of dressed ore from the tin lodes of the State has been comparatively small. Local treatment plants are neither numerous nor extensive, and the industry of tin-dressing has been intermittent and relatively unimportant. The recovery and cleaning of alluvial tin ore form a simple process in the early stages, but become more complicated in the final steaming stage. In the first year of tin-mining, the crude product of the mines was exported, but with the introduction of local auction sales, penalties for depreciation below a minimum standard forced sellers to remove the heavy associates of tin in the ore. Though the first tin ore from Elsmore, New England, was smelted in 1872, smelting has not been carried on extensively; but, as dressed tin ore is sufficiently pure, very valuable, and of relatively small bulk in proportion to its metallic content, the absence of local smelting facilities does not seriously handicap the export trade.

Dredging.

Tin dredging was commenced in New South Wales in 1900, at Cope's Creek, vicinity of Tingha. During 1911 dredging plants furnished a yield of 1,742 tons, valued at £208,095, and representing 67·8 per cent. of the total output. Figures in detail in regard to tin dredging have been given in connection with gold-dredging operations.

The principal leads worked during the year were at Tingha; at Vegetable Creek, near Emmaville; at Deepwater; and at Wilson's Downfall.

During 1911, seventeen pump dredges, operating on the stanniferous gravels in the Tingha division, recovered 792 tons of stream tin, valued at £95,825. The plants operating in the Emmaville division obtained 713 tons of stream tin as the result of the year's work; the value is set down at £83,308. The dredges operating in the Wilson's Downfall division recovered 167 tons, valued at £20,680. There were also several smaller plants operating in the Deepwater and Bendemeer divisions, recovering altogether 59 tons, valued at £7,182; in Glen Innes division also, a small yield of tin ore was obtained by dredging; and a quantity of stream tin was saved by several of the gold dredges. Within the

thirty-nine years that have elapsed since the opening of the tin-fields, the value of the net export, which is regarded as the production, has been £8,989,535.

The following statement shows the growing importance of the Emmaville division in relation to the aggregate output of the dredges during the past five years :—

Year.	Emmaville Division.			Aggregate Value of Stream Tin won in New South Wales.	Proportion from Emmaville Division per cent. of Total Output Value.
	Material treated.	Stream Tin recovered.	Value.		
	cubic yards.	tons.	£	£	per cent.
1907	133,400	100	8,895	329,710	2·7
1908	397,800	237	23,440	291,011	8·1
1909	494,000	405	36,923	285,468	12·9
1910	1,086,200	702	69,074	280,203	24·7
1911	1,183,804	713	83,308	307,340	27·1

Stannite.

As the location of the stannite bearing lodes of New South Wales brought the previously rare ore of stannite into the arena of commercial ores, those lodes are worthy of further notice. At Howell, the stannite ore is associated with galena, zinc blende, and mispickel; at Tolwong also with chalcopyrite. The Conrad mines, Howell, were opened in 1890 as a silver-lead proposition, and later developed copper and tin. In 1911 21,662 tons of ore raised yielded as follows:—

	Quantity.	Value.
	tons.	£
Lead concentrates	1,934	21,058
Prill ore	7	105
Copper matte	547	22,969
Arsenic... .. .	300	950
Bullion	91	4,450
Total net value ... .. .	.....	£49,532

The whole of the tin in the ore has been left in the slag awaiting separation.

The Tolwong lode was located in 1904, and an average sample of the best copper ore from all openings yielded copper, 10·23 per cent.; tin, 2·10 per cent.; arsenic, 8·78 per cent.; silver, 2 oz. 15 dwt. 13 grs. per ton; gold, several grains per ton.

Mining is still in the developmental stage. In the effort to solve the complex problem of stannite metallurgy, the ore and silver are matted and the tin slagged, as at the Conrad mines.

As the available sources of the world's tin supplies are comparatively restricted, and no known important fields await development, the necessity for preserving stanniferous areas for legitimate mining is apparent. In New South Wales these areas are usually rugged and unfit for close settlement, but their grazing capacity can be fully developed without hampering mining activities. In regard to alluvial deposits, the possibility of redredging, after they have been exploited by the modern system of dredging or hydraulic sluicing, is not alluring. As to lode-tin mining, the majority of the innumerable lodes are small, and the tin ore capricious in occurrence; but the principal lodes certainly offer inducement for systematic development work.

Tin Output for the Commonwealth.

In comparison with the total value of the output of tin for the Commonwealth, New South Wales stands second, viz. :—

	Total Value to end of 1911.	Output Value for 1911.
	£	£
Tasmania	11,091,514	5,3,500
New South Wales...	8,989,535	307,089
Queensland	7,742,238	307,847
Western Australia...	983,547	55,220
Northern Territory	301,897	22,900
Victoria	776,947	3,417

IRON AND IRON ORES.

The commercial ores of iron are classified as follows :—

Magnetic ore or magnetite.	Spathic ore.
Red ore or hæmatite.	Aluminous ore.
Brown ore or limonite.	Chrome ore.

Apart from the chemical composition and mechanical structure of an ore, and the nature and proportion of impurities it contains, the question of commercial value depends upon the position of deposits, relative to fuel, limestone, and water, the means of transport available, and the cost of raising the ore.

Iron is known to occur throughout New South Wales, principally in the form of magnetite, hæmatite or goethite, limonite, and bog-iron; deposits of chrome iron are also found. Magnetite, as the richest of the iron ores, contains, when pure, a little over 72 per cent. of available metallic iron. Of a number of analyses made from deposits at Brown's Creek, in the county of Bathurst, where veins of this ore have been opened out, the samples of ore yielded from 48·83 to 61·30 per cent. of metallic iron.

Hæmatite or goethite occurs in very extensive deposits in the Blue Mountain and Macquarie Ranges, the principal centres explored being situated at Mittagong, Picton, Berrima, Cadia (near Orange), Lithgow Valley, Wallerawang; in the Rylstone and Mudgee districts; and in the vicinity of Port Stephens. The results of a number of analyses of this kind of ore denote that it is very rich in metallic iron, containing a proportion of 42·69 to 64·48 per cent., and in the majority of cases over 45 per cent. of metal. A sample of hæmatite from the Maitland district contained 60·83 per cent. of metallic iron, and another from Mount Pleasant, near Wollongong, analysed during 1891, gave 54·28 per cent. of iron. The value of these deposits is enhanced by their almost invariable occurrence in proximity to limestone and coal beds. It is fortunate, also, that the main lines of railway pass through the regions where the deposits are most easily worked.

Limonite—a variety of brown hæmatite—occurs principally at Lithgow, Eskbank, and Bowenfels, in the Blue Mountains; in several parts of the Hunter River coal-field; and at Bulli, in the Illawarra district. This ore is usually found very rich in metal, and contains an average of over 50 per cent. of iron, while English clay bands, which are mostly carbonates, contain only about 30 per cent. of metallic substance. It occurs in lenticular layers of no great extent, in the Coal Measures. Bog-iron ore, which is impure limonite, is found principally at Mittagong; and assays of this ore gave a percentage of metal of more than 45 per cent.

Ore Supplies.

Estimates made during 1905 in the Geological Survey Branch give the description and quantity of iron-ore then available in the various districts of New South Wales, where the deposits occur. The estimates were prepared on the basis of superficial area, depth to which the ore extends, and average weight of a unit of ore, and were announced as conservative approximations, viz. :—

District.	Description of Ore.	Estimated minimum quantity of Ore.
		tons.
Bredalbane	Brown ore and hæmatite	700,000
Cadia	Specular hæmatite, magnetite, and carbonate ore.	39,000,000
Carcoar	Hæmatite and brown ore	3,000,000
Chalybeate Spring Deposits of Southern District.	Brown ore	1,510,000
Cowra	Magnetite	100,000
Goulburn	Brown ore	1,022,000
Gulgong	Magnetite	120,000
Mandurama and Woodstock	Brown ore	609,000
Marulan	Brown ore and hæmatite	40,000
Mudgee	Brown ore with manganese... ..	150,000
Newbridge, Blayney, and Orange	Brown ore and magnetic ore	150,000
Queanbeyan	Magnetic ore	1,000,000
Rylstone and Cudgong	Brown ore	443,000
Wallerawang and Piper's Flat	Brown ore	200,000
Williams and Karuah Rivers... ..	Titaniferous magnetite	1,973,000
Wingello	Aluminous ore	3,000,000
	Total	53,017,000

It is noticeable that practically all the known iron-ore permanent deposits of New South Wales are to be found west of the Great Dividing Range.

Of these deposits, the Cadia ironstone beds, 14 miles from Orange, have proved the most extensive yet examined. The ore consists of two **classes**, oxidised and unoxidised, the former, being chiefly hæmatite and magnetite, containing from 57 to 65 per cent. of metallic iron. A large proportion of the ore is of excellent quality, and suitable for the manufacture of steel by the ordinary Bessemer and other acid processes, and compares favourably with some of the best American ores with an admixture of limonite.

The deposits at Carcoar include hæmatite and magnetite, but the absence of railway facilities adds much to the cost of ore, which contains about 52·67 per cent. of metallic iron, with 11 per cent. silica, but is slightly deficient in phosphorus.

Particular value attaches to these deposits on account of their proximity to the coal supplies of Lithgow and the limestone deposits of Portland. The ore costs, approximately, 7s. per ton delivered at Lithgow.

A large amount of iron ore has been raised from the deposits situated in the Marulan, Goulburn, Bredalbane, Mittagong, and Carcoar districts. At Mittagong, Moss Vale, Picton, and in the Illawarra district, some of the shale and sandstones are highly ferruginous; and in these localities there are also quantities of iron ores deposited through the action of chalybeate springs, which are still active, so that the process of deposition of iron oxide can be seen. The ore is limonite, partly ochreous and powdery and partly compact.

In the Mudgee district there are manganiferous deposits capable of being utilised for the production of ferro-manganese.

For the first blast furnace erected in New South Wales, supplies were obtained from the ironstone deposits of county Camden, but though excellent ore is available, the quantity there is not sufficient to warrant the outlay of much capital in ironworks and equipment.

Apart from the Cadia deposits already mentioned, magnetite, though found in numerous localities, has not been located in deposits capable of yielding great quantities of ore; but particular interest attaches to the titaniferous magnetite deposits in the vicinity of the Williams and Karuah Rivers, on account of their proximity to the northern coal-fields, and to the occurrence of limestone in the locality.

The ore contains from 36 to 52 per cent. of metallic iron, and from 3 to 16 per cent. of titanitic acid, in addition to silica and phosphorus, thus militating against the profitable employment of the ore.

Another magnetic iron ore deposit of importance is that at Queanbeyan, containing, approximately, 1,000,000 tons. With the opening of the Federal Capital railway, this deposit would rank as the second best in New South Wales.

Aluminous iron ores and bauxites have been examined, at Wingello chiefly, but ferruginous bauxites are known to be widely distributed throughout New South Wales, as at Moss Vale, Inverell, and Emmaville; and these are of considerable economic value as furnace charges when rich hæmatites and other ores are being smelted.

The clayband iron ores of the upper coal measures do not extend over wide areas. They are shales containing varying percentages of ferric and ferrous oxides, and where the shale has become thoroughly impregnated with the iron salts an economic iron ore is obtainable. Spathic ores have not been located in commercial quantities in New South Wales.

In 1911 a Royal Commission was appointed to investigate the iron and steel industry in New South Wales, particularly as to the suitability of domestic ores for the manufacture on a large scale of iron and steel, the costs of production, and the approximate cost of a plant capable of producing the whole of the iron and steel likely to be required by the Governments within the Commonwealth. The Commission found that the known iron ore deposits in New South Wales, and in the other States of Australia, were of quantity and quality amply to warrant the outlay of capital in the equipment of blast furnaces, and iron and steel works for manufacturing; and, further, that the coalfields in the northern and southern districts of New South Wales can supply sufficient reasonably good coke to meet the maximum demand.

Ironstone Flux.

Varying quantities of iron ore have been despatched from the different producing centres to the smelting works at Dapto and Cockle Creek, for use as flux, the gold contents of the ore helping to defray the cost of railway carriage. The estimated quantity of ironstone flux raised during the last ten years is shown in the following table:—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	tons.	£		tons.	£
1902	13,555	10,690	1907	10,659	7,707
1903	22,120	15,834	1908	8,087	6,199
1904	8,661	6,628	1909	4,339	3,471
1905	6,801	4,525	1910	1,648	1,321
1906	935	723	1911	1,216	861

The decrease in the output since 1903 was due partly to the closing down of the smelting works at Dapto, the output for 1906 being used at Cockle Creek Smelting Works. The establishment of ironworks at Eskbank resulted in a greatly increased output in 1907. The requirements of the smelting companies, owing to suitable ores being obtained, were on a lessened scale during the last two years, and the quantity of ironstone flux consequently shows a decrease.

Iron Oxide.

Parcels of iron oxide are still sent from the Mittagong, Port Macquarie, Goulburn, and Moruya districts to various gas-works for use in purifying gas.

Following is a statement of the output of iron oxide for the last ten years:—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	tons.	£		tons.	£
1902	188	395	1907	1,595	1,961
1903	1,194	1,181	1908	1,827	1,857
1904	415	239	1909	4,900	4,948
1905	542	417	1910	1,351	714
1906	584	336	1911	1,586	2,377

The total recorded output, measured till 1902 by exports, was, to the end of 1911, 19,939 tons, valued at £25,984.

PRODUCTION OF IRON AND STEEL.

Under the Manufactures Encouragement Act, 1908, the Commonwealth Government pays a bounty, to a maximum of £150,000, at the rate of £30,000 per annum for five years from July, 1909, on all pig-iron, puddled bar-iron, and steel made within the Commonwealth; the bounty is payable at the rate of 12s. per ton produced. The bounty paid under these terms, on the output from domestic ores of New South Wales, during the last four years, is as follows:—

Year.	Pig Iron.		Puddled Bar-iron.		Steel.		Galv. Iron and Wire Netting.	Total. Bounty Paid.
	Production.	Bounty Paid.	Production.	Bounty Paid.	Production.	Bounty Paid.	Bounty Paid.	
	tons.	£	tons.	£	tons.	£	£	£
1909	23,179	13,908	1,939	1,163	1,855	1,113	193	16,377
1910	40,326	24,196	3,384	2,036	3,410	2,046	6,322	34,600
1911	24,658	14,795	1,789	1,073	2,633	1,580	4,946	22,394
1912	26,018	15,611	1,118	671	1,205	723	6,042	23,047

In regard to the bounties paid for production of galvanized iron and wire netting, detail figures are given in part Manufacturing Industry of this Year Book.

The output and value of finished iron, pig-iron, &c., for the last ten years are shown in the following statement:—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	tons.	£		tons.	£
1902	6,003	82,273	1907	29,902	178,632
1903	6,086	85,790	1908	40,207	118,224
1904	6,303	80,504	1909	29,762	106,357
1905	4,447	85,693	1910	40,487	161,948
1906	8,000	112,848	1911	36,354	145,416

The recorded output of pig-iron, &c., to the end of 1911 was 304,768 tons, valued at £1,983,078. The bulk was made from scrap-iron, but in 1907 the smelting of iron ore was resumed, and the figures given above include the following production from domestic ores:—

Year.	Domestic Minerals Used.			Pig-iron.		Steel Ingots.
	Iron.	Coke.	Limestone.	Production.	Value.	
	tons.	tons.	tons.	tons.	£	tons.
1907	34,500	20,873	13,433	18,631	60,550	5,700
1908	51,206	36,134	22,467	30,393	98,777	3,946
1909	46,740	34,785	21,649	26,762	100,357	4,958
1910	72,825	54,619	31,890	40,487	161,948	7,815
1911	58,206	45,178	23,921	36,354	145,416	4,838

For 1910 and 1911 the output was wholly from domestic ores; in 1907, 2,831 tons, and in 1908, 5,637 tons of slag were used, in addition to the coke and limestone shown above.

TUNGSTEN.

Tungsten minerals occurring as ores are hubnerite, wolframite, ferberite, and scheelite; and though tungsten is of wide occurrence, the individual deposits in any part of the world are rarely large enough to be commercially important. Australia ranks as one of the chief producers of tungsten ores. In New South Wales, wolfram and scheelite, generally associated with minerals such as tinstone (cassiterite), bismuth, and molybdenite, occur in many districts. The deposits are patchy, but a steady demand during recent years for tungsten ores has stimulated the search for payable deposits, especially in the Peel, Uralla, and New England districts. Practically all the scheelite produced was from the Hillgrove district, the ore being of good quality and carrying a large percentage of tungstic acid. The price paid on this field during the year 1910 was £103 per ton for 70 per cent. ore. A small quantity was also obtained in the Tuena division. Wolfram ore was secured mainly in the vicinity of Deepwater and Emmaville, the bulk of the output coming from Torrington.

Samples of ores have assayed up to 70 per cent. of tungstic acid; scheelite, with a little quartz, from Cooma, assaying, in 1910, 69 per cent. of tungstic acid.

The output of scheelite and wolfram in the last nine years is shown in the following statement:—

Year.	Scheelite.		Wolfram.	
	Quantity.	Value.	Quantity.	Value.
	tons.	£	tons.	£
1903	9.0	140	9.0	608
1904	15.5	1,406	89.0	8,432
1905	138.3	10,122	86.5	7,361
1906	109.5	7,647	132.2	9,057
1907	196.0	23,781	206.8	26,235
1908	153.7	11,082	86.1	6,742
1909	193.3	14,618	127.0	11,249
1910	150.6	15,747	165.7	16,258
1911	108.5	11,342	283.1	29,991

ANTIMONY.

Ores of antimony are of common occurrence in New South Wales, but the best are located in the Armidale, Bathurst, and Rylstone districts; and at Bowraville, on the North Coast. The principal source of supplies is at Hillgrove, near Armidale. The antimony ore is obtained principally in the course of mining for gold or scheelite, with which it is associated. The principal ore worked is antimonite or stibnite, which occurs frequently in lodes with a quartz gangue. Native antimony and occasionally stibnite have been found at the Lucknow mines, near Orange. Other ores occurring frequently are cervantite, Jamesonite, dyscrasite, tetradrite, and antimonial silver chlorides. Analyses of antimony ore show from 16.5 to 79.5 per cent. of metal; but the price has rarely been sufficiently high to stimulate production to any extent. The satisfactory price for the metal, of £25 per ton in May, 1906, caused the reopening of numerous long-abandoned claims, and mining operations were carried on with great activity throughout the year on the Hillgrove field, and also at Bowraville. The value locally of 50 per cent. ore during the first three months of 1907 was £25 per ton; by the end of May, however, the value had receded to £5 per ton; and with the exception of a sudden rise to £12 in October, has since remained low. Supplies consequently fell off, and at the end of the year no ore was coming forward. The price has shown slight improvement in the last four years, and consequently very little work has been done. Prospectors were successful in obtaining small quantities of ore in the Kookabookra, Uralla, Maitland, and Barraba divisions, and in the Copmanhurst district. Lodes have been opened and partly worked near Nambucca, Drake, Gulgong, and Razorback.

The following statement of the quantity and value of the output of domestic ores and metals during the last ten years will show the fluctuating nature of the industry:—

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	tons.	£		tons.	£
1902	56.4	542	1907	1,752.1	46,278
1903	13.0	135	1908	117.2	1,141
1904	108.9	503	1909	95.5	711
1905	388.0	5,221	1910	96.9	1,450
1906	2,450.9	52,645	1911	165.5	2,010

The value of antimony ore raised during 1910 was enhanced by gold contents. The total output of antimony to the end of 1911 is estimated at 16,591 tons, valued at £304,869.

MANGANESE.

Manganese ores have been discovered in various places in New South Wales, but generally in localities lacking transport facilities. Pyrolusite, a manganese dioxide, and psilomelane or wad, are the commonest ores. Other ores, as manganite and diallogite, have been found in the Bathurst district; rhodonite and beaunite have been found in several widely-separated districts. Specimens analysed have yielded a very high percentage of metal; but the demand in the State for manganese is small, and prices are unremunerative. Manganiferous iron ores have been located in the Mudgee district.

The value of manganese raised to the end of 1911 is stated at £1,662, the last year of production being 1908, when only 2 tons, valued at £7, were raised.

Assays made during 1911 of samples from Carcoar, Rockley, and Grafton showed 35.49 per cent. manganese. A sample from Trundle gave 47 per cent. metallic manganese, equal to 74 per cent. manganese dioxide; and another from Tilbuster gave 53 per cent. metallic manganese, equivalent to 84 per cent. manganese dioxide.

BISMUTH.

Ores of bismuth, which is a rare metal, have been located in various districts in New South Wales. In workable quantities bismuth has been found, associated with molybdenite, tin, and gold, in quartz-veins, chiefly in the neighbourhood of Glen Innes; the principal mines are situated at Kingsgate. The total quantity of ore and metal exported during 1911 was 7 tons 18 cwt., valued at £1,800. Rich argentiferous ores have been obtained, the lode consisting of soft granular felspar matrix, impregnated with blotches of bismuth, molybdenum, and chloride of silver. The total value of bismuth exported from New South Wales up to the end of 1911 was £127,327, representing 535.5 tons of metal and ore. In the locality of Pambula 50 tons of bismuth ore raised in 1911 yielded $3\frac{1}{2}$ tons of concentrates, valued at £479. Assays of samples in 1911 revealed from 2 to 14 per cent. of bismuth, the best sample coming from Cobar.

MOLYBDENUM.

Molybdenite, the principal ore of molybdenum, occurs most plentifully in pipe-veins at Kingsgate, near Glen Innes, and at Whipstick, near Pambula; in both these localities it is associated with ores of bismuth. Molybdenum is used chiefly in the preparation of special steels, its influence being similar to that of tungsten, but it gives greater toughness, and the steel so treated is more readily worked when hot, and stands hardening better than tungsten steel. During 1911, 20.65 tons of molybdenite, valued at £2,591, were exported from the Kingsgate district. Molybdenite, in association with wolfram, has been found in the locality of Deepwater, and considerable developmental work was done during 1911.

PLATINUM.

Platinum is known to occur in several districts of New South Wales, but platinum mining, in comparison with other branches of mining, and for less valuable ores, is unimportant. The productive deposits are, however, only of comparatively recent discovery. Platinum was traced in 1878 in the auriferous sands on the northern beaches, and in 1894 the beach sands of the Evans River were investigated, since which date small quantities of platinum have been obtained from these beach deposits. On the Fifield gold-field, in the Parkes district, the metal is found associated with the gold in washdirt. The total yield of platinum for the year 1911 was 470 oz., valued at £2,999, as compared with 332 oz., valued at £1,418, in 1910. The Fifield platinum occurs in coarse, shotty grains. The quantity of platinum produced to the end of 1911 was 12,380 oz., valued at £25,130. An assay in 1911 of dredge concentrates from the locality of Wellington revealed platinum 6 oz. 3 dwt. 12 grs. per ton of "fines"; osmiridium to the extent of 5 dwt. 20 grains was also present.

CHROMIUM.

Chromite, or chromic iron ore, is the only commercially important ore of chromium which is an accessory constituent of a variety of minerals; it has been found usually associated with serpentine in the northern portion of New South Wales, in the Clarence and Tamworth districts, also near Gundagai; the principal mines are at Mount Lightning, in the

Mooney Mooney Ranges, about 18 miles from Gundagai. The uses of chromium may be classified as follows:—Metallurgical—in the manufacture of alloys and furnace linings; chemical—as a constituent in colouring materials, mordants, oxidising agents, and tannages. The chrome mining industry is of recent date, the first attempt in New South Wales being made in 1882 at the Peel River, but the low prices obtainable and the difficulty of transportation prejudicially affected the industry. The quantity produced during 1899—5,243 tons, valued at £17,416—is the highest recorded as the annual output. In 1900 the production fell to 3,285 tons, valued at £11,827, the decrease being due to the exhaustion of the smaller deposits. During 1907, 30 tons, valued at £105, were used in the lining of furnaces. The mines were not worked then till 1911, when 150 tons, valued at £300, were raised. The total production up to 1911 was 30,813 tons, valued at £101,408. In the locality of Barraba a lease of 5 acres, estimated to contain 5,000 tons of chromite, was granted, and prospecting was carried on during 1911.

COBALT AND NICKEL.

Cobalt and nickel are usually associated in the same minerals and traces of both metals have been found in several districts in New South Wales. Workable quantities have, however, been located in very few places.

Deposits of cobaltiferous minerals have been found at Bungonia, Carcoar, and Port Macquarie; but the market for the metal is small. The only deposits worked during recent years are at Port Macquarie, where the ore occurs in nests or pockets in serpentine and the overlying clays resulting from its decomposition; but the irregularity of occurrence prohibits profitable working, and operations were discontinued in 1904. An average sample assayed cobalt oxide 7·48, and nickel oxide 2·39, per cent. The output of cobalt during 1910 was valued at £55, the ore being obtained from an abandoned site at Bungonia. During 1911 no ore was raised, and the value of the total production to the end of 1911 was £8,065, representing 885 tons of ore. No production of nickel is recorded.

OTHER METALS.

Mercury, in the form of cinnabar, has been discovered on the Cudgegong River, near Rylstone, and it also occurs at Bingara, Solferino, Yulgilbar, and Cooma. In the latter place the assays of ore yielded 22 per cent. of mercury. As an encouragement in the search for quicksilver ores, the Government of New South Wales has offered a reward of £500 for the production of 50,000 lb. of quicksilver from domestic ores. During 1903, 40 tons of ore were treated, yielding 1,010 lb. of quicksilver, valued at £126; but this represents the total output to date.

During 1911, nine samples of ores from Pulganbar, locality of Copmanhurst, yielded, on assay, mercury from 0·16 to 5·5 per cent. Rich ore was obtained, and 300 tons of low-grade and 50 tons of high-grade ore were treated, but the plant was inadequate for production on a commercial scale, and a larger plant is being installed.

Tellurium has been discovered at Bingara and other parts of the northern districts, as well as at Tarana, on the Western railway line, though at present only in small quantities, which would not repay the cost of working. It has also been found at Captain's Flat in association with bismuth.

Selenium has been discovered at Mount Hope, also in association with bismuth.

Bauxite has been located at Inverell.

Aluminium is not included in the specified mineral output of New South Wales. During the last three years, specimens of rock received and analysed at the Chemical Laboratory, Geological Survey, yielded the following results:—

		per cent.
1909.—Kaolinized rock, locality Joadja—Free alumina	...	10.25
1910.—Clay, locality Mittagong (Joadja)—Free alumina	...	10.00
Ironstone, locality Inverell (Byron Station)	} Free alumina...	27.00
		Iron ...	20.00
		8.00
Red clay, locality Boggabri (Baan Baa)—Free alumina	...	4.50
1911.—Decomposed rock, parish Wallaya, county Camden—		
Free alumina ... ..	...	22.00

COAL.

The coal-fields of New South Wales are of much greater importance as to area and as to quality of the coal than in any other part of Australia. The coal-bearing rocks within the State have been classified as follows:—

Geological Age.	Approximate Maximum Thickness of Strata.	Locality.	Character of Coal.
Tertiary—Eocene to Pliocene.	ft. 100	Kiandra, Gulgong, Forest Reefs.	Brown or lignite.
Mesozoic—Triassic or Trias—Jura.	2,500	Clarence and Richmond Rivers.	Suitable for local use.
Paleozoic — Permo-carboniferous.	13,000	Newcastle and Maitland, Illawarra, Blue Mountains.	Suitable for gas-making, steam-raising, and household use.
Paleozoic — Carboniferous.	10,000	Stroud	Inferior.

The productive area of the permo-carboniferous rocks is estimated to extend over 28,000 square miles, north, west, and south of Sydney; but the limit within which the coal measures are considered payable is 16,550 square miles, and the quantity of coal underlying the payable area, down to a depth of 4,000 feet, was assessed by the Government Geologist, in 1901, at 115,347 million tons. This estimate allows for one-third loss in working. The fact that for some 200 miles these measures extend along the seaboard gives added value to the deposits, as conducing to easy shipment and the development of oversea trade.

The permo-carboniferous rocks have been classified as follows, in descending order:—

	Thickness.	Coal Content.
	feet.	
1. Upper (Newcastle) Coal Measures	1,150	100 feet.
2. Dempsey Series (freshwater beds)	2,000	non-productive.
3. Middle (East Maitland) Coal Measures	570	40 feet.
4. Upper Marine Series	5,000	Nil.
5. Lower (Greta) Coal Measures	130	20 feet.
6. Lower Marine Series	4,800	Nil.

The upper coal measures have been most developed in the districts of Newcastle on the northern, Bulli and Illawarra on the southern, and Lithgow on the western coalfield; the coal from the two latter measures is essentially a steam coal, the western coal being more suitable for smelting purposes than the southern, though containing more ash. Newcastle coal is most suitable for gas-making and for household purposes. The Newcastle measures, with eight principal seams, and the Illawarra measures, with five principal seams, are continuous under Sydney, though

at a great depth from the surface, the Sydney Harbour Collieries Company's shaft going to the depth of 3,000 feet. The middle (East Maitland) coal measures, with seven principal seams, have not been traced in either the southern or western coal-fields, but the lower (Greta) coal measures, outcropping over an irregular area between West Maitland and Greta, have been recognised in the Clyde Valley.

In connection with the question of establishing seaports, the Government Geologist, before the Royal Commission on decentralisation in railway transit, defined the coal measures as extending from Jervis Bay on the south along the coast to Raymond Terrace on the north. Further north still, the measures are broken and as yet undefined by survey, though occurrences of coal in isolated places have been noted. In the Clarence River basin a coalfield different to the fields worked in New South Wales, but identical with the coal measures that are being worked in southern Queensland, forms a continuation of the Ipswich coal basin; in southern Queensland, not of great commercial value, the seams being thin and the coal marked with bands.

The New South Wales coal measures extend beyond Lithgow, Westward to the boundary between Lithgow and Breeza, in the north-west, but the boundary has not been defined by survey.

The main coalfield, so far as is known, contains all three systems of the coal measures, the Upper or Newcastle, East Maitland or Tobargo, and the Greta, but in the deepest part of the basin, of which Sydney is practically the centre, only the Upper coal measures are judged workable. The Greta measures, providing the most valuable coal in Australia, have been proved workable at Cessnock and Branxton, but thence northward only isolated patches are being worked at Muswellbrook and at Ashford. In the vicinity of Newcastle the recently-proved upward rise of the working seams, towards the bed of the ocean, means a definite restriction on the coal supplies available from that locality, and a curtailment of the lives of the mines, as the coal workings beneath the ocean-bed must have a minimum cover of 120 feet of solid rock.

Southward the coalfields run to a point opposite Jervis Bay, but the coal is inferior. The southern limit of commercial coal is at Port Kembla.

Development.

The earliest record of the location of coal in New South Wales dates back to August, 1797, the discovery being made at Coalcliff, near Wollongong, and was shortly followed by the discovery of seams of coal in the cliffs at Newcastle; between that date and 1829 the total quantity of coal raised is estimated at 50,000 tons.

In 1826, the Australian Agricultural Society obtained from the Crown a grant of 1,000,000 acres of land, with the sole right of working the coal-seams known to exist in the Newcastle district, and several mines were opened with profitable results for a number of years; but it was not until the expiration, in 1847, of the monopoly enjoyed by the company, that the coal-mining industry showed signs of extensive development.

During that year the output of coal reached a total of 40,732 tons only, valued at £13,750. Six years afterwards the production was doubled, and the output increased rapidly year by year, exceeding 1,000,000 tons in 1872, and thereafter steadily increasing till the production for the year 1911 amounted to 8,691,604 tons, valued at £3,167,165, being next to the year 1908, with its output of 9,147,025 tons, valued at £3,353,093, a record in the history of the State's coal-mining industry. The average price secured at the pit's mouth in 1911 was 7s. 3d. per ton.

PRODUCTION OF COAL.

The following table shows, in quinquennial periods since 1880, the quantity and value of coal raised in New South Wales from the earliest record to the close of 1911, the total production being 171,710,165 tons, valued at £65,427,673.

The figures are exclusive of coal used in the manufacture of coke, particulars as to which are quoted elsewhere in this chapter.

Period.	Quantity.	Value at Pit's Mouth.	Average per ton.
	tons.	£	s. d.
Prior to 1880	20,697,747	11,036,723	10 8
1880-4	10,615,625	4,672,569	8 10
1885-9	15,490,611	7,077,864	9 2
1890-4	17,830,177	6,811,568	7 8
1895-9	21,334,976	6,048,281	5 8
1900-4	29,792,589	10,369,050	7 0
1905-9	39,083,328	13,234,796	6 9
1910	8,173,508	3,009,657	7 4
1911	8,691,604	3,167,165	7 3

The following statement shows the quantity of New South Wales coal consumed in Australia, including bunker coal taken by interstate vessels, and the oversea exports, during the last six years:—

Year.	Consumed within Commonwealth.			Exported Oversea—			Total Production.
	Domestic Consumption	Sent to other Australian States.	Total.	As Cargo.	As Bunker Coal.	Total.	
	tons.	tons.	tons.	tons.	tons.	tons.	tons.
1906	2,307,444	2,260,090	4,567,534	2,057,381	1,001,447	3,058,828	7,626,362
1907	2,555,352	2,379,024	4,934,376	2,644,507	1,079,041	3,723,548	8,657,924
1908	2,600,257	2,715,310	5,315,567	2,558,366	1,273,092	3,831,458	9,147,025
1909	2,240,212	2,200,769	4,440,981	1,580,564	998,334	2,578,898	7,019,879
1910	3,103,320	2,478,497	5,581,817	1,700,184	891,507	2,591,691	8,173,508
1911	3,667,524	2,525,776	6,193,300	1,686,482	811,822	2,498,304	8,691,604

The variation in the proportion of the total production used for domestic consumption is shown in the following percentages:—

Year.	Proportion of Output.		Overseas Exports.
	Used for Domestic Consumption.	Sent to other Australian States.	
	Per cent.	Per cent.	Per cent.
1906	30·26	29·63	40·11
1907	29·51	27·48	43·01
1908	28·43	29·69	41·89
1909	31·91	31·35	36·74
1910	37·97	30·32	31·71
1911	42·20	29·06	28·74

COAL-CUTTING BY MACHINERY.

The machine-cut coal in 1911 represented 33·4 per cent. of the total output, and increasing use is being made of electrically-driven machines; compressed air, though not so cheap or convenient, is, however, safer than electricity when there is any possibility of explosions of fire-damp and coal-dust.

Following are the records for the last three years of machines operating and coal obtained :—

Year.	Machines driven by—			Coal obtained by machines driven by—		
	Electricity.	Compressed Air.	Total.	Electricity.	Compressed Air.	Total.
1909	96	67	163	tons. 1,169,203	tons. 507,338	tons. 1,676,541
1910	112	69	181	1,691,986	558,284	2,250,270
1911	128	74	202	2,074,767	562,905	2,637,672

COAL EXPORTS.

The relative decrease apparent in the export trade during the last three years is attributable in great part to strikes and industrial difficulties. The proportion of the production consumed in Australia in 1911 was 71 per cent., and the oversea exports amounted to 29 per cent.; but the local consumption is increasing with the increasing population and electric-lighting plants, the extension of railways, manufactures, smelting, and other industries, and the multiplication of gas works. The quantity exported to each oversea country, in the last six years, is shown below; only the coal taken as cargo has been included :—

Country.	1906.	1907.	1908.	1909.	1910.	1911.
	tons.	tons.	tons.	tons.	tons.	tons.
New Zealand	215,503	221,094	285,043	240,345	228,023	211,160
Fiji	19,519	33,114	44,649	31,623	36,267	32,453
Straits Settlements ...	215,762	142,795	217,809	150,380	140,620	131,029
India	46,042	52,835	164,352	68,027	67,763	38,165
Hong Kong	70,668	63,623	86,632	40,277	9,584	.....
Mauritius	12,237	1,001	791	3,475	5,020	.....
Union of South Africa ...	4,150	1,800	1,249	1	947	.....
Canada .. .. .	.....	1,014	.....	1,841	.....	.....
United Kingdom ... ..	.....	.....	48	29	.....	.....
Papua	1,190	.....	422	691	404	.....
Other British Possessions	977	13,452	23,956	69	621	6,161
Total, British Possessions	586,048	530,728	824,951	536,758	489,249	419,968
Chile	601,044	878,012	789,620	469,420	553,302	619,806
United States of America	83,511	539,876	188,498	106,777	202,474	180,769
Philippine Islands ...	312,996	314,235	351,441	224,651	199,509	156,280
Hawaiian Islands... ..	90,635	98,530	65,918	65,769	64,016	53,201
Peru	109,278	101,131	78,223	41,450	41,796	64,559
Java	66,342	37,784	87,226	64,160	92,343	134,742
Mexico	74,737	50,312	55,732	18,522	20,202	22,659
Panama	11,906	6,402	15,528	.....	.....	.....
New Caledonia	12,294	12,816	10,079	6,228	7,712	16,683
South Sea Islands... ..	5,893	4,172	5,911	6,019	1,825	870
Ecuador	15,484	7,519	36,092	12,734	6,927	4,235
China	71,794	41,058	43,394	15,608	2,105	6,125
Other Foreign Countries...	15,419	21,932	5,753	12,468	18,724	6,585
Total, Foreign Countries	1,471,333	2,113,779	1,733,415	1,043,806	1,210,935	1,266,514
Total, Export Oversea	2,057,381	2,644,507	2,558,366	1,580,564	1,700,184	1,686,482

The largest exports are to Chile, New Zealand, United States of America, Philippine Islands and the Straits Settlements in the order mentioned.

Divisional Records.

Northern District.—In the collieries in operation, in the northern or Hunter River district, during 1911, the quantity of coal raised, amounting to 5,793,646 tons, and valued at £2,320,673, represented 66·7 per cent. of the whole production for New South Wales.

On the Greta seams, located in 1886 in the Maitland-Cessnock district, ten collieries are working, and in the comparatively brief periods of their operations some 18,000,000 tons of coal have been raised. In all these collieries, practically, coal-cutting machines are in use. Geologically, the seams on this area are thick, varying, over many thousand acres, between 15 and 33 feet. The commercially workable portions of the seams average 13 feet in all collieries, and the estimated life of mines at present working on the field is given as from 34 to 139 years.

The following table shows the growth of the coal industry within the last ten years in the Hunter District; the number of men employed and the quantity of coal raised have increased steadily during the period:—

Year.	Persons employed.		Quantity of Coal raised.		Value of Coal raised.		
	Above and below ground.	Below ground.	Total.	Per person employed below ground.	Total value.	Average value per ton.	Average value per person employed below ground.
	No.	No.	tons.	tons.	£	s. d.	£
1902	9,730	7,588	3,900,297	514	1,633,062	8 4	215
1903	10,461	8,161	4,410,565	540	1,783,409	8 1	219
1904	10,450	8,217	4,042,739	492	1,450,300	7 2	176
1905	10,505	8,265	4,645,742	562	1,473,095	6 4	178
1906	11,005	8,478	5,336,188	629	1,718,178	6 5	203
1907	12,486	9,692	6,058,580	625	2,231,901	7 4	230
1908	13,228	10,064	6,511,002	647	2,625,446	8 1	261
1909	13,286	10,102	4,801,361	475	1,990,217	8 3	197
1910	12,626	9,404	5,366,975	571	2,178,952	8 1	232
1911	12,392	8,809	5,793,646	659	2,320,673	8 0	264

Southern and South-western District.—Owing to the demand for southern coal for steam purposes, the trade of this district has greatly improved during recent years, and the increase would doubtless have been more pronounced but for the difficulty experienced in loading vessels. To remove this drawback, the Government is making a harbour at Port Kembla, a few miles south of Wollongong, which, when complete, will enclose an area of 334 acres. An eastern breakwater is being carried out to a length of 2,585 feet; a northern breakwater is also under construction, and it is contemplated extending this to within 900 feet of the end of the eastern breakwater. These breakwaters will give a still-water harbour, which can be used in any weather. The eastern breakwater is nearing completion, and the jetties from which coal is shipped are afforded considerable protection from the south-easterly and easterly gales that affect the coast.

The history of coal production in the southern district, where also for 1911 there was little interruption from stoppages, and where detail geological survey work is proceeding with a view to greater development, may be gathered from the following table:—

Year.	Persons employed.		Quantity of Coal raised.		Value of Coal raised.		
	Above and below ground.	Below ground.	Total.	Per person employed below ground.	Total value.	Average value per ton.	Average value per person employed below ground.
	No.	No.	tons.	tons.	£	s. d.	£
1902	2,545	1,988	1,588,473	799	458,851	5 9	231
1903	2,887	2,255	1,476,005	654	418,919	5 8	186
1904	3,044	2,450	1,558,383	636	436,640	5 7	178
1905	3,050	2,397	1,556,678	649	421,768	5 5	176
1906	3,249	2,540	1,783,395	702	494,871	5 7	195
1907	3,410	2,671	1,835,425	687	515,786	5 7	193
1908	3,587	2,863	1,929,236	674	570,022	5 11	199
1909	3,818	2,999	1,619,675	540	485,300	6 0	162
1910	3,694	3,024	1,875,009	620	576,261	6 2	191
1911	3,889	2,995	2,066,621	690	636,163	6 2	212

Western District.—The output from this district has expanded largely during the period under review, the increase being due to more regular work, and to the absence of labour troubles. In the early part of 1910 the coal from this district was in great demand, as mines in the other districts were closed.

The average quantity of coal raised per miner is much greater in the Western collieries than elsewhere in the State. This is due to a variety of causes, but chiefly to the greater thickness of the seams, the friable character of the coal, and the accessibility of the coal beds. In some cases the coal is worked by means of adits or tunnels, so that the facilities for winning the mineral are much greater than in the Newcastle mines, where shafts must be sunk in most instances. But though the output is greater per miner than in the other coal-mining districts, the price for hewing is lower, so that the earnings of the individual miner do not differ greatly wherever the mine is situated.

The following table shows the growth of coal production in the Western district during the last ten years. Situated in close proximity to the principal iron-fields of New South Wales, the prospects of these mines are extremely favourable since the manufacture of iron from the ore is now carried on in this part of the State:—

Year.	Persons employed.		Quantity of Coal raised.		Value of Coal raised.		
	Above and below ground.	Below ground.	Total.	Per person employed below ground.	Total value.	Average value per ton.	Average value per person employed below ground.
	No.	No.	tons.	tons.	£	s. d.	£
1902	540	474	453,241	956	114,685	5 1	242
1903	569	494	468,276	948	117,332	5 0	238
1904	540	455	418,687	920	108,012	5 2	237
1905	464	392	429,718	1,096	107,698	5 0	275
1906	675	570	506,779	889	124,178	4 11	218
1907	1,184	1,006	763,919	759	174,732	4 7	174
1908	919	737	706,787	959	157,625	4 6	214
1909	1,064	814	598,843	736	143,079	4 9	175
1910	1,098	862	931,524	1,081	254,443	5 6	295
1911	1,376	1,068	831,337	909	210,329	5 1	228

In New South Wales, calculated on the total value of the production during the decade, the average quantity of 608 tons extracted yearly by each person employed underground represents a value of £212. In 1911, the average value of production was £246 for each person employed below ground.

Year.	Persons employed.		Quantity of Coal raised.		Value of Coal raised.		
	Above and below ground.	Below ground.	Total.	Per person employed below ground.	Total value.	Average value per ton.	Average value per person employed below ground.
	No.	No.	tons.	tons.	£	s. d.	£
1902	12,815	10,050	5,942,011	591	2,206,598	7 5	220
1903	13,917	10,910	6,354,846	582	2,319,660	7 4	213
1904	14,034	11,122	6,019,809	541	1,994,952	6 7	179
1905	14,019	11,054	6,632,138	600	2,003,461	6 1	181
1906	14,929	11,588	7,626,362	658	2,337,227	6 2	202
1907	17,080	13,369	8,657,924	648	2,922,419	6 9	219
1908	17,734	13,664	9,147,025	669	3,353,093	7 4	245
1909	18,168	13,915	7,019,879	504	2,618,596	7 5	186
1910	17,618	13,290	8,173,508	615	3,009,657	7 4	226
1911	17,375	12,872	8,691,604	675	3,167,165	7 3	246
Annual							
Average over 10 years..	15,769	12,183	7,426,511	608	2,593,283	7 0	212

Prices.

The average price of coal per ton in the various districts for the last ten years is shown below; in the average for New South Wales, allowance has been made for the quantity raised in each district:—

District.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Northern ...	8 4	8 1	7 2	6 4	6 5	7 4	8 0	8 3	8 1	8 0
Southern ...	5 9	5 8	5 7	5 5	5 7	5 7	5 11	6 0	6 2	5 1
Western... ..	5 1	5 0	5 2	5 0	4 11	4 7	4 6	4 9	5 6	6 2
New South Wales	7 5	7 4	6 8	6 0	6 1	6 9	7 4	7 5	7 4	7 3

Proximate Analyses.

During 1911 proximate analyses were made of 194 thoroughly representative samples of coal taken from all the collieries then working in the State. In the larger collieries, at least two samples were taken from working faces as far apart as possible, and in many cases samples were taken also from portions of seams not then being worked.

In the following statement are presented the results of these proximate analyses, as made by the Government Geologist, for the various districts of New South Wales:—

Districts.	Coal Measure.	Samples.	Composition.				Sulphur.	Calorific Value.
			Hygroscopic Moisture.	Volatile Hydrocarbons.	Fixed Carbon.	Ash.		
Northern	Upper, Newcastle	No. 78	per cent. 2.01	per cent. 36.01	per cent. 53.27	per cent. 8.71	per cent. 0.468	12.7
"	Middle, Tomago ...	5	1.88	35.71	52.77	9.64	1.185	12.5
"	Lower, Greta ...	51	1.84	41.61	49.52	7.03	1.291	13.1
Southern	Upper ...	35	0.71	23.65	63.98	11.66	0.470	12.7
Western...	Upper ...	25	2.05	32.31	53.08	12.56	0.672	11.9

The average composition of thirty-one samples of coal from seams actually being worked in the Greta coal measures was shown as follows:—

	Per cent.
Hygroscopic Moisture	1.89
Volatile Hydrocarbons	41.35
Fixed Carbons	50.51
Ash	6.25
	100.00
Sulphur	1.014
Calorific Value	13.2

COKE.

The quantities of coke manufactured in New South Wales during the last ten years were as follows:—

Year.	Quantity.				Total Value.
	Northern District.	Southern District.	Western District.	Total.	
	tons.	tons.	tons.	tons.	£
1902	24,219	102,653	.....	126,872	89,605
1903	34,730	125,862	.....	160,592	108,764
1904	31,825	139,181	.....	171,006	110,692
1905	25,329	137,632	.....	162,961	100,306
1906	55,991	130,069	.....	186,060	110,607
1907	31,453	210,614	12,542	254,609	159,316
1908	29,132	228,778	25,963	283,873	199,933
1909	23,564	155,443	25,267	204,274	137,194
1910	24,352	207,760	50,225	282,337	189,069
1911	26,376	201,451	36,860	264,687	184,337

Since 1890, when the value per ton of coke at the ovens was £1 6s. 5d., the price has fallen gradually. The variations in the last twenty years are shown in the following table:—

Year	Price per Ton.	Year.	Price per Ton.
	£ s. d.		£ s. d.
1892	1 2 5	1902	0 14 2
1893	1 2 8	1903	0 13 7
1894	0 19 3	1904	0 12 11
1895	0 17 10	1905	0 12 4
1896	0 16 7	1906	0 11 11
1897	0 14 1	1907	0 12 6
1898	0 15 7	1908	0 14 1
1899	0 16 0	1909	0 13 5
1900	0 17 4	1910	0 13 5
1901	0 16 2	1911	0 13 11

In 1911 the values per ton at the ovens in the different districts averaged as follows:—

	s.	d.
Northern	16	3
Southern	13	3
Western	15	9

Coke-making is carried on in each of the three coal-mining districts of the State, but the bulk of the output, as the above table shows, comes from the southern district, where it is manufactured from coal drawn from the mines in the locality of Wollongong.

All the coke produced is more or less suitable for use in blast furnaces, but the products of the northern and southern districts are harder, better able to carry a load in the furnace, and contain less ash than the coke of the western district; the plants in the latter district have, however, an advantage in railway transit, being closer to Sydney, and so enjoying a lower transport cost than the plants in the northern and southern districts.

The range of costs for coke and, approximately, for carriage from the respective districts is shown in the following statement presented to the Royal Commission on the Iron and Steel Industry in 1911 :—

District.	Costs.				Ovens operative in October, 1911.
	of Coke on Trucks at Ovens,	of Carriage		No.	
		for Local Use.	for shipment.		
	per ton. s. d. s. d.	per ton. s. d.	per ton. s. d. s. d.		
Northern	17 0 to 20 0	9 5	6 5 to 9 1	212	
Western	14 0 ,, 21 0	6 3	4 3 ,, 5 8	162	
Southern	12 6 ,, 14 0	s. d. s. d. 3 2 to 4 2	2 4 ,, 2 11	547	

The aggregate capacity of all plants (921) in October, 1911, in the different districts was, approximately, 6,000 tons per week; the weekly average output for 1911 was 5,090 tons, of which 3,874 tons per week came from the southern district. Following are the percentage yields of coke from the coal used in the different districts, viz. :—

Northern	55 to 60 per cent.
Western	60 ,, 67½ ,,
Southern	66 ,, 75 ,,

It is to be noted, however, that in the northern coal-field particularly there is scope for larger and better production. The following statement shows, as at December, 1911, the coke ovens working, idle, and under construction, and the number of men employed in each district :—

District.	Coke Ovens.				Men Employed.
	Working.	Idle.	Under Construction.	Total.	
Northern	141	52	.....	193	82
Southern	379	114	57	550	280
Western	137	105	.....	242	52
Total	657	271	57	985	414

The Broken Hill Proprietary Company's coke works at Bellambi, on the South Coast railway line, supply a large proportion of the company's requirements, and are capable of considerable extension. The Mount Lyell Copper Mining Company's coke works are at Port Kembla, also on the South Coast railway line.

At the old Bulli mine a coal seam 6 feet thick has been for about half its thickness transformed into a natural coke, apparently through the intrusion of igneous matter underneath the seam. This coal is regarded as obviating the smoke nuisance, and has also a high calorific value.

OIL SHALE.

Discovery.

Oil-bearing "shale" is found on several horizons and at a number of localities in New South Wales. It is worked principally at Hartley, Katoomba, Torbane (Airly), Joadja Creek (Mittagong), Mount Kembla, Greta, Colley Creek (Murrurundi), in the Capertee, Jamison, and Wolgan Valleys. The shale occurs in the same manner as seam coal, but the deposits are confined to smaller areas, the largest hitherto discovered not exceeding 1 mile in length, and varying in thickness from a few inches to 6 feet. Frequently the upper and lower portions of a seam are composed of bituminous coal, the kerosene shale being confined to the central band. The shale is really torbanite or cannel-coal, similar to the boghead mineral of Scotland, but yielding a much larger percentage of volatile hydro-carbon. Its discovery in New South Wales antedated by many years the Scotch discovery which brought the oil-bearing minerals into prominence, the Hartley deposits being located about 1824; in 1854, the natural and industrial products of New South Wales, at the Paris Exhibition, included a sample of "brown coal or lignite, highly inflammable, found . . . near Hartley." Again, in 1862, at the London International Exhibition, a combustible schist from Murrurundi, and a bituminous schist from Hartley were exhibited. The first effort to distil oil and other products from the oil-bearing mineral was made in 1865 at Stony Creek, Maitland district. Thereafter, samples of minerals from many localities were investigated, and the question of oil production attracted commercial interest.

Supplies and Quality.

Quantitative estimation of possible kerosene shale supplies in New South Wales is hampered by irregularity of form and capriciousness of occurrence of the known deposits. The remarkable feature about the geographical distribution of deposits is their marginal occurrence in relation to the coal-bearing area, and the comparative abundance of the typical kerosene shale as compared with other countries, *e.g.*, France and Scotland. The known deposits are all in the vicinity of railway lines, and the geological range of kerosene shale may be gathered from the table given previously in connection with the permo-carboniferous rocks in the State.

Every known deposit in this State has been discovered by its shed or slipped blocks, and the diamond-drill is the best adapted boring tool for locating the shale, the physical characteristics of which show a wide range; colour varies from brownish to greenish-black, with a streak yellowish to brown, and a lustre dull to satiny in highest grades, and disappearing proportionately with the depreciating quality. The texture also is exceptionally fine, almost amorphous, approaching vulcanite in appearance in the richest grades, and showing coarseness and roughness with depreciation. The shale fractures conchordally across the planes of bedding, but is capable of being easily split, approximately along planes of deposition, so facilitating trimming and removal.

Fusibility also varies with the grade of material.

The richest shale at the Joadja mine, near Mittagong, yields about 130 gallons of crude oil per ton, or about 15,400 cubic feet of gas, with an illuminating power equal to forty-eight sperm candles when gas only is extracted from the shale; it has a specific gravity of 1.098, while the best

shale from Hartley Vale yields from 150 to 160 gallons of crude oil, or 18,000 cubic feet of gas of 40 candle-power per ton. Its specific gravity is 1.06, the amount of sulphur 0.49 per cent., and the yield of tar 40 gallons per ton. The shale is suitable for mixing with ordinary coal in the manufacture of gas, and is exported to Great Britain, America, and other countries, as well as to the neighbouring States.

Production.

The production of kerosene shale, from the opening of the mines in 1865 to the end of 1911, is shown in the following table:—

Period.	Quantity.	Average Price per ton at the Mines.	Total Value at the Mines.	Period.	Quantity.	Average Price per ton at the Mines.	Total Value at the Mines.
	tons.	£ s. d.	£		tons.	£ s. d.	£
1865-84	370,217	2 4 9	823,194	1907	47,331	0 13 7	32,055
1885-89	186,465	2 3 7	406,255	1908	46,303	0 11 3	26,067
1890-94	247,387	1 16 6	451,344	1909	48,718	0 9 8	23,617
1895-99	191,763	1 3 3	222,690	1910	68,293	0 9 11	33,896
1900-04	213,163	0 16 8	177,246	1911	75,104	0 9 10	36,980
1905	38,226	0 11 1	21,247				
1906	32,446	0 17 7	28,470	Total ...	1,565,416	1 9 3	2,288,061

In the last quinquennium, 1905-9, the output was 213,024 tons, valued at £131,456, or an average price of 12s. 4d. per ton.

The noticeable feature of this table is the steady fall in the average price of the mineral.

Practically the whole output in the last ten years came from the western district. In 1902 and 1903 there was a small output from the southern and south-western district. In 1911 no shale was worked in these districts. In the last six years there has been an increasing output from the northern district, rising from 1,500 tons in 1910 to 9,199 tons in 1911.

During 1910 the Shale Oil Bounties Act was passed by the Commonwealth Government, making provision for the payment of bounties on the manufacture of kerosene and paraffin wax from Australian shale, under the following conditions:—

Description of Product.	Rate of Bounty.	Maximum amounts which may be paid during the year 1910-11.	Maximum amounts which may be paid during each of the years 1911-12 and 1912-13.	Date of Expiry of Bounty.
Kerosene, the product of shale, having a flashing point of not lower than 73 degrees Fahrenheit ...	2d. per gallon	£ 8,000	£ 16,000	} 30th June, 1913.
Refined Paraffin Wax ...	2s. 6d. per cwt.	£ 2,000	£ 4,000	

During the years ended 30th June, 1911 and 1912, bounties were paid to the Commonwealth Oil Corporation (Limited), of Hartley Vale, viz. :—

	1911.	1912.
On Kerosene	£920	£2,629
On Refined Paraffin Wax	553	739
	—	—
Total	£1,473	£3,368

Included in the bounty paid in kerosene for 1911-12 was £340 to the British Australian Oil Co. (Limited), at Murrurundi and Hamilton, in the northern district.

The products derivable from kerosene shale vary, according to the temperature and methods of distillation and refining, from heavy lubricating greases and solid paraffins, machine and burning oils, to volatile naphthaline gasoline and permanent gases. In New South Wales oil for the enrichment of water gas, paraffin, and lubricating grease have constituted the principal products prepared, but the value of oil as fuel, in comparison with coal, chiefly in connection with shipping, has so much appreciated in recent years that many steamships trading to this State have been fitted to use oil-fuel, and consequently the demand for the local product should increase considerably. During 1911, the Australian destroyers, "Parramatta" and "Yarra," were supplied with large quantities of oil manufactured at Hartley Vale.

As regards the possibility of locating oil springs in Australia, the absence of any recognisable evidence of oil-bearing strata in the palæozoic systems of New South Wales induces speculation as to the possibility of locating such strata, *e.g.*, in the north-west, in areas not yet tested by artesian water bores. In several bores, notably the abandoned artesian bore at Grafton, in the Clarence series, a considerable flow of natural gas has been liberated, and petroleum has been recognised, especially in dry seasons.

DIAMONDS.

Diamonds and other gem stones in New South Wales were noted as early as 1851 by both Hargraves and Stutchbury, and have since been found to be widely distributed, but no extensive industry has yet been developed, mining operations being restricted to a very few localities. Diamonds occur in old tertiary river drifts, and in the more recent drifts derived from them. The deposits in the Inverell, Bingara, Mittagong, Cudgegong, Delegate, and Narrabri districts are extensive, but have not yet been thoroughly prospected, the stones found being usually discovered by miners engaged in washing alluvial gravels for gold. The finest of the New South Wales diamonds are harder and whiter than the South African diamonds, and are classified as on a par with the best Brazilian gems. Till 1904 only small stones were obtained, the largest recorded weighing $6\frac{1}{2}$ carats, and though many thousand stones were obtained at Bingara and Cope's Creek, the absence of large sized stones raised doubts as to whether gems of sufficient value would be obtained to render the industry profitable. However, during 1905, at Werong, 30 miles from Oberon, a fine straw-coloured flawless stone was found which weighed $28\frac{1}{8}$ carats. Sapphires and zircons are numerous in the wash where this diamond was discovered. During 1904 diamonds were discovered at Oakey Creek, locality of Inverell, embedded in solid dolerite, this being the first known instance of dolerite having been found in any part of the world as the matrix of the diamond.

There is a difficulty in obtaining exact statistics of the production of diamonds in New South Wales. The following table, compiled from the available information, is believed to understate considerably the actual output. The majority of the diamonds have been obtained from the mines in the Bingara and Copeton (Tingha) districts; in recent years the whole output is from the latter district.

Period.	Carats.	Value.
	No.	£
1867-1885	2,856	2,952
1886-1890	8,120½	6,390
1891-1895	19,742¾	18,245
1896-1900	69,384½	27,948
1901-1905	54,206	46,434
1906-1910	16,651	12,374
1911	5,771	4,064
Total ...	176,731¾	118,407

OPAL.

Common opals occur in many parts of New South Wales, and particularly in the locality of Orange. No commercial value attaches, however, to any variety of opal, but the precious or noble opal, which has been found in two geological formations in New South Wales, viz., in vesicular (basalt) and in sedimentary rocks of the upper cretaceous age. Only from the latter formation have gems in quantity and value been obtained hitherto, the finest opal known being located in the upper cretaceous formation at White Cliffs, near Wilcannia. The following table shows the estimated value of the New South Wales output to the end of 1911 :—

Year.	Value.	Year.	Value.
	£		£
1890	15,600	1902	140,000
1891	.....	1903	100,000
1892	2,000	1904	57,000
1893	12,300	1905	59,000
1894	5,700	1906	56,500
1895	6,000	1907	79,000
1896	45,000	1908	41,800
1897	75,000	1909	61,800
1898	80,000	1910	66,200
1899	135,000	1911	57,300
1900	80,000		
1901	120,000	Total ...	1,295,200

The first discovery of precious opal was made in the vicinity of the Abercrombie River in 1877, but the most important find was at White Cliffs in 1889.

In 1896, opal was discovered at Purnanga, about 40 miles north-east of White Cliffs, but the scarcity of water has retarded development. Some very fine parcels of stone have been raised in this locality, and it is considered that Purnanga is the nucleus of a fine opal field should a good water supply become available. A field more recently opened up, Lightning Ridge, near the Queensland border, and known as "Wallangulla," produces black opal remarkable for colour, fire, and brilliancy.

The output during 1911 from the White Cliffs field was valued at £39,100, as compared with £17,700 from Lightning Ridge.

The best market for the gems is Germany, where they are sold readily; but it is stated that the principal gem merchants of Europe have now agents on the fields for the purchase of the stone.

Since 1907 the market price for this gemstone has decreased. During 1911 rich finds were reported, one stone from Lightning Ridge, weighing 5 oz., being valued at £300, and prices for individual gems were most satisfactory, but gems of inferior grade found no sale.

BERYL AND CORUNDUM AND OTHER GEM STONES.

The emerald is a variety of beryl. So also is the aquamarine. In 1890 emeralds were located in a deposit originally taken up for tin in the vicinity of Emmaville. The emeralds were intercrystallised with topaz, and had a specific gravity of 2·67; beryl has also been found at Elsmore in association with quartz and tinstone; in the locality of Wellington in association with felspar, quartz, and mica; and in alluvial deposits, as at Tingha and Cope's Creek. After the occurrence of emeralds at Emmaville was recognised, a trial shipment of 2,225 carats was sent to London, and some of the gems realised £4 per carat. In 1891 and 1892, gems to the extent of 25,000 carats were raised in each year. Thenceforward, except in 1908, when 1,000 carats of emeralds, valued at £1,700, were obtained in the same locality of The Glen, in the Emmaville division, no further production was recorded. The largest stone in the rough weighed 60 carats.

Varieties of pure corundum include the sapphire, the oriental ruby, topaz, emerald, and amethyst. Specimens of these and other gem-stones, including the ruby, garnet, chrysolite, zircon, &c., have been found in gold and tin-bearing drifts and river gravels in numerous localities throughout the State. Cairngorm and onyx, with other varieties of agate, are found occasionally.

The topaz is obtained at Oban, in the Glen Innes district, but the price realised for the output is low.

Turquoises were discovered in the vicinity of Bodalla in 1894, and developmental work was carried on during 1895 by means of aid granted from the Prospecting Vote. In 1896, however, the mine was closed.

ALUNITE.

Alunite, or alumstone, occurs at Bulahdelah, about 35 miles from Port Stephens, in a narrow mountain range which for more than a mile of its length is composed almost entirely of alunite, of greater or less purity.

Four varieties of alunite are recognised at the mines, viz.:—

- | | | | |
|--------------------------|-----|-----|-----------------------|
| 1. Light pink containing | ... | ... | 1·7 per cent. silica. |
| 2. Chalk-white | ... | ... | 16·4 " |
| 3. Purple | ... | ... | 19·5 " |
| 4. Granular | ... | ... | 39·5 " |

Working is confined mainly to the light-pink ore, the yield averaging about 80 per cent. of alum. During 1911, 1,006 tons of alunite, valued at £3,795, were shipped to England, where it was found that the stone can be treated more cheaply than is possible locally. The quantity and value of alunite, the produce of this State, exported to the end of 1911, is shown in the following statement:—

Period.	Quantity.	Value.	Period.	Quantity.	Value.
	tons.	£		tons	£
1890-4	3,891	16,756	1910	1,136	2,840
1895-9	6,791	21,202	1911	1,006	3,795
1900-4	11,559	33,252			
1905-9	11,227	27,998	Total ...	35,610	105,843

During 1910 and 1911, prospecting by means of diamond drilling has been carried on at Bulahdelah, with a view to locating further bodies of alunite of payable grade, so as to maintain the export trade. Particulars are not available as to the amount of alum of local production used within the State.

ARSENIC.

In connection with the treatment of small test parcels of gold and silver ores from Moruya, by oxy-hydro process, some 2 tons of arsenic were obtained in 1909. In 1910, 200 tons, valued at £950, and in 1911 300 tons of arsenic were produced in the treatment of ores at Howell.

MARBLE, STONES, PIGMENTS, CLAYS, AND SLATES.

New South Wales possesses abundant materials for building purposes, and considerable use is made of domestic supplies, but as quarries generally are not subject to mining legislation, complete records of operations are not readily available.

MARBLE.

Beds of marble of great variety of colouring, and with highly ornamental markings, are located in many districts of New South Wales. Much of the marble is eminently suitable for decorative work, and in recent years has won the favour of local builders.

Costs of quarrying and of carriage to Sydney are heavy, and handicap the local marble considerably as compared with importations, which have the advantage of cheaper sea carriage, while most of the quarries worked or proved in New South Wales, being in the western district, have to pay the heavier costs of rail carriage.

During 1911 marble valued at £1,610 was obtained, principally from quarries at Caloola and Rockley, and from Borenore, in the Orange division.

Marble quarries have been opened in the Cow Flat, Marulan, Wallerawang, Orange, and Tamworth districts; but the total value, at the place of production, of the marble raised to the end of 1911, amounted only to £21,724.

From Borenore, some 400 tons of marble were sawn into slabs $\frac{3}{4}$ inch thick, and sold for use in the building and furniture trades. From Caloola some 350 tons of marble were obtained and squared into blocks for sawing. A small supply of Rockley marble was sold at 1s. 9d. per superficial foot, and a deposit of black (crinoidal) marble was opened up. At Kempsey, also during 1911, a deposit of chocolate-and-white marble was worked.

STONES.

The Hawkesbury formation, which underlies the city of Sydney and outcrops all round Port Jackson, provides an inexhaustible supply of sandstone of the highest quality for building purposes. This stone, which varies in colour from white to light-brown, is admirably adapted for architectural use, being of fine grain, durable, and easily worked.

Sandstone is quarried in many suburbs of Sydney.

In the north-west of New South Wales, a good building stone (desert sandstone of upper cretaceous age), resembling Hawkesbury sandstone, is used, and somewhat similar freestones are obtained in the permo-carboniferous coal measures at Morpeth and elsewhere north of Sydney.

Syenite, commonly called trachyte, is found at Bowral; as a building material it is equal to granite in solidity, and takes a beautiful polish. It is a fine-grained, hard, crystalline rock, though difficult to dress; in colouring it is light-grey or dark-grey. For building purposes, the short distance from the metropolis at which it is to be found enables it to be used for large structures on comparatively favourable terms.

Granite is found at Bathurst, Moruya, Trial Bay, and on Montagu Island, and at many other places throughout the State. Most of the granite hitherto used in Sydney has been obtained from Moruya, a port 141 miles south of Sydney, where the deposits are of dark-grey granite, and are so located as to derive advantage from cheap water carriage. This applies also to the pale-pink granite of Trial Bay and the red granite of Gabo Island.

Basalt, or "blue metal," suitable for road metal and for the ballasting of railway lines, and for making concrete, is obtained at Kiama, Prospect, and Pennant Hills. From the Prospect quarry the rock can be hewn in large blocks, and sawn into slabs for paving stones.

At Coolabah, tertiary gravels provide suitable material for roads and pathways, viz., uncompacted gravel to a depth of 3 feet below the surface, and, lower still, a type of cemented gravel. Of the uncompacted superficial gravel, some 25 per cent, is of quartzose material of shape and size suitable for a resilient railway ballast.

Within the metropolitan area, prismatic sandstones occurring in different localities have been worked for road material; but the irregular manner in which the sandstones are altered into quartzites militates against safe estimates, from surface indications, of the quantities of "metal" available.

Government Metal Quarries.

At Port Kembla, 48 miles from Sydney, a large quarry has been worked by the State primarily to provide blocks of stone of large size for the breakwater under construction. As facilities exist for easy and quick transport of metal by rail or water, the small stone not required for the breakwater is broken into road metal and utilised for tramway ballast and concrete.

In August, 1911, the Government purchased from the Kiama Road Metal Company the Kiama quarry, including a full working plant and a steamer. During the six months ended 29th February, 1912, the metal quarried and broken for ballasting amounted to 25,937½ tons. Deliveries included 10,294½ tons to Government departments, and 14,162 tons to municipalities and other buyers.

LIMESTONE.

Beds of limestone of different geological ages are distributed widely over New South Wales, the best known being in the eastern and central parts of the State. The limestones are worked for the preparation of quicklime as flux in metallurgical processes, for building stones, and for the manufacture of cement.

Limestone flux was supplied to the Broken Hill silver mines from quarries at Tarrawingee, about 30 miles distant; but with the transfer of the Broken Hill Proprietary Company's smelting operations to Port Pirie, in April, 1898, the demand for flux ceased, and the quarries closed. Since 1900 considerable activity has been displayed in the mining of limestone for the manufacture of lime and cement at Portland, in the Mudgee district, and in the Rockley division, and at Marulan, Broken Hill, Bulahdelah, Taree, Barraba, Parkes, and Peak Hill, where also lime has been produced and a quantity of limestone obtained for flux.

The large dam at Burrinjuck, and the extensive railway and other constructional works in progress, have created an increased demand for cement within this State.

The following table shows the quantity of limestone raised for flux, together with the value of lime and cement manufactured in the last ten years :—

Year.	Limestone Flux.		Value of Cement Manufactured.	Lime Manufactured.	
	Quantity.	Value at Smelting Works.		Quantity.	Value.
	tons.	£	£	tons.	£
1902	17,352	10,615	46,500	20,054	16,018
1903	23,824	14,221	55,740	23,579	17,213
1904	24,975	14,434	54,750	£ 3,173	13,250
1905	14,941	9,519	88,100	18,018	15,019
1906	12,788	7,463	128,487	21,126	15,573
1907	41,667	16,162	144,548	23,587	19,458
1908	53,668	14,779	184,400	24,922	21,610
1909	45,078	13,851	202,200	25,849	24,283
1910	56,938	16,946	251,110	30,113	30,189
1911	46,237	12,541	315,569	29,930	32,918

To the end of 1911 the total production of lime was 271,896 tons, valued at £233,449. The limestone used in the manufacture of cement is obtained wholly from the quarries in the Capertee division. The total value of the limestone raised for flux to the end of 1911 was £691,747, representing 1,091,486 tons. There is a deposit of magnesian limestone (dolerite) in the locality of Mudgee which was regarded by the Iron and Steel Commission as unique. To work extensive limestone deposits in the locality of Manning River, State lime works were established during 1912 at Taree.

CLAYS AND PIGMENTS.

Fireclays of good quality are found in the Wianamatta shales and in the permo-carboniferous measures; and in every part of the State excellent clays, well adapted for brick-making purposes, are worked extensively. During 1911, 200 tons of fireclay were raised at Bathurst, but not treated; 15 tons of fireclay from Ashford Coalmine were sent to Queensland. From Hartley a good output of high-grade silica bricks has been maintained, the approximate value of the output in 1910 being £3,500. Fire-bricks valued at £100 were manufactured at Bathurst.

During 1911, 1,523 tons of quartzite from Hartley were used in the manufacture of silica bricks, valued at £2,800. A deposit of silica in the locality of Goulburn is judged suitable for the manufacture of metal polish.

Kaolin, or China clay, derived from the decomposition of the felspars in granite, is found in many granitic districts, such as Bathurst, Gulgong, Uralla, and Tichborne, near Parkes. The clay is of excellent quality, and superior to the best obtained in England and France.

From Tichborne, in 1909, 625 tons of kaolin were sent to Sydney for manufacturing purposes, and 30 tons from Murwillumbah realised £37 10s. The pottery clay mined at Ulladulla during the year 1910 amounted to some 100 tons.

The output for 1911 is not recorded; a sample from Torrington, analysed during the year, yielded silica, 55.3 per cent.; alumina, 30.8 per cent.

A sample of white clay from Eden showed 69.44 per cent. silica; 18.87 per cent. alumina; and 4.28 per cent. potash.

Fuller's Earth has been located at Boggabri, in the Narrabri division. Trial parcels of the earth, after treatment, realised from £4 to £6 10s. a ton in Sydney. From surface indications, there are some 5 acres of actual outcrop showing Fuller's Earth, but the total extent of the deposit, proved to a depth of between 20 and 30 feet, is considerable; and during 1911 mining operations were commenced, 120 tons of crude earth being raised and dried at the mine. The factory for treatment of the crude earth at Darling Harbour treated 75 tons of earth by levigation and grinding, the product, valued at £5 12s. 6d. per ton, being sold for use in the refining of paraffin wax for candle-making.

Analyses of samples of material treated by grinding and then passing through 100-mesh sieve showed—for the "fines" silica, 62.92 per cent.; alumina, 12.74 per cent. The material rejected from the sieve yielded—62.04 per cent. silica; 14.74 per cent. alumina. Tests of the Boggabri Fuller's Earth demonstrated its efficacy in reducing wool carrying 20 per cent. yolk to a commodity carrying only 3 per cent. yolk.

In the locality of the Boggabri Fuller's Earth deposits, an extensive deposit of earthy limestone, examined during 1911, proved to consist mainly of carbonate of lime (87.76 per cent.), with a little magnesium carbonate (2.15 per cent.), and some gangue sand and clay. This material is in demand for paint manufacture. A sample of "natural cement" from the same locality showed 38.78 per cent. silica; alumina, 8.18 per cent.; lime, 18 per cent.; and carbon-dioxide, 14.7 per cent.

A deposit of steatite was opened up at Wallendbeen during 1910, the quantity disposed of totalling 98 tons. In 1911, 86 tons of steatite quarried in the same locality yielded 83 tons of powdered material, valued at £1 per ton; and 1 ton of steatite was raised in the Mudgee district. Experiments are being carried out to test the suitability of the Wallendbeen deposits for the manufacture of fire-bricks.

Deposits of pigments are found near Mudgee and Dubbo, and also in the Orange district, where a fair quantity of the raw material, consisting principally of purple oxide and yellow ochre, has been produced.

Barytes have been obtained at Bethungra and Cobargo. During 1911, 290 tons of barytes, valued at £910, were raised; the greater portion came from the Cootamundra division, the balance from Cobargo and Mudgee.

Samples of barytes from the localities of Wallendbeen, Eden, and Cootamundra each yielded, on analysis, in 1911, 99 per cent. of barium sulphate; a sample from Lue showed 98 per cent.; from Wyndham, 97 per cent.; from Cobargo, 96 per cent.; and from Tumut 92 per cent. of barium sulphate.

Magnesite has been found at Fifield, but little work was done during 1910. During 1911, suspension of labour conditions was granted, the output being 150 tons of material, yielding magnesite valued at £225.

Graphite occurs in the Walcha division, and at Undercliffe, in the New England district, where there are several lodes, one of which is 6 feet wide, but of inferior quality. During 1911, a lease of 120 acres was taken up at Bookookoorara River, Wilson's Downfall division, and 60 tons of ore were despatched for shipment to England to test its commercial value.

The only mining for plumbago is at the Undercliffe mine, where recently a company has entered upon operations with the intention of manufacturing lubricants, crucibles, paints, &c.

Slates are found in several districts, but are quarried principally at Gundagai, Bathurst, Moruya, and Goulburn.

Asbestos has been found in veins in serpentine in the Gundagai, Rockley, and Barrier Range districts—in the last-named in considerable quantities. A trial parcel of asbestos from the Gundagai district was sent to Europe during 1909.

Mica is known to exist in many parts of New South Wales, but has never yet been worked, although there is a considerable demand for the article, especially if in blocks of fairly large size that could be split easily into thin plates. It is to be obtained in the numerous granitic areas which occur in various parts of the State, especially in the coarsely-crystalline granitic formations in the Silvertown district, and elsewhere in the Barrier Ranges.

In the latter part of 1911 the Government initiated State brickworks at Homebush, near Sydney, where a considerable area of suitable clay was located.

Sand-lime bricks are to be manufactured at Botany, where works under State control were under construction in June, 1912.

ABRASIVES.

The output of grindstones for 1911 was valued at £191, making a total output value to date of £2,666, and representing practically the value of the export trade.

Diatomaceous earth, valued at £242, was obtained at Bunyan, in the Cooma division, during 1910, and several areas were acquired to mine for diatomaceous earth at North Barraba, but during 1911 little work was done, the demand for the output being small. The output of 25 tons from Cooma was valued at £106.

A sample of emery from the locality of Quirindi was analysed in 1911, the result being—alumina, 54·54 per cent.; iron oxide, 31·61 per cent.; titanium dioxide, 4·60 per cent.; phosphoric anhydride, 1·10 per cent.

MINING ACCIDENTS AND SICKNESS.

Mining accidents in the last five years have been responsible for the removal of 933 men from the ranks of industry, 228 being killed, and 705 seriously injured. Particulars for the more important branches of mining are shown in the following statements:—

Fatalities.

Year.	Gold.	Silver, Lead and Zinc.	Copper.	Tin.	Other Metalliferous Mines.	Coal and Shale.	Total.
1907	5	18	1	...	...	17	41
1908	4	19	6	3	...	21	53
1909	4	11	4	...	1	14	34
1910	4	17	7	1	...	21	50
1911	1	23	10	...	1	15	50

As coal and shale and silver-lead-zinc mines show the greatest numbers of fatalities, so also do they show the greatest numbers of persons seriously injured, viz. :—

Serious Injuries.

Year.	Gold	Silver, Lead, and Zinc.	Copper.	Tin.	Other Metalliferous Mines.	Coal and Shale.	Total.
1907	12	33	24	...	...	99	168
1908	17	18	19	...	1	111	166
1909	10	17	14	2	...	59	102
1910	7	20	9	...	...	109	145
1911	6	20	5	1	...	92	124

Relatively to the number of employees, the fatality rates in the various branches, derived from the figures given above, are as follows :—

Fatality Rates per 1,000 Employees.

Year.	Gold.	Silver, Lead, Zinc.	Copper.	Tin.	Other Mines.	Total Metalliferous.	Coal and Shale.	Total.
1907	·670	1·796	·266	...	...	·909	·979	·937
1908	·629	2·513	2·186	1·221	...	1·532	1·161	1·360
1909	·716	1·772	1·976	...	·504	1·121	·754	·934
1910	·762	2·125	3·062	·493	...	1·497	1·164	1·336
1911	·215	2·708	4·649	...	·544	1·808	·849	1·351

Over the same period the accident rates, measured by serious injuries, have been as follows :—

Serious-accident Rates per 1,000 Employees.

Year.	Gold.	Silver, Lead, Zinc.	Copper	Tin.	Other Mines.	Total Metalliferous.	Coal and Shale.	Total.
1907	1·607	3·293	6·376	...	...	2·613	5·704	3·339
1908	2·672	2·381	6·922	...	·569	2·634	6·138	4·260
1909	1·791	2·739	6·917	·982	...	2·411	3·177	2·802
1910	1·334	2·500	3·937	...	...	1·859	6·041	3·876
1911	1·290	2·354	2·324	·449	...	1·653	5·210	3·350

The measure of incapacitation is in reality the sum of the fatality and serious-accident rates, making for all classes of mining the following :—

Incapacitation Rate per 1,000 Employees.

Year.	Incapacitation rate per 1000 employees.
1907	4·776
1908	4·620
1909	3·736
1910	5·212
1911	4·701

Many of these accidents and fatalities occurring on the surface can scarcely be regarded as true mining accidents. During 1911 there were no serious or fatal accidents in connection with dredging, but the following table shows the relative intensity of surface and underground accidents in connection with metalliferous mining. As might be expected, the greater number of accidents occur underground, viz. :—

	Under-ground Accidents.		Surface Accidents.	
	Fatal.	Serious.	Fatal.	Serious.
Gold (quartz)	1	4	...	2
Silver and Lead	19	14	4	6
Copper	7	1	3	4
Tin ... ..	...	1	...	...
Other Metalliferous	1	...	...	...
Total	28	20	7	12

As regards lead-poisoning, no cases were recorded under the Mines Inspection Act, in 1910, nor in 1911; but in the previous eight years the following cases were reported from the mines in the Broken Hill District :—

Year.	Cases.	Year.	Cases.
1902	56	1906	16
1903	40	1907	3
1904	26	1908	1
1905	11	1909	1

In 1909 also, a case of lead-poisoning was recorded from Condobolin. In connection with coal and oil-shale mines, in 1911 nine fatal accidents underground resulted from falls in the mines, viz. :—eight from falls of roof, and one from fall of side; three were classified as miscellaneous underground accidents, and of three surface accidents, two were in connection with railways, &c.; the majority of non-fatal accidents were also underground, and resulted from falls of roof and side; while both underground and on the surface the rail or tramways were responsible for a big proportion of the remainder.

The following statement shows the distribution of accidents, including fatalities and serious or temporary disablement, in each coal-mining district in 1911 :—

	Fatal.			Non-Fatal.		
	Northern.	Southern.	Western.	Northern.	Southern.	Western.
Falls of roof and side	8	1	...	25	13	3
In shafts ... ..	...	...	...	2	...	...
Other underground	3	...	...	41	12	4
Surface	1	1	1	15	7	3
Total	12	2	1	83	32	10

During 1911 no accidents resulted from explosions of fire-damp or coal-dust, but fire-damp was seen and reported in collieries in the northern and southern districts. As a result of the prominence of accidents due to falls of roof and side, averaging 50 per cent. of all accidents in coal-mines, a Royal Commission was appointed in July, 1911, to inquire into the working of the thick seams of coal in the Maitland-Cessnock coalfield, having in view the necessity for—(a) protecting the lives of miners from accidents in mines, and (b) extracting as large a proportion of coal as possible, so as to minimise loss of revenue to the State. Over the ten years, 1901-1910, the average quantity of coal raised per life lost was 245,476 tons for the Maitland district, as compared with 566,353 tons in the Newcastle district, showing that the accident rate in the former case was rather more than double the latter. To mine thick seams with a minimum of accidents, the essentials are careful workmen, good discipline, and special timbering precautions. The recommendations of the Commission included the following:—Standard 6-yard bords and 12-yard pillars; systematic timbering; undercutting by coal-cutting machines; shots to be electrically fired by an appointed shot-firer; top-coal to be left till pillar extraction commences.

No fatalities occurred during the year in connection with the use of explosives, but six persons were more or less seriously injured.

The number of accidents in the coal and shale mines of New South Wales, with the proportion of miners to each fatal and non-fatal case, is given below, as well as the quantity of mineral raised to each life lost and person injured.

Year.	Accidents.		Number of employees per person—		Number of tons of mineral raised to each person—	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
1902	105	154	124	85	57,819	38,993
1903	13	121	1,086	116	491,509	52,807
1904	12	121	1,180	117	504,807	50,063
1905	24	115	589	123	277,932	58,003
1906	21	125	723	118	364,705	61,270
1907	17	160	1,021	108	512,074	54,408
1908	21	166	861	109	435,573	55,381
1909	14	142	1,326	131	504,900	49,779
1910	21	135	859	134	392,467	61,050
1911	15	125	1,177	141	584,447	70,184
Average	26	136	895	118	412,781	55,189

The figures for 1902 were abnormal, due to an explosion at Mount Kembla, which caused the deaths of 95 persons, and injuries, more or less serious, to 14 others. The experience of coal-mining in this State with respect to accidents bears very favourable comparison with that of other countries.

Over a period of twenty years, viz., 1891-1910, the coal and shale mines of New South Wales compare favourably with the records of mines of Great Britain and Ireland, under the British Coal Mines Regulation Acts, 1887-1896, viz. :—

Twenty-Year Averages.	New South Wales.	Great Britain and Ireland.
Mineral output Tons	5,700,441	233,286,198
Persons employed—		
Surface	2,730	157,389
Underground	10,202	647,496
Total... ..	12,932	804,885
Mineral raised per life lost Tons	239,524	199,603
Persons employed per life lost "	649	689
Death rate per million tons of mineral raised "	3·71	5·01

Ambulance classes are trained and corps exist in New South Wales for the purpose of promoting among miners a knowledge of first-aid principles. From 1897-1911, 102 classes were enrolled, the minimum membership being ten. The classes formed during 1911 numbered seven.

Closely related to the question of fatality and accident rates in connection with mining is the question of sickness risk resulting from the environment and occupation; and at this stage it seems advisable to summarise from part "Social Condition" the Friendly Society experience deduced from the available records of mining lodges, as the only well-defined occupation carrying a heavy risk. The experience and rates of sickness of mining and non-mining localities, as disclosed in valuation, were as follows for the nine year period, 1900-1908 :—

	Weeks of Sickness.	
	Total.	Annual Rate per Member.
Mining	154,251	1·613
Non-mining... ..	705,161	1·249
All members	859,412	1·301

The effect of the mining experience, with its heavier rate, was to raise the general sickness rate by 4·2 per cent. Occupational experience in one society where complete records were made available have verified the miners' sickness rates as much heavier at all ages than the non-miners, the average being 82 per cent. higher. The importance of minimising the incidence of hazardous occupation risks may be gauged from the fact that in Queensland, and in Western Australia, in 1911, Royal Commissions were appointed. The recommendations of the Miners' Phthisis Commission of Western Australia included compulsory medical examination and certification of miners before employment; examinations at intervals of six months, the employment of uncertificated miners to be an offence; sanatorium treatment, at the expense of the State, for miners medically rejected for tuberculosis or intermediate fibrosis; the establishment of an insurance trust for the mining industry, medical attendance and medicine to be available for all contributors to the insurance.

In Queensland, the Royal Commission on Health Conditions in Queensland Mines reported in June, 1911, that pulmonary fibrosis was not then widespread among Queensland miners, the deaths ascribed to miner's phthisis being invariably traced to pulmonary tuberculosis with or without antecedent pulmonary fibrosis. But the opinion was offered that considerable risk existed of pulmonary tuberculosis becoming a serious feature in the larger mining communities unless means be adopted to combat tuberculosis in the community in general, and mining centres in particular, as pulmonary tuberculosis has shown a distinct tendency to increase among metalliferous miners in Queensland in the last ten years.

MINERS' ACCIDENT RELIEF FUND.

The New South Wales Miners' Accident Relief Act, 1900, operative since the 1st January, 1901, applied originally to all mines in or about which fifteen or more persons are employed; but under an amending Act passed in 1910, it is now applicable to mines employing less than fifteen but more than five persons.

The number of distinct mines subject to the Act during 1911 was 190, of which 168 remained subject at 31st December, 1911, the balance, twenty-two, having ceased operations before the end of the year.

The following statement shows the area of operations of the Act during the last three years:—

Year.	Mines subject to the Act.		Average Number of Employees.	Accidents reported.		Beneficiaries permanently disabled.
	During year.	At end of year.		Fatal.	Non-Fatal.	
1909	180	167	24,145	45	4,788	20
1910	180	168	24,337	61	5,186	54
1911	180	168	28,034	64	6,024	40

Of the fatal accidents reported for 1911, twenty-seven occurred in or about coal and shale mines, and thirty-seven in or about metal mines.

The Miners' Accident Relief Fund is administered by a board of six members, viz., a chairman and a representative each of (1) owners of coal and shale mines, (2) owners of other mines, (3) persons employed in or about coal and shale mines, (4) persons employed in or about other mines, and (5) the Department of Mines.

A sum of 4½d. per week is deducted from the wages of each employee and paid by the manager of the mine to a committee for the mine, consisting of (1) an Inspector of Mines appointed by the Minister, (2) three persons appointed by the employees, and (3) two persons appointed by the owner or manager. The committee considers all applications for relief in case of accident, and grants and pays such allowances as are warranted under the provisions of the Act, paying surplus moneys into the reserve fund fortnightly.

The revenue of this fund consists of (1) the balance of deductions from wages unexpended by committees in payment of allowances, (2) a quarterly contribution, by the owner or owners of each mine, equal to 50 per cent. of the aggregate amount deducted from the wages at such mine, and (3) a subsidy from the Government equal to the amount contributed by owners of mines. The Board makes advances to committees in cases where the sums deducted from wages are inadequate to meet allowances payable.

Reserves and Valuations.

At 31st December, 1911, as the result of eleven years' operations of the fund, the reserves consisted of £278,000, invested as required by the Act, in New South Wales Government funded stock, viz., £216,500, at 3½ per cent., and the balance, £61,500 at 3¾ per cent.; the amount at current account was £1,566, and various amounts payable to the fund aggregated £446.

Under the Act, quinquennial valuations are required to be made to show the solvency of the fund. The first valuation was made by the Registrar of Friendly Societies as at 30th April, 1905, and consequent thereon the original scale of allowances to adult beneficiaries was increased by 25 per cent., and to dependent children by 20 per cent., making the benefits payable as follows:—

(a) In cases of fatal accident—(1) Funeral allowance, £12; (2) a weekly allowance of 10s. to the widow or other adult dependent upon the deceased for support; and (3) a weekly allowance of 3s. in respect of each child of the deceased or of each child of an adult dependent, payable until such child attains the age of 14 years.

(b) In cases of disablement—(1) A weekly allowance of 15s. until able to resume work, and, where disablement is adjudged permanent; (2) a weekly allowance of 3s. in respect of each child under the age of 14 years.

The second quinquennial valuation of the fund, made on a 3½ per cent. basis, as at the 30th April, 1910, showed that the liabilities amounted to £219,903, and the assets to £246,921, the surplus of assets being £27,018. The beneficiaries on the fund numbered 1,341 at the valuation date; 287 adults and 435 children were drawing allowances as the result of fatal accidents; 186 miners and 153 children in consequence of permanent disablement; the balance, 280, being miners temporarily disabled.

At 31st December, 1910, the beneficiaries in receipt of allowances consisted of 306 adults and 466 children by reason of fatal accidents, and 164 persons permanently disabled, upon whom 155 children were dependent.

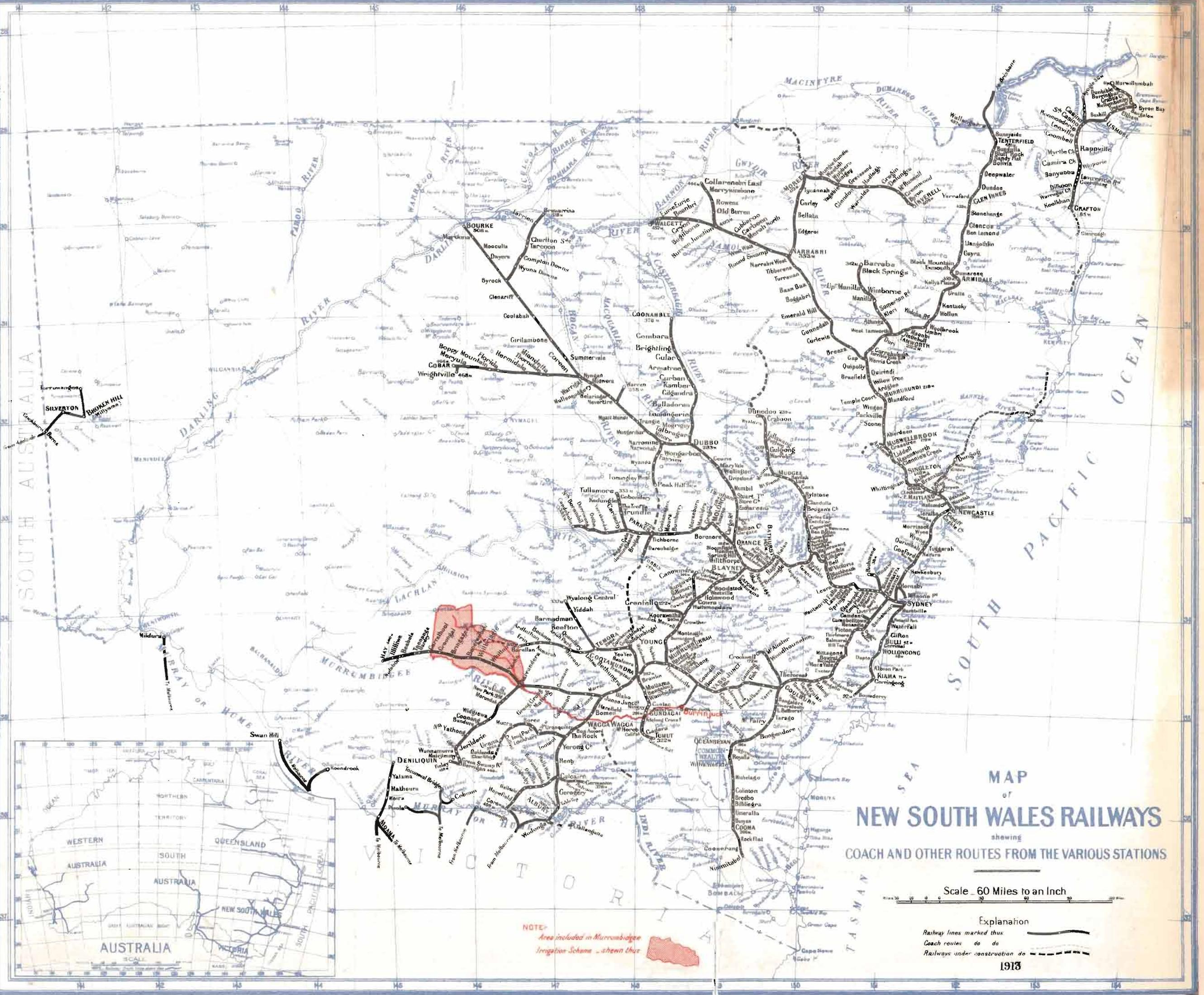
At 31st December, 1911, the beneficiaries numbered 340 adults and 501 children, on account of fatal accidents; 204 persons permanently disabled, with 180 dependent children. Funeral allowances paid during 1911 amounted to £684, representing 57 deaths.

Analysis of the accident experience since the fund was established shows an increasing frequency of non-fatal accidents, viz. :—

Period.	Average Number of Employees.	Accidents recorded.		Annual Accident Rate per 1,000 employees.	
		Fatal.	Non-Fatal.	Fatal.	Non-Fatal.
1901-5	21,377	286	17,419	2·7	163·0
1906-10	26,626	278	27,689	2·1	208·0
1910	24,337	61	5,186	2·5	213·1
1911	28,034	64	6,024	2·3	214·9

These non-fatal accidents are classifiable naturally under two categories, involving (a) permanent or (b) temporary disablement. In the Act, however, there is no specific definition of the terms. For valuation purposes, the total number permanently disabled between 1st January, 1901, and 30th April, 1910, was taken as 214, and represented, approximately, 1 per 1,000 per annum of exposures. The temporary disablements during the same period numbered 40,575, distributed as follows, the average duration of disablement being $29\frac{1}{2}$ days each:—

Duration.	Men Disabled.	Duration.	Men Disabled.
Weeks.	No.	Years.	No.
0—4	30,744	1— $1\frac{1}{4}$	53
5—8	6,388	$1\frac{1}{4}$ — $1\frac{1}{2}$	20
9—13	1,819	2— $2\frac{1}{4}$	12
14—26	1,116	$2\frac{1}{4}$ —3	1
27—39	271	3— $3\frac{1}{2}$	4
40—52	110	Over 4	5
Total, 1 year and under	40,448	Total over 1 year	95



MAP
of
NEW SOUTH WALES RAILWAYS
showing
COACH AND OTHER ROUTES FROM THE VARIOUS STATIONS

Scale - 60 Miles to an Inch

- Explanation
- Railway lines marked thus
 - Coach routes do do
 - Railways under construction do

1913

NOTE -
Area included in Murrumbidgee
Irrigation Scheme - shown thus

POSTS AND TELEGRAPHS.

THE control of the postal, telegraphic, and telephonic services of New South Wales became vested in the Commonwealth, under the provisions of the Commonwealth of Australia Constitution Act, and by proclamation these services were taken over on 1st March, 1901, and the Commonwealth Post and Telegraph Act, 1901, was assented to on 16th November, 1901. The system of administration and the rates levied in each State at the date of federation continued in force until the Commonwealth Post and Telegraph Rates Act, 1902, was brought into operation on 1st November, 1902, this measure securing uniformity in all the States of the rates charged for the conveyance of newspapers and transmission of telegrams. The postage rates on letters, letter-cards, printed papers, books, and magazines within each State were still continued until 1st May, 1911, when, by the Postal Rates Act, 1910, complete uniformity of postage rates was established, and the postage for letters within the Commonwealth or to any part of the British Empire was reduced to 1d. per $\frac{1}{2}$ oz. The Postmaster-General is prepared to establish a reciprocal penny letter post with any country willing to join in such an arrangement.

Although the Post Office is now exclusively controlled by the Commonwealth, it is apparent that in any statistical account of New South Wales special reference should be made to a service which is intimately associated with the commercial and social life of the State.

Taking into consideration its large area, New South Wales possesses an excellent system of postal and telegraphic communication. The interstate system is good, and New South Wales is in direct communication with Europe and the rest of the world by means of the cables connecting with the various European, Asiatic, and the Canadian and South African telegraph lines, and the State is also connected with New Zealand. A wireless telegraph station, with a range of 1,400 miles, has been constructed at Pennant Hills, near Sydney.

EARLY POSTAL FACILITIES.

No means of postal communication existed in New South Wales until 1809, when the first post office was established in Sydney. This establishment appears to have been merely a distributing office for letters and parcels arriving in Sydney; the conveyance of inland mails depended on constables and on private individuals, no arrangements having been made for the despatch of ship letters. The postmaster was empowered to charge on delivery to the addressee 8d. for every English or foreign letter of whatever weight, and for every parcel weighing not more than 20 lb., 1s. 6d., and exceeding that weight, 3s. The charge on colonial letters was 4d., irrespective of weight; and soldiers' letters were charged 1d.

Measures towards additional postal communication were not taken till 1825, when an Act was passed to regulate the postage, and a proclamation was issued fixing the postage rates and salaries and allowances of postmasters, and inviting tenders for the conveyance of mails. The provisions of the Act, however, were not fully observed until 1828. In that year there were in the Sydney establishment one principal postmaster, one clerk, and one letter-carrier, in addition to eight country postmasters and a carrier at Parramatta. In 1837 a fortnightly mail was established between Sydney and Melbourne.

Stamps were introduced in the same year in the form of stamped covers or envelopes, New South Wales being the first country in the world to adopt prepayment of postage by stamps.

In the year 1838 there were fifteen officers in the Sydney establishment. Within the borders of New South Wales, which at that time included Victoria and Queensland, there were forty post offices, the revenue of the Department for the year being £8,390, and the expenditure £10,357. The New South Wales Government also made payments to the post office in New Zealand, which was not created a separate colony until 1841. Mail communication by land between Sydney and Adelaide was established in 1847, and the rate of postage on a single letter was fixed at 1s. 6d. An amendment of the Postal Act was made in 1849, when the postage on town letters was fixed at 1d., and on inland letters at 2d., while the postage on ship letters was 3d., in addition to the inland rate, and authority was given for the use of postage stamps in their present form.

POSTAL FACILITIES IN 1855.

The first annual report of the Postal Department in New South Wales was laid before Parliament in the year 1855, and at that time there were 155 post offices. The head office was in George-street, Sydney, occupying the same site as the present edifice, but the building was small and inconvenient. There were no electric telegraphs, and the Observatory, by means of flags and semaphores, signalled the arrival of vessels at the Sydney Heads. Prior to the opening of the first railway, in September, 1855, the Southern and Western mails were despatched from the General Post Office in mail-coaches every evening. During that year the total distance travelled by the postal contractors, by coach and on horseback, was 1,023,255 miles. The number of letters passing through the post office was 2,114,179, of which 617,041 were addressed to places beyond New South Wales. The number of newspapers was 2,100,989, of which 1,281,613 were inland, and 819,376 were "foreign." Book parcels and packets were not reckoned separately, but were counted as letters. The revenue of the Department for the year was £24,902, and the expenditure was £60,221. The staff numbered 223 officers, of whom fifty-six were connected with the office in Sydney. The annual report also indicates that communication with Victoria was effected three times a week.

In the year 1856 the first iron pillar letter-receivers were erected in Sydney, and 22 miles of railway were utilised for postal purposes, 16½ miles being added in the following year.

In 1863 it was resolved to build a new General Post Office at Sydney, and the construction of the present building was commenced, but was not opened till 1874. The headquarters of the Electric Telegraph Department and the Telephone Exchange are in the same building.

By an arrangement made at the Postal Congress held in Vienna in 1891, New South Wales entered the Universal Postal Union on 1st October of that year.

COMPARISON 1855 AND 1911.

In 1855 there were only 155 post offices within the area now comprised in New South Wales and Queensland; at the close of 1911 there were within this State alone 1,948 post offices, besides 542 receiving offices.

The mail routes in the year 1866 were 8,231 miles in length, whilst in 1911 the routes totalled 43,755 miles represented by railway, 3,725 miles; water, 2,928 miles; and other, 37,102 miles.

The number of letters, letter cards and post cards, including 1,555,580 registered articles passing through the Post Office in New South Wales during

1911 was 189,656,401, and the number of newspapers, 71,619,194. Packets and book parcels were first enumerated separately in 1858, during which year 68,564 passed through the post; in 1911 the number was 36,283,500.

Post cards were introduced in 1875, and letter cards in 1894.

A parcels post for inland and interstate transmission was inaugurated on the 1st October, 1893, the maximum weight being fixed at 11 lb. The number of parcels carried under this system up to the close of the year 1893 was 44,265, and 349,218 were carried during 1895. Under the foreign system, which has been in force since August, 1886, 19,437 parcels were carried in 1893, and in 1903, 53,221. In 1911 the total number of parcels carried was 1,748,822, of which 1,396,114 were inland, 274,952 interstate, and 77,756 from and to places outside the Commonwealth. Special low rates have been fixed for the carriage by post of commercial papers, merchandise, patterns, and samples, and printed papers, newspapers, books, and magazines.

VALUE-PAYABLE PARCEL POST.

When the Postal Department was transferred to Federal control in 1901, a system of value-payable parcel post which had been in operation in Queensland was extended to the other States. Under this system the Department accepts for transmission within the Commonwealth parcels or letters sent in execution of orders, and collects from the addressees on behalf of the senders the charges due thereon. During 1911, the number of parcels posted in New South Wales was 9,198 and the value collected was £15,314, the revenue, including postage, commission on value, registration, and money-order commission being £1,087.

NUMBER OF POST OFFICES, &c.

The following table shows for New South Wales the number of post offices, employees, income and expenditure in five-year periods from 1855 to 1911. For 1885 and succeeding years the number of persons employed and the income and expenditure refer to the Department as a whole; prior to that year the figures are for Post Office only. Since 1907 the number of persons employed includes temporary employees. Also, from 1885, the income is exclusive of interest on Savings Bank balances in the Treasury; and the expenditure is exclusive of interest allowed to Savings Bank depositors:—

Year.	Post Offices in New South Wales.	Receiving Offices.	Persons employed in the Postmaster-General's Department.	Revenue.	Expenditure.
	No.	No.	No.	£	£
1855	155	8	223	24,902	66,221
1860	289	*	289	45,613	71,391
1865	435	*	513	70,985	83,659
1870	562	*	690	84,441	86,722
1875	752	7	967	107,761	196,368
1880	927	119	1,536	104,084	268,128
1885	1,115	202	3,205	485,489	573,617
1890	1,338	325	3,821	637,975	677,216
1895	1,470	502	5,063	648,852	763,259
1900	1,668	521	5,516	831,340	764,227
1905	1,744	522	5,890	1,022,330	970,868
1910	1,911	526	8,622	1,437,748	1,339,891
1911	1,948	542	9,255†	1,478,091	1,567,801

* Not recorded. † Exclusive of 1,589 Mail Contractors.

The Postmaster-General establishes new mail services in the country districts of the State when the persons interested provide half the difference between cost and revenue.

EARLY CLOSING OF POST OFFICES.

From 1st March, 1911, the closing hour of 6 p.m. was adopted at all Post and Telegraph Offices, with the exception of the Chief and other important Telegraph Offices, which it is found necessary to keep open to a later hour.

REVENUE AND EXPENDITURE.

The following statement shows the revenue and expenditure of the Postmaster-General's Department in New South Wales for the year ended 30th June, 1911 :—

Revenue.		Expenditure.	
	£		£
Postage	949,604	Salaries	636,744
Private bags and boxes	8,518	Conveyance of mails	330,215
Commission on money orders	21,770	Contingencies	280,865
Poundage on postal notes	22,544	Cable Subsidies, &c.	8,621
Telegraphs	245,875	New Works—	
Telephones	182,331	Telegraphs and Telephones	228,445
Miscellaneous	47,399	Other	37,359
		Rent, repairs, &c.	27,612
		Pensions and retiring allowances	13,607
		Other	4,333
Total	£1,478,091		£1,567,801

POSTAL MATTER CARRIED.

The following return, showing the letters, &c., posted and received, will give an idea of the magnitude of the work done by the Post Office in New South Wales :—

Year.	Letters.	Post-cards.	Newspapers.	Packets and Book Parcels.	Parcels.
	No.	No.	No.	No.	No.
1855	2,114,179	...	2,100,959	* ...	...
1860	4,230,761	...	3,668,783	83,736	...
1865	6,328,353	...	4,689,858	249,904	...
1870	7,083,500	...	3,814,700	157,700	...
1875	13,717,900	128,786	6,262,600	357,000	...
1880	21,732,500	153,360	13,791,000	711,600	...
1885	39,351,200	341,000	25,567,400	3,446,800	...
1890	63,017,700	677,400	40,597,200	8,939,600	21,300
1895	68,416,308	957,400	44,902,900	11,259,200	422,800
1900	78,129,284	1,473,410	51,500,920	13,846,700	711,700
1905	103,576,306	8,382,282	44,599,104	22,083,000	994,100
1910	151,315,512	12,438,544	65,963,559	39,008,610	1,600,426
1911	189,656,401	*	71,619,194	36,283,500	1,748,822

* Included with letters.

In 1855 the number of letters and newspapers, inland and foreign, was slightly over 2 millions each, whereas in 1911 the number of letters and post-cards had grown to 189 $\frac{2}{3}$ millions, and newspapers to 71 $\frac{1}{2}$ millions, without reckoning over 38 millions of packets and book parcels.

During 1911 the postal matter posted and received per head of population was : Letters and postcards, 114 ; newspapers, 43 ; and packets and parcels, 23.

In the year 1911, 6,448,585 letters and postcards, 87,101 registered articles, 3,713,671 newspapers, and 1,596,706 packets and parcels were posted in New South Wales for countries outside Australia.

REGISTERED LETTERS.

In order to ensure safe delivery any letter, package, or newspaper may be registered on the payment of an additional fee of 3d. All articles of value are required to be registered. The number of registered articles posted and received in New South Wales during 1911 was 1,555,580, of which 276,895 were interstate, and 248,973 to and from places beyond Australia.

DEAD LETTERS, &c.

The number of dead letters and other articles dealt with by the Post Office in New South Wales during 1911 was as follows:—

	Letters.	Post-cards.	Packets.
Returned to writers, delivered, &c., in State in which posted	No. 353,531	No. 4,100	No. 465,311
Destroyed in accordance with Act	105,476	48,248	26,777
Returned to other States or Countries as unclaimed ...	81,372	5,863	3,762
Total... ..	540,382	58,211	495,850

The letters, &c., which passed through the Dead Letter Office are very numerous, but from official reports it appears that much carelessness is displayed by some people in connection with their correspondence, and numbers of letters, including many containing articles of large value, are wrongly or insufficiently addressed, or not addressed in any way.

Of the post cards destroyed in accordance with the Act, it may be stated that, for obvious reasons, beaded or tinselled cards are prohibited from transmission by post unless in envelopes.

RATES OF POSTAGE.

Letters.

The charge on letters between the State and the United Kingdom, which had for a long period been at the rate of 6d. per $\frac{1}{2}$ oz. *via* Italy, and 4d. by the long sea route, was reduced in 1891 to 2 $\frac{1}{2}$ d., the reduced rates being extended, when New South Wales entered the Postal Union, to all foreign countries embraced in the Union. A further reduction, made in 1905, to 2d. for a letter sent to the United Kingdom, was afterwards extended to all other parts of the British Empire.

Although the Commonwealth did not participate in the Imperial Penny Postage scheme at its inception, it was decided in 1902 to accept in Australia, with the concurrence of the despatching countries, letters from other parts of the Empire bearing postage at the rate of 1d. per $\frac{1}{2}$ oz., and arrangements were concluded with New Zealand, Canada, and the United Kingdom. Consequent on a decision of the Rome Postal Congress to allow administrations to adopt an initial weight of 20 grammes for letters, the United Kingdom adopted 1oz. as the initial weight, and approval was given in 1907 for the acceptance in Australia of letters from any other part of the Empire bearing postage at the rate of 1d. per oz.

On 1st May, 1911, the penny postage rates were introduced, and the rate for letters throughout the Commonwealth and to any part of the British Empire was fixed at 1d. per $\frac{1}{2}$ oz. To New Hebrides, Banks and Torres Islands, the charge is 2d. per $\frac{1}{2}$ oz., and to all other places 2 $\frac{1}{2}$ d. per $\frac{1}{2}$ oz. A proposal by the Commonwealth Government to extend the penny postage to the United States of America was not accepted by the United States Administration.

Post Cards.

The charges for post cards are—Within the British Empire and to the United States of America, 1d. each; to other places, 1½d. each; and for letter cards, within the Empire, 1d. each; to New Hebrides, Banks and Torres Islands, 2d. each; to other places, 2½d. each.

Newspapers.

To secure transmission at newspaper rates, it is required that newspapers be registered at the General Post Office, and both newspapers and supplements must be printed and published within the Commonwealth. At the end of the year 1911 there were 803 newspapers on the register.

Newspapers are transmitted to any place within the Commonwealth, Papua, New Zealand, and Fiji, at the rate of ½d. for every 10 oz. or fraction thereof; to the United Kingdom, for each newspaper not exceeding 8 oz., 1d.; exceeding 8 oz., but under 10 oz., 2½d.; every additional 2 oz., ½d.; and to all other places at the rate of 1d. for each newspaper not exceeding 4 oz. in weight, with ½d. for every additional 2 oz. or fraction thereof. Newspapers transmitted wholly by sea to the United Kingdom are charged at the rate of 1d. for every 16 oz.

Parcels.

A parcel will not be accepted for posting if exceeding 11 lb. in weight. The postage inland for a parcel weighing 1 lb. is 6d., increasing to 3s. for one weighing 11 lb. Interstate parcels are charged at the rate of 8d. for 1 lb., increasing to 5s. 8d. for 11 lb.

Books.

Books up to 5 lb., for delivery within the Commonwealth, if printed in Australia, are charged ½d. per 8 oz., or part thereof. For books printed outside Australia the postage is ½d. per 4 oz., or part thereof. With a few exceptions, books posted for delivery in other places are charged 1d. per 2 oz. or part of 2 oz.

Commercial Papers, &c.

Commercial papers, merchandise, patterns, and samples are charged postage at the rate of 1d. for every 2 oz. or fraction thereof, if for delivery within Australia, New Zealand, and Fiji, and for other places there is a slight increase in the postage charge.

Printed papers up to 5 lb. weight, if for delivery within Australia, New Zealand, and a few British islands, are charged ½d. per 2oz. or part thereof.

POSTAGE STAMPS.

While the book-keeping clauses of the Constitution Act of the Commonwealth remained in operation, postage stamps were only valid for use within the States in which they were issued; but on 13th October, 1910, they were made available for use throughout the Commonwealth, pending the issue of stamps of uniform design for all the States.

Licensed vendors may be allowed 2½ per cent. commission, up to a maximum of 30s. per week.

During the year ended 30th June, 1911, an amount of £6,756 11s. 7d. was paid as commission to licensed vendors of postage stamps in the State of New South Wales, the total so paid for all States of the Commonwealth being £20,884 15s. 11d.

OCEAN MAIL SERVICES.

Regular steam communication with England was established in 1852, by the steamers of the Peninsular and Oriental Company; the service was suspended two years later on the outbreak of the Crimean war, and was not resumed until 1856. As this service proved unsatisfactory, a line was started in 1866 to carry mails from Sydney, *via* Panama, but it was terminated two years later.

San Francisco Route.

On the completion of the railway across America in 1869, a monthly service, *via* San Francisco, was inaugurated, under contract with the New Zealand Government, in which New South Wales participated under certain conditions until the expiration of the contract in 1871. The route was re-established in 1873 by the Governments of New South Wales and New Zealand, in consequence of an alteration in the arrangements regarding the Suez service as shown below. Although this route declined in importance as regards this State, by reason of the subsequent development of the weekly service *via* Suez, New South Wales contributed towards the maintenance of the service under various conditions, until the expiration of a contract between New Zealand and the Union Steamship Company in 1900. After that date Australian mails were despatched every three weeks at Postal Union rates, *via* San Francisco, by the American vessels of the Oceanic Steamship Company, which had a contract with the United States Government, but this service was suspended in April, 1907. After an interval of some months another service was for a short time carried on by a British firm. The Oceanic Company resumed the San Francisco to Sydney service in 1912, making monthly trips.

In January, 1909, New Zealand entered into a contract for a mail service between New Zealand and Papeete, connecting with the United States service between Papeete and San Francisco. This contract was determined in October, 1910, and a new service from New Zealand, *via* Raratonga and Papeete to San Francisco, was in 1911 extended to Sydney; by alternation with the Vancouver line fortnightly communication with America is provided, the mails from Australia being carried at poundage rates.

Vancouver Service.

In 1893, direct communication with Canada was established by the inauguration of a regular monthly service between Sydney and Vancouver, *via* Wellington, subsidised by New South Wales and New Zealand. In 1899, the route was altered and Brisbane was substituted as a port of call instead of Wellington. Since the expiration of a contract in July, 1911, the call at Brisbane has been discontinued, and the Commonwealth has ceased to be a party to the contract for this service, though mails are despatched at Postal Union rates by the vessels sailing under a new contract, subsidised by Canada and New Zealand, and calling at Auckland, Suva, and Honolulu.

Suez Route.

After the establishment of a mail route across America, there was a considerable improvement in the service *via* Suez. The Peninsular and Oriental Company continued to carry mails under contracts negotiated by the Imperial Government—the Australian Governments contributing a share of the cost, in accordance with the weight of postal matter transmitted. For some years prior to 1874, the mails between England and Australia were conveyed under two contracts—one between England and Point de Galle, Ceylon, and one between Point de Galle and Sydney. In 1873, the Imperial Government decided to discontinue the latter contract, but offered to convey Australian

mails between England and Galle, or Singapore, or San Francisco. Subsequently Victoria entered into a contract with the Peninsular and Oriental Company for a service between Galle and Melbourne, the Queensland Government conveyed mails to Singapore, *via* Torres Straits—a service which was established in 1864—and the Governments of New South Wales and New Zealand completed arrangements for a subsidised service to San Francisco. By mutual agreement, the contracting States for each mail service arranged to carry mails for the other States at poundage rates.

In 1878, the Orient Company commenced to carry mails *via* Suez, at non-contract rates until 1883, when the first contract was made with New South Wales, payment being based on the weight of letters carried.

Facilities for the transmission of mails to Europe were afforded also by the inauguration of the Messageries Maritimes line in 1882, and of the Nord-deutscher Lloyd in 1886.

Until 1888, however, mail communication between Australia and the United Kingdom, *via* Sydney, was mainly dependent upon the two contract services, *viz.*, the Orient Company, fortnightly between Sydney and Suez, by arrangement with the New South Wales Government, and the Victorian contract with the Peninsular and Oriental Company, fortnightly between Melbourne and Colombo. These services provided weekly connection with the mail lines from England to China and India, maintained by the Imperial Government.

In 1887 arrangements were made by which all the States of Australia agreed to take joint action with regard to subsidising the services *via* Suez, and at the expiration of existing contracts in 1888 the Imperial Government negotiated contracts with the Peninsular and Oriental and the Orient Companies for two fortnightly services, alternating to secure weekly communication. Each company was subsidised at the rate of £85,000 per annum—£95,000 being paid by the Imperial authorities and £75,000 contributed by the Australian Governments, apportioned amongst the States on a population basis.

After being renewed for various periods on somewhat similar conditions, these contracts terminated on 31st January, 1905.

In consequence of the determination of the Federal Parliament, as expressed in the Post and Telegraph Act of 1901, to provide for the exclusive employment of white labour on contract mail steamers, the Imperial authorities arranged to take separate action to secure a fortnightly service to Australia, and entered into a contract with the Peninsular and Oriental Company, paying one subsidy for the conveyance of mails to Australia, East India and China. On the expiration of this contract on 31st January, 1908, it was renewed for a further period of seven years. Mails from Australia are still carried by the P. and O. Company, being paid for at postal union rates.

The Commonwealth decided to provide another fortnightly service to alternate with the Imperial contract, and in April, 1905, completed an agreement with the Orient Company for the carriage of mails fortnightly between Naples and Adelaide, *via* Suez, at an annual subsidy of £120,000, the period of transit being fixed at 696 hours. It was subsequently arranged that upon the payment of an additional subsidy that the steamers of this line should continue the voyage from Sydney to Brisbane. The agreement lasted until 31st January, 1910, when a tender submitted by the Orient Company for a ten years' service, dating from 1st February, 1910, was accepted.

The contract provides that the vessels must call at Brisbane each trip, and that the periods of transit must be the same as are provided in the Imperial contract with the Peninsular and Oriental Company, viz., Brindisi to Adelaide 638 hours, and Adelaide to Brindisi 650 hours. All the mail steamers must be fitted with wireless telegraphy installations. The amount of subsidy is £170,000 per annum. White labour only is employed on these mail steamers, which sail under the Commonwealth flag.

In addition to the weekly service thus provided by the British lines, the Messageries Maritimes and the Norddeutscher Lloyd steamships carry mails for the Commonwealth at poundage rates. The former are subsidised by the French Government to carry mails monthly between Marseilles and New Caledonia, and the latter receive a subsidy from the German Government for a monthly service between Bremen and Sydney, via Genoa.

Oversea Mails.

The postal matter carried to and from New South Wales by each of the services during 1911, is shown below:—

	P. & O. Co.	Orient Royal Mail.	Canadian-Australian, via Vancouver.	Nord-Deutscher Lloyd's.	Messageries Maritimes.
Interstate—	No.	No.	No.	No.	No.
Letters and Postcards ...	416,279	470,509	45,474	2,547	169
Newspapers	315,466	348,195	30,177	128	...
Packets and Parcels ...	87,822	90,632	12,446	59	2
Oversea—					
Letters and Postcards ...	4,792,160	5,132,587	673,750	30,700	17,544
Newspapers	1,104,474	1,245,661	267,407	9,297	4,953
Packets and Parcels ...	594,911	1,028,367	137,012	8,685	3,775

The European mails, *via* Suez, are landed at Adelaide, from which city the journey by train to Sydney occupies forty-two hours, including a stay of seven hours at Melbourne.

The following table shows, as far as possible, the average time and quickest time occupied in the transmission of letters by various routes between London and Sydney during 1911:—

Service.	London to Sydney.		Sydney to London.	
	Average Time.	Quickest Time.	Average Time.	Quickest Time.
	days.	days.	days.	days.
<i>Via</i> Suez—				
Per Peninsular and Oriental S. N. Co.	31 $\frac{1}{2}$	31	31 $\frac{4}{5}$	31
„ Orient Royal Mail Line	31 $\frac{1}{2}$	31	32 $\frac{4}{5}$	32
„ Messageries Maritimes ... ..	...	...	35 $\frac{6}{5}$	34
„ Norddeutscher Lloyd ... ..	...	...	34 $\frac{5}{4}$	33
<i>Via</i> Vancouver—				
Per Canadian-Australian—				
<i>Via</i> Brisbane ... ..	...	...	34 $\frac{6}{7}$	34
<i>Via</i> Auckland ... ..	...	...	36 $\frac{1}{5}$	35

Pacific Islands Mail Service.

Between the years 1888 and 1891 the Government of New South Wales contributed towards the cost of steam communication between Sydney, New Caledonia, New Hebrides, and other islands of the Pacific. The system was revived after a lapse of several years, and in 1900 a contract for a period of ten years was made for a monthly steam service, including conveyance of mails, between Sydney, New Hebrides, Santa Cruz, and Solomon Islands, for an annual subsidy of £3,600, which was increased to £4,000 on the condition of employing white labour only when the Commonwealth Government took over the contract in 1901. The subsidy was increased at various dates to provide extensions to Gilbert and Ellice Islands and to British New Guinea. Under the existing agreement which commenced in September 1910, for five years, a mail service to Papua, Solomon Islands, New Hebrides, and the Marshall, Gilbert, and Ellice Islands is provided at an annual subsidy of £19,850.

TELEGRAPHS.

The electric telegraph was first used by the public of New South Wales on 26th January, 1858, when the line from Sydney to Liverpool, 22 miles in length, was brought into operation. The network of telegraph lines now embraces all the important centres of population throughout the State. In 1911 there were 1,406 stations, and for telegraph and telephone business 18,253 miles of lines open, with 132,363 miles of wire in actual use. The following table gives a view of the telegraph facilities and business transacted in New South Wales from 1865 to 1911:—

Year.	Telegraph Stations.	Telegrams transmitted, delivered, and in transit.	Actual Revenue received.	Telegraph and Telephone Lines.	Telegraph and Telephone Wires.	Cost of construction, including Telephone installation.
	No.	No.	£	miles.	miles.	£
1865	55	*138,785	29,769	...	2,989	145,446
1870	86	*173,812	28,550	...	5,247	195,545
1875	137	*719,745	48,657	...	8,012	253,391
1880	289	1,319,537	84,110	...	13,188	462,226
1885	404	2,625,992	155,073	...	19,864	641,669
1890	628	4,101,449	193,707	11,231	23,598	743,698
1895	834	2,635,456	145,901	12,316	23,799	840,380
1900	961	3,219,907	174,895	14,065	41,494	1,132,626
1905	1,069	3,837,962	156,956	14,827	71,086	1,434,017
1910	1,399	5,607,178	245,245	17,615	113,147	†981,182
1911	1,406	5,863,560	253,398	18,253	132,363	†1,013,460

* Number despatched only.

† Exclusive of cost of telephone construction.

The number of telegrams received and despatched during the year, inland telegrams being counted once only, and omitting 357,625 messages for onward transit to other States, amounted to 5,505,935, or 3.31 per head of population. Although of late years subscribers to telephone exchanges have greatly increased in number, as may be seen from a later table, there has been no decline in the number of telegraph messages, but as the above table shows, there has been a steady increase in each year. The Wheatstone Automatic system has been introduced between the Australian capital cities directly connected by telegraph, with the result that the traffic may be handled with less delay and greater economy.

CABLE SERVICES.

Eastern Extension Cables.

Cable communication between Australia and Europe was opened in 1872 by means of a submarine cable from Java to Port Darwin, messages being transmitted by the overland telegraph line from Darwin to Adelaide, distance 1,971 miles. Under an agreement made with New South Wales and Victoria, the Cable Company undertook to duplicate the line, the second cable being brought into use in November, 1879, and up to October, 1899, the company received from the Australian States (excepting Queensland) a subsidy of £32,400 per annum. These lines are controlled by the Eastern Extension Company. This company, under agreement with South Australia, Western Australia, and Tasmania, which New South Wales subsequently joined, provided for a reduction in the charges for cablegrams, and for the construction of a cable between Durban and Australia *via* Cocos. The line was opened for business in 1901, the Australian landing station being at Perth. By agreement with the Western Australian Government, dated January, 1899, the Eastern Extension Company was also empowered to lay a cable from Java to Roebuck Bay in Western Australia.

A cable, also constructed by the Eastern Extension Company, connecting New Zealand with New South Wales, was opened for communication on 20th February, 1878, and was subsidised for ten years. The landing places of this cable are at La Perouse, near Sydney, and at Nelson, New Zealand. In 1890 the Company laid a second cable to New Zealand without guarantee.

New Caledonia Cable.

In 1893 a cable from Gomen, New Caledonia to Queensland was opened by a French company, to whom New South Wales and Queensland each agreed to pay an annual subsidy of £2,000 for thirty years.

Pacific Cable.

In 1899 it was decided by the Governments of the United Kingdom, Canada, Australia, and New Zealand to construct a cable across the Pacific Ocean, touching only British territory on its way from Australia to America. This line, which was completed on 31st October, 1902, connects Southport, in Queensland, with Vancouver *via* Norfolk Island, Fiji, and Fanning Island. There is also a branch from Norfolk Island to Doubtless Bay, New Zealand. The cable cost, roughly, £2,000,000, and its total length is 7,838 nautical miles. It is managed by the Pacific Cable Board, consisting of representatives from the various Governments. In 1910 the Pacific Cable Board leased a telegraph line between Bamfield, British Columbia, and Montreal, which is worked by their staff, and thus extended the Pacific cable system from Australia across Canada to Montreal. Traffic is carried across the Atlantic by the cables of the Anglo-American Company and the Commercial Cable Company.

With a view to reducing the cable charges between Australia and the United Kingdom, a proposal was made at the recent Imperial Conference in London to nationalise the Atlantic Cable, but failed to receive approval.

In 1911, authority was given to the Pacific Cable Board to lay a submarine cable between Australia and New Zealand. The landing places adopted for this line are Bondi Bay, near Sydney, and Muriwai Creek, on the West Coast of the North Island, New Zealand, the distance being about 1,200 miles. From the landing points connection will be made with Sydney and Auckland, and a new length of submarine line will be laid to provide

direct communication between Auckland and the Doubtless Bay station. The completion of this work will practically duplicate the two southern sections of the Pacific Cable, and will provide accelerated service between Australia and New Zealand by avoiding the land line between Southport and Sydney.

Tasmanian Cable.

The cable of 180 miles, connecting Tasmania with the mainland of Australia was constructed and opened for traffic in 1869, under an agreement dated January, 1868, which gave the constructing company the exclusive right of submarine telegraphic communication between Victoria and Tasmania for twenty years. The cable was subsequently acquired by the Eastern Extension Company, and the period extended for another twenty years. At the expiration of this agreement in April, 1909, two new cables laid by the Commonwealth Government between Flinders, Victoria, and Low Head, Tasmania, were opened for traffic.

Cable Lines.

The following statement shows the particulars of the cable lines giving communication from Sydney :—

- To Europe—
 - via Darwin and Banjoewangie, Java (duplicate).
 - via Perth, Cocos, and Durban.
 - via Roebuck Bay and Banjoewangie.
 - via Southport, Norfolk Island, Fiji, Fanning Island, and Canada.
- To New Zealand—
 - via La Perouse and Nelson (duplicate).
 - via Southport, Norfolk Island, and Doubtless Bay.
 - via Bondi and Muriwai Creek.
- To New Caledonia—
 - via Queensland and Gomen.
- To Tasmania—
 - via Flinders and Low Head (duplicate).

During the year ended 30th June, 1911, an amount of £21,000 was paid by the Commonwealth as subsidy to the Pacific Cable, and £3,978 to the New Caledonian Cable.

Cable Messages.

The following table gives a comparison of the cable business transacted in New South Wales during the last ten years, excluding messages to and from Tasmania. Messages in transit are also excluded, but the receipts from such business are included in the amount of revenue shown. It will be seen that the cable messages despatched and received have steadily increased since 1904, the former by 69 per cent., and the latter by 82 per cent.

Year.	Cable Messages.		Amount Collected.	
	Sent from New South Wales.	Received in New South Wales.	Total.	Portion due to Commonwealth Government.
	No.	No.	£	£
1902	79,805	68,170	155,802	7,193
1903	78,795	74,019	144,363	7,853
1904	76,713	68,223	142,316	7,484
1905	82,519	81,548	160,298	8,167
1906	96,478	93,256	181,587	9,097
1907	106,830	103,047	192,625	9,681
1908	108,634	103,870	190,266	9,748
1909	108,031	102,785	187,606	9,484
1910	119,657	115,619	219,492	11,515
1911	129,809	123,910	239,655	12,895

TELEGRAPH AND CABLE RATES.

The rates for the transmission of telegrams within New South Wales and to the other States of the Commonwealth were determined by the Post and Telegraph Rates Act, 1902, and came into force on 1st November, 1902. For ordinary telegrams not exceeding sixteen words, including the address and signature, the charges are 6d. in town and suburban districts within prescribed limits, or within 15 miles of the sending station; 9d. to other places within the State; and 1s. for messages sent to any other State of the Commonwealth; in each case an extra charge of 1d. is made for each additional word. Double rates are imposed for the transmission of telegrams on Sunday, Christmas Day, and Good Friday, and between the hours of 8 p.m. and 9 a.m., and for urgent telegrams.

Telegrams may be sent to any telegraph office in the Commonwealth, to be forwarded thence by post to any foreign destination, on payment of postage in addition to the charge for the telegraph transmission.

The rates per word for cables sent from New South Wales are:—To Norfolk Island, 3d.; New Zealand, 4½d.; New Caledonia, 9d.; Fiji, 8d.; Fanning Island, 2s.; United Kingdom, 3s.; to Cape of Good Hope, Orange River, and Transvaal States, via Cocos, 2s. 3d.; to Vancouver, via Pacific, 2s. 4d. In August, 1909, the rate per word for press telegrams to the United Kingdom was reduced to 9d., and in February, 1910, the rate for similar telegrams to Vancouver was reduced to 3¼d. per word.

A system of deferred telegrams has recently been introduced, by which telegrams, written in plain language, and subject to a delay not exceeding twenty-four hours, may be sent at half ordinary rates to those countries which have adopted the service, including the United Kingdom and all British possessions, except Central Africa, to which the rate per word is not less than 10d.

Deferred press telegrams, via Pacific, subject to a delay of eighteen hours, may be exchanged between Australia and the United Kingdom at the rate of 4½d. per word; and between Australia and Vancouver, 1¾d. per word.

An important scheme has been introduced on the Atlantic system between the United Kingdom and Canada and United States—week-end cable letters in plain language are accepted up to midnight on Saturday for delivery on following Tuesday, the charge being made per group of five words:—minimum 6s., each subsequent group 1s. It has been suggested that a modification of this system be introduced with regard to Australia. Two alternative proposals have been submitted by the Pacific Cable Board:—(1) Week-end cable letters by post within the United Kingdom, and within Australia and New Zealand, and by telegraph between the United Kingdom and Australia; or (2) by telegraph between Australasia and Montreal only, and by post within the United Kingdom and Montreal, and within Australasian dominions.

SUBSIDISED PRESS CABLE SERVICE.

As a result of an inquiry in 1909 into the press cable service, the Federal Government have arranged to pay a subsidy of £6,000, extending over a period of three years, for the transmission of press cables by the Independent Press Cable Association of Australasia, to which any newspaper in the Commonwealth may subscribe at approved rates.

WIRELESS TELEGRAPHY.

Wireless telegraphy has been installed at Sydney, Melbourne, Hobart, and Fremantle, and various other stations on the Australian coast, and in Papua. An engineer for radio-telegraphy has been appointed to organise the service of wireless telegraphy in the Commonwealth.

The Sydney Radio-telegraph station at Pennant Hills, from which telegrams may be exchanged with ships at sea, has a range of 1,250 nautical miles; the hours of attendance are from 8 a.m. to midnight. Pending the completion of the Pennant Hills station, a private station of the Australasian Wireless Company, at the Hotel Australia, Sydney, was made available for public business. From the time of its establishment until it was closed down, the number of messages received and despatched at this station was 1,789 and 676 respectively.

The charges for wireless messages are 6d. a word for the coast station; also an amount not exceeding 4d. per word for the ship station, plus the land line charges for ordinary telegrams within the Commonwealth.

The Postmaster-General holds the exclusive right to establish wireless stations in Australia, and to transmit messages, but may issue licenses to private stations for experimental purposes under prescribed conditions.

A scheme for connecting Australia and the Pacific Islands by wireless telegraphy was formulated by representatives of Australia and New Zealand, The High Commissioner for the Western Pacific, Fiji, the Admiralty, and the Pacific Cable Board, who met in conference in Melbourne in 1909. The scheme, which has been approved by the Commonwealth Government, involves the erection of stations at Sydney, at Doubtless Bay (New Zealand), and at Suva (Fiji), Ocean Island, also at Tulagi (Solomon Islands), and Vila (New Hebrides).

It may be mentioned that a station has been erected on Macquarie Island, south of Tasmania, to maintain communication between Dr. Mawson's Antarctic Expedition and Australia. Wireless stations were opened at Wellington and Suva during 1911. A large number of the interstate and oversea vessels trading with Australia have been fitted with wireless installation.

TELEPHONES.

The telephone system was established in Sydney in 1880, and exchanges have since been provided in many other important centres, the number in 1911 being 353. The first long-distance service in New South Wales was inaugurated in 1898, the connection being between Sydney and Newcastle, a distance of 102 miles. There are now several long-distance lines in operation. A telephone trunk line between Sydney and Melbourne, erected at a cost of £46,686, was brought into use in 1907. In order to extend the system in the country districts, where the cost of installation would otherwise be considerable, the telegraph lines have been utilised for telephonic purposes by means of superimposed apparatus. The regulations provide for the erection of telephone lines under guarantee, and, whilst maintaining the general principle that the lines be self-supporting, the Department may erect lines in the country districts where it is estimated that the deficiency will not be greater than 25 per cent. of the revenue, and will not exceed £5. In other cases, the Department is prepared to bear 25 per cent. of the deficiency.

Until recently, single lines were used for all the telephones in New South Wales, but metallic circuits have been introduced in the principal exchanges.

Telephone bureaux for the use of the public are placed in prominent positions in or near public buildings, post offices, railway stations, &c. For a conversation not exceeding three minutes' duration a charge of 1d. is made. In the year 1910 there were 446 of these bureaux, and in 1911 the number had been increased to 722.

The following table shows the growth of the service during the last ten years :—

Year.	Exchanges	Connections.			Cost of Construction (including expenditure on tunnels).	Rental received.
		Sydney and Suburbs.	Country.	Total.		
	No.	No.	No.	No.	£	£
1902	51	9,401	1,678	11,079	21,684	96,200
1903	57	10,193	1,898	12,091	19,687	105,002
1904	61	11,046	2,092	13,138	14,001	116,328
1905	64	11,909	2,315	14,224	18,988	127,514
1906	76	12,670	2,783	15,453	26,055	144,933
1907	96	14,634	4,355	18,989	86,139	154,151
1908	113	15,392	6,022	21,414	85,422	161,016
1909	132	18,239	7,443	25,682	79,715	175,960
1910	268	20,203	9,914	30,117	87,427	168,173
1911	353	22,476	12,075	34,551	229,674	182,381

There has been a great increase in the number of telephone instruments in use, the number in 1902 being 14,810, whilst in 1911 there were 43,032.

There are also telephone stations in the country used in conjunction with the telegraph service.

Prior to the 31st January, 1907, the telephone subscribers were charged, under the flat-rate system, a fixed annual rental, irrespective of the number of calls made by them, but on that date a toll system was introduced throughout the Commonwealth, under which extra payment was required for all calls in excess of 1,000 in each half-year.

The financial results under this system were not satisfactory, and in 1909 it was decided that the rates should be revised. The new scale of charges, as shown below, was brought into effect on the 1st September, 1910, and applies to all subscribers :—

In telephone networks having a population of—	Radius of network with main Exchange as centre.	Minimum annual charge—		
		For an exclusive service.	For each subscriber or instrument on a two-party service.	For each subscriber or instrument on a three or more party service.
	Miles.	£ s. d.	£ s. d.	£ s. d.
From 1 to 10,000	5	3 0 0	2 10 0	2 0 0
„ 10,001 to 100,000	10	3 10 0	2 15 0	2 5 0
„ 100,001 upwards	10	4 0 0	3 0 0	2 10 0

In addition, all effective calls originated by each subscriber are charged as follows :—

Not exceeding 2,000 half-yearly, 2 calls for 1d.

All calls over 2,000 half-yearly, 3 calls for 1d.

The necessary equipment is provided and maintained by the Department.

RAILWAYS AND TRAMWAYS.

CONTROL OF STATE RAILWAYS.

THE control of the railways was vested in the Minister for Works, the direct management being undertaken by an officer under the title of Commissioner, until October, 1888, when the "Government Railways Act of 1888" was passed, afterwards consolidated as the "Government Railways Act, 1901," with the object of removing the management of the railways from political control, and vesting it in three railway Commissioners, who pay net earnings into the Public Revenue, and report annually to Parliament. Under the Railway Commissioners Appointment Act, 1906, the management of the railways and tramways was placed under the control of a Chief Commissioner, and two assistant Commissioners were appointed, one to assist in the management of the railways, and the other in that of the tramways.

While the avowed object of State railway construction has been to promote settlement, apart from consideration of the profitable working of the lines, the principle has nevertheless been kept in view that the railways should be self-supporting.

RAILWAY CONSTRUCTION.

On the 26th September, 1855, the first railway-line, now known as the Main Suburban line, from Sydney to Parramatta, 14 miles in length, was opened for traffic, and communication was established between Newcastle and East Maitland in the northern system of railways on the 11th April, 1857.

During the twenty years which followed the opening of the first line, railway construction progressed at a very slow rate, for in 1875 the lines in operation had reached a length of only 435 miles, an average of 21½ miles per year; and during four years of the period, viz., 1859, 1865, 1866, and 1874, no fresh extensions were opened. From 1876 to 1889 greater activity was manifested, 1,748 miles being constructed during the period, a yearly average of 125 miles. This rate of increase was not sustained, only 14 miles being opened in the next three years. During the year ended June, 1893, 154 miles were opened; 150 miles in the succeeding year; and 30 miles in the year ended June, 1895. In the following year no new lines were opened; but during the year ended June, 1897, 108 miles were added, and in the course of the next twelve months, 52 miles. During the twelve years ended June, 1910, a further length of 937 miles was brought into use. In the years 1911 and 1912 the new lines opened amounted to 189 miles, the total length of line on 30th June, 1912, being 3,832 miles.

The progress in construction of the State railways of New South Wales may be traced in the table given below, the figures covering the period ending on 30th June in each year. Included in the mileage are the Campbelltown-Camden, and Yass tramways, which are worked with the railways:—

Period.	Opened during the period.	Total opened at end of period.	Period.	Opened during the period.	Total opened at end of period.
	miles.	miles.		miles.	miles.
1855-9	55	55	1890-4	330	2,501
1860-4	88	143	1895-9	205	2,706
1865-9	175	318	1900-4	575	3,281
1870-4	85	403	1905-9	342	3,623
1875-9	331	734	1910	20	3,643
1880-4	984	1,618	1911	118	3,761
1885-9	553	2,171	1912	71	3,832

Of the 3,832 miles in operation on the 30th June, 1912, there were 3,526 miles of single line, 291 miles of double line, 6 miles with three tracks, and 9 miles of line with four tracks; in addition, there were 679 miles of sidings and crossovers.

RAILWAY SYSTEMS.

The railways of the State are divided into three branches, each constituting a separate system.

Southern Lines.

The southern system has several offshoots serving the most thickly-populated districts, and places Sydney, Melbourne, and Adelaide in direct communication. From Culcairn there are two branch lines, one connecting with Corowa on the Murray River, and the other with Germanton; from The Rock a line to Urana is being extended to Clear Hills; and from Wagga Wagga a branch to Tumberumba is under construction. From Junee a branch extends to the town of Hay in one direction, and to Finley in another, and places the important district of Riverina in direct communication with Sydney. Authority has been given for the construction of a line from Finley to connect with the Victorian railways at Tocumwal, a distance of a little over 11 miles. From Cootamundra a southerly branch carries the line to Tumut, and another in a north-westerly direction through Temora to Wyalong. The extension from Temora to Ariah Park has been carried to Barellan and will be continued to Mirrool. From Stockinbingal, between Cootamundra and Temora, a cross-country line is under construction to connect with the western system at Forbes. From Murrumburrah a branch has been constructed to Blayney, on the western line, thus connecting the southern and western systems of the State, and from Koorawatha, on this connecting line, a branch has been laid down to join Grenfell with the railway system, and there is a branch line from Cowra to Canowindra. Nearer the metropolis, a branch from Goulburn to Nimmitabel brings the rich pastoral district of Monaro into direct communication with the metropolis. An extension from Nimmitabel to Bombala, a distance of 40 miles, is under construction. From Goulburn a branch line has been also opened to Crookwell. A small offshoot from the main southern line joins Campbelltown with Camden, and on the main suburban section of the southern system there is a branch line from Clyde to Carlingford. Another line forming part of the southern system has been constructed to Nowra, connecting the metropolis with the coastal district of Illawarra, which is rich in coal and in the produce of agriculture. From the Illawarra line a branch extends between Sydenham and Bankstown with Liverpool as the ultimate objective.

Western Lines.

The western system of railways extends from Sydney over the Blue Mountains, and has its terminus at Bourke, a distance of 508 miles. Leaving the mountains, the western line, after throwing out a branch from Wallerawang to Mudgee and Dunedoo which is being extended to Coonabarabran, enters the Bathurst Plains, and connects with the metropolis the rich agricultural lands of the Bathurst, Orange, and Wellington districts. At Blayney, as before stated, the western line is joined with the southern system by a branch line to Murrumburrah; at Orange a branch connects that town with Parkes, from which a line reaches to Forbes on the Lachlan River. From Parkes, an extension to Bogan Gate, thence to Condobolin on the Lachlan River has been constructed. At Bogan Gate a branch line to Tullamore has been opened and is being extended to Tottenham. Further west branch lines extend from Dubbo to Coonamble, from Narromine to Peak Hill, from

Nevertire to Warren, and from Nyngan to the important mining district of Cobar. A connecting line between Peak Hill and Parkes is in course of construction. From Byrock a line branches off to Brewarrina. The western system also includes a short line from Blacktown to Windsor and Richmond.

Northern Lines.

The northern system originally commenced at Newcastle, but a connecting line crosses the Hawkesbury River by means of the far-famed Hawkesbury Bridge, thus making Sydney the centre of the whole of the railway systems of the State, and affording direct communication between the four State capital cities of Adelaide, Melbourne, Sydney, and Brisbane, a distance of 1,791 miles. The northern system has a branch from Tamworth to Barraba and there is a branch line from Werris Creek, *viâ* Narrabri and Moree, to Inverell, placing the Namoi and Gwydir districts in direct communication with the ports of Newcastle and Sydney. A branch from Moree to Mungindi, on the border of the State of Queensland, is under construction. There is also a branch line from Narrabri to Walgett, with a further branch at Burren Junction to Collarenebri East. From Muswellbrook a branch is being constructed to Merriwa, a distance of 51 miles. There is a short line connecting Newcastle with the tourist district of Lake Macquarie, and another line runs from East Maitland to Morpeth. A portion of the North Coast railway has been constructed from Murwillumbah, on the Tweed River, to Grafton, on the Clarence River, having a length of 149 miles, and there is a branch from Casino, on this line, to Kyogle. The construction of the remaining portion is now proceeding in sections from Maitland, where it will join the main line from Sydney. The section from West Maitland to Dungog has been opened. A short line, 13 miles in length, branches off the main northern line at Hornsby, and connects with the north shore of Port Jackson at Milson's Point, from whence by commodious ferry steamers in a trip of about five minutes duration, passengers may reach Circular Quay, within the City of Sydney. A short line from the Central Station at Sydney connects with the wharves at Darling Harbour, and a line has been constructed from the stock saleyards at Flemington on the main suburban line to the Abattoirs at Homebush Bay; these lines are used for goods and live-stock only. On account of the rapid growth of the traffic it has been found necessary to provide a means of access to the wharves independent of the Central station. This is being done by the construction of a line from Flemington to join the Sydenham-Bankstown branch of the South Coast line at Belmore, and a line from Wardell-road also on this branch to Darling Island with a new shipping depôt at Glebe Island. On the completion of this work the Central station will be entirely free of goods traffic.

Burrinjuck Railway Line.

In addition to the lines under the control of the Railway Commissioners a 2 feet gauge railway has been constructed at a cost of £76,200 from the main southern line at Goondah to the site of the Burrinjuck Storage Reservoir, a distance of 26 miles. This line is controlled by the Department of Public Works, and is used mainly for the conveyance of material to the site of the works.

SYDNEY AND SUBURBAN PASSENGER TRAFFIC.

A portion of the passenger traffic between Sydney and Suburbs is conducted by the suburban railways and the ferry services, but the tramways form the most important means of communication.

The railway suburban traffic is conducted principally on the main trunk line which runs in a westerly direction from Sydney to Granville (13 miles)

where the main southern and western railway systems separate; the main northern system offshoots at Homebush (8 miles from Sydney). The South Coast railway, which has a branch from Sydenham (3 miles) to Bankstown, brings passengers from the suburbs situated south of Sydney on the western shore of Botany Bay. The passengers travelling by these lines, however, are conveyed to and from the Central station by trams running through the city streets to the Circular Quay.

The populous suburbs of the north-western, central, and eastern divisions of the metropolitan area are served entirely by the tramways. On the north shore of Port Jackson there is a railway from Hornsby on the main northern line to connect with the ferry service at Milson's Point; with this exception the tramways carry all the passengers from the northern suburbs to connect at various points with the ferry services which ply to and from the Circular Quay.

On account of the expansion of the commercial interests of New South Wales and the consequent growth of population in and around Sydney where the trade of the State is centralised, the tramway system has been extended steadily but the requirements of suburban traffic are gradually outgrowing the capacity of the main city thoroughfares which were not originally designed for this class of traffic. Thus the extension of the tramway system combined with the increase in the mercantile vehicular traffic has resulted in a state of congestion in some of the city streets that demands immediate remedy. The urgent necessity is now recognised of supplying a more effective method of dealing with the rapidly increasing traffic than is possible under any system of surface tramways.

Proposed Improvements.

In connection with this matter a Royal Commission for the Improvement of the City of Sydney and its Suburbs, in 1909 recommended the immediate introduction of a system of underground electric railways to deal comprehensively with the whole suburban area.

The scheme recommended by the Commission embraced a city railway, the connection of Sydney and North Sydney, an eastern suburbs railway with branches to serve the sports grounds, and a western suburbs railway.

The city railway, as proposed, would start from the existing railway line near Redfern and passing underneath the Central station would proceed down the western side of the city to Circular Quay, returning to the Central station by the eastern side; the line to be constructed in shallow subways to avoid the use of lifts.

The connection with North Sydney would be effected by means of a harbour-bridge, or tunnel. Branches from the Hornsby line would be carried to Willoughby, Manly, and Mosman.

The eastern suburbs railway would connect with the proposed city railway, near King-street in the centre of the city and proceeding through the eastern suburbs would join the main railway line between St. Peters and Erskineville stations. From a station at Darlinghurst on the proposed eastern suburban line, a branch would provide for the holiday traffic to the Sports, Race, and Show grounds.

The western suburbs railway would consist of a loop from Wynyard Square station on the proposed city railway, by tunnel across the harbour to Balmain, whence it would continue to Leichhardt, and Annandale to join the existing suburban line at Stanmore. The proposal includes a branch from the western loop to join the main line at Ryde, and a connecting loop between Waitara, on the Hornsby line, and Normanhurst, on the main northern railway.

More recently, in 1912, the question of improving the means of passenger traffic in the city and suburbs of Sydney, including a connection with North Sydney was the subject of a report by Mr. David Hay, an English expert appointed by the Government.

The report, presented to Parliament in October, 1912, deals with the matter under two parts, viz. :—(1) Connection between Sydney and North Sydney; (2) Underground Railways in Sydney.

A bridge over the harbour is considered the best means both for railway and tramway purposes of connecting Sydney with North Sydney, and underground railways in Sydney are advised to avoid the present excessive crowding of street tram cars.

Plans of the proposed works are given in the report, and the following estimates of cost submitted :—

Exclusive of alterations or additions to Central Station, electrical equipment, thermit welding, wiring, bonding rails, signals, and lighting—

	£
Main-line Railways	1,175,273
Western Suburbs Line—	
Essex-street to City-road Junction	486,350
Completion of circle from Essex-street to City-road Junction <i>via</i> Balmain	1,648,160
Eastern Suburbs Line—	
Wynyard-square to Darlinghurst	400,129
Royal Arcade subway	5,500
Darlinghurst to Bondi Junction	589,429
King-street Tramway	112,420
Total	4,417,261

The estimates of cost of goods lines, exclusive of electrical equipment, thermit welding, wiring, bonding rails, signals, and lighting are :—

	£
Circular Quay to Woolloomooloo works (single line tunnel) ...	69,933
Darling Harbour to Woolloomooloo works (single line tunnel)	98,809

In connection with the proposals for greater facilities and improved methods for dealing with the traffic of Sydney, a branch of the Department of Public Works has been created to deal with the proposals and questions regarding connection between the northern and southern shores of the Harbour.

Designs and estimates for the harbour bridge have been approved and submitted to the Parliamentary Standing Committee on Public Works.

Preliminary work is also well in hand in connection with the first section of the proposed railway in the City of Sydney.

DECENTRALISATION IN RAILWAY TRANSIT.

As previously stated, Sydney is the centre of all the railway systems of New South Wales. In consequence of the enormous increase in traffic during recent years the railway facilities have been overtaxed, and the Government has determined that decentralisation in railway transit is necessary to meet the growing requirements of the State. A Royal Commission was appointed in June, 1910, to inquire and report as to the terminal points inland and on the sea coast which should be connected by rail, and generally to advise as to the best means of giving effect to the Government's policy.

The Commissioners dealt with a large number of proposals regarding railway communication with the coast, the establishment of seaports, and the construction of cross-country lines to link up the southern, western, north-western, and northern railway systems. Their report was furnished to Parliament in May, 1911.

The Commissioners emphasise the necessity of speedy measures to relieve existing congestion. With the progress of closer settlement the agricultural areas of the State must be furnished with improved railway communication, and the consequent increase in traffic will intensify the congestion on the main trunk lines, and at the port of Sydney, unless some comprehensive scheme of decentralisation is established.

Railway transit could be facilitated by the duplication of the existing main lines, but this would lead to greater congestion at the port of Sydney, which practically carries the whole trade of the State, that is of 310,367 square miles of territory, with 700 miles of coast-line.

As regards exports, wool, wheat, and live-stock represent the greatest volume of traffic to be considered. The wool traffic centres in Sydney, where the sales are held, and while this system continues direct shipment from any other port cannot, in the opinion of the Commissioners, be looked for to any extent.

The live-stock business is largely controlled by the centre of population, which is Sydney. The stock traffic can be decentralised only in so far as it can be influenced by the frozen meat trade. At present this trade is centralised in Sydney, but there is no doubt that the opening of new ports with provision for freezing and shipment would not only decentralise but would stimulate this industry.

It is considered that decentralisation as regards wheat for export should be accomplished easily if reasonable facilities be given; and in due course other products would be influenced in a similar manner. The import trade may not lend itself so readily to transference from an existing port of distribution, but it would eventually follow in proportion to the requirements of the area served by any port for export purposes.

The Decentralisation Commissioners were instructed also to give consideration to the question of linking the railway systems of New South Wales with those of Victoria for the purpose of providing direct access from the Riverina district to Melbourne, which is claimed to be the natural port of the district. The evidence obtained locally by the Commissioners showed that the wheat produced in the Riverina is generally sent to Sydney on account of the special grain rates allowed on the New South Wales railways. Practically all the wool and fat stock go to Melbourne, whence all stores and general merchandise required in the district are obtained.

It has been argued that these connections would result in serious loss in working the extensions and a probable reduction in the revenue earned by the existing main lines, but the Decentralisation Commissioners pointed out that in ordinary circumstances the grain rates, being in favour of Sydney, would attract the wheat traffic, and although, as the general goods rates show no such difference in favour of Sydney the shorter distances between the commercial centres of the State of Victoria and the Riverina district would conserve the general goods traffic to that State, and the New South Wales railways would derive revenue from freight of this class at present carried by teams after leaving the Victorian railways at the border.

As a result of their inquiries the Commissioners submitted the following recommendations:—

1. That a port for oversea shipment be established at Salamander Bay, Port Stephens.
2. That in order to make the proposed port fully effective as a decentralising factor the following railway lines, which are arranged in the order of their importance, be constructed:—
 - (a) Mary Vale, *via* Gulgong, Wollar, and Denman, to Muswellbrook.
 - (b) Morpeth to Salamander Bay, Port Stephens.
 - (c) Walcha Road, *via* Walcha, Nowendoc, Woodside, and the North Coast railway, to Salamander Bay, Port Stephens.
 - (d) Inverell to Guyra.
 - (e) Warialda to Boggabilla.
3. That an arrangement be made with the Federal Government for the establishment of a port for oversea shipment at Jervis Bay, with railway connection from Yass, *via* Canberra and Queanbeyan.
4. That the following railways be constructed for the purpose of linking up the New South Wales and Victorian railway systems at the border:—
 - (a) Finley to Tocumwal.
 - (b) Clear Hills to Mulwala.
5. That railways be constructed for cross-country purposes, as follow:—
 - (a) Stockinbingal to Forbes.
 - (b) Parkes to Mary Vale.
 - (c) Gilgandra to Curlewis.
 - (d) Condobolin, *via* Mount Hope, to Broken Hill.

Of these proposed railway connections the line from Stockinbingal to Forbes is now under construction, also a section from Muswellbrook to Denman, and authority has been granted by Parliament for the connection between Finley and Tocumwal.

STATE BORDER RAILWAYS.

At a conference of representatives of the Governments of New South Wales and Victoria, held in Sydney, in October, 1912, an agreement was drawn up with a view to extending the Victorian railways across the border to serve large areas in the Riverina district, which are situated beyond the scope of the existing New South Wales system, and which cannot be advantageously cultivated without railway facilities. The agreement provides for the construction of two railways on the Victorian gauge, 5ft. 3 in., from Euston and Wentworth on the Murray River, extending for at least 40 miles into Riverina territory. The lines are to be built by New South Wales, the Victorian Government to pay interest on the cost of construction, and to work the lines as portion of the railway system of that State. The two bridges across the Murray River required for connection with the Victorian railways are to be built by Victoria, one-third of the cost to be paid by New South Wales. The agreement will be submitted to the Parliaments of the respective States for ratification.

COMPARISON OF RAILWAY FACILITIES.

The progress of the State railways can be fairly gauged by comparing the population and area of territory to each mile of line open for traffic at different periods. Thus, in 1860 there were 4,979 persons to each mile of line, but by the end of the year 1880 the work of construction had proceeded at a rate so much faster than the increase in population that the average number of persons per mile had fallen to 881, the facilities afforded by the railways being more than five times as great as in the earlier year. In 1912 the average population per mile of line was 451. The decrease in the area of territory to each mile of line open has been very rapid, ranging from 4,434 square miles in 1860 to 81 square miles in 1912. The following statement shows the extension of railway facilities since 1860:—

Year.	Population to each Mile of Line open.	Area to each Mile of Line open.	Year.	Population to each Mile of Line open.	Area to each Mile of Line open.
	No.	sq. miles.		No.	sq. miles.
1860	4,979	4,433·9	1902	460	102·6
1865	2,861	2,170·4	1903	451	98·9
1870	1,471	915·6	1904	438	94·6
1875	1,360	710·2	1905	447	94·6
1880	881	365·6	1906	443	91·6
1885	548	179·2	1907	446	89·9
1890	523	142·2	1908	451	89·4
1895	501	122·6	1909	439	85·7
1900	482	110·4	1910	445	85·2
1901	480	109·1	1911	441	82·5
			1912	451	80·8

GRADIENTS.

The State railways have been constructed with a large proportion of steep gradients, but much has been done during the last few years to remove this drawback. By reducing some of the gradients, and using locomotives of greater power than were employed formerly, considerable economy in working, and expedition in traffic, have been effected. Much remains to be accomplished in this respect, as will be seen on reference to the following table, which shows the number of miles on different gradients in June, 1912:—

Gradients.	Southern System.	Western System.	Northern System.	Total.
1 in	miles.	miles.	miles.	miles.
18 to 30	3½	1¾	...	5¼
31 ,, 40	58	65½	33	156¾
41 ,, 50	70¾	50½	76	197¾
51 ,, 60	52	59	56¾	167¾
61 ,, 70	54¾	55	35¾	145½
71 ,, 80	89½	79½	98	267
81 ,, 90	38¾	38½	37¼	114½
91 ,, 100	80¾	103¾	68¾	253¼
101 ,, 150	125½	132	112½	370
151 ,, 200	81¼	71½	68½	221¼
201 ,, 250	45¼	30¼	29¾	105¼
251 ,, 300	59¾	56½	49¼	165½
301 ,, level	553¼	556¾	511¾	1,621¾
Total ..	1,313	1,300¼	1,177¼	3,790½

The above table is exclusive of the Government line from Broken Hill to Tarrawingee, measuring 40 miles 7 chains, and that at Wollongong of 1 mile 8 chains, the total length of these lines being 41 miles 15 chains.

Of the deviations made in late years to improve the gradients one of the most important has been effected on the western line to avoid the Zig Zag. This work was completed in October, 1910.

COST OF RAILWAY CONSTRUCTION.

The average cost per mile open for traffic of the Government Railway lines, including expenditure for rolling-stock, machinery, furniture, and workshops and stores has been £13,967, or excluding these items, £11,111—an amount which is by no means high, considering the character of some parts of the country through which the lines have been carried, and the cost of labour, which is greater in Australia than in most other countries. In considering in detail the figures given, it is interesting to note the comparatively low cost per mile of some of the extensions through pastoral country. These are known as the “pioneer” class, and are of a light and cheap kind, on which the produce of the settlers may be conveyed to the trunk lines at a reasonable speed, and at a cheaper rate than carriage by road. The average for the line from Parkes to Condobolin was £2,094 per mile; Burren Junction to Collarenebri East, £2,405 per mile; from Dubbo to Coonamble, £2,621 per mile; and from Byrock to Brewarrina, £2,695 per mile. The lines of the “pioneer” class, in a special manner, show that in certain districts of the State, railways capable of carrying the traffic can be constructed at an average cost far below that of the initial lines, since twenty-six lines, with a total length of 1,023 miles, have been constructed at an average cost of £3,818 per mile. The cost of construction of the various branches of the railway systems to the 30th June, 1912, is set forth in the following table:—

Lines opened for Traffic.	Length.	Total Cost	Average cost per Mile.
GOODS LINES.			
	m. ch.	£	£
Darling Harbour Branch, Sydney	1 49½	915,323	565,449
Flemington to Homebush Bay	3 28¾	67,090	19,971
Flemington to Belmore and Wardell-road to Glebe Island.	...	375,291	...
MAIN SOUTHERN LINE.			
Sydney to Granville	15 38½	2,875,234	185,724
Granville to Goulburn	122 72¾	2,613,316	21,262
Goulburn to Wagga	178 10½	1,705,199	9,573
Wagga to Wodonga	79 15½	928,239	11,721
Branch Lines.			
Campbelltown to Camden	7 66½	46,277	5,909
Yass Tramway	2 78	29,230	9,825
Goulburn to Crookwell	35 78½	160,179	4,452
Goulburn to Nimmitabel	154 77¾	1,523,234	9,825
Murrumburrah to Blayney, on Western Line	110 50	1,096,143	9,509
Koorawatha to Grenfell	32 24	113,562	3,516
Cootamundra to Tumut	65 22½	534,229	8,183
Cootamundra to Temora	38 72	201,113	5,170
Temora to Wyalong	41 26	124,901	3,022
Temora to Barelán	61 41¾	203,894	3,314
Junee to Hay	168 43¼	1,001,144	5,940
Narrandera to Finley	100 70¾	495,996	4,917
The Rock to Urana	60 68½	197,544	3,246
Culcairn to Germanton	16 61	60,315	3,598
Culcairn to Corowa	48 3	227,787	4,742

Lines opened for Traffic.	Length.	Total Cost.	Average Cost per Mile.
MAIN WESTERN LINE.			
	m. ch.	£	£
Granville to Penrith	20 72 $\frac{1}{2}$	616,171	29,477
Penrith to Bathurst	111 10 $\frac{1}{2}$	3,485,982	31,368
Bathurst to Dubbo	137 67 $\frac{3}{4}$	1,372,662	9,958
Dubbo to Bourke	225 51 $\frac{3}{4}$	1,366,195	6,054
<i>Branch Lines.</i>			
Clyde to Carlingford	4 39 $\frac{1}{4}$	33,276	7,410
Blacktown to Richmond	16 19 $\frac{1}{2}$	181,847	11,195
Wallerawang to Dunedoo	131 79 $\frac{3}{4}$	1,197,537	8,871
Blayney to Murrumburrah (see Southern Line)			
Orange to Forbes	56 51 $\frac{1}{4}$	665,076	6,882
Parkes to Condobolin	62 60 $\frac{1}{2}$	131,410	2,094
Bogan Gate to Tullamore	37 66 $\frac{1}{4}$	126,333	3,339
Dubbo to Coonamble	95 79 $\frac{1}{2}$	251,600	2,621
Nevertire to Warren	12 29 $\frac{1}{2}$	41,101	3,323
Nyngan to Cobar—The Peak	85 26 $\frac{3}{4}$	322,382	3,778
Byrock to Brewarrina	58 42	157,720	2,695
Cowra to Canowindra	23 51	130,953	5,540
Narromine to Peak Hill	36 62 $\frac{1}{4}$	120,079	3,265
MAIN NORTHERN LINE.			
Homebush to Waratah	94 79 $\frac{3}{4}$	3,420,247	36,004
Newcastle to Wallangarra	391 15 $\frac{1}{2}$	5,295,583	13,434
<i>Branch Lines.</i>			
Hornsby to Milson's Point	13 36 $\frac{3}{4}$	746,300	55,448
Bullock Island	4 70 $\frac{1}{4}$	607,893	124,616
Morpeth	3 37 $\frac{1}{4}$	61,482	17,741
Werris Creek to Invevell	255 56 $\frac{1}{4}$	1,123,860	4,395
Narrabri West to Walgett	103 9	324,260	3,056
Burren Junction to Collarenebri East	42 44 $\frac{1}{4}$	102,353	2,405
Tamworth to Barraba	61 50 $\frac{1}{4}$	254,551	4,130
Fassifern to Toronto	2 55	18,950	7,051
NORTH COAST LINE.			
Murwillumbah to Grafton	149 9	1,359,141	9,115
West Maitland to Dungog	32 41 $\frac{1}{2}$	416,057	12,794
Casino to Kyogle	17 71 $\frac{1}{4}$	89,581	5,607
SOUTH COAST (LLAWARRA) LINE.			
Sydney to Kiama	72 48	2,404,955	33,126
Kiama to Nowra	22 59 $\frac{1}{2}$	363,691	15,991
<i>Branch Line.</i>			
Sydenham to Bankstown	8 33 $\frac{1}{2}$	257,739	30,615
BROKEN HILL LINE.			
Broken Hill to Tarrawingee	40 7	32,575	813
Total, All Lines	3,831 52 $\frac{1}{4}$	42,574,799	11,111

The amount expended on rolling-stock, &c., to the 30th June, 1912, was £10,940,104, viz. :—Rolling-stock, £8,952,731; machinery, £523,934; work-shops, £703,403; furniture, £10,036; stores advance account, 750,000. This makes the total cost of all lines open for traffic, £53,514,903, or an average of £13,969 per mile. The growth of the capital expenditure on lines open may be seen in the following table :—

Period.	Capital expended during period.	Total capital expended on lines open.	Period.	Capital expended during period.	Total capital expended on lines open.
	£	£		£	£
1855-9	1,278,416	1,278,416	1890-4	6,016,104	35,855,271
1860-4	1,353,374	2,631,790	1895-9	2,137,005	37,992,276
1865-9	2,049,539	4,681,329	1900-4	4,296,241	42,288,517
1870-4	2,163,217	6,844,546	1905-9	5,324,149	47,612,666
1875-9	3,561,949	10,406,495	1910	1,312,682	48,925,348
1880-4	9,673,643	20,080,138	1911	2,046,546	50,971,894
1885-9	9,759,029	29,839,167	1912	2,543,009	53,514,903

Of the £53,514,903 expended on lines open for traffic on the 30th June, 1912, an amount of £612,154 has been provided from the Consolidated Revenue of the State, leaving a balance of £52,902,749, which has been raised by the issue of debentures and other stock. The net revenue for the year ended 30th June, 1912, after paying working expenses, was £2,321,882, which gave a return of 4·34 per cent. upon the total capital expenditure on the lines open for traffic, and 4·41 per cent. upon the gross loan capital involved.

WORKING EXPENSES AND EARNINGS.

A statement of the working expenses and earnings of the railways during the year ended 30th June, 1912, is shown below :—

Working Expenses.		Earnings.	
	£		£
Maintenance of Way, Works, and Buildings	906,001	Passengers	2,349,279
Locomotive Power	1,619,478	Mails, Parcels, Horses, &c. ...	342,462
Carriage and Waggon Repairs and Renewals, &c.	365,519	Total Coaching... ..	2,691,741
Traffic Expenses	1,133,529	Goods—	
Compensation	20,365	Merchandise	2,125,234
General Charges	115,292	Live Stock	646,749
Gratuities	7,407	Wool	365,672
Fire Insurance Fund	2,000	Minerals	578,052
	4,169,591	Total Goods	3,715,707
Balance, Net Earnings	2,321,882	Rents	66,195
		Miscellaneous	17,830
Total	6,491,473	Total... ..	6,491,473

The expenditure on locomotive power amounted to 38·9 per cent. of the total; traffic expenses to 27·2 per cent. ; and maintenance of ways, works, and buildings to 21·7 per cent. Of the earnings 36·2 per cent. was derived from the carriage of passengers, 5·3 per cent. from mails, parcels, &c., and 57·2 per cent. from the conveyance of goods of all kinds.

The contrast between the present condition of the railways of New South Wales and that which prevailed at their beginning in 1855 is remarkable. For the first ten years of the period under review the larger part of the railway earnings was obtained from the passenger traffic, no doubt owing to the fact that the first railways were entirely suburban. It was not until the line crossed the mountains and opened up the interior that the proportions changed, and the goods traffic became the principal source of revenue. This change began to take place in 1867.

A comparison between the earnings of the period prior to 1871—when the net result every year represented only a small proportion of the interest due on the capital expended in the construction of the lines—and of the subsequent period, affords matter for satisfaction. The following table shows the gross earnings, working expenses, and the proportion of the expenditure to receipts, in various periods from 1855 up to the 30th June, 1912. Since the year 1887 the railway accounts have been made up to the 30th June in each year:—

Year.	Gross Earnings.	Working Expenses.	Proportion of working expenses to gross earnings.	Year.	Gross Earnings.	Working Expenses.	Proportion of working expenses to gross earnings.
	£	£	per cent.		£	£	per cent.
1855	9,249	5,959	64·4	1890	2,633,086	1,665,835	63·3
1860	62,269	50,427	81·0	1895	2,878,204	1,642,589	57·1
1865	166,032	108,926	65·6	1900	3,163,572	1,844,520	58·3
1870	307,142	206,003	67·1	1905	3,684,016	2,216,442	60·2
1875	614,648	296,174	48·2	1910	5,485,715	3,276,409	59·7
1880	1,161,017	647,719	55·8	1911	6,042,205	3,691,061	61·1
1885	2,174,368	1,458,153	67·1	1912	6,491,473	4,169,591	64·2

For the year 1912, the net result, after providing for all working expenses and £1,906,369 interest on the capital invested, is a surplus of £415,513, as compared with a surplus of £553,998 for the year 1911.

With the exception of the years 1902 and 1903, which were drought years, and 1904, when the quantity of wool and live stock carried was low on account of the preceding year's drought, the proportion of working expenses to gross earnings was considerably less than for the period anterior to the vesting of the railways in the Commissioners. The fact that the lines as a whole have not in the past always returned a profit should occasion no surprise, as the statistics of railways in all parts of the world show that few lines, except perhaps suburban, return a profit during the first few years after their opening.

During the period from 1870 to 1875, when the length of new lines yearly constructed was very small, the railway profits steadily increased. During 1877 and 1878, 180 miles of railway were constructed, and the profits immediately declined. From 1880 to 1884 the railways were extended, chiefly to centres already populous and prosperous, viz., Riverina and New England, and the central districts of Wellington and Dubbo; and as these were years of remarkable prosperity, the railway profits suffered less than usual from the considerable extension, which included the construction of the expensive connecting link joining the New South Wales railways with those of the State of Victoria, at the River Murray. Since 1885 the extensions on the main lines have been mainly through pastoral country, e.g., the continuation of the Western line to Bourke, the Northern line to

Wallangarra, and the further extensions of the lines on the Goulburn district to the rich pastoral lands of Monaro. Also branch lines have been constructed tapping important agricultural, dairy-farming, and pastoral districts.

Percentage of Working Expenses.

Expensive new lines result in an increase in the percentage of working expenses to the gross earnings, as these lines have to be kept in full repair whilst actually returning in gross earnings little more than the cost of maintenance. The small returns on expensive incompleting branches further tend to diminish greatly the profits of the railway system taken as a whole. The financial depression of 1893, which brought about a great change in the character of the coaching traffic, and the continued unfavourable character of the seasons, adversely affected the earnings of several years. The increased cost of fuel, and liberal advances granted to the wages staff materially augmented the working expenses, while the loss of revenue by the carriage of fodder and transfer of live-stock during drought years, at rates that were almost unremunerative, contributed greatly towards an increase in the proportion of working expenses to gross earnings.

The following table gives the percentage of earnings from the two sources of railway revenue:—

Year.	Percentage of Earnings.		Year.	Percentage of Earnings.	
	Coaching Traffic to Total.	Goods Traffic to Total.		Coaching Traffic to Total.	Goods Traffic to Total.
1860	73·0	27·0	1905	39·9	60·1
1865	56·0	44·0	1906	37·9	62·1
1870	38·4	61·6	1907	37·9	62·1
1875	33·5	66·5	1908	38·4	61·6
1880	33·6	66·4	1909	39·9	60·1
1885	38·2	61·8	1910	39·9	60·1
1890	40·2	59·8	1911	40·0	60·0
1895	35·1	64·9	1912	42·0	58·0
1900	38·2	61·8			

It will be observed that in the year 1860 the earnings from passenger traffic largely exceeded those from goods, but after that year the proportion derived from coaching traffic declined, reaching the minimum in 1875. This falling-off was due almost entirely to the considerable extension of the main lines through pastoral country, thinly populated, but well stocked with sheep and cattle, and consequently furnishing the railways with large quantities of produce for carriage to the sea-board. From 1880 to 1889, however, the percentage of receipts from coaching traffic steadily advanced, the proportion in the year last named being as high as 40·4 per cent. of the total revenue. A decline of the traffic is noticeable in 1895, followed by increases for the years 1900 and 1905, with only slight variations of the figures in subsequent years, until the year 1912 when the somewhat high percentage of 42·0 is shown.

NET EARNINGS AND INTEREST ON CAPITAL.

The net revenue from railways for the year ended 30th June, 1912, was £2,321,882; while the capital expended on lines open for traffic to that date was £53,514,903. The amount thus available, to meet the interest charges on the capital expended, represents a return of 4·34 per cent., which is 0·74 per cent. in excess of the interest payable on the public debt. In the discussion of the financial results of the working of the lines, it is the practice of railway authorities to compare the net returns with the nominal rate of

interest payable on the railway loans or on the public debt of the State. An accurate comparison, however, can be made only by taking the average rate of interest payable on the actual sum obtained by the State for its outstanding loans, inasmuch as many loans were floated below par. The following table shows the net earnings and the interest returned on the total capital expended on railways, including the cost of both construction and equipment for the year 1855 and subsequent periods :—

Year.	Net Earnings.	Interest on Capital	Year.	Net Earnings.	Interest on Capital.
	£	per cent.		£	per cent.
1855	3,290	0·63	1900	1,394,052	3·63
1860	11,842	0·83	1905	1,491,869	3·46
1865	57,106	2·07	1906	1,926,407	4·42
1870	101,139	1·81	1907	2,209,665	4·96
1875	318,474	4·39	1908	2,229,295	4·88
1880	513,298	4·35	1909	2,075,626	4·36
1885	716,215	3·37	1910	2,209,306	4·52
1890	967,251	3·17	1911	2,351,144	4·61
1895	1,310,615	3·60	1912	2,321,882	4·34

The table below shows the rate of interest returned on the capital expenditure for each of the years since 1905, with the sum by which such return falls short of or exceeds the actual rate of interest payable on the cost of construction. The rate of return on capital represents the interest on the gross cost of the lines. The nominal amount of outstanding debentures and funded stock is less than the actual expenditure on construction and equipment, owing to the fact, as previously stated, that some loans have been redeemed; but as the redemption has been effected by means of fresh loans charged to general services, or by payments from the general revenue, and not out of railway earnings, no allowance on this account can reasonably be claimed :—

Year.	Interest returned on Capital.	Actual rate of Interest payable on Outstanding Loans.	Average Gain (+) or Loss (—).
	per cent.	per cent.	per cent.
1905	3·46	3·69	—0·23
1906	4·42	3·68	+0·74
1907	4·96	3·63	+1·33
1908	4·88	3·65	+1·23
1909	4·36	3·65	+0·71
1910	4·52	3·53	+0·99
1911	4·61	3·59	+1·02
1912	4·34	3·60	+0·74

As pointed out previously, the extension of the lines in sparsely populated districts was responsible for a considerable falling-off in profits for some years; but, generally speaking, the above returns give evidence of considerable improvement during the period; and this satisfactory state of affairs has been attained by careful and economical management.

The railways being owned by the State, public opinion at once demands a reduction in freights and rates, when the net earnings are much in excess of the interest requirements.

Substantial reductions in the goods and live-stock rates were made during 1911, aggregating £60,000 per annum. Passenger fares were also reduced from 28th May, 1911, to the extent of £70,000 per annum. During 1912 the rate for coal and coke carried over 200 miles was materially reduced with the object of assisting the mining industry, the estimated value of the concession being £15,000 per annum, and the rate for copper matte to, and of copper from, the country smelting works has also been reduced.

The issue of return tickets to passengers has been practically abolished, except in those cases where the volume of return traffic would cause inconvenience to travellers, such as on suburban lines. The single fares have been reduced, so that two single tickets are now available at about the same cost as a return ticket under former system.

EARNINGS AND EXPENSES PER MILE.

Two important facts which demonstrate the financial position of the railways and the character of the management are the earnings per train mile and per average mile open. Although the returns now being realised cannot be compared with those of 1875, when the net earnings per train mile were a little short of 52d., and £777 per mile open, the earnings, with the exception of those for the years 1902, 1903, and 1904, are in every way encouraging. The transactions of the year 1912 show a decrease in the net earnings per train mile of 3·07d. as compared with those of the previous year; the net earnings per mile open have gradually decreased since the year 1908, the falling-off being due mainly to the increase in working expenses on account of renewals of rolling-stock and permanent way, expenditure caused by floods, and higher rates of pay to the staff under the awards of the Wages Boards. The gross earnings, expenditure, and net earnings per train mile and per average mile open since 1860 are set forth in the following table:—

Year.	Per train mile.			Per average mile open.			Year.	Per train mile.			Per average mile open.		
	Gross Earnings.	Working Expenses.	Net Earnings.	Gross Earnings.	Working Expenses.	Net Earnings.		Gross Earnings.	Working Expenses.	Net Earnings.	Gross Earnings.	Working Expenses.	Net Earnings.
	d.	d.	d.	£	£	£		d.	d.	d.	£	£	£
1860	83·37	67·52	15·85	889	725	169	1895	90·96	51·91	39·05	1,144	653	491
1865	82·42	54·07	28·35	1,161	762	399	1900	85·36	49·77	35·59	1,139	664	475
1870	81·81	54·86	26·95	907	608	299	1905	84·46	50·82	33·64	1,123	676	447
1875	100·20	48·28	51·92	1,499	722	777	1910	85·12	50·84	34·28	1,513	904	609
1880	86·02	47·99	38·03	1,475	823	652	1911	85·27	52·09	33·18	1,627	994	633
1885	78·61	52·72	25·89	1,307	877	430	1912	84·12	54·03	30·09	1,705	1,096	610
1890	78·90	49·91	28·99	1,209	765	444							

During the year 1912 the mileage of passenger trains was 8,463,965 miles; of mixed trains, 1,541,407 miles; and of goods trains, 8,515,948 miles; the total being 18,521,320 miles, showing an increase of 1,514,623 miles when compared with the previous year.

In many cases the railways pass through heavy and mountainous country, involving steep gradients, some of the heaviest of which are situated on the trunk lines. For the more expeditious and economical working of the traffic, important deviations have been made, or are being carried out to secure better grades and to ease the curves, notably the Lithgow Zig-zag

Deviation. In the southern system, the line at Roslyn, near Crookwell, reaches an altitude of 3,225 feet above sea level; in the western, at Newnes Junction, on the Blue Mountains, a height of 3,503 feet is attained; and on the northern line the highest point, 4,473 feet, is reached at Ben Lomond.

COACHING AND GOODS TRAFFIC.

Passenger Traffic.

The following table shows the number of passengers carried on the lines of the State, together with the receipts derived from the traffic, since 1855 :—

Year.	Passenger Journeys.	Passenger Journeys per head of population.	Receipts from Coaching, &c.
		d.	£
1855	98,846	0·4	9,093
1860	551,044	1·6	45,428
1865	751,587	1·9	92,984
1870	776,707	1·6	117,854
1875	1,288,225	2·3	205,941
1880	5,440,138	7·5	390,149
1885	13,506,346	14·6	830,904
1890	17,071,945	15·8	1,059,791
1895	19,725,418	15·9	1,022,901
1900	26,486,873	19·7	1,227,355
1905	35,158,150	24·2	1,469,018
1906	37,500,531	25·3	1,604,349
1907	41,413,084	27·3	1,782,907
1908	47,487,030	30·6	1,896,720
1909	52,051,556	33·0	2,059,050
1910	53,644,271	33·4	2,189,767
1911	60,919,628	37·2	2,451,976
1912	70,706,728	41·8	2,772,676

The increase in the number of journeys per head of population has been exceedingly rapid, the average being 41·8 per head in 1912, as compared with 19·7 in 1900 and 7·5 in 1880.

A summary of the mileage of passengers on railways lines during the year ended 30th June, 1912, is shown below :—

Description.	First Class.	Second Class.	Total.
SUBURBAN LINES.*			
Ordinary Passengers No.	4,090,188	20,927,892	25,018,080
Season Ticket Holders' Journeys ... ,,	6,644,040	14,328,360	20,972,400
Workmen's Journeys ... .. ,,	.....	16,600,428	16,600,428
Total Number of Passenger Journeys ...	10,734,228	51,856,680	62,590,908
Miles Travelled Miles.	76,261,401	360,963,301	437,224,702
Average Mileage per Passenger ... ,,	7·10	6·96	6·98
Amount Received from Passengers ... £	164,385	559,077	723,462
Average Receipts per Passenger per Mile d.	·52	·37	·40
COUNTRY LINES.			
Passengers No.	2,053,541	6,062,279	8,115,820
Miles Travelled Miles.	265,118,901	388,744,006	653,862,907
Average Mileage per Passenger ... ,,	129·10	64·13	80·57
Amount Received from Passengers ... £	710,221	915,597	1,625,818
Average Receipt per Passenger per Mile d.	·64	·57	·60

* Suburban Lines include distances within 34 miles of Sydney and Newcastle, including Richmond Line.

The average receipts from passenger traffic per head of population advanced very rapidly until 1890, when the amount stood at 16s. 5d., against 9s. 4d. in 1880. This was due not so much to the increased distance travelled by passengers as to the fact that the railway mileage increased at a greater rate than the population, enabling the public to indulge in a larger measure of railway travelling, in accordance with the well established rule that the more facilities for travelling are extended the greater will be the traffic. Subsequently to 1891 the average lessened for a period, but in recent years a further rise is evident, and the amount per capita is now 27s. 9d. The receipts from passenger traffic per head of the population will be found in the following figures:—

Year.	Amount per Capita.	Year.	Amount per Capita.
	s. d.		s. d.
1875	3 0	1905	16 8
1880	9 4	1908	20 4
1885	15 4	1909	21 10
1890	16 5	1910	22 8
1895	13 8	1911	25 4
1900	15 1	1912	27 9

Goods Traffic.

The following figures, extending as far back as the opening of the railway lines, show how greatly the goods traffic has expanded, especially in recent years:—

Year.	Tonnage of Goods, Coal, Coke, and Live Stock.	Tonnage per head of Population.	Earnings.	Year.	Tonnage of Goods, Coal, Coke, and Live Stock.	Tonnage per head of Population.	Earnings.
			£				£
1855	140	...	156	1900	5,531,511	4 1	1,936,217
1860	55,394	0·2	16,841	1905	6,724,215	4 6	2,214,998
1865	416,707	1·2	73,048	1906	7,629,492	5·1	2,630,442
1870	766,523	1·6	189,288	1907	8,793,822	5 8	2,926,499
1875	1,171,354	2·2	408,707	1908	10,175,389	6 6	3,047,414
1880	1,712,971	2·4	770,868	1909	9,298,929	5 9	2,969,400
1885	3,273,004	3·5	1,343,464	1910	8,393,038	5 2	3,295,948
1890	3,788,950	3·5	1,573,295	1911	10,355,565	6·3	3,590,229
1895	4,075,093	3·3	1,855,303	1912	10,910,553	6·4	3,718,797

The weight of goods and live stock carried per head of population in New South Wales compares favourably with that of many countries where railways have long been established, as may be seen from the figures given in a later table.

The accompanying statement shows the receipts per ton for carrying goods one mile along the lines of the State. The information relates back to 1872, when the charge was 3·6 pence, and after an interval of forty years it has fallen to 0·9d. The decrease, however, is to some degree only apparent, inasmuch as it represents a more extensive development of the mineral trade than of the carriage of general merchandise; but when due allowance has been made, it will be found that the benefit to the general producer and consumer has been very substantial, especially in regard to agricultural produce and live stock:—

1872	...	3·6d.	1895	...	1·6d.	1908	...	1·2d.
1875	...	3·1d.	1900	...	1·5d.	1909	...	1·0d.
1880	...	2·3d.	1905	...	1·2d.	1910	...	1·0d.
1885	...	1·9d.	1906	...	1·3d.	1911	...	0·9d.
1891	...	1·9d.	1907	...	1·3d.	1912	...	0·9d.

The revenue from goods and live-stock traffic per head of population rose rapidly from the opening of the lines until the year 1883, when it stood at 30s. 4d. Bad seasons in subsequent years caused a falling-off, so that by 1888 the average was only 27s. per inhabitant. For a number of years afterwards there was a steady increase, and in 1892 the average stood at 33s.; in 1894 this was decreased to 29s. 1d.; but in 1895 there was a rise to 29s. 11d. In 1896, owing chiefly to the diminished wool traffic, and partly also to the Newcastle strike, the figures dropped to 28s. 1d.; in 1897, there was a rise to 29s. 11d., but the effect of the drought was noticeable in 1898, when the average per head dropped to 29s. 2d. An improvement was, however, presented in 1899, 1901, 1902, and in each year from 1905 to 1908; and in 1912 the average per head rose to 43s. 11d. The results achieved must be regarded as very satisfactory, especially in the face of the recent general reduction in the freights:—

Year.	Goods revenue per head of Population.	Year.	Goods revenue per head of Population.
	£ s. d.		£ s. d.
1860	0 1 0	1905	1 10 6
1865	0 3 8	1906	1 15 5
1870	0 7 9	1907	1 18 7
1875	0 14 0	1908	1 19 3
1880	1 1 2	1909	1 17 0
1885	1 9 0	1910	2 1 0
1890	1 9 1	1911	2 3 9
1895	1 9 11	1912	2 3 11
1900	1 8 10		

TRAFFIC REQUIREMENTS.

The remarkable expansion which has taken place in the volume of traffic on the railways of New South Wales will be seen from the following comparison; the revenue during the five years 1908–12, shows an increase of £8,612,458 or 44 per cent., as compared with the earnings during the previous quinquennium. The number of passengers has increased by 50 per cent. and the tonnage of goods and live-stock by 46 per cent.

		Five years ended 30th June, 1907.	Five years ended 30th June, 1912.	Increase.	Percentage increase.
Earnings—					
Coaching Traffic	... ..	£ 7,704,895	11,370,189	3,665,294	48
Goods and Live Stock	... ..	£ 10,092,013	14,358,976	4,266,963	42
Coal and Coke	... ..	£ 1,582,611	2,262,812	680,201	43
Total earnings	... ..	£ 19,379,519	27,991,977	8,612,458	44
Passengers					
Passengers	... ..	No. 180,248,592	284,809,213	104,560,621	58
Goods and Live Stock					
Goods and Live Stock	... ..	Tons 13,323,351	19,482,890	6,159,539	46
Coal and Coke	... ..	Tons 23,077,188	29,650,584	6,573,396	28
Total Tonnage	... ..	36,400,539	49,133,474	12,732,935	35

Rolling-stock.

Information regarding the Rolling Stock of New South Wales Railways on 30th June, 1912, appears in the following table. The figures for the previous year have been inserted for the purpose of comparison:—

Classification.	1911.	1912.	Classification.	1911.	1912.
Locomotives—			Merchandise—		
Engines	903	942	Goods, open	12,034	12,973
Tenders	746	762	Goods, covered	933	938
Coaching—			Meat trucks	145	224
Special & sleeping cars	69	80	Live-stock trucks	2,083	2,083
First-class	295	326	Brake-vans	485	485
Composites	142	154	Total	15,680	16,703
Second-class	630	684			
Brake-vans	120	137	Departmental Stock—		
Horse boxes, carriages, trucks, &c.	264	279	Loco. coal, ballast, &c., waggons	1,048	1,085
Total	1,520	1,660			

The following statement shows the increase in the number and capacity of each class of rolling stock since 1907:—

Description.	30th June, 1907.	30th June, 1912.	Increase.	Percentage Increase.
Engines—				
Number	656	942	286	43
Aggregate tractive power lb.	13,039,820	19,859,895	6,820,075	52
Tractive power per engine lb.	19,878	21,083	1,205	6
Coaching Stock—				
Number	1,187	1,660	473	40
Aggregate carrying capacity persons	42,010	68,706	26,696	64
Carrying capacity per vehicle (excluding non-passenger stock) persons	52	53	1	2
Goods Stock—				
Number	12,719	17,788	5,069	40
Aggregate carrying capacity... tons	111,452	191,897	80,445	72
Carrying capacity per vehicle (excluding brake, gas, and accident vans) tons	9	11	2	22

It will be seen that the additional volume of traffic has necessitated large additions to rolling stock; the aggregate tractive power of the engines has been increased by 52 per cent., and the carrying capacity of the coaching and goods stock by 64 per cent. and 72 per cent. respectively, during the last five years. The capital expenditure incurred during this period in providing additional stock amounted to £3,044,930 distributed as follows: Locomotives, £1,242,026; coaching vehicles, £802,385, and goods vehicles, £1,000,519.

Condition of Permanent Way.

During the year 1912 there was a considerable shortage in the number of sleepers required for railway purposes, but still a large amount of relaying and re-sleepering work was done. The total length of line wholly or partially renewed by relaying, re-sleepering, or re-railing was 261 miles 14 chains, and 476 miles 8 chains were re-ballasted, thus making a total of 737 miles 22 chains of line either partially or completely renewed. In this work 444,339 sleepers and 174,749 cubic yards of ballast were used.

The total weight of rails used in relaying and repairing work during the year amounted to 17,947 tons.

The policy of replacing timber bridges by steel and brick structures has been continued and bridges of a total length of 3,501 lineal feet have been so treated.

‡ *Signalling and Safety Appliances.*

Great progress has been made in providing safety appliances at various places, and during the year 1912 much new work has been installed with the many deviations, duplications, and new railway lines.

Single Line.					Mls.	Chs.
By electric tablet	...	...	...	...	463	30
electric train staff	...	...	...	...	683	20
train staff and ticket with line clear reports...	...	...	...	...	1,457	47
train staff and ticket without line clear reports...	...	...	...	...	905	27
train staff and one engine only	...	...	...	...	6	14
					<hr/>	
					3,515	58
					<hr/>	
Double Line.					Mls.	Chs.
By absolute block system	...	...	...	...	310	40
permissive block system	...	...	...	...	2	37
telephone	...	...	...	...	0	33
					<hr/>	
					313	30
					<hr/>	

The Westinghouse brake is used on all the rolling stock of the Government railways.

It is interesting to note that an Australian invention for the prevention of collisions has recently been successfully demonstrated in England. A train proceeding through each block section of a line fitted with this apparatus receives signals by means of electrically controlled devices, and also gives corresponding signals to following trains, or in the case of a single line, to opposing trains. The principal features of this system is that in the case of drivers disregarding danger signals the trains are automatically brought to a standstill.

RAILWAY ACCIDENTS.

The persons meeting with accidents on railway lines may be grouped under three heads—passengers, employees, and trespassers; and the accidents themselves may be classified into those arising from causes beyond the control of the persons injured, and those due to misconduct or want of caution.

The accidents may be further subdivided into those connected with the movement of railway vehicles and those apart from such movement. Adopting such classifications, the returns for the quinquennial period terminating on the 30th June, 1912, show that in accidents connected with the movement of railway vehicles, through causes beyond the passengers' own control, only one was killed in 285 millions carried, and 127 or 0.44 per million carried were injured; and owing to misconduct or want of caution the accident rates of passengers were 0.09 killed and 1.34 injured per million carried. Further, in accidents apart from the movement of railway vehicles, 0.54 passengers per million carried were injured in consequence of their own misconduct or want of caution.

In the following statement, particulars regarding accidents on the Government Railways of New South Wales are given for four years:—

Classification.	Accidents connected with the Movement of Railway Vehicles.				Accidents not connected with the Movement of Railway Vehicles.			
	1909.	1910.	1911.	1912.	1909.	1910.	1911.	1912.
Passengers—								
Causes beyond their own control—								
Killed ... ..	...	...	...	...	...	...	...	...
Injured	2	8	9	21	1	...	3	...
Their own misconduct, or want of caution—								
Killed	6	5	2	7	...	...	...	...
Injured	48	88	83	113	38	21	32	40
Servants of the Department—								
Causes beyond their own control—								
Killed	1	1	...	...	...	...	...	9
Injured	13	11	36	58	27	39	69	189
Their own misconduct, or want of caution—								
Killed	13	17	19	26	1	2	5	4
Injured	140	190	188	255	1,366	1,559	1,653	2,272
Trespassers and others—								
Killed	23	27	25	35	...	6	1	8
Injured	46	41	52	66	62	53	84	119
Total { Killed	43	50	46	68	1	8	6	21
Injured	249	338	368	513	1,494	1,672	1,841	2,620

The return is compiled in a similar way to those adopted by the Board of Trade in England, and all accidents are reported which occur in the working of the railways, or on railway premises, to persons other than servants of the Department, however slight the injuries may be. In the case of employees of the Department all accidents are required to be reported which cause the employee to be absent for at least one whole day from his ordinary work.

Compensation Paid.

The amount of compensation paid during the twelve months ended 30th June, 1912, in connection with accidents on railways, was £20,365, of which £4,292 was paid in respect of passengers, and £16,073 with regard to goods.

First Aid and Ambulance.

Appliances for rendering first-aid have been installed at the depôts and important stations and are carried in the brake-vans of main line and through trains; equipment for surgeons first-aid use is also provided at Sydney and Newcastle and at several country stations. Ambulance and First-aid classes have been established at 151 places throughout the State for the instruction of members of the Railway and Tramway Staff. The total strength of the Railway and Tramway Ambulance Corps at 30th June, 1912, was 5,988 members.

Railway Accidents in other Countries.

As regards accidents of a serious character the railways of New South Wales compare favourably with the lines of most other countries. It is difficult to obtain a common basis of comparison; but the available figures are

shown in the following table, which exhibits the number of passengers killed and injured per million persons, carried. The figures are calculated over a period of five years and brought down to the latest available dates :—

Countries.	Accidents per million passengers carried.		Countries.	Accidents per million passengers carried.	
	Killed.	Injured.		Killed.	Injured.
Germany	0·09	0·45	Russia in Europe ...	1·45	7·33
Austria	0·08	2·02	„ Asia	5·53	28·31
Hungary	0·24	1·27	United Kingdom ...	0·08	2·14
Belgium	0·09	2·93	<i>New South Wales</i> ...	0·09	2·35
Sweden	0·19	0·27	Victoria	0·18	3·65
Norway	0·08	0·15	South Australia ...	0·21	2·32
Netherlands ...	0·09	0·31	New Zealand	0·93	1·59
Switzerland ...	0·13	1·00	United States	0·51	13·39

The above comparison is by no means convincing, as the question of the distance travelled by each passenger is an important element of the risk run, and is omitted from consideration. If this were made a factor, it would probably be found that the risk of each traveller by rail would show less variation in the different countries than appears to be the case from the figures quoted. In Asiatic Russia the average distance travelled by each passenger was over 500 miles during three years of the quinquennium, and during the remaining two years it was about 150 miles. In the United States the average length of journey was 33 miles; in Germany, Belgium, Sweden, Norway, Netherlands, and Switzerland it varied from 12 to 18 miles. The average journey in New South Wales was about 15 miles, and in South Australia about 12 miles.

RAILWAYS OF NEW SOUTH WALES AND OTHER COUNTRIES.

The position of all railways of New South Wales in relation to other important countries of the world is shown in the following table; but it is necessary to remember that there are vital differences which really invalidate any effective comparison, as, for instance, differences in population, in class of goods carried, and in the competition or assistance which railways encounter from river or sea carriage. These are factors in development quite apart from questions of control, of gauge, or of construction.

Country.	Length of all Railways.	Per Mile of Line Open.			Tonnage Per Capita.
		Population.	Area.	Cost.	
	miles.	No.	sq. miles.	£	tons.
<i>New South Wales</i> ...	3,973	426	78·1	11,234	7·1
Victoria	3,544	369	24·8	12,159	3·4
Queensland	4,174	144	160·6	6,289	5·5†
*South Australia ...	1,970	209	192·9	7,612	6·7
Western Australia ...	3,278	88	297·7	3,867	15·6
New Zealand	2,761	362	37·9	10,723	5·9
United Kingdom ...	23,396	1,937	5·2	59,890	11·6
Germany	36,152	1,795	5·8	22,854	8·0
France	25,017	1,570	8·3	29,822	4·1
Switzerland	2,875	1,281	5·5	23,295	4·3
Austria	13,847	2,094	8·4	24,126	5·2
Canada	25,400	283	146·8	12,037	9·9
United States	236,869	382	12·6	15,381	17·2
Argentine	17,381	408	64·2	10,361	4·7
Japan	5,292	9,369	27·9	10,385	0·5

* Including Port Augusta to Oodnadatta line. † Exclusive of live stock.

PRIVATE RAILWAY LINES.

In New South Wales the established policy has been to keep the railways under State management and control, and at the present time there are only 81 miles of private lines in operation, with the exception of short lines to connect coal and other mines with the main railways, on a few of which provision has been made for the carriage of passengers and goods.

In 1874 Parliament granted permission to a company to construct a line from Deniliquin, in the centre of the Riverina district, to Moama, on the River Murray, where it meets the railway system of Victoria. The line, which was opened in the year 1876, is of 5 ft. 3 in. gauge and 45 miles in length, and a considerable proportion of the wool and other produce of Riverina reaches the Melbourne market by this route. During the year 1888 a line of 3ft. 6 in. gauge and 35 miles 54 chains in length, was laid down from Silvertown and Broken Hill to the South Australian border. A short line connects the Government railway at Liverpool with the Warwick Farm Racecourse. The Seaham Coal Company's line connects the West Wallsend and Seaham Collieries with Cockle Creek; and the line of the Commonwealth Oil Corporation extends from Newnes, on the Western line, to the Wolgan Valley. The following table shows the operations of all private railway lines open to the public for general traffic during the year 1911:—

Name of Private Railway.	Line.		Total Capital Expended.	Reserve Fund.	Debentures Outstanding.	Passengers Carried.	Goods Carried.	Live Stock Carried.	Train Miles Run.
	Length.	Gauge.							
Deniliquin and Moama.	45	0 5 3	162,672	14,010	20,000	16,945	22,921	302,399	39,148
Silvertown ...	35	5 4 3	438,453	127,435	Nil.	56,347	*1,056,294	36,048	161,164
Warwick Farm ...	0	6 6 4 8½	5,700	...	...	28,314	Nil.	683	47
Seaham Colliery ...	6	0 4 8½	16,000	...	...	10,554	5,938	150	5,895
East Greta ...	8	0 4 8½	152,202	...	...	687,967	40,857	...	323,712
Hexham-Minmi ...	6	0 4 8½	1,000,000	...	...	13,220	1,650	...	9,683
Commonwealth Oil Corporation.	32	0 4 8½	193,271	...	...	4,842	30,696	...	38,620
New Red Head ...	8	0 4 8½	90,000	...	...	...	.....	...	...

* Includes 722,845 tons local shunting.

The Deniliquin and Moama Company possesses 4 locomotives, 6 passenger carriages, and 63 goods carriages and vans; and the Silvertown Company has 16 locomotives and 632 goods vehicles, passenger carriages being hired from the South Australian Government railways as required. On the Warwick Farm line Government rolling-stock is used. The Seaham Colliery has 2 locomotives but otherwise Government rolling-stock is used. On the East Greta railway there are 14 locomotives, 32 passenger carriages, and 29 goods carriages. The Hexham-Minmi Company has 2 locomotives and 5 passenger carriages; and the Commonwealth Oil Corporation has 5 locomotives, 2 passenger carriages, and 34 goods carriages and vans.

In addition to the private railway lines shown in the above table, there are several branches, connected principally with coal and other mines; a summary of them is given below:—

Connected with	District.	Length.		Gauge.	
		m.	ch.	ft.	in.
Northern Line	...	74	54	4	8½
North Coast	...	9	0	4	8½
Western	...	6	39	4	8½
South Coast	...	3	40	3	6
		29	76	4	8½

UNIFICATION OF THE RAILWAY GAUGES OF AUSTRALIA.

It was originally intended that there should be only one gauge for all the railways of Australia, but, unfortunately for interstate communication, this intention was not carried into effect, and railway construction has proceeded without uniformity of gauge. In 1850, when the first railway was commenced, the Sydney Railroad and Tramway Company decided to adopt the 5 ft. 3 in. gauge, and an Act passed in 1852 provided that all the lines in New South Wales should be laid down to this standard. Three years later the Company altered its decision, the Act was repealed and another passed substituting the 4 ft. 8½ in. gauge for the 5 ft. 3 in.

This change was made without consulting the other Australian colonies, and in Victoria the railway companies had already placed large orders for rolling-stock for the wider gauge. The result is that all the railways of New South Wales have been constructed to the 4 ft. 8½ in. gauge, and all the Victorian to 5 ft. 3 in. In South Australia the 5 ft. 3 in. gauge was adopted at first, but on account of the lower cost of construction the more recent lines in that State, as well as all the lines in the Northern Territory, Queensland, and Western Australia, have been built to a gauge of 3 ft. 6 in.

In consequence of this diversity of gauge interstate railway communication is seriously hampered; in a journey from Queensland to South Australia, breaks of gauge occur at Wallangarra, where the systems of Queensland and New South Wales meet, and at Albury, on the border of New South Wales and Victoria, while there is another change of gauge between Adelaide and Port Augusta or Oodnadatta, whence it is proposed to extend the lines across the Continent of Australia.

The desirability of dealing with this matter has been urged repeatedly by railway authorities and engineers, as the longer the work of conversion is delayed the greater the ultimate cost will be. The necessity of fixing a standard has, at the present time, been intensified by the determination of the Commonwealth Government to construct transcontinental lines. The requirements of the defence scheme also demand the immediate removal of the disabilities of military transport caused by want of uniformity.

In a report submitted to the Federal Parliament in September, 1911, by the Consulting Engineer to the Commonwealth it is stated that the consensus of opinion amongst railway engineers and managers is that variations of gauge should be avoided, and that in countries such as Australia there should be one gauge and that of suitable width for running heavy and long freight trains, and comfortable and swift passenger trains.

Some of the advantages which would result from unification of gauge are stated as follows:—

In the case of a shortage of rolling-stock in any State, waggons belonging to another State could be brought into use. It rarely happens that all the States, or even all districts, have similar seasons at the same time, but, during droughts, serious losses have frequently occurred owing to an insufficiency of rolling-stock to remove sheep and cattle to more favourable localities. If the resources of other States could have been taken advantage of these losses would have been averted.

There would be increased facilities for the interchange of products, and as regards passenger traffic the discomfort and loss of time which now takes place at border stations would cease. These delays in transshipment would entail very serious consequences should occasion necessitate the transfer of troops and materials of war across the borders.

The question of fixing the standard gauge has been the subject of many diverse professional opinions. The New South Wales gauge of 4 ft. 8½ in. was recommended by the chief railway engineers of the five States when reporting upon the selection of the route for the Port Augusta-Kalgoorlie railway, by the Railway War Council, and by the Commonwealth consulting engineer.

As regards the method to be adopted for the conversion without interruption of the traffic the consulting engineer recommends a trial of the third rail, producing what is called the mixed gauge. This system has been effectively used in Great Britain. In that country the generally-adopted gauge was 4 ft. 8½ in., but the width of the Great Western Railway was 7 ft. 0½ in. The directors of this company decided to bring their system into uniformity with the rest of the English and Scotch railways; a third rail was laid down over the Great Western Railway and other adjoining lines so that the rolling-stock of the narrow gauge could be used over the lines of the other system as well, until it was found possible to withdraw the last of the wider rolling-stock and remove the outer rail.

The change from the Victorian gauge could be carried out without interruption of traffic—the commencement to be made by laying a third rail over the section from Albury to Melbourne. All new Victorian rolling-stock would then be built to the narrower gauge, and a proportion of the existing stock altered. On completion of the latter, the outer rail could be taken up and utilised for another section. Thus in from five to ten years the whole of the 5 ft. 3 in. gauge system of Victoria and South Australia would be converted.

The conversion of the narrower gauge lines to wider would entail greater expense, as it would be necessary to alter tunnels, bridges, &c.

The classification of the Government Railways in each State according to gauge may be seen below:—

State.	Mileage with Gauge.					Total Miles.
	2 ft.	2 ft. 6 in.	3 ft. 6 in.	4 ft. 8½ in.	5 ft. 3 in.	
New South Wales	26	.....	40	3,792	.....	3,858*
Victoria ... ..	.....	122	.....	.....	3,506†	3,628†
Queensland ... ..	.....	.....	4,266	.....	.....	4,266
South Australia ... ..	.....	.....	1,459‡	.....	622	2,081
Western Australia ... ..	.....	.....	2,598	.....	.....	2,598
Tasmania	24	.....	446	.....	.....	470
Total Government Railways in the Commonwealth ...	50	122	8,809	3,792	4,128	16,901

* Includes 26 miles of railway under the direct control of the Public Works Department, used in connection with the Burrinjuck Storage Reservoir. † Includes 5 miles of Street Electric Railway.
‡ Includes Darwin to Pine Creek Line 145 miles, and Port Augusta to Oodnadatta Line 478 miles; total 623 miles transferred to the Commonwealth Government.

TRANSCONTINENTAL RAILWAYS.

It is the intention of the Federal Government to construct transcontinental railway lines to bring the States of the continent of Australia into direct communication. The construction of a line from Port Augusta in South Australia to Kalgoorlie in Western Australia is now in progress, the so-called standard or world's gauge of 4 ft. 8½ in. having been adopted. The length will be 1,100 miles, which will make the distance by rail from Sydney to Fremantle (Western Australia), 2,809 miles, divided up as follows: Sydney

to Melbourne, 582½ miles; Melbourne to Adelaide, 482½; Adelaide to Port Augusta, 259; Port Augusta to Kalgoorlie, 1,100; Kalgoorlie to Fremantle 385; total, 2,809 miles. The cost of construction and equipment is estimated at £4,045,000, or if internal combustion engines are used, £3,839,000. This line is required to facilitate the transport of troops, &c., in time of war, and will considerably accelerate the transit of European mails. At the present time mail matter is forwarded to Adelaide from Sydney by rail, and thence sent by steamer to Fremantle, taking six days, whereas the through railway journey should only occupy four days.

Under the provisions of the Northern Territory Acceptance Act the South Australian Government transferred to the Commonwealth on 1st January, 1911, the line from Port Augusta to Oodnadatta, as well as the Northern Territory railway, from Palmerston to Pine Creek. The Commonwealth has agreed to construct a line across the continent to connect these systems. These lines are now controlled by the South Australian Railways Commissioner on behalf of the Federal Government.

THE WAR RAILWAY COUNCIL.

Acting on the advice tendered by Lord Kitchener in his Report on the Defence of Australia, the Commonwealth War Railway Council has been formed for the administration of the railways for the requirements of defence. A council consisting of the Minister for Defence, staff officers of the military and naval forces, the State Railway Commissioners, and the railway and military consulting engineers of the Commonwealth met in February, 1911. The resolutions passed included the following recommendations:—

Definite military constitution for members of the War Railway Council, formed of eleven members:—The quartermaster-general or other staff officer at headquarters, as president, the senior officer of the engineer and railway staff corps of the Commonwealth system, and of each State railway system, the consulting military engineer, and representatives of the naval and military forces; a military officer detailed by the Military Board to act as secretary.

The creation of an Engineer and Railway Staff Corps composed of Commonwealth and State railway officials with honorary military rank; the establishment at the commencement to consist of eleven railway Commissioners and general managers from the six States, and thirty-seven members of the maintenance, traffic, locomotive, and electrical branches of the State railway staffs.

The duties of the Council to be—(1) Generally, to furnish advice on such railway matters as are referred to it by the Minister for Defence, and in particular, (2) to determine the method of supplying information to and obtaining it from the various railway departments, (3) to suggest regulations and instructions for carrying out movements of troops, (4) to suggest method of organising railway staff officers in time of war as intermediaries between the various railway authorities and the troops, (5) to consider the question of extra sidings, loading platforms, &c., and proposals towards unification of gauges, (6) to suggest the organisation and system of training of railway troops, when the development of Universal Training supplies sufficient *personnel*, whose ordinary employment is railway work, and (7) in time of war to advise on questions of mobilisation.

The procedure of the Council and the control of the railways in time of war were also dealt with, and the Council affirmed the desirableness, as regards the main lines of communication, of a uniform gauge for the railways of Australia, and recommended a uniform 4 ft. 8½ in. gauge, linking up the capitals of each state; and a gauge of 4 ft. 8½ in. on the transcontinental line from Kalgoorlie to Port Augusta; and that the cost of conversion be shared upon a basis to be determined between the Commonwealth and the States.

TRAMWAYS.

With the exception of 4 miles privately owned, the tramways of New South Wales are the property of the State Government. The total mileage of the tramway lines at the end of the year 1912 was 195½ miles. There were eleven distinct systems of tramways in operation, viz., City and Suburban electric, 98 miles 13 chains; North Sydney electric, 18 miles 26 chains; Ashfield to Mortlake and Cabarita, electric, 8 miles 36 chains; Arncliffe to Bexley steam, 2 miles 50 chains; Kogarah to Sans Souci steam, 5 miles 45 chains; Newcastle City and Suburban steam, 27 miles 76 chains; Broken Hill steam, 9 miles 9 chains; Parramatta to Castle Hill steam, 6 miles 55 chains; Manly to The Spit and Brookvale electric, 6 miles 61 chains; East and West Maitland steam, 4 miles 47 chains; Sutherland to Cronulla steam, 7 miles 32 chains.

The extension of tramways during the year 1912 may be seen in the sub-joined statement:—

	Single track.		Double track.		Total.	
	miles.	chains.	miles.	chains.	miles.	chains.
Open for traffic	3	25	2	46	5	71
Under construction	5	2	5	71	10	73
Authorised for construction	2	70	0	43	3	33

The standard gauge of 4 ft. 8½ in. has been adopted for all the State tramways.

The electric system for tramways was introduced into Sydney at the close of 1899, and the steam tramways in the metropolitan district have been converted into an electrical system. Of the 195½ miles of line open in 1912, there were 131 under the electric system and 64 under steam.

The fares charged on the tramways are on the average about 0·61d. per mile, the lines being divided into penny sections of about 1¼ mile. For the Metropolitan area the average length of the sections is about 1½ mile, and the fare per mile 0·58d.

Rolling-stock.

The tramway rolling-stock, on the 30th June, 1912, consisted of 21 steam motors, 74 steam cars, 1,008 motors, and 40 trail cars for electric lines, and 78 service vehicles, making a total of 1,221. The tram mileage during the year was 24,362,219, being an increase of 1,820,790 miles on that of the preceding year.

Working of Tramways.

The following statement shows the working of the various tramways in sections for the year ended 30th June, 1912. Although nine sections experienced a loss during the period, the total net revenue on all lines, amounting to £57,696, returns a profit of 1·02 per cent. after allowing for interest on capital invested:—

Line.	Cost of Construction and Equipment.	Passengers Carried.	Gross Revenue.	Working Expenses.	Interest on Capital.	Profit + Loss —
	£	No.	£	£	£	£
City and Suburban—Electric	4,379,866	227,663,638	1,329,862	1,083,483	148,490	+97,889
North Sydney—Electric	513,510	18,740,463	103,013	93,003	17,537	—8,127
Ashfield to Mortlake and Cabarita—Electric	120,225	2,411,407	13,237	17,094	3,826	—7,683
Arncliffe to Bexley—Steam	19,824	369,653	1,967	3,857	713	—2,803
Kogarah to Sans Souci—Steam	18,798	635,829	5,448	5,448	676	—676
Manly to Brookvale and the Spit—Electric	139,720	1,965,387	14,513	15,141	4,741	—5,369
Parramatta to Castle Hill—Steam	37,247	723,088	5,970	7,319	1,340	—2,689
Sutherland to Cronulla—Steam	43,140	505,421	8,674	5,571	1,453	+1,650
Newcastle City and Suburban—Steam ..	276,201	9,896,836	72,324	71,488	9,386	—8,550
Broken Hill—Steam	77,683	3,007,810	21,047	23,102	2,751	—4,806
East to West Maitland—Steam	38,110	859,984	5,338	5,307	1,371	—1,340
Total, All Lines	5,664,324	266,789,546	1,581,393	1,331,413	192,284	+57,696

Revenue and Expenditure.

In the following table are given details of revenue and expenditure, and capital invested for all State tramways, since their inception in 1879. The net earnings of the tramways for the year 1912 amounted to 4·41 per cent. on cost of construction and equipment, which compares favourably with 3·60 per cent., the actual interest on the public debt, taking into consideration the actual sum obtained by the State for its loans, many of which were floated below par:—

Year.	Total Length of Lines.	Capital Expended on Lines open for Traffic.	Gross Revenue.	Working Expenses.	Net Earnings.
	Miles.	£	£	£	£
1879	1½	22,061	4,416	2,278	2,138
1880	4½	60,218	18,980	13,444	5,536
1885	35	748,506	227,144	207,398	19,246
1890	39½	933,614	268,962	224,073	44,889
1895	61	1,428,518	282,316	230,993	51,323
1900	71½	1,924,720	409,724	341,127	68,597
1905	125½	3,637,922	813,569	685,682	127,887
1906	126	3,609,096	851,483	665,083	186,400
1907	123½	3,669,524	903,701	727,947	180,754
1908	132½	3,732,991	1,011,994	809,065	202,929
1909	151½	4,252,731	1,097,565	875,560	222,005
1910	165½	4,668,797	1,185,568	983,587	201,981
1911	189½	5,121,586	1,365,631	1,143,949	221,682
1912	195½	5,664,324	1,581,393	1,331,413	249,980

During the year ended 30th June, 1912, the percentage of working expenses to the total receipts was 84·2 as compared with 83·3 in 1900; the net earnings amounted to £249,980, which is equal to a net return per average mile open of £1,298, which is a satisfactory increase since the year 1900, when the return was £1,005 per mile open.

Comparison of Traffic.

The following statement contains a comparison of the passenger traffic and the tram mileage in the State tramways since 1900. The length of line has increased from 71½ miles to 196 miles; the number of passengers from 66,244,334 to 266,789,546; and the tram mileage from 4,355,024 miles to 24,362,219 miles. With the extension of the tramway systems the earnings per tram mile have decreased from 2s. 3d. to 1s. 3½d., but there has also been a decrease from 1s. 10d. to 1s. 1d. in the working cost:—

Year ended 30th June.	Length of line open.	Passengers carried.	Tram mileage.	Earnings per tram mile.	Working cost per tram mile.
	miles.	No.	miles.	s. d.	s. d.
1900	71½	66,244,334	4,355,024	2 3	1 10
1901	79½	93,703,685	6,835,926	1 7½	1 4½
1902	104	108,135,111	9,344,154	1 4½	1 2
1903	124½	130,405,402	13,695,630	1 1½	0 11½
1904	125½	137,843,513	16,387,019	0 11½	0 9½
1905	125½	139,669,459	16,413,762	1 0	0 10
1906	126	145,262,779	16,309,907	1 0½	0 9
1907	128½	155,017,982	16,620,434	1 1	0 10½
1908	132½	172,020,932	17,521,410	1 1½	0 11
1909	151½	186,318,738	18,853,621	1 2	0 11½
1910	165½	201,151,021	20,579,386	1 1½	0 11½
1911	189½	230,275,938	22,541,429	1 2½	1 0½
1912	195½	266,789,546	24,362,219	1 3½	1 1

The extension of the City and North Sydney tramways since 1905 may be seen in the following statement, also the enormous increase in the passenger traffic. The Manly lines and the Ashfield, Kogarah, and Arncliffe lines, which act as feeders to the railways and do not communicate directly with the city, have not been included:—

Year ended 30th June.	City and Suburban.			North Sydney.		
	Length of line.	Passengers carried.	Tram mileage.	Length of line.	Passengers carried.	Tram mileage.
	miles.	No.	miles.	miles.	No.	miles.
1905	73½	120,973,934	14,413,273	11½	9,128,575	1,074,743
1906	73½	125,756,680	14,246,845	11½	9,641,474	1,118,633
1907	75½	134,088,696	14,516,536	11½	10,082,128	1,139,417
1908	78	148,729,916	15,329,695	11½	10,992,974	1,187,857
1909	88½	161,289,058	16,411,533	15	12,444,075	1,401,861
1910	94½	173,897,034	17,743,868	16½	13,677,491	1,651,153
1911	97½	197,871,083	19,107,419	16½	15,896,835	1,929,450
1912	98	227,668,638	20,293,800	18½	18,740,463	2,231,498

CARRIAGE OF GOODS BY TRAMWAYS.

An Act was passed to authorise the carriage of goods on the Government tramways, except the lines in the very busy sections of the streets of Sydney, viz., in George, Pitt and Castlereagh Streets between the Central Railway Station and the Circular Quay.

Although the tram lines are fully capable of carrying heavy goods, and the track is ballasted equal to the railways, up to the present time only passengers are carried, and such material as occasionally may be needed for tramway requirements.

TRAMWAY ACCIDENTS.

The accidents which occurred on tramways during the last four years are classified in the subjoined table, in a similar way to those relating to the railways:—

Classification.	Accidents connected with the Movement of Tramway Vehicles.				Accidents not connected with the Movement of Tramway Vehicles.				
	1909.	1910.	1911.	1912.	1909.	1910.	1911.	1912.	
Passengers—									
Causes beyond their own control—									
Killed	...	...	...	...	...	...	...	...
Injured	64	133	149	163	...	...	2	2
Their own misconduct, or want of caution—									
Killed	6	6	11	11	...	...	...	...
Injured	206	214	276	382	10	6	7	9	
Servants of the Department—									
Causes beyond their own control—									
Killed	...	...	1	...	...	...	...	...
Injured	20	25	48	55	21	7	23	36	
Their own misconduct, or want of caution—									
Killed	1	...	1	1	...	1	...	...
Injured	167	158	164	202	360	331	382	496	
Others—									
Killed	12	18	18	16	...	1	1	1	
Injured	183	214	324	336	5	2	9	5	
Total	Killed	19	24	31	28	...	2	1	1
	Injured	640	744	961	1138	396	346	423	548

As the tramways usually traverse crowded streets, the number of accidents must be considered very small.

The number of passengers carried on the tramways during the year ended 30th June, 1912, was 266,789,546, which would give the rate of fatal accidents to passengers as 0·04 per million. All these fatal accidents, as in the previous four years, were ascribed entirely to misconduct or want of caution on the part of passengers.

Compensation paid.

The amount of compensation paid during the twelve months ended 30th June, 1912, in respect of accidents on the tramways was £21,177, as compared with £19,867 for the preceding year.

PRIVATE TRAMWAYS.

There are two tramways under private control within the State. One of these branches from the Illawarra line at Rockdale, in the Metropolitan area, and runs to Brighton-le-Sands, a distance of 1 mile 20 chains. The line was constructed in 1885, and the original motive power was steam, subsequently converted into electric. The other, a steam tramway, passes through the township of Parramatta, commencing at the Park and continuing as far as the Newington Wharf at Duck River, a distance of 2 miles 66 chains, where it connects with the Parramatta River steamers conveying passengers and goods to and from Sydney. The line was opened in 1883.

Like the State railways and tramways, all private tramways have been constructed to the standard gauge of 4 ft. 8½ in.

RAILWAYS AND TRAMWAYS—EMPLOYMENT AND WAGES.

The account of wages paid, together with the staff employed on the Government railways and tramways during the financial year 1912, is shown in the following statement, in comparison with the previous year:—

Particulars.	Year ended 30th June, 1912.			Year ended 30th June, 1911.		
	Railways.	Tramways.	Total.	Railways.	Tramways.	Total.
	No.	No.	No.	No.	No.	No.
Persons employed—						
Salaried staff ...	2,977	450	3,427	2,799	351	3,150
Wages ,, ...	25,984	8,194	34,178	21,388	6,943	28,331
Total ...	28,961	8,644	37,605	24,187	7,294	31,481
Wages paid—	£	£	£	£	£	£
Maintenance Branch	1,236,567	197,852	1,434,419	888,472	154,686	1,043,158
Locomotive ,,	1,288,541	.....	1,288,541	1,127,310	.....	1,127,310
Electric ,,	.....	302,126	302,126	.....	237,079	237,079
Traffic ,,	606,257	527,463	1,133,720	519,949	439,192	959,141
Total ...	3,131,365	1,027,441	4,158,806	2,535,731	830,957	3,366,688
	105.7½	118.2½	125.00			

The total staff employed during the year ended 30th June, 1912, exceeded that of the previous year by 6,124, and the amount of wages paid increased by £792,118.

A scheme to provide Superannuation allowances for the officers of the railway and tramway service was introduced in 1910; particulars will be found in the chapter, "Social Condition," of this Year Book.

The Railway and Tramway Institute.

The Railway Institute was established in 1891 for the purpose of encouraging mutual intercourse and improvement among the railway and tramway staff. The building, which was erected by the Government, occupies a site near the Central Railway Station, Sydney; it contains a splendid library, the books being circulated amongst members throughout the State; accommodation is provided for classes for instructing members, particularly in subjects relating to railway and tramway methods. A monthly newspaper is also published in connection with the Institute.

ROADS AND BRIDGES.

MAIN roads in New South Wales were first formed to connect the towns of Parramatta, Liverpool, Windsor, and Penrith with Sydney. All access to the interior of the country was considered barred by the apparently insurmountable sandstone precipices rising on the farther side of the Nepean, and until the year 1813 no effort to cross the mountains was attended with success. In that year, however, after a protracted season of drought, involving heavy losses of stock, the settlers recognised that the future of the country depended on an extension of the pastoral area beyond its then contracted limits, and three explorers, Blaxland, Lawson, and Wentworth, again essayed the task of finding a way over the mountains. After encountering tremendous difficulties, they succeeded in crossing the range, and discovered the rich pastures of the Bathurst Plains. Shortly after their return, Governor Macquarie despatched a party of surveyors to determine the practicability of making a road. The report was favourable, the construction of a track was at once begun, and the Great Western Road was completed as far as Bathurst on the 21st January, 1815.

The opening up of the fertile lands around Bathurst by means of this mountain road gave such an impetus to settlement that it was found impossible to keep pace in the matter of road-making with the demands of the settlers. The authorities, therefore, for many years confined their attention to the maintenance of roads already constructed, and extended them in the direction of the principal centres of settlement. Had the progress of settlement subsequent to 1850 been as slow as that of the preceding years, this system would have sufficed; such, however, was not the case. The discovery of gold completely altered the circumstances, and during the period of excitement and change which followed, so many new roads were opened, and traffic increased to such an extent, that the general condition of the public highways was by no means good. While yeoman service was done by the road pioneers prior to 1857, the modern system of road-making may be said to have begun in that year, consequent on the creation of the Roads Department, which was formed to take control of the roads. It was not, however, until 1864, that the whole of the roads, both main and subordinate, received consideration by the Government.

The principal main roads are:—

Northern Road—length, 405 miles, from Morpeth to Maryland, on the Queensland border.

Western Road—length, 513 miles, from Sydney, through Bathurst, Orange, and many other important townships, to the Darling River, at Bourke.

Southern Road—length, 385 miles, from Sydney to Albury. This road was, before the construction of the railway, the great highway between Sydney and Melbourne.

South Coast Road—length, 250 miles. This road after leaving Campbelltown, ascends the coast range, along the top of which it runs as far as Coal Cliff. It then traverses the Illawarra district, parallel to the coast, and passes through the rich lands watered by the Shoalhaven, Clyde, and Moruya Rivers, as far as Bega, whence it extends as a minor road to the southern limits of the State.

In no case has any of these roads the importance which it formerly possessed. The railways of the State for the greater part follow the direction of the main roads, and attract nearly all the through traffic. Thus many roads on which heavy expenditure has taken place have been more or less superseded, and the opening of new roads has been rendered necessary to act as feeders to the railways from outlying districts.

In many places the subdivision of both Crown and private lands for closer settlement has given an impetus to cultivation and dairying; and especially in the latter case is it necessary to provide for constant traffic, which, from the nature of the industry, requires good roads in all seasons.

With the expansion of closer settlement an important departure has been made from the policy hitherto pursued of opening roads after settlement has taken place. Under the old system, settlers took up the land, which, in course of time, became more valuable by reason of the improved approaches provided at the expense of the State. But many large areas have been made available during recent years, and it has been decided that roads of access shall be made fit for traffic, as far as possible, before the blocks are offered for selection. The Department has the opportunity of selecting routes on the most suitable gradients and locations, thus avoiding the expense of subsequent deviations, while the Crown will be recouped to some extent for the outlay incurred by the additional value received for the land. The most notable of these cases is the system of roads in the Dorrigo subdivision.

ROADS PRIOR TO 1907.

Prior to 1907, when the Local Government Act came into effect, the State was divided into road districts, each of which was placed under the supervision of an officer directly responsible to the Commissioner for Roads. These officers had under their care the greater part of the roads of the State outside the incorporated areas, as well as a portion of those within such limits. The road trusts had the supervision of the expenditure of certain grants for the maintenance of roads in districts chiefly of minor importance, as well as some important roads in the vicinity of the metropolis.

The length of roads under Government control on the 30th June, 1906, was 48,311 miles, while 195 miles were under the care of road trusts, and 1,338 miles within the municipal areas were subsidised by the Government, making a total of 49,844 miles. There were also about 8,000 miles of roads and streets belonging to the municipal councils. In addition to the roads mentioned, there were about 1,500 miles of mountain passes, many of which presented most formidable difficulties, and their construction reflects great credit upon the engineering skill of the Department, which for so many years designed and supervised the construction and maintenance of the roads and bridges of the State.

CONTROL OF ROADS.

On the 1st January, 1907, the administration of the bulk of the works under the control of the Roads and Bridges Department (with the exception of those in the unincorporated areas of the Western Division, and certain bridges and ferries proclaimed as "national works") were transferred by the operation of the Local Government Act of 1906 to the shires and muni-

icipal councils. Power is given to the Minister for Works to pay subsidies to the councils to maintain the roads and for the satisfactory maintenance of such thoroughfares as were proclaimed main roads prior to the passing of the Act.

The roads leading to and within the areas of Crown lands which it is proposed to make available for closer settlement are constructed by the Government before transfer to the shires, also certain roads required mainly for tourists in districts not likely to produce revenue in rates to the councils.

LENGTH OF ROADS IN THE STATE.

Statistics showing the length of roads, streets, &c., and the number of bridges, and public ferries are collected triennially, the date of the latest returns being 1909. In that year the length of roads in the State was, approximately, 83,193 miles, of which 9,513 miles were controlled by the municipalities, 67,490 miles by the shires, and 6,190 miles were in the unincorporated areas of the Western Division. The nature of these roads may be seen in the following statement:—

Divisions.	Metalled, Gravelled, Ballasted, &c.	Formed only.	Cleared only.	Natural surface.	Total.
	miles.	miles.	miles.	miles.	miles.
Municipalities	3,498	1,734	1,997	2,284	9,513
Shires	10,548	7,535	18,757	30,650	67,490
Western Division	80	137	2,669	3,304	6,190
Total	14,126	9,406	23,423	36,238	83,193

BRIDGES.

Many of the earliest bridges erected in the State were built of stone, and are in existence still. Those erected in the period following the extension of settlement to the interior were principally of timber, and have since been replaced after an average life of about twenty-five years. Nearly all the large bridges of recent date are of iron and steel, and some of them have been erected under difficult engineering conditions, owing to the peculiarity of the river flow in certain parts of the country. Perhaps the most important of these works constructed in the State are the Pymont and Glebe Island bridges near Sydney.

Pymont Bridge.

The total length of the Pymont structure and its approaches is 1,758 feet. The bridge itself spans a distance of 1,209 feet, of which the swing span represents 223 feet, the remainder being covered by the twelve side spans, each of 82 feet 4 inches. The swing span, weighing 800 tons, is carried on a pivot which has its foundation on a caisson of 42 feet diameter, sunk to a depth of 62 feet. Its floor space is 12,000 superficial feet, as against 10,600 on the Newcastle-on-Tyne bridge, and the

roadway is 4 feet wider than that on the Tower Bridge of London. The swing is operated by two 50-h.p. electrical motors supplied with power from the Ultimo Power-house, and can be opened or closed in forty-four seconds, at a cost of five farthings for the double operation, which includes the opening and closing of the gates as well as the swing. The total cost of this bridge was £145,189.

Glebe Island Bridge.

The Glebe Island Bridge is over 2,300 feet long, and consists of a steel swing bridge in the centre of the bay, with a stone causeway approach to either shore. A steel over-bridge is provided on the Glebe side to permit of traffic thereunder to the area on the northern side of the bridge, which has been made by partly cutting down Glebe Island, and reclaiming with the debris a valuable deep-water frontage of 2,800 feet, with 13 acres of level land, which will soon be connected with the railway system of the State by a goods railway from Flemington to Belmore, and Wardell-road to Glebe Island and Darling Island. The main bridge is 353½ feet long between abutments, and possesses a steel swing span, 191 feet 2 inches long, affording two clear waterways, each of 60 feet, for shipping, as against one of 34 feet in the old swing. This increase in waterway permits of the passage of large oversea vessels, thus opening up the great possibilities of the frontages to the south of the bridge. The two steel side spans are 81 feet 2 inches centres, affording 20 feet clear headway above high-water mark in lieu of the 12 feet available in the old bridge. The bridge is provided with a steel floor carrying a 40-foot wood-blocked carriage-way and two 5-foot footpaths, which enormously improves the travelling facilities, and allows the easy movement of electric trams across the bridge. The swing span, though smaller than at Pymont, contains a floor space of 9,600 feet, which compares favourably with the swings in Clarence Bridge at Cardiff (7,640 feet), the Hawarden Bridge (8,470 feet), or the bridges over the Manchester Ship Canal (9,430); and is but little less than that provided on the swing in the well-known bridge at Newcastle-on-Tyne, which is understood to have a larger floor space than any other bridge in the United Kingdom. The total weight of the swing span of the Glebe Island Bridge is 650 tons, and it revolves on a cast-steel roller 37 feet in diameter, carrying steel-covered treads. The swing, as well as the gates cutting off the road traffic at either end of the swing span, are operated by electricity, and it is possible to open or close the swing in forty-four seconds. The cost of this bridge was £107,000.

Hawkesbury River Railway Bridge.

The bridges used for railway traffic only are not included in the table showing particulars of bridges, &c., but the following description of the Hawkesbury River Railway Bridge may be of interest.

This bridge, which might well rank as the most important in the State, is the largest of its kind in Australia, and, as regards its foundations, one of the most remarkable in the world.

It crosses the Hawkesbury River at a distance of 36 miles from Sydney.

The bridge was the last link in the continuous all-rail connection between New South Wales and the States of South Australia, Victoria, and Queensland.

There are in the bridge seven spans of 416 feet from centre to centre of the piers, the length of the bridge between abutments being 2,900 feet.

The caisson for each pier is rectangular in form, with rounded ends, 48 feet by 20 feet, splaying out 2 feet wider all round at the bottom. The depths in feet of the six caissons below high-water level to which they were sunk, range from 101 feet to 162 feet, the last being the deepest bridge foundation in the world.

The roadway was completed on 23rd April, 1889, and after being thoroughly tested was formally opened for railway traffic on 1st May, 1889.

NUMBER OF BRIDGES PRIOR TO 1907.

On the 1st January, 1907, the period of the inception of the Local Government Act, the bridges of 20 feet span and over, including those in course of construction, numbered about 3,575. Of these, 256 bridges, of an aggregate length of 101,416 feet, which by reason of their cost, size, and extra-local importance would constitute a strain on the resources of the local councils, were proclaimed as "national works," and will be maintained by the Government.

Where local conditions and limited traffic have not favoured the erection of a bridge, a punt or ferry has been introduced. The most important ferries which are worked otherwise than by hand, have been proclaimed as national services. Prior to the 1st December, 1907, it was the practice to charge a small fee for ferry transit; but on that date tolls were abolished, and public ferries are now free.

BRIDGES, &C., IN THE STATE.

The latest particulars of the bridges, culverts, and ferries of the State are shown below:—

	Bridges over 20 feet span.		Culverts.		Ferries.
	No.	Length.	No.	Length.	No.
		ft.		ft.	
National Works	265	105,322	...	.....	13
Municipalities	744	44,323	3,878	122,782	16
Shires	3,146	188,397	29,560	259,513	91
Western Division (unincorporated)	124	21,815	107	1,435	5
Total	4,279	359,837	33,545	383,730	125

Included with the 4,279 bridges on which the roads of the State are carried, there are, in addition to the Pymont and Glebe Island bridges previously referred to, many deserving of special notice, from the fact that great engineering difficulties have been overcome in their construction, apart from the architectural beauty of design, and high-class workmanship shown in the structures.

TRAFFIC ROUTES IN SYDNEY AND SUBURBS.

A Royal Commission was appointed in 1908 with the object of investigating proposals for the improvement of the City of Sydney and its suburbs. An important section of the Report, issued in 1909, deals with the avenues of traffic.

Owing to lack of foresight in the early days the city streets were allowed to develop without definite design, and were constructed to accommodate horse traffic only, with the result that serious congestion exists on all the important thoroughfares. The principal defect of the city streets is the lack of main outlets for through traffic to the suburbs.

The recommendations of the Commissioners regarding traffic facilities were calculated to meet the demands of traffic for the succeeding twenty-five years.

The chief recommendations were:—

1. The immediate introduction of a system of underground electric railways for city and suburban passenger traffic serving the North Shore, Eastern Suburbs, and Balmain and adjoining suburbs.

This recommendation is discussed in the chapter relating to Railways and Tramways.

2. The widening of Elizabeth-street to not less than 100 feet, and its extension from Hunter-street to Circular Quay, to provide a main artery for traffic from the waters of the Harbour to Botany.
3. The continuation of Sussex-street to meet a 90-ft. roadway under construction from Circular Quay round the wharves to Darling Harbour, and the widening and grading of Napoleon-street, to provide better access to Kent-street for traffic entering the heart of the city.
4. The widening of Sussex-street to 90 feet on its eastern side, in continuation of the proposed new roadway round the wharves, and the extension of its southern end to George-street, *via* Quay-street.
5. The removal of Pymont Bridge and the reclamation of the head of Darling Harbour to Bathurst-street; an overbridge to carry vehicular, tramway, and pedestrian traffic to be erected on the reclamation connecting Bathurst-street with Pymont.

6. The construction of a new roadway to relieve George-street West from the junction of Sussex and Liverpool streets to the junction of Newtown and Parramatta roads.
7. The grading and widening of George-street West.
8. The widening and regrading of Cathedral-street, to provide an easier outlet from Woolloomooloo wharves, and the continuation of that street by tunnel to Rushcutter's Bay, for tram and vehicular traffic to and from the eastern foreshore suburbs.
9. The widening of Womarah-avenue and its continuation in a straight line to Victoria-street, thus affording a direct route for traffic between New South Head road and Central Railway Station.
10. The widening of Oxford-street to 100 feet, and its regrading as far as Darlinghurst-road, and thence widening to 90 feet as far as Paddington Town Hall.
11. The construction of a new street to relieve Oxford-street, from the junction of Liverpool and Elizabeth streets to Flinders-street.
12. The widening and regrading of William-street between Bourke-street and Victoria-street, in order to provide better access to Darlinghurst heights.
13. The widening and regrading of Bayswater-road.
14. The opening of a new route from the Eastern Suburbs to the Central Railway Station, starting from the junction of Park-road and Flinders-street and proceeding in a direct line, *via* Collins and Kippax streets, to Elizabeth-street.
15. The widening of Wells-street from Regent street to Abercrombie-street.
16. The widening of Eveleigh-street from Wells-street to Wilson-street.
17. The re-alignment, with a view to their ultimate widening, of the main roads leading to and from the city.

COMMUNICATION BETWEEN SYDNEY AND NORTH SYDNEY.

Another consideration connected with the traffic of the metropolitan area is the question of providing improved means of communication between Sydney and North Sydney, which has been prominently before the public for more than thirty years. The population of the North Shore districts of the harbour has increased at a great rate, and since provision has to be made for the conveyance of passengers and vehicles by steamers across the harbour, it can be understood that the difficulties of harbour navigation are largely attributable to the necessarily numerous ferry steamers now running from and to the Circular Quay.

Many proposals for various descriptions of bridges and subways have been submitted as methods of communication.

The report of the Royal Commission on communication between Sydney and North Sydney presented in March, 1909, concluded, that having thoroughly weighed the evidence, and considered all the circumstances, the Commissioners were of opinion that it was expedient to promptly provide increased and improved facilities of communication upon the following grounds:—(1) Public safety and convenience; (2) Economy of time; (3) Minimising the number of steam ferry-boats crossing the harbour from Circular Quay; (4) Reducing the congestion of ferry traffic; (5) Assisting to reduce impediments to shipping passing up and down the fairway of the harbour.

The Commissioners considered that the best practical and most economical method of establishing such direct communication, and avoiding obstruction to harbour navigation, was by subways.

The railway and tramway subways to permit of rolling stock of standard dimensions being used with electricity as a motive power.

The reasons for these conclusions were set out fully in the report.

On the 30th November, 1911, Parliament referred three distinct proposals to the Parliamentary Standing Committee on Public Works, on the subject of communication between Sydney and North Sydney. These references are as follow:—

- (1) To consider and report upon the expediency of constructing a subway from Circular Quay, *via* Fort Macquarie and Kirribilli Point, to Lavender Bay, for the purpose of affording railway communication between Sydney and North Sydney.
- (2) To consider and report upon the expediency of connecting Sydney and North Sydney by means of a bridge.
- (3) To consider and report upon the expediency of a scheme for the establishment of passenger ferry services between Sydney and Milson's Point, and Sydney and McMahan's Point, and vehicular services between Sydney and McMahan's Point, and Woolloomooloo Bay and Cremorne.

GOVERNMENT EXPENDITURE ON ROADS, BRIDGES, &C.

Although roads as the main arteries of traffic from the metropolis to the interior have been superseded by the railways, nevertheless they are still the sole means of communication throughout a large part of the interior, and serve as most valuable feeders to the railway system of the country. No revenue is derived directly from roads, but their indirect advantages to the country have been very great, and after the lands and the railways and tramways, they form the largest item of national property.

Since the 1st January, 1907, the administration of all roads, bridges, punts, ferries, jetties, public watering places, &c., (other than those classed as national works and services) of municipalities and shires within the Eastern and Central Divisions, and the financial responsibilities therewith, were transferred under the Local Government Act, 1906, to the municipal and

shire councils. The funds of both shires and municipalities may now, however, be subsidised, and shires are entitled to receive annually a total sum of at least £150,000 from the State.

In addition to the endowment and grants, the Government is still responsible for the administration and expenditure on account of public works and services within the Western Division.

The amount expended direct by the State Government on roads and bridges during the year 1907-8—the first year of general local government—was £223,172; and in 1911-12 the amount showed a decline to £136,407. There has, however, been a large increase of expenditure under the heading of Endowments and Grants, the figures for 1907-8 being £252,318, while £359,435 was expended in 1911-12.

In view of the transference of the administration of roads and bridges, with the exception of the services previously noted, from direct State to local government control, the following return will be of interest. It shows the Government expenditure on roads, &c., in 1905-6, prior to the inauguration of a general system of local government, in comparison with the expenditure during the last three years, in which a general system of local government has been in force.

Service.	1905-6.	1909-10.	1910-11.	1911-12.
	£	£	£	£
Roads	398,259	24,888	24,372	19,608
Bridges	57,652	60,047	45,104	52,391
Punts and Ferries ...	12,135	24,221	26,761	23,341
Public Watering Places	16,949	8,444	10,331	22,050
Wharfs and Jetties ...	16,844	9,827	7,689	9,083
Establishment	37,641	9,603	8,570	8,259
Other	1,291	1,175	11,914	1,675
Total on Services ...	540,771	138,205	134,741	136,407
Endowments and Grants	4,944	301,552	325,064	359,435
Grand Total	£ 545,715	439,757	459,805	495,842

As endowments and grants now made by the State Government necessarily cover services other than roads and bridges, all items of local government expenditure are shown, so that a proper comparison may be made between the State expenditure prior to and after the inauguration of local government. It may be stated that there is now an annual loss to the State Government revenue of about £100,000 by remission of the land tax in shire and municipal areas (exclusive of that of the City of Sydney), and the loss of some £7,500 by tolls of punts and ferries, and rents from public watering places.

EXPENDITURE ON ROADS, &C., BY MUNICIPAL AND SHIRE COUNCILS.

In the subjoined statement the expenditure in detail by municipal and shire councils on behalf of roads, &c., is presented for the year 1911, which includes figures for previous years for five municipalities which have not yet supplied statements for 1911.

City of Sydney—		£
Salaries—Road Maintenance		1,217
Works—Streets—		
Maintenance		24,423
Footpaths		11,694
Woodpaving		3,733
City Improvements		22,994
Gullies		881
Street-lighting		22,479
Street Watering and Sanding		6,830
Public Service—Traffic Regulation		7,500
Public Lighting—Electricity Works Fund		13,327
	Total	£ 115,078
Municipalities (other than Sydney)—		
Maintenance, Repairs, and Renewals... ..		185,137
Construction		56,652
Street and Gutter Clearing		32,392
Kerbing and Guttering		31,973
Footpaths		35,996
Street-watering		8,426
Street-lighting		63,302
Other, including Tree-planting, &c.		5,640
	Total	£ 419,518
Shires—		
Maintenance, Repairs, Renewals, &c.... ..		309,746
Construction		268,661
Other Expenditure		3,452
	Total	£ 581,859
	Grand Total	£ 1,116,455

The grand total shown above does not include the interest payable on loans raised for permanent improvements, &c., the bulk of which has been expended on roads, &c.

The municipal returns of expenditure on account of bridges show that the annual expenditure for the Pyrmont Bridge, Sydney, was £7,300. In municipalities other than Sydney, an amount of £4,553 was spent; and in the shires the maintenance, repairs, renewals, &c., of bridges was £11,356; whilst £30,717 was spent on construction.

With reference to the lighting of streets, it may be stated that there are in all the municipalities 2,241 miles of streets, the total number of lamps in use being 18,732.

POLICE AND PRISON SERVICES.

STATUTE LAW OF NEW SOUTH WALES.

THE statute law of New South Wales relating to legal processes and remedies and prevention of crime is contained principally in the following enactments:—

1897.	Contractors' Debts.	Fines and Forfeited Recognizances Recovery.
	Interpretation.	General Legal Procedure.
	Licensing Amendment.	Jury (Amendment).
		Justices.
1898.	Accused Persons Evidence.	Piracy Punishment.
	Bankruptcy.	Vagrancy.
	Bills of Sale.	1903.
	Conveyancing and Law of Property.	Bills of Sale (Amendment).
	Coroners'.	Commercial Causes.
	Distress for Rent Restriction.	Influx of Criminals Prevention.
	Evidence.	1904.
	Evidence Penalties.	Coroners' Court.
	Legal Practitioners.	Infant Protection.
	Liquor.	Justices (Fees).
	Statute Law Revision.	Legal Process Facilitation.
	Wills Probate and Administration.	Master in Equity (Deputy).
		1905.
1899	Common Law Procedure.	Crimes (Amendment).
	Felons Apprehension.	District Courts (Amendment).
	Justices Fines.	Habitual Criminals.
	Landlord and Tenant.	Jury (Amendment).
	Matrimonial Causes.	Liquor (Amendment).
	Police Regulation.	Neglected Children and Juvenile Offenders.
	Prisons.	Small Debts Recovery (Amending).
	Small Debts Recovery.	Vagrancy (Amendment).
		1906.
1900.	Crimes.	Administration Amending.
	Inebriates.	Careless Use of Fire Amendment.
	Interest on Judgment.	Gaming and Betting.
	Justices.	Judges' Pensions Amendment.
	Oaths.	Second-hand Dealers.
	Real Property.	Sydney Stock Driving.
	Sheriff.	1907.
	Supreme Court and Circuit Court.	Gaming and Betting.
	Supreme Court Procedure.	Liquor (Amendment).
	Witnesses Examination.	1908.
1901.	Conveyancing and Law of Property (Supplemental).	Police Offences (Amendment).
	Coroners (Amendment).	Prisoners Detention.
	Defamation.	1909.
	Demise of the Crown.	Defamation (Amendment).
	District Courts.	Inebriates (Amendment).
	Equity.	Justices (Amendment).
	Fines and Penalties.	Motor Traffic Act and Regulations.
	Infant Convicts Adoption.	1910.
	Interpleader.	Crimes (Girls' Protection).
	Interstate Debts Recovery.	1911.
	Judgment Creditors' Remedies.	Crimes (Girls' Protection) Amendment.
	Jury.	1912.
	Negotiable Instruments Procedure.	Supreme Court and Circuit Courts (Amendment).
	Parliamentary Evidence.	Criminal Appeal.
	Police Offences.	District Courts.
	Prohibition and Mandamus.	Inebriates.
	Real Property and Conveyancing (Amendment).	Gaming and Betting.
	Royal Commissioners' Evidence.	Careless use of Fire.
		Coroners.
1902.	Arrest of Mesne Process.	Industrial Arbitration.
	Children's Protection.	Liquor.
	Dedication by User Limitation.	

DUTIES OF THE GENERAL POLICE.

Apart from the preservation of order and the protection of life and property, the general police are charged with a variety of duties, which, though hardly to be counted as usual police work, are allotted to them as the most efficient and economical agents—as in the collection of records and statistics, and the pursuit of investigations and inquiries for various branches of the Public Service. Upon the police devolve the tasks of compiling new electoral rolls and jury lists; of collecting, annually, statistics of pastoral holdings, manufacturing and slaughtering establishments, mills, and private schools. The police also issue timber, fuel, and quarry licenses, miners' rights, business and mineral licenses; and serve as inspectors under the following Acts:—

Liquor Act.	Early Closing Act.
Cattle Slaughtering and Diseased Animals and Meat Act.	Noxious Trades Act.
Tobacco Act.	Shearers' Accommodation Act.
Dairies Supervision Act.	Pure Foods Act.
Diseases in Sheep Act.	Of Slaughter-houses, for Shire Councils.
Alien Immigration Act.	Magazines and Explosives.
Fisheries Act.	Vineyards.
	Weights and Measures, &c.

In some localities the police also act as clerks of petty sessions, wardens' clerks, mining registrars, and gaolers.

As regards the services of the police in cases of accident, it is of interest to note that during the year 1911, at examinations in swimming held by the Royal Life-saving Society, 82 police were successful; and 68 police obtained the First Aid Certificates of the St. John Ambulance Association. Of the total police force of 2,551 men at 31st December, 1911, 441 held St. John Ambulance Association certificates; and of these, 313 were attached to the metropolitan police district.

POLICE REGULATION ACT.

Retirement of Police at age 60.

The Police Regulation (Superannuation) Act, No. 28 of 1906, provides that the age of retirement from the police force shall be 60 years, except in the case of the Inspector-General of Police. Under certain circumstances, however, any member of the force may be retained until such officer reaches the age of 65 years.

Police Superannuation and Reward Fund.

During 1911 there were 33 members of the police force superannuated on pensions amounting to £5,923 per annum; 5 were discharged with gratuities to the total of £456. An amount of £2,900 was also paid from the Police Superannuation and Reward Fund as gratuities to widows, children, and others, together with £94 for funeral expenses.

The Police Regulation (Superannuation) Act, 1906, fixes the contribution to the Superannuation and Reward Fund as £4 per cent. per annum on the salaries of members of the police force. The Fund may be credited, if necessary, with sums from the Consolidated Revenue Fund.

Allowances granted prior to the commencement of the Act shall continue to be paid.

Where a member of the police force was in active service in December, 1906, and has served with diligence and fidelity, he shall, upon retirement, be granted an allowance as follows:—

If he so served for 15 years, and less than 20, the allowance shall not exceed one half of the salary at retirement, less a deduction of 3 per cent. per annum.

If for 20, but less than 25 years, the allowance shall not exceed two-thirds of salary, less a deduction of 3 per cent. per annum.

If for 25, but less than 30 years, the allowance shall not exceed three-fourths of salary, less a deduction of 3 per cent. per annum.

If for 30 years, or upwards, the allowance shall not exceed full salary, less a deduction of 3 per cent. per annum.

To a member who has entered the police service after the commencement of the Act, and served for 20 years or upwards and retires, such allowance shall not exceed one-fortieth of the salary at his retirement for each complete year of service, less a deduction of 3 per cent. per annum; provided that such allowance shall not exceed three-quarters of such salary, less 3 per cent.

A member of the police force disabled in the execution of duty may be granted a gratuity or annual superannuation allowance not exceeding his salary at time of disablement.

Where a member dies within 5 years of receiving a superannuation allowance, the allowance, or portion thereof, may be paid to the widow or children of such member, provided that the total amount paid does not exceed the amount which would have been paid to such member if he had lived for 5 years after the grant of allowance, and then died.

Where a member has been killed, or died from injuries received in the execution of duty, there may be paid to his widow, mother, or children, such sum by way of annual superannuation allowance or gratuity as may be considered reasonable. The widow or children of members who die otherwise than above may also receive gratuities.

Provision is made for the payment to members, if certified unfit for service, of gratuities as under:—

A member appointed before December, 1906, who has served for a period less than 15 years, a gratuity not exceeding one month's pay for each year of service, and a further gratuity of one month's pay for each year after the tenth year.

A member appointed after December, 1906, who has served less than 20 years, a gratuity not exceeding one month's pay for each year of service.

POLICE FORCE.

For the maintenance of law and order, and the preservation of life and property, a police force numbering 2,551 men is maintained under the immediate control of an Inspector-General. The following statement shows the distribution of the establishment:—

	Superintendents.	In-spectors.	Sub-In-spectors.	Ser-geants.	Con-stables.	De-tectives.	Track'rs	Total.
General Police	14	7	38	216	2,035	...	64	2,374
Detective „	1	1	1	...	..	21	...	24
Water „ ... ..	...	...	1	4	48	...	...	53
Traffic „	1	1	...	1	91	...	...	94
Weights & Measures Office	...	...	...	1	5	...	...	6
Total	16	9	40	222	2,179	21	64	2,551

In addition to the police recorded above there were five women attached to the police stations as searchers.

It is to be expected that with a steadily increasing population the strength of the police establishment will advance also; but, as the following statement shows, during the last seven years the increases have not been proportionate; the extension of population has been so much more rapid than the extension of the police force, that the ratio of one policeman to 628 inhabitants, as

subsisting at the end of 1904, and approximately for several years previously, has changed gradually, so that for 1911 the ratio was one policeman to 681 inhabitants :—

Year.	Number of Police.	Inhabitants to each Police Officer.	Year.	Number of Police.	Inhabitants to each Police Officer.
1902	2,222	632	1907	2,381	652
1903	2,270	628	1908	2,417	653
1904	2,310	629	1909	2,435	660
1905	2,342	634	1910	2,447	670
1906	2,342	647	1911	2,487	681

In connection with the duties of the Water Police, it may be stated that the crews of vessels visiting Sydney during 1911 numbered 147,580, and at Newcastle 22,418. These figures are exclusive of the crews of the many vessels engaged in trading between ports of the State.

In the Metropolitan district the Traffic Police inspect public vehicles, test taximeters, regulate and control the use of motor vehicles upon public streets, besides exercising a general control over all street traffic. In this connection 2,203 accidents were recorded in public streets within the metropolitan area, and 662 persons were taken to hospitals by the Traffic Police.

VEHICLES AND LICENSES.

The amount of traffic controlled by the Metropolitan Traffic Police may be seen in the following table, which shows the licenses granted under the Metropolitan Traffic Act for each class of vehicles during the years 1910 and 1911 :—

License.	Annual Fee.	Licenses Issued.		License.	Annual Fee.	Licenses Issued.	
		1910.	1911.			1910.	1911.
	£ s. d.	No.	No.		s. d.	No.	No.
Cab	1 0	794	772	Motor-van driver ...	5 0	...	9
Motor cab	1 0	109	175	Omnibus driver ...	5 0	149	97
Van	1 0	1,247	1,303	Motor-bus driver ...	5 0	7	6
Motor van	1 0	...	3	Conductor	5 0	15	9
Omnibus	2 0	88	64	Transfer	1 0	180	230
Motor 'bus	2 0	4	4	Permit	1 0	253	238
Cab driver	0 5	929	917	Badge	2 0	160	209
Motor-cab driver ...	0 5	143	248	Taximeter test ...	10 0	129	285
Van driver	0 5	1,467	1,561				

Motor Traffic Act and Regulations.

Certificates and Licenses granted under the Motor Traffic Act and Regulations during the years 1910 and 1911 are shown below :—

Certificate or License.	Annual Fee.	Licenses Issued		Certificate or License.	Annual Fee.	Licenses Issued.	
		1910.	1911.			1910.	1911.
	£ s. d.	No.	No.		s. d.	No.	No.
Motor vehicle	1 0 0	2,351	3,975	Motor cycle duplicate...	2 6	7	21
Motor vehicle driver	0 5 0	3,171	5,517	Learner's permit ...	2 6	671	1,943
Motor cycle... ..	0 2 6	2,023	2,788	Transfers	2 6	260	666
Motor cycle rider ...	Free	2,300	3,323	New number plate ...	2 0	54	292

WEIGHTS AND MEASURES.

The inspection and verification of weights, measures, and weighing instruments at traders' premises is a duty of the Police. Transactions in regard to inspection in the metropolitan district during the year 1911 were as follow :—

Premises visited	12,243	Weighing Instruments—	
Weights—		Total	17,343
Total	66,735	Correct	14,971
Correct	57,663	Prosecutions	57
Measures—		Cautions issued	3,660
Total	26,964	Fines	£113
Correct	25,508		

Inspections at Bakehouses and Shops.

The inspections by the police in the metropolitan district, under the Bread Act during 1911 were :—

Premises visited	1,049	Prosecutions	2
Weights found correct	932	Cautions	115
,, ,, incorrect	117	Fines	£8

Inspections of Coal-weighing Machinery.

The inspection of coal-weighing machinery under the Coal Mines Regulation Act in New South Wales, as performed by the police during the years 1911, was as follows :—

Mines visited	127	Machines found correct... ..	261
Machines examined	274	,, ,, incorrect	13

APPREHENSIONS BY POLICE.

In the following table are given the total number of persons apprehended by the police, and the proportion per 1,000 of the population at intervals since 1895 :—

Year.	Arrests.		Year.	Arrests.	
	Number.	Per 1,000 of Population.		Number.	Per 1,000 of Population.
1895	36,939	29·5	1908	41,301	26·2
1900	37,462	27·7	1909	40,865	25·4
1905	38,172	25·7	1910	45,914	28·0
1906	39,609	26·1	1911	47,022	28·3
1907	41,842	26·9			

The above figures relate to the total number of arrests made by the police in each year irrespective of individuals, and allowance must be made for the

fact that at least 80 per cent. of the arrests are made on counts of infringing the regulations imposed by the demand of the community for orderliness in public places. Following is a statement showing the classes of offences for which arrests were made during 1911, and the relative importance of each class, as shown by the proportion per cent. of the total :—

Offences.	Number of Arrests.			Proportion of Total.		
	Males.	Females.	Total.	Males.	Females.	Total.
Against the Person	1,723	104	1,827	4.1	2.1	3.9
„ Property	4,382	311	4,693	10.4	6.3	10.0
„ Currency, &c.	172	8	180	.4	.2	.4
„ Good Order	33,843	4,468	38,311	80.4	90.7	81.4
Other offences	1,978	33	2,011	4.7	.7	4.3
Total	42,098	4,924	47,022	100.0	100.0	100.0

In connection with the operations of Magistrates' Courts, the figures relating to cases instituted by summons, as well as by arrest, are given in some detail on a subsequent page.

PRISON POPULATION.

There are in New South Wales 31 gaol establishments; of these, 6 are principal, 12 minor, and 13 police gaols. The total number of cells in all gaols is 2,275, and, the system of non-association being in force, only one occupant is allowed in each cell.

The number of prisoners in confinement at the close of each year during the last seven years will be found below :—

Year.	Under Sentence.		Awaiting Trial.		Total.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
1905	1,414	155	94	15	1,508	170	1,678
1906	1,281	149	76	13	1,357	162	1,519
1907	1,275	162	47	6	1,322	168	1,490
1908	1,258	159	72	11	1,330	170	1,500
1909	1,196	137	86	11	1,282	148	1,430
1910	1,114	124	79	6	1,193	130	1,323
1911	1,066	107	68	8	1,134	115	1,249

The prisoners under sentence at the end of the year 1911 are exclusive of inebriates, viz., 44 men and 70 women.

Nationalities and Ages.

During 1911, 9,532 convicted and unconvicted persons were received into, and 9,603 discharged from, the institutions. Of the persons received 6,089,

representing 64 per cent., were Australian-born. The following statement shows the grouping according to ages of persons received during the last five years :—

Age Group.	1907.	1908.	1909.	1910.	1911.
Years.					
Under 16 ...	29	23	12	2	6
16-20 ...	1,062	1,208	1,118	933	897
21-24 ...	1,354	1,306	1,343	1,105	1,136
25-29 ...	1,809	1,880	1,819	1,543	1,483
30-34 ...	1,440	1,609	1,423	1,258	1,223
35-39 ...	1,536	1,613	1,489	1,172	1,157
40-44 ...	1,399	1,426	1,304	1,159	1,012
45-49 ...	1,047	1,149	1,043	933	873
50 and over ...	2,020	1,994	1,952	1,710	1,710
Not stated ...	40	46	47	34	35
Total ...	11,736	12,254	11,550	9,849	9,532

As will be seen by reference to the detail figures showing the operations of Magistrates' Courts, the proportion of cases remanded to higher courts is comparatively small. The majority of offences charged before the lower courts result in summary convictions for which, during 1911, fines were imposed and paid fully in 64 per cent. of cases; in 29 per cent. of convictions, involving imprisonment only in default of payment, the fine was in most cases paid, in whole or in part, with remission of sentence in proportion. Only in 3·5 per cent. of convictions was imprisonment peremptory, and mainly from such convictions, numbering 2,266 during 1911, was derived the prison population previously shown.

Decreasing Prison Population.

The total prison population recorded at the close of 1911, viz., 1,249, represents the lowest level over a period of 37 years, and the following table, showing the relative position of general to prison population, and the gaol entries at intervals since 1875, proves that while the strength of the general population has been trebled, the prison population as between 1875 and 1911 has decreased by 14 per cent.; the gaol entries shown below represent convicted and unconvicted persons :—

Year.	General Population at 31st December.	Gaol Entries during Year.	Gaol Population at 31st December.	Ratio of Gaol per 10,000 of General Population.
1875	594,297	11,832	1,453	2·44
1885	949,570	20,740	2,562	2·70
1895	1,262,270	18,552	2,460	1·95
1905	1,484,078	13,380	1,678	1·13
1910	1,639,722	9,849	1,320*	·81
1911	1,693,374	9,532	1,249*	·74

* Exclusive of inebriates detained.

To attempt to ascribe precise reasons for the decrease of the prison population is futile. Undoubtedly external influences, such as the extension of educational facilities, which tend to mould the law-abiding instincts of a

community, and the continuance of fairly prosperous conditions in industry generally, have been potent factors in restricting the inclination to infringe upon the social code, and, particularly, in reducing the number of occasional offenders upon whom, as a class, social and economic conditions react most promptly.

Relaxation in administration of the law might readily result in a nominal decrease in detected crime, but it is to be remembered that such decreases as are shown have resulted in spite of a thoroughly consistent administrative policy, and side by side with the promulgation of new laws which impose higher standards of life, and necessarily extend the area of opportunity for offence.

LEGISLATIVE PROGRESS.

A survey of the list of statutes bearing upon matters of law and orderliness shows that the years that were richest numerically in the production of specific enactments were from 1898 to 1902; but this period covers the interval when consolidation of existing enactments as at 1896 was being affected; in more recent years, from 1903 to the present date, the original enactments numbered ten and amendments numbered twelve. Included in the original enactments of the later period, however, are several which mark radical alterations of policy, *e.g.*, the Influx of Criminals Prevention Act, 1903; Habitual Criminals Act, 1905; Prisoners Detention Act, 1908; Crimes (Girls' Protection) Acts, 1910 and 1911; and the Criminal Appeal Act, 1912. Detailed reference is made later to the operation of these Acts.

INSTITUTIONAL TREATMENT.

Grading of Establishments.

The prison establishments are graded with a view to the concentration of prison population in institutions large enough to ensure efficiency of supervision with economy of administration, and the maintenance of a strict and disciplinary organisation conducive to the highest ideals of reform.

In the records of the past ten years the process of concentration is evidenced in the reduction in the number of gaol establishments from 60 in 1902 to 3½ in 1911, as noted previously. The establishments closed included 2 principal, 3 minor, and 27 police gaols; of the police gaols 3 were opened subsequent to 1902.

The central establishment at Darlinghurst is reserved as a clearing-house, and also as a hospital for persons requiring medical care. From the Darlinghurst centre long-sentence prisoners are distributed to the principal country establishments, which are reserved for men in their special classes, *viz.*, Goulburn for first offenders; Bathurst for men previously convicted but deemed amenable to reformative influences; Parramatta for more confirmed or habitual criminals; and Grafton for special cases. Maitland Gaol is reserved for men from the Northern District, with sentences not exceeding six months; and other and smaller establishments, as at Armidale, Young, Tamworth, Albury, &c., are used for short-sentence prisoners in the particular districts; while at the police gaols and lock-ups are detained only prisoners with sentences of less than fourteen days.

Classification and Segregation.

In all the large establishments an inter-classification system is operative, which assures the segregation of the inmates in various classes as to age and conduct, and transfers are effected when necessary from class to class, or from one establishment to another.

The various classes are distinguished as follows :—

1. Sentences of penal servitude, or of over two years, with hard labour.
2. Sentences of less than two years, with hard labour, for felony or misdemeanour.
3. Sentences of imprisonment or indeterminate sentences.
4. Persons awaiting trial or under examination.
5. Mental defectives.
6. Debtors.
7. Youthful offenders, *i.e.*, men and youths under age 25, with sentences of less than twelve months.

Restricted Association.

Prisoners under classes 1 and 2 are further subjected to divisional treatment, *i.e.*, they earn their right by exemplary conduct to promotion till placed in associated labour, but otherwise they are kept in separate cells, from which they go to the probationary division, when they benefit by various privileges preparatory to release.

For several years the principle of restricted association has been enforced, and has yielded results which demonstrate the unsoundness of the older principle of classification in groups according to length of service merely. Under present conditions association while at work, at exercise, and at religious instruction, is subject to the closest supervision; cells are lighted, and literature is made available from the prison libraries, which, at December, 1911, included 24,991 volumes.

The enforcement of this system of isolation has involved heavy monetary expenditure, which has been more than counterbalanced, however, by the advantages accruing from the policy of concentration, quite apart from the moral benefit ensuing to the prisoners. Separate confinement is practically abolished, the maximum period enforceable being four weeks.

Prisoners' Dietary.

In pursuance of the general scheme of prison reform the prisoners' dietary has been revised by a board composed mainly of medical experts. The new dietary comprising six classes has been based on the nature of the employment, the penal element being eliminated, while special consideration was given to the dietary of offenders of the vagrant class.

BREACHES OF PRISON REGULATIONS.

Breaches of prison regulations are rare, the punishments imposed for such infractions of discipline affecting only 1·4 per cent of the total number of prisoners received into the gaols during the year 1911. A Visiting Justice is appointed under the Prisons Act, 1899, to visit each prison at least once in every week. Judges of the Supreme Court may at any time visit and examine any prison, and similar power to examine is given to all Justices of the Peace. The Visiting Justice is empowered to hear and determine all complaints made against a prisoner for disobeying the rules of the gaol, or for having committed any offence, and to pass sentence of solitary confinement for a term not exceeding seven days. Drastic forms of punishment, such as long terms of solitary confinement, have been replaced by a policy of deprivation of privileges, and experience shows that the latter method is effective. No corporal punishments have been inflicted for prison offences in New South Wales since May, 1900.

IDEALS OF THE SYSTEM.

The aim of the whole prison system of the State is so to educate and remould the habits of offenders as to enable them to earn their right to freedom, and to use it advantageously to themselves and to the community. The idea of imprisonment as punitive or retributive is no longer entertained, but it is taken as axiomatic that the committal of crime demonstrates unfitness to be at liberty and to compete with normal individuals in the struggle for existence; and while not yet attempting to distinguish and eliminate the causes, hereditary or acquired, which tend to manufacture criminals, the effort is made to segregate the undesirables till such time as they shall have acquired and evinced more normal characteristics. To this end sentences of sufficient length are desirable, and, in cases of declared habitual criminals, are assured.

IMPRISONMENT IN LIEU OF FINE.

Under the Justices Act, 1902, imprisonment for non-payment of an amount adjudged to be paid on order of a Justice may be curtailed by payment of a portion of the fine, for which a proportionate part of the sentence may be remitted, and under the Crimes Act, 1900, and its amendment of 1905, provision is made for the payment of fines in instalments. The following table shows the extent to which diminution in the term of confinement was commuted by money payment during the past five years:—

	1907.	1908.	1909.	1910.	1911.
Persons committed to gaol in default of payment of fines	6,635	7,158	6,471	5,027	4,959
Prisoners subsequently released after paying portion of fines	1,510	1,538	1,435	1,385	1,480
Days prisoners would have served if portion of fines had not been paid ...	42,507	46,665	42,760	45,573	41,104
Days remitted by part-payment of fines ...	28,379	29,147	29,773	32,823	30,120
Amount received at gaol as part-payment of fines	£2,766	£3,193	£2,924	£2,881	£3,153

In the year 1911, 74 per cent. of the total persons received into gaol were detained in default of payment of fines. Of the 4,959 so detained, 1,480 subsequently obtained release by paying part fines proportionate with unserved balance, and an amount of £3,153 was received at the gaols.

IMPRISONMENT FOR DEBT.

During 1911, 33 men and 1 woman were imprisoned for debt, but the time of detention, as a rule, extended over a short period, and the number of debtors in confinement at any given time was not large. At the end of the year 1911 there were no debtors in gaol. The number of persons sent to gaol for debt during each of the last ten years is given in the following table:—

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1902	57	1	58	1907	42	4	46
1903	53	6	59	1908	43	3	46
1904	62	7	69	1909	40	5	45
1905	63	12	75	1910	34	...	34
1906	57	14	71	1911	33	1	34

SPECIAL TREATMENT.

First Offenders.

In case of any person not previously convicted of an indictable offence being convicted for a minor offence and sentenced, the Court may, under the provisions of the Crimes Act, suspend the sentence upon a recognizance, without sureties, for good behaviour during the period covered by the sentence, the probationary term being, however, not less than one year. An examination is made for purposes of identification, and the offender is required to report himself periodically. Failing satisfactory conduct, the offender becomes liable to imprisonment for the unexpired portion of the sentence; but good behaviour during the whole probationary period cancels the conviction. During 1911, 281 persons, viz., 192 at Magistrates', and 89 at Higher Courts, were released as first offenders. Of the total, 220 were men, and 61 women. These figures do not include 752 children released on probation from the Children's Court, under the Neglected Children and Juvenile Offenders Act, 1905.

The records of prisoners convicted at Gaol deliveries and Courts of Quarter Sessions, show that out of 587 persons convicted during 1911, 262 had not been convicted previously.

At Goulburn Gaol special reformatory treatment is provided for first offenders—useful employment, educational facilities, physical drill, and strict classification in order to prevent the association of prisoners of vicious tendencies. That the treatment is an important factor in the deterrent influence of the prison system, is evinced by the small proportion of re-convictions of prisoners passing through the treatment. In the period 1910–1911, 1,336 prisoners were discharged from Goulburn Gaol, and of these 155, or 11 per cent. have been re-convicted.

YOUTHFUL OFFENDERS.

Under the Borstal system, as applied in England, the ages between 16 and 21, or in certain cases 23 years, are regarded as essentially the critical years during which temptation is hardest to resist, and during which also young offenders may reap most benefit from disciplinary and moral influences and industrial training. In New South Wales, the upward limit is set at age 25, and a strict line of demarcation is drawn between offenders over and under that age. Offenders under age 25 are classified in age-groups, and also according to length of sentence over or under 12 months, and divisional treatment is accorded. Special scholastic, industrial, religious, disciplinary, and physical training courses are enforced, for the last of which facilities in the form of workshops are available. Particularly is it found that healthy outdoor agricultural work supplies an effective means of ensuring profitable employment when the offenders are released conditionally. Great discrimination and special care are necessary to prevent such youthful offenders from becoming confirmed criminals.

In Victoria a somewhat similar system of treatment is accorded to youthful offenders; but it is compulsory, upon those who can neither read nor write, or who have not attained a certain standard, to attend school twice daily.

In the school work, juveniles serving for first convictions are carefully separated from youthful offenders with previous convictions.

During 1911 there were 485 prisoners eligible for instruction—200 at Darlinghurst, 118 at Parramatta, 70 at Bathurst, and 97 at Goulburn. Of this number, 25 were quite illiterate and 181 were mere beginners, *i.e.*, 206 were practically uneducated, being 42 per cent. of the total eligible, who are drawn mainly from offenders under the age of 25 years.

WOMEN IN PRISONS.

Prior to 1909 the principal establishment for women at Biloela lacked adequate accommodation to permit of systematic classification and segregation of the prisoners, so rendering reformatory measures hopeless. In August, 1909, a specially designed and fully equipped establishment was opened, viz., the State Reformatory at Long Bay, and to this central institution are sent all long and short sentence prisoners from the metropolitan district, and all long-sentence prisoners from extra-metropolitan districts. Short-sentence prisoners from those districts are detained at the largest local establishment. At Long Bay an exhaustive system of classification is in force. Accommodation is provided by 290 separate rooms, comprised in four halls, of which one is reserved for inebriates. In addition there are workrooms, dining and reception rooms, and a special hospital. Each inmate occupies a separate room when not engaged in the workrooms. Exercise takes the form of physical drill, in separate divisions, and a special tram-car conveys the women into and from the institution.

During 1911, 1,169 women were received and 1,173 discharged from the institution, the number remaining at end of the year being 98. Nearly 80 per cent. of the women received were committed on sentences of one month and less, and consequently present little opportunity for the application of reformatory measures. The industrial activity of the institution resulted in an output of manufactures, the value of which, added to that of gardening and domestic services, was calculated at £1,835. Out-door employment has effected marked mental and physical improvement in the women. Other employment is available at knitting, needlework, cooking, and services of a domestic character. In 1911 at all gaols 1,347 female prisoners were received under sentence.

The following table shows the daily average number of women detained in the gaols of New South Wales since 1905 :—

Year.	Daily Average.	Year.	Daily Average.
1905	189	1909	175
1906	168	1910	150
1907	164	1911	135
1908	162		

During 1911 the daily average at the State Reformatory was 106; 24 prisoners were punished for breaches of the regulations of the establishment.

Shaftesbury Institution, at South Head, is also reserved for women, but is chiefly used for inebriates in the later stages of their detention.

HABITUAL CRIMINALS AND PREVENTIVE DETENTION.

The Habitual Criminals Act, 1905, empowers a judge to declare as an habitual criminal any person already convicted on three, or in certain cases, two occasions, either within or without the State, of offences similar to the offence then charged. A definite sentence is imposed and served on account of the offence charged, and subsequently the offender is detained for an indefinite term, until he is deemed to have demonstrated his fitness for freedom. Provision is made for a Consultation Committee of visiting officers and the governor of the prison, to which committee each case is to be reported regularly.

This system of treatment acts as a deterrent to the existence of professional criminals, and moreover confers an incalculable benefit on society directly, and also indirectly, by removing the force of examples of criminality.

Six men were declared to be habitual criminals during 1911—making a total of 48 men and 1 woman so declared since the inception of the Act. Of this number, 3 men died, 4 were released on medical grounds, and 3 on account of technical flaws in the declaration determining their detention, so that at the end of 1911 there were under detention 21 men who had not yet completed the definite period, and 17 men and 1 woman who had passed through the definite term, one man being classed in the special grade preparatory to release.

The definite sentences which have been imposed, ranged from 3 months to 14 years, the majority being 5 years (22), and 3 years (9). On the completion of the definite term under the ordinary prison regulations, the habitual criminal passes to the indeterminate stages which is divided into three grades—intermediate, higher, and special; a minimum period of 4 years 8 months must be spent in the lower grades before the prisoner can gain admission to the special grade wherein cases may be brought under consideration with a view to release. On account of the length of the definite terms imposed in some cases, many prisoners have been deprived of the hope of liberty, except at a very advanced age. This fact has given rise to the question as to whether better reformatory results could be obtained if an equal period of definite sentence were fixed for all cases. It is considered that as release is only allowed on sufficient justification being shown, that a term of moderate length would meet the purposes of the system, and at the same time encourage good conduct and industry in order to gain release.

An important proviso of the Habitual Criminals Act prescribes that while under detention as an habitual criminal every prisoner must work at some useful trade, and receive at least one-half of the proceeds of his work. As these persons, as a rule, have not been trained in any branch of skilled labour, facilities are afforded them, while serving the definite term, to acquire training in some remunerated employment such as brush or boot-making, carpentering or tailoring.

The benefits accruing to the system of indeterminate sentences, as initiated in New South Wales, have led to its adoption in other communities.

In New Zealand the Habitual Criminals and Offenders Act, 1906, empowers a judge to order the detention of declared habitual criminals; in South Australia, the Habitual Criminals Amendment Act, 1907, follows closely on the lines of the New South Wales Act; and somewhat similar provisions are contained in the Tasmanian Habitual Criminals and Offenders Act, 1907. In Victoria, the Indeterminate Sentences Act, 1908, provides for the adoption of the indeterminate sentence for habitual criminals, and also for certain other classes of offenders. The probation system was made applicable to adults as well as minors, and a special board was appointed to supervise the operations of the law. In Western Australia provision was made for preventive detention of habitual criminals under the Criminal Code Amendment Act of 1911. It is recognised that the Australian States now show the most advanced legislation in regard to reformatory detention.

At the International Prison Congress held at Washington, in the United States of America, in 1910, resolutions were passed approving the principle of indeterminate sentences, and recommending the introduction of the system. The Congress further resolved that the reformatory system is incompatible with short sentences, and a relatively long period of reformatory treatment is more likely to be beneficial than repeated short terms of imprisonment under severer conditions. As to general principles, various resolutions were passed confirming the dual bases of every prison system—protection of the community and correction of the offender.

DRUNKENNESS.

During 1911, the convictions for drunkenness with and without disorderly conduct numbered 29,299. The following table shows the total convictions or cases, not distinct individuals, during each of the last ten years, and their ratio to the mean population :—

Year.	Convictions (not distinct individuals).			Convictions per 1,000 of Population.		
	Males	Females.	Total.	Males.	Females.	Total.
1902	19,543	4,789	24,332	26·83	7·22	17·48
1903	19,788	4,810	24,598	26·77	7·13	17·39
1904	18,116	4,827	22,943	24·03	7·04	15·95
1905	18,996	5,007	24,003	24·70	7·17	16·35
1906	20,589	4,664	25,253	26·16	6·53	16·83
1907	23,573	4,536	28,109	29·21	6·21	18·28
1908	23,730	4,087	27,817	28·92	5·48	17·75
1909	23,616	3,747	27,363	28·42	4·92	17·19
1910	24,450	2,930	27,380	28·92	3·77	16·88
1911	26,295	3,004	29,299	30·33	3·78	17·63

Comparing one year with another, it will be seen that there has been a decided decrease in the convictions of women ; this has been most marked in the years immediately succeeding the enactment of the Liquor Amendment Act of 1905, and the establishment of State institutions for treatment of inebriates in 1907. There is no doubt that the proportions during the last four years have been appreciably lowered by the detention of women who, though few in number, swelled the record of cases by repeated convictions on this charge.

With regard to the men, the comparison is not so satisfactory ; the rates were lowest in the years 1904 and 1905, but marked increases took place in 1906 and 1907, and the proportions remained high during the years 1908 to 1910, and in 1911 rose to 30·3 per 1,000 of population, the highest during the decennium.

THE TREATMENT OF INEBRIATES.

Inebriates have been treated separately since 12th August, 1907, and in New South Wales there are now three State institutions under the control of the Comptroller-General of Prisons devoted to the treatment of inebriates, viz., Darlinghurst, Long Bay, and Shaftesbury. The system is effective in supplying medical attention and care to chronic drunkards, who have become mentally and physically enfeebled. The maintenance of establishments in the nature of asylums is essential to effect the humane detention of persons who are otherwise disturbances to society, and careless of their own interests. The number of such persons who can be benefited permanently is very small, however, and the best safeguard lies in preventive rather than reformatory measures. With this object in view, stringent clauses regarding the sale of liquor at licensed premises are contained in the Liquor Act. Except in cases of sickness or accident, no person under the age of 18 years may be supplied with liquor, and persons under 17 years of age are not allowed in the bar of an hotel ; girls under 21 years, except in the case of a wife and daughter of a publican, are not permitted to serve liquor. Hotels must be closed during the time of voting for a Parliamentary election and on Sunday, though liquor may be sold to *bona fide* travellers, lodgers, servants, or inmates ; provided that in the case of a traveller the place where he lodged on the previous night is at least 20 miles distant, if in the county of Cumberland, or at least 10 miles if in the country districts ; a publican is not compelled to sell to a traveller.

The Inebriates Act has been designed to provide treatment for two classes of inebriates—those who have been convicted of an offence and those who have not in this way come under the cognisance of the law.

For the care and treatment of the latter class, the Acts authorise the establishment of State institutions under the control of the Inspector-General of Insane. Judges, police magistrates, and the Master-in-Lunacy are empowered, on application of an inebriate, his relations, or in special cases, a police officer of superior rank, to order that an inebriate be bound over to abstain from intoxicating liquor for a period not less than twelve months, or that he be placed in a State or licensed institution, or under the care of an attendant controlled by the Master-in-Lunacy, or of a guardian, for a period not exceeding twelve months. Provision is also made to enable an inebriate to enter voluntarily into recognisances to abstain. Up to the present time no State institution has been provided under this section of the Act, but one private establishment has been licensed for the treatment of male inebriates; and a number of orders have been obtained to place an inebriate under the care of an attendant, who is usually the owner of a private hospital.

With regard to inebriates of the delinquent class, it has been disclosed by examination of the records of the State over a period of years that practically half the persons who constitute the gaol population at any given date have commenced a career of criminality on a conviction on a charge of drunkenness; and cases frequently recur of individuals whose records show many previous convictions; for such offenders the short sentence or the imposition of a fine is quite useless as a deterrent.

To meet such cases the Acts provide that where an inebriate is convicted of an offence of which drunkenness is a factor, or of assaulting women, cruelty to children, attempted suicide, or wilful damage to property, and it appears that drunkenness was a contributing cause, he may be required to enter into recognisances to be of good behaviour and to abstain from intoxicating liquor for a period not less than twelve months, during which he must report periodically to the police; or he may be placed in a State institution for a period of twelve months, such period being liable to extension.

Any person detained in a State institution may be released on license, the conditions imposed on the licensee being good behaviour and abstinence for a period not exceeding twelve months. If re-convicted within a year of entering into recognisances, of discharge from an institution, or of release on license, an inebriate may be committed to an institution for a period ranging up to three years.

The State institutions for this class of inebriates, three in number, are under the direction of the Comptroller-General of Prisons. A portion of Darlinghurst Gaol has been set apart for inebriate men, but at present reformative treatment is hampered by the lack of adequate accommodation. Inebriate women are detained at the State Reformatory, Long Bay, and subsequently, in cases showing marked improvement, at the Shaftesbury Institution. Open air working conditions are apparently the most suitable for these persons; and it is proposed to remedy the existing lack of accommodation, especially for men inebriates, by erecting an institution, where outdoor work could be provided, at Long Bay, outside the prison area.

In New Zealand, two islands in the Hauraki Gulf, about 24 miles from Auckland, are reserved for the isolation of inebriates. These islands are controlled by officers of the Salvation Army, who receive a weekly subsidy for each inebriate. The men are employed at farming, poultry and stock keeping, &c., and the women in making clothes. In a report on this system, furnished by the New South Wales Prison Authorities in 1911, it was indicated that the existing conditions could be improved if provision were made in this State for the isolation of inebriates on similar lines but under Government control.

TRANSACTIONS AT STATE LEBRIATE INSTITUTIONS.

The power of detaining inebriates in State Institutions was first exercised in August, 1907, and the majority of admissions have been of chronic offenders over 40 years of age who for many years prior to admission had served frequent sentences under the repeated short sentence system, and who in consequence had drifted into a condition from which reformation seemed almost hopeless. In view of this fact the results attained by the operation of the Acts may be considered encouraging. During the period dating from the first reception in August, 1907, till 31st December, 1911, the total number of original receptions amounted to 324—134 men and 190 women; 69 men and 128 women have been released on license; and in the cases of 13 men and 30 women it has been found necessary to cancel the licenses and recommit the holders to institutions.

The following statement shows the number of admissions to, and departures from, the three institutions of inebriates during 1911, viz. :—

	Darlinghurst.		Long Bay.	Shaftesbury.	Total.		
	M.	F.	F.	F.	M.	F.	Total.
Received from Courts	53	3	84	...	53	87	140
Discharged after detention	2	...	1	...	2	1	3
„ before completion of detention.	4	...	3	...	4	3	7
„ on medical grounds ... ..	...	1	...	...	...	1	1
Released on license	44	3	39	44	44	86	130
Died	1	...	2	...	1	2	3
Detained end of year	44	2	54	14	44	70	114

Of the persons released on license during 1911 from the institutions, 26 were sent to domestic service, 16 to gardening or labouring work, 4 to other more or less skilled work, and 53 to asylums.

Of 140 persons admitted during 1911 to the institutions, 94 were Australian born, 69 being natives of New South Wales, and of the remainder 41 were British born. The minimum period of detention was six months, the range being—in 1 case, 6 months; 95 cases, 12 months; 22 cases, from 18 months to 2 years; 22 cases, over 2 years.

Of the persons admitted during 1911, two had not been convicted previously; the number of convictions recorded in the other cases were as follows :—

Convictions.	Cases.	Convictions.	Cases.
1-5	15	31-40	12
6-10	29	41-50	9
11-20	28	51-100	23
21-30	12	Over 100	10

The majority of persons admitted during 1911 were over 40 years of age, viz. :—

21-25 years, 6; 25-30 years, 8; 30-35 years, 18; 35-40 years, 22; 40 years and over, 86.

Of 53 men admitted 33 were labourers, dealers, &c., *i.e.*, unskilled, 3 were seamen, and 17 were skilled or professional workers.

The total expenditure on inebriate institutions during 1911 amounted to £4,037, the greater portion of which was on account of administration.

THE CURE OF INEBRIACY.

During 1910 investigations were made on behalf of the South Australian Government regarding inebriate institutions in America, and the various cures in vogue. Concerning many of the so-called cures, the report was unsatisfactory, the percentage of assured successes being small, and the treatment involving hypodermic injections. The Honorary Commissioner reported favourably, however, upon two somewhat analogous systems, which had achieved a large measure of success, the basis of treatment being the neutralisation and elimination of alcoholic poisoning by a vegetable derivative which works rapidly in clearing toxins from the system, and effectively operates as an antidote. One of these systems—the Neal treatment—was afterwards introduced into South Australia.

In 1911 it was decided to make a trial of the Neal system in New South Wales, and arrangements were made for the treatment in Sydney of specially selected cases from the Inebriate institutions. The experiment was made in the cases of 6 men, who were treated and released on license during the six months prior to August, 1912, and up to that date none had been reconvicted. In addition, 11 men and 14 women were treated during the five months preceding August, 1912, at which date it was stated that 3 males and 6 females had been reconvicted of drunkenness, but the treatment had so far proved effective in the remaining cases.

INDUSTRIAL ACTIVITY IN PRISON ESTABLISHMENTS.

Ability to perform useful and remunerative labour is recognised as of equal importance with good conduct in demonstrating fitness for freedom; and to encourage some degree of skill, employment at industries calculated to inspire interest, and subsequently to prove remunerative, is provided and is supervised by competent instructors.

During 1910 the workshops removed from Darlinghurst were concentrated at Parramatta, which is now the principal industrial gaol, though work under instructional control is performed also at Bathurst, Goulburn, and Long Bay.

The gross value of articles manufactured during 1911 amounted to £16,604, including the value of articles manufactured for Government Departments, and for use within prison establishments. On alterations and repairs within the institutions, at average rates, the work done was valued, at £4,937; in domestic service the labour value for the year was £10,498.

The majority of persons who offend against the social code have no trade, but where it is practicable, each person is kept at his particular trade. The big proportion of general workers among the prison population demonstrates this preponderance of unskilled labour, for it must be remembered that among the persons listed as working at skilled trades or at manufacturing are many whose knowledge has been acquired only during detention.

Agriculture and Out-door Work.

Where land is available, considerable attention is given to agriculture, and especially are offenders under age 25 detailed for agricultural work, which from its nature is recognised as particularly conducive to physical and moral improvement. The principal establishments at which agricultural work and horticulture are carried on are Bathurst, Goulburn, Grafton, and Parramatta gaols and the State Reformatory for women.

Afforestation by Prisoners.

During 1911 investigation was made into the system of tree planting by prison labour as carried on in New Zealand, where afforestation on large sections of barren country, especially hill slopes in the thermal districts, gives promise of being a profitable source of revenue in the future. The work is carried on mainly by labour of prisoners and ex-prisoners. The

prisoners engaged in this work number about 80, representing some 10 per cent. of the total prison population, and are all first offenders with light sentences. They are worked in groups of four and have the privilege of special liberties, *e.g.*, the use of a good library while off duty. The camps are fairly permanent and well laid-out, each man has his own hut, and a large central building serves as dining and recreation hall, &c. The present rate of planting is expected to yield in twenty years some 4,500,000 poles per annum, mainly larch, to be used for railway sleepers, mining timber, and fencing material.

The men engaged in the plantation work are also trained to fight forest fires; and both morally and physically improvement is noted in the individuals, while the gain to the community is obviously double-edged. The efficiency of the system as demonstrated has led to its inauguration in New South Wales.

Owing to the slow growth of the native trees in New Zealand afforestation has been adopted, but in New South Wales, where the hardwoods and inland cypress pines reproduce naturally, re-afforestation will be the most suitable method.

The first site selected for the work is near Tuncurry, in the North Coast district. An area of 6,000 acres has been selected and the preliminary work initiated. A separate hut will be provided for each prisoner, and well conducted men will be allowed, on discharge, to join the free-labour camps.

UNEMPLOYED IN PRISON ESTABLISHMENTS.

In the various establishments there must necessarily be a certain proportion of inmates who are incapable of being employed. At the end of 1911 such persons included the following :—

In hospital, 45; under medical treatment, 20; insane, 8; in cells, 4; exempted, 26; recently received, 22; and not under sentence, 76.

The unemployed represented 16 per cent. of the total prison population.

SICKNESS AND MORTALITY IN GAOLS.

Visiting surgeons are attached to the various important establishments of which the sanitation and hygiene are on modern lines. Among the persons received into the institutions are included many whose physical condition is deplorable, and more especially in the country districts, persons in the last stages of disease, and aged and infirm paupers, for whom a hospital or asylum is the befitting destination. Within the institutions healthful cleanly habits are inculcated, and there occur few instances of disease originating after reception; on the other hand, there arise cases in which disease, apparently originated prior to committal, has grown so serious as to compel the release of the prisoner. The following statement shows particulars regarding the releases made on medical grounds during 1911 :—

Mental disease, 3; diseases of heart, 5; senile decay, 3; tuberculous diseases, 3; other, 11.

In 19 cases the disease was reported to have originated before reception into prison.

The general medical statistics of prisons show that with an average daily number of 1,295 inmates, the total number of cases of sickness treated in hospital, irrespective of minor ailments treated outside hospital, was 732, of which 554 were treated at Darlinghurst and 151 at the State Reformatory for Women.

Particulars in regard to the duration of illness are not available, but details regarding the deaths resulting show 3 from cerebral hæmorrhage, and 2 from heart failure, and 1 from senile decay. In addition to these deaths there were 2 from suicide, and, as previously noted, 25 persons were released from gaol being in an advanced stage of disease.

In the following table the number of deaths in gaols, exclusive of those resulting from executions, is given for 1890 and subsequent periods, together with the death-rate per 1,000 of the average number of prisoners in confinement during the year:—

Year.	Deaths.		Death-rate per 1,000 persons in confinement.	Year.	Deaths.		Death-rate per 1,000 persons in confinement.
	Males.	Females.			Males.	Females.	
1890	24	2	11.50	1907	9	1	6.48
1895	19	3	8.83	1908	14	1	10.27
1900	15	3	9.02	1909	6	3	6.11
1905	12	1	6.98	1910	6	...	4.39
1906	5	3	4.90	1911	11	1	9.27

Criticism of the system of treatment in large gaol hospitals tends to condemn the system under which all classes of prisoners, except, of course, those suffering from contagious diseases, are associated in the general portion of the hospital.

During the four years 1907–1911, there have been no executions in gaols.

INSANITY IN GAOLS.

During 1911, 51 cases of insanity, viz., 48 males and 3 females, were diagnosed among the gaol inmates, of which number 29 showed symptoms on reception and 11 developed them within one month of admission. There were also 43 prisoners sent to observation wards, 118 persons received for protection or on charges of mental defectiveness, and 28 were received suffering from the effects of alcoholism. Of the cases diagnosed, 7 recovered in gaol, 11 were certified for removal to a hospital for insane; in 11 cases the sentences expired, in 6 remission was granted, and in 12 remand cases the prisoners were discharged to the police.

In 2 cases the mental condition on reception was diagnosed as sane; in 10 as apparently sane, and in these cases the longest period before disclosure of symptoms of insanity was four years.

CONTAGIOUS DISEASES.

Under the Prisoners Detention Act, 1908, prisoners found to be suffering from certain contagious diseases may be detained in Lock Hospitals, which have been established at eleven gaols, for periods concurrent with, or in some cases, in excess of the imprisonment imposed. The following statement shows the extent of operations during the last two years:—

	1910.				1911.			
	Treated.		Discharged free from Disease.		Treated.		Discharged free from Disease.	
	M.	F.	M.	F.	M.	F.	M.	F.
Persons under orders ...	48	14	44	13	55	15	43	12
„ eligible for orders ...	28	4	17	2	14	5	11	3
„ not eligible under the Act ...	60	2	9	1	52	7	14	...

Of the cases not subject to the provisions of the Act, a number of persons, in addition to the discharges shown above, were released while still not free from contagion; during the three years the Act has been in operation 151 such cases—127 men and 24 women—have been discharged. The obstacle to their detention is found in the fact that orders for their detention can be obtained only when direct imprisonment is imposed, thus excepting cases in which fines are imposed.

TERMS OF SENTENCES.

The following statement shows the number of persons received into penal establishments during the years 1910 and 1911 for sentences of the duration specified :—

Term of Sentence.	Persons Admitted.					
	1910.			1911.		
	Males.	Females.	Total.	Males.	Females.	Total
	No.	No.	No.	No.	No.	No.
1 month and under	3,957	1,075	5,032	3,758	1,042	4,800
From 1 to 3 months	1,213	263	1,476	1,269	203	1,472
" 3 to 6 "	510	84	594	507	83	590
" 6 to 12 "	190	13	203	170	16	186
" 1 to 2 years	124	8	132	123	1	124
" 2 to 3 "	43	2	45	44	1	45
" 3 to 5 "	32	...	32	26	...	26
Over 5 years	12	1	13	7	...	7
Death recorded	4	...	4	5	...	5
Unspecified	169	3	172	177	1	178
Total	6,254	1,449	7,703	6,086	1,347	7,433

Cumulative sentences have been taken as summed and concurrent as equal to the longest sentence. It is noticeable that nearly 65 per cent. of sentences are for periods not exceeding one month; and 94 per cent. do not exceed one year. The majority of short sentences have been imposed for breaches of good order, the imprisonment being served in default of paying fines.

A number of persons in each year are convicted on charges under the Vagrancy Act, and receive sentences ranging up to six months. For many of these such sentences served under the ordinary gaol regulation are unsuitable, their cases being the result of mental or constitutional defect, and it has been suggested that a system of indeterminate sentences be applied in order to assure medical treatment and disciplinary training.

On 31st December, 1911, there were 48 prisoners serving life sentences, and 13 sentences of various periods over 10 years. In the majority of these cases the sentences have been imposed by the Executive authority in lieu of capital punishment. A proposal has recently been made to refer such sentences to the Court of Criminal Appeal, with the object of securing uniformity of penalties attached to similar offences.

LICENSING OF PRISONERS.

Some satisfactory results are derived from the system of licensing in lieu of absolutely discharging prisoners, but difficulty is experienced in compelling the license holders to comply with the conditions of the license. During 1911 405 persons were discharged from all prisons on license, viz. :—

	Males.	Females.	Total.
Under Crimes Act	60	3	63
" Prison Regulation	320	22	342
Total	380	25	405

Licenses when issued operate for the unexpired portion of the sentence; sureties are required. The licensee is required to report periodically, and for any breach of conditions is liable to cancellation of license, and to recommitment to gaol for the balance of the sentence.

Of the licenses issued under the Crimes Act, 51 were in force at the end of 1911, viz., 50 for men and 1 for a woman.

FUGITIVE OFFENDERS AND EXTRADITION.

The Imperial statutes in force in New South Wales for the surrender of fugitive criminals are the Fugitive Offenders Act, 1881, and the Extradition Acts, 1870 to 1895. The Influx of Criminals Prevention Act was enacted by the State Legislature in 1903.

Under the Fugitive Offenders Act, 1881, provision is made for the surrender from the United Kingdom to a British possession or *vice versa*, or from one British possession to another, of fugitives charged with the perpetration of crimes which, in the part of His Majesty's dominions where they are committed, are punishable by a minimum penalty of imprisonment with hard labour for twelve months. Persons apprehended under this Act are brought before a Magistrates' Court, and their cases are included in the figures relating to the business transacted at such courts.

During 1911, 23 persons—22 men and 1 woman—were arrested in other countries as fugitive offenders, and returned to New South Wales. Of these 9 were discharged, 6, including the woman, were summarily convicted before magistrates, 7 were committed to higher courts, and in one case proceedings were discontinued.

The number of persons arrested in New South Wales during 1911 as fugitives from other parts of the British Empire was 43, of whom 3 were discharged, 35 were remanded to other States of the Commonwealth, and 5 to New Zealand.

The Extradition Acts provide for the surrender to foreign States of persons accused or convicted of committing crimes within the jurisdiction of such States, and for the trial of criminals surrendered to British dominions. Treaties for the extradition of fugitives subsist between the United Kingdom and the majority of foreign countries. In proceedings taken in New South Wales under the Extradition Acts the fugitive may be brought before a Stipendiary or Police or Special Magistrate, who hears evidence on oath, and, if satisfied, makes out a warrant for the extradition. At the hearing, the Consul for the country of which the person charged is a subject, the Crown Solicitor, and the Inspector-General of Police are represented. If a warrant be granted, the prisoner is detained for fifteen days prior to extradition, during which interval he may apply to the Supreme Court for a writ of *habeas corpus*. During the year 1911 two persons were extradited to Germany.

PREVENTION OF INFUX OF CRIMINALS.

In terms of the Influx of Criminals Prevention Act, 1903, persons convicted in other States are guilty of an offence against the Act if they come into New South Wales before the lapse of three years from the termination of their imprisonment. Penalties may be imposed upon all persons accessory to the importation of criminals, and the offenders themselves are liable to deportation or other punishment.

AUXILIARY AGENCIES.

The advantage of a morally and physically improved condition, resulting from the discipline and training imposed upon prison inmates, is fostered by the efforts of such agencies as the Prisoners' Aid Association, in assisting released persons to find suitable employment, in acting as trustees of gratuities and moneys earned while in prison, and in tendering material help to first offenders, licensees, and others. The work of the Association during the ten years of its existence has been so effective that only about 11 per cent. of the persons assisted have been reconvicted.

During 1911 the Association assisted 291 discharged prisoners with food, money, clothing, or lodging, or, in 195 cases, by securing employment, and the reconvictions of those assisted numbered only 10. Formal applications for assistance numbered 417, of which only 17 were refused.

The work of the Association in assisting first offenders with advice or help in obtaining sureties covered 4,365 interviews during 1911; in 708 cases moneys for payment of fines were collected from prisoners' friends, in 99 cases sureties were found for the payment of fines, and in 206 remand cases bail was procured. The disbursements of trust funds, viz., earnings and gratuities, amounted to £559 during the year. Successful operation of the system of licensing prisoners is to a very great extent dependent on the work of the Association and similar bodies.

The social operations of the Salvation Army organisation include the delegation of special officers for police court duty, and the work performed by such officers covers every possible form of assistance. Precise details as to the operations within New South Wales are not readily available.

Upon external agencies depend the provision of lectures, entertainments, &c., at the various institutions, but religious and educational work, as already noted, are functions of the system.

In December, 1912, the first issue of the *Compendium*, a newspaper for issue to well-conducted prisoners in the gaols of New South Wales, was published. The paper is edited and compiled under the supervision of the Comptroller-General of Prisons, and was the outcome of a suggestion of the Prisoners' Aid Association. In addition to matters of a non-controversial nature, the paper contains information regarding the demands for labour in various parts of the State, which information will be of great value to prisoners whose sentences are about to expire.

COST OF POLICE AND PRISON SERVICES.

The following table shows the amount expended in maintaining the police and prison services of New South Wales since 1906, also the amount of fines paid into the Consolidated Revenue, and the net return from prison labour:—

Expenditure and Revenue.	1906.	1907.	1908.	1909.	1910.	1911.
Expenditure—	£	£	£	£	£	£
Police	427,285*	443,172*	446,747*	449,718*	479,216'	492,557*
Penal establishments	98,893	98,440	101,668	120,242	104,608	131,632
Total	526,178	541,612	548,415	569,960	583,824	624,189
Revenue—						
Fines	17,908	19,042	19,414	21,578	23,813	25,637
Net return from prison labour	22,242	23,819	24,664	24,673	24,470	21,670
Total	40,150	42,861	44,078	46,251	48,283	47,307
Net Expenditure	486,028	498,751	504,337	523,709	535,541	576,882
Per Head of Mean Population	s. d. 6 6	s. d. 6 6	s. d. 6 5	s. d. 6 7	s. d. 6 7	s. d. 6 11

* Financial year ending subsequent 30th June.

LAW COURTS.

THE legal processes within the State may be grouped as coming within the original jurisdiction of the Lower or Magistrates' Courts, or the Higher Courts presided over by appointed Judges. In regard to appellate jurisdiction, details are given separately.

ORIGINAL JURISDICTION—LOWER COURTS.

The Lower or Magistrates' Courts comprise the Courts of Petty Sessions, including the Small Debts Courts, the Licensing Courts, and the Children's Courts, presided over by Special Magistrates, or, in country districts, by Justices of the Peace constituting such Courts.

All persons arrested, by or without warrant, and charged with offences at the various Police Stations, must be brought before the Magistrates' Courts—at which Courts also appear all persons summoned—to answer charges, indictable or summary, or complaints of any nature, and are by such Courts either dealt with summarily, or committed to take their trial at a higher tribunal—the Court of Quarter Sessions or the Supreme Court in its criminal jurisdiction. Persons may also be committed to take their trial at such higher Courts by a Coroner or by a Judge.

Certain indictable offences (larceny, stealing from the person, embezzlement, &c.) are punishable summarily by Magistrates—by consent of the accused person—if the subject matter of the charge, or value of the property involved, does not amount to £20. Persons convicted by the Magistrates under such circumstances are liable to imprisonment for six months, or to a fine of £20. The period of imprisonment that may be awarded by Magistrates for purely summary offences is fixed in each case by the Statute creating the offence. In some cases sentences up to two years may be imposed. Most summary offences are punishable by fine, and the imprisonment awarded in default of payment ranges from not exceeding seven days, where the amount of fine and costs does not exceed 10s., to not exceeding twelve months, where the amount ordered to be paid exceeds £100.

Where by any conviction or order of Magistrates, a person is ordered to be imprisoned, and such person is then undergoing imprisonment for another offence, the Magistrate issuing the warrant of commitment may order thereby that the imprisonment for the subsequent offence shall commence at the termination of the imprisonment the person is then undergoing. Justices have no power to impose more than one consecutive sentence of imprisonment to commence at the expiration of the first sentence, although they can pass one such consecutive sentence.

By the Small Debts Recovery (Amending) Act, 1905, the jurisdiction of Magistrates' Courts is extended to include action for the recovery of a debt or liquidated demand not exceeding £30, or where the Court is constituted by a Stipendiary or Police Magistrate sitting in some place appointed in that behalf by the Governor, to an amount not exceeding £50, whether on balance of account or after admitted set-off or otherwise.

COURTS OF PETTY SESSIONS.

Courts of Petty Sessions are held by Stipendiary Magistrates in the Sydney, Parramatta, Newcastle, and Broken Hill districts, and in the country districts by Police Magistrates, also Justices of the Peace, the latter being honorary officers.

The total number of offences charged at all Courts of Petty Sessions has varied but slightly from year to year during the last five years, as the following table shows :—

	1907.	1908.	1909.	1910.	1911.
Children's Courts	2,636	2,090	2,445	2,020	2,405
Courts of Petty Sessions	71,668	71,074	69,873	71,940	72,709
All Magistrates' Courts	74,304	73,164	72,318	73,960	75,114

The following table summarises the operations of these Courts for 1911 :—

Procedure.	Charged before Magistrates.	Treated summarily.			Committed to higher Courts.
		Convicted.	Withdrawn or Discharged.	Total.	
By arrest... ..	47,022	42,587	3,368	45,955	1,067
By summons	28,092	22,471	5,510	27,981	111
Total	75,114	65,058	8,878	73,936	1,178

The cases (1,178) committed to higher Courts represent 1·6 per cent. of the total charges ; the remainder, representing 98·4 per cent., were summarily treated, convictions resulting from 86·6 per cent. of the charges. A division of accused persons, according to sexes, shows that the charges against women number 6,987, being only 9·3 per cent. of the total, and the relative seriousness of offences is evident from the fact that 1·1 per cent. of women charged were committed to higher Courts, as against 1·6 per cent. of men. Following are the figures on which these proportions are based :—

Sex.	Charged before Magistrates.	Treated summarily.			Committed to higher Courts.
		Convicted.	Withdrawn or Discharged.	Total.	
Males	68,127	59,357	7,669	67,026	1,101
Females	6,987	5,701	1,209	6,910	77
Total	75,114	65,058	8,878	73,936	1,178

Reduced to a population basis the figures of the preceding table show the following result :—

Sex.	Per 1,000 of mean Population.				
	Charged before Magistrates.	Treated summarily.			Committed to higher Courts.
		Convicted.	Withdrawn or Discharged.	Total.	
Males	78·59	68·47	8·85	77·32	1·27
Females	8·78	7·17	1·52	8·69	0·09
Total	45·19	39·14	5·34	44·48	0·71

The disparity between the proportion of male and female offenders is evident, viz., 78·59 and 8·78 respectively per 1,000 of general population.

Stipendiary Magistrates are maintained in the metropolitan district, and in Parramatta, Newcastle, and Broken Hill, and a great proportion of the charges are treated summarily. It is noticeable that the proportion of acquittals and discharges has diminished steadily since 1870, when about 25 per cent. of the persons brought before Magistrates were discharged, to about 12 per cent. for the past five years. The following table shows the proportion of summary convictions by Magistrates, of acquittals and discharges, and the committals to higher Courts at intervals since 1870:—

Year.	Summary Convictions.	Acquittals and Discharges.	Committals to higher Courts.
	per cent.	per cent.	per cent.
1870	69·0	24·7	6·3
1880	76·9	18·4	4·7
1890	80·4	16·0	3·6
1900	83·1	14·9	2·0
1905	84·5	13·1	2·4
1906	84·1	13·9	2·0
1907	86·5	11·8	1·7
1908	87·0	11·5	1·5
1909	86·5	11·8	1·7
1910	86·1	12·3	1·6
1911	86·6	11·8	1·6

Investigation into the nature of the offences for which summary convictions were effected during 1911 shows that only a small proportion were really criminal offences, viz., offences against person or property. By far the largest proportion were offences against good order, being usually of a minor character, viz., drunkenness, disorderliness, and vagrancy. Next in numerical order came the class of offences which were infringements of the provisions of particular enactments. Following is a classification of summary convictions, showing also their weight as compared with the general population, during each of the last six years:—

Year.	Against the Person.	Against Property.	Against Good Order.	Other Offences.	Total.
NUMBER OF SUMMARY CONVICTIONS.					
1906	1,500	3,469	37,294	12,546	54,809
1907	1,587	3,209	40,522	12,785	58,103
1908	1,494	3,282	40,268	12,586	57,630
1909	1,370	3,391	38,578	12,428	55,767
1910	1,598	3,619	42,959	15,495	63,671
1911	1,664	3,404	44,185	15,805	65,058
PER 1,000 OF MEAN POPULATION.					
1906	1·00	2·31	24·85	8·36	36·52
1907	1·03	2·09	26·35	8·31	37·78
1908	·95	2·10	25·70	8·03	36·78
1909	·86	2·13	24·23	7·81	35·03
1910	·95	2·23	26·48	9·59	39·25
1911	1·00	2·05	26·58	9·51	39·14

The following table gives a comparison of summary convictions of males and females during the years 1906 and 1911, excluding cases treated in Children's Courts :—

Offences.	Summary Convictions.					
	1906.			1911.		
	Males.	Females.	Total.	Males.	Females.	Total.
Against the person	1,265	172	1,437	1,481	110	1,591
Against property	2,323	377	2,700	2,396	194	2,590
Against good order	29,615	7,206	36,821	39,228	4,492	43,720
Other offences	11,378	779	12,157	14,555	834	15,389
Total	44,581	8,534	53,115	57,660	5,630	63,290

A survey of these rates shows that the increase of offences, as evidenced by convictions, for the two years resulted primarily from a considerable increase in offences of men against good order, though in cases of both men and women other offences, excluding offences against person or property, are an appreciable factor. The reduction in more serious offences of women is noticeable, and closer study would probably reveal a prominent causative influence in effecting such decreases in present methods of prison treatment, *e.g.*, the application of the principle of indeterminate sentences.

For each year of the last quinquennial period the total number of summary convictions at both Courts of Petty Sessions and Children's Courts and the proportion per 1,000 of population were as follows :—

Year.	Summary Convictions.			Per 1,000 of mean Population.		
	Males.	Females.	Total.	Males.	Females.	Total.
1906	46,211	8,598	54,809	58·72	12·04	36·52
1907	49,894	8,209	58,103	61·83	11·23	37·78
1908	49,727	7,903	57,630	60·60	10·59	36·78
1909	49,422	6,345	55,767	59·17	8·34	35·03
1910	57,842	5,829	63,671	68·42	7·51	39·25
1911	59,357	5,701	65,058	68·47	7·17	39·14

Summary convictions in 1911 resulted in penalties as classified below :—

Offences.	Fines Paid.	Imprisoned in default.	Imprisoned without option.	Bound over and released on probation.	Other Punishments.	Total.
Against the person	1,127	207	209	94	27	1,664
Against property	1,193	750	617	654	190	3,404
Against good order	25,296	17,170	907	261	551	44,185
Other offences	14,136	731.	533	94	311	15,805
Total	41,752	18,858	2,266	1,103	1,079	65,058

Sentences of imprisonment in default are usually commuted by subsequent payment of fine; the extent to which this practice operates has been shown in connection with the prison services. The penalty of a fine was imposed in 94·2 per cent. of convictions, being paid promptly in 64·2 per cent. of cases, and in 30·0 per cent. leading to imprisonment in default. Imprisonment without option was ordered in 3·5 per cent. of convictions, and in 1·7 per cent. the offender was released from the Courts on probation.

SMALL DEBTS COURTS.

The total number of small debts cases dealt with by the Small Debts Courts during 1911 was 29,570; in 13,127 cases the judgment of the Registrar or verdict of the Court was given to the plaintiffs, the sums involved amounting in the aggregate to £74,461. The total number of cases initiated was 34,095, of which 22,076 related to amounts under £5, and 11,315 to amounts ranging from £5 to £25, and 704 cases related to amounts over £25 and under £50. In 755 cases, including non-suits, the verdict was gained by defendants, and 15,688 cases were withdrawn or not proceeded with, and at the end of the year 4,525 cases were awaiting consideration. Garnishee cases taken numbered 879; in these cases the Court may order that all debts due by a garnishee to the defendant may be attached to meet a judgment debt, and further direct that the garnishee pay so much of the amount owing as will satisfy the judgment debt. In respect of wages or salary, garnishee orders may only be made for so much as exceeds £2 per week.

Oral examinations of judgment debtors as to debts due to them ordered on the application of a judgment creditor numbered 438 in 1911 as compared with 354 for 1910; interpleader cases, as to claims made to goods held under a writ of execution, by a person not party to the suit, numbered 72 as compared with 56 in the previous year.

CHILDREN'S COURTS.

Children's Courts under the Neglected Children and Juvenile Offenders Act, 1905, were established throughout the State with the object of removing children as far as possible from the atmosphere of a public court. Magistrates exercise powers in respect of children and of offences committed by and also against children. They also possess the authority of a Court of Petty Sessions or Justice under the Children's Protection Act, 1902, and the Infant Protection Act, 1904.

The Neglected Children and Juvenile Offenders Act is designed to remove children from association with reputed thieves, and otherwise provides for the protection and reformation of neglected or uncontrollable children and juvenile offenders and for the supervision of the children engaged in street trading.

Information as to the number of children granted licenses under the Neglected Children Act for street trading, also children permitted under the Children's Protection Act to take part in public exhibitions, at theatres, &c., will be found in Part Social Condition of this Year Book.

During the year 1911 the cases taken in Children's Courts numbered 2,405. In addition to these cases, there were 1,842 applications for orders, such as the disposal of neglected and uncontrollable children, and the maintenance of children, and 1,134 cases of non-compliance with orders were dealt with.

The following table shows a classification of cases taken at Children's Courts during 1911; and as offences committed against children are dealt with by these Courts the figures include many cases of adult offenders:—

Offences.	Summarily treated.				Committed to higher Courts.		Total.		
	Convicted.		Discharged or Withdrawn.		M.	F.	M.	F.	Total.
	M.	F.	M.	F.					
Against the person ..	55	18	67	18	51	...	173	36	209
Against property ...	781	33	316	5	3	...	1,100	38	1,138
Against good order ...	460	5	86	6	1	...	547	11	558
Other offences...	401	15	74	7	...	3	475	25	500
Total ...	1,697	71	543	36	55	3	2,295	110	2,405

The figures shown above and other particulars of Children's Courts are included in the aggregate tables relating to Magistrates' Courts.

An interval of six complete years having elapsed since this type of Court was instituted, a fair basis of comparison has been established. The figures following show the number of convictions recorded in each class during the period 1906-11 :—

Offences.	Convictions.					
	1906.	1907.	1908.	1909.	1910.	1911.
Against the person ...	63	75	85	78	77	73
Against property ...	769	817	696	757	747	814
Against good order ...	473	579	426	296	302	465
Other offences ...	389	600	223	243	313	416
Total ...	1,694	2,071	1,430	1,374	1,439	1,768

LICENSING COURTS.

In the metropolitan district of the State, the Court for granting licenses to sell intoxicants consists of the Metropolitan Stipendiary Magistrates for the time being, with the addition of one or more Justices of the Peace specially appointed, bringing the number of occupants of the Bench up to seven, three of whom form a quorum. In country districts the local Police Magistrate and two Justices of the Peace, also specially appointed, constitute the Court. In 1882 the number of licensed houses was 3,063; in September, 1907, it was 3,023; and in 1911, 2,775, the decrease being 248, or 8·2 per cent. since the first local option vote was taken in 1907.

The Liquor Amendment Act of 1905, amending the Liquor Act of 1898, regulated the sale of intoxicating liquor, and facilitated exercise of the principle of local option. In addition to stringent regulations regarding the licensing and management of hotels, the registration of clubs in which liquor is sold is compulsory. Registration is granted only to properly-conducted associations, established for a lawful purpose, on suitable premises.

LOCAL OPTION.

The local option vote is taken in terms of the Act of 1905 at each general election of the State Parliament. Publicans' or wine licenses in any electorate may not exceed the number existent at the commencement of the Act, except an increase be granted on account of growth of population. Clubs may not exceed the number formed before November, 1905, and registered before March, 1906.

Following are the propositions submitted to electors at each general election in this connection—

- (a) That the number of existing licenses be continued;
- (b) That the number of existing licenses be reduced;
- (c) That no licenses be granted in the electorate;
- or where resolution (c) has been previously carried—
- (d) That licenses be restored.

To carry resolution (c) or (d) the votes in favour must represent three-fifths of the total votes polled, and 30 per cent. of the electors on the roll. Where resolution (c) is not carried the votes are added to those given for resolution (b).

In electorates where a majority of electors vote for reduction, licenses may be reduced by one-fourth. Where the "no license" resolution is carried, licenses in the electorate cease to operate within three years, except in cases of special extension.

Particulars of the local option vote taken at the two elections since the Act was passed are shown in the following statement :—

Year.	Electorates in which Electors carried.		Votes recorded for—		
	Continuance.	Reduction.	Continuance.	Reduction.	No-license.
1907	25	65	209,384	75,706	178,580
1910	76	14	324,973	38,856	212,889

The proposition that no licenses be granted has not been carried in any electorate. In 1907 the proportion of votes recorded for continuance was 45·16 per cent. ; for reduction, 16·33 per cent. ; and for no-license, 38·51 per cent. At the last election, the percentages were :—Continuance, 56·35 ; reduction, 6·74 ; and no-license, 36·91.

Special Courts were constituted to effect the reductions in accordance with the Act. The time at which the reduced licenses will cease varies from six months to three years, according to the character of the house ; and under special circumstances the latter period may be extended.

On 10th September, 1907, when the first local option vote was taken, there were 3,023 hotels in existence—of this number 293 were ordered to be closed at dates varying from 10th September, 1908, to 31st December, 1913. At the second local option vote on 14th October, 1910, there were 2,869 hotels, and as a result of the vote 28 have been ordered to be closed.

LICENSES.

Hotel Licenses.

The following table gives particulars respecting the number of public houses in the State, and the average number of residents to each :—

Year.	Licenses Issued.	Average number of Residents to each House.	Year.	Licenses Issued.	Average number of Residents to each House.
	No.			No.	
1900	3,163	428	1906	3,055	491
1901	3,151	434	1907	3,022	509
1902	3,132	444	1908	2,980	526
1903	3,128	452	1909	2,923	545
1904	3,098	464	1910	2,865	566
1905	3,063	479	1911	2,775	599

The annual fee for a Publican's license is regulated by the annual assessed value of the hotel. During the year 1911, an amount of £76,050 was collected on account of such licenses.

Additional Bar Licenses.

With reference to hotel licenses it may be stated that the Liquor Act provides for the issue of "Additional Bar" licenses to holders of publicans' licenses, when liquor is to be sold in more than one room in the licensed premises. During the year 1911 there were 118 of these licenses granted, the total amount of license fees collected being £2,311.

Railway Refreshment Room Licenses.

In addition to those shown above, 29 liquor licenses were issued to Railway Refreshment Rooms, the annual fee for each license being £30, the total fees being £870. These licenses are issued under Executive authority and are not granted by Magistrates.

Booth or Stand Licenses.

The holder of a Publican's license may obtain a booth or stand license to cover a period not exceeding seven days. Such license entitles the publican to sell liquor at any race meeting or other place of public amusement. During 1911 there were 1,829 licenses issued, the total fees received being £3,658.

Packet Licenses.

These licenses are held by Masters of steamers engaged in the coastal trade of the State. In 1911 there were 24 Packet licenses in force, for which an amount of £203 was collected as fees.

Wine Licenses.

The Colonial Wine, Cider, and Perry licenses current during 1911 numbered 532, for which an amount of £1,596 was received as license fees. There has of late years been a considerable decrease in the number of wine licenses, as may be seen from the statement, that in 1904 these licenses numbered 695, in 1907 there were 622, and now the number stands as 532.

The licenses are held chiefly by grocers, restaurant and oyster saloon keepers, wine shops and fruit shops. The quantity of wine, cider, or perry sold by licensees at one time must not exceed 2 gallons.

Spirit Merchants' Licenses.

Spirit Merchant licenses are held principally by merchants, wholesale wine merchants and grocers. The licenses do not come under the operation of the Local Option vote. Licensees are not allowed to sell a quantity less than 2 gallons of liquor of the same kind at the one time. In 1911 there were 198 Spirit Merchant licenses, for which the license fees amounted to £4,780.

Brewers' Licenses.

Brewers' licenses are not affected by the Local Option vote. In 1911 there were 39 of these licenses, the total fees being £820. Full particulars regarding Breweries may be found in the chapter of the Year Book dealing with Manufacturing Industry.

Club Licenses.

The registration of Clubs at which liquor is sold has had a beneficial effect on the community. In 1911 the Clubs registered numbered 76, for which license fees amounting to £952 were collected. The annual license fee is £5 for the first forty members and £1 for each additional forty. The Clubs might be classified as follows,—recreation and social, social and literary, golf, social and sporting, rowing and bowling, residential and yachting, bicycle, gun, lawn tennis, cricket, automobile.

Billiard and Bagatelle Licenses.

These licenses are generally held by hotel keepers. The license fee is £10 per annum, and during 1911 there were 859 in force, the total fees collected being £8,624.

Auctioneers' Licenses.

Auctioneers' licenses are divided into two classes, viz., General and District. The annual fee for a general license is £15, and for a district £2. There were 298 of the former and 1,443 of the latter current in 1911, the license fees received being £7,047. General licenses are available for all parts of the State, while district licenses only cover the Police district for which they are issued—but district licenses are not issued for the Metropolitan District.

Pawnbrokers' Licenses.

In 1911 there were 105 Pawnbrokers' licenses current in New South Wales, the fees received being £1,050. The hours for receiving pledges by pawnbrokers are limited, with certain exceptions, to between 8 a.m. and 6 p.m., but no restriction is placed on the rate of interest charged.

Hawkers and Pedlers' Licenses.

The annual license fee for a hawker trading on foot is £1, and if with pack animals or vehicles the charge is £2. The total amount of fees received during 1911 was £2,309.

LICENCES IN FORCE—COMPARATIVE TABLE.

A table showing the principal licenses in force in 1901, and those current in the years 1907–1911, is given hereunder:—

License.	1901.	1907.	1908.	1909.	1910.	1911.
Publicans'	3,151	3,022	2,980	2,923	2,865	2,775
Additional Bar ... ..	...	124	127	118	115	118
Railway Refreshment	22	24	23	24	24	...
Booth or Stand	1,787	1,517	1,662	1,612	1,765	1,829
Packet	20	26	28	26	23	24
Colonial Wine, Cider, and Perry	675	622	595	583	564	532
Spirit Merchants'	225	204	189	203	195	198
Brewers'	53	38	38	37	37	39
Club ... ..	...	78	76	76	76	76
Billiard and Bagatelle	678	727	758	787	856	859
Auctioneers'—General	199	236	254	282	305	298
District	970	1,242	1,339	1,328	1,405	1,443
Pawnbrokers'	61	81	92	92	92	105

REGISTRATION OF DOGS.

The Dog and Goat Act, 1898, prohibits the use of dogs or goats for the purpose of drawing or helping to draw any cart, carriage, truck or barrow. It is obligatory upon a person keeping a dog to register the same annually. The fee is two shillings and sixpence. During 1911 there were 128,576 dogs registered in New South Wales, the fees collected amounting to £16,299. In the same year 3,199 stray dogs were destroyed by the Metropolitan police, the expenditure being £400.

CORONERS' COURTS.

Under the Coroners Act, 1912, every stipendiary or police magistrate has by virtue of his office the powers and duties of a coroner in all parts of the State, except the Metropolitan Police District, which is under the jurisdiction of the City Coroner.

Coronial inquiries must be held in all cases of violent or unnatural death, and at the discretion of the Coroner in cases of destruction or damage to property by fire, and on the evidence the Coroner is empowered to commit for trial persons judged guilty of manslaughter, murder, or arson.

The operations of Coroners' Courts resulted in 45 persons being committed for trial to higher Courts, viz.:—38 men and 7 women, the offences charged being for murder, 18 males and 3 females; manslaughter, 15 males and 3 females; arson, 5 males and 1 female.

Inquests upon Deaths.

Under the Coroner's Court Act, 1904, a Coroner is empowered to hold an inquisition, sitting alone, but upon request of a relative, of the secretary of any society of which the deceased was a member, or on the order of the Minister of Justice, a jury of six is called. The number of deaths during 1911, the causes of which were investigated by Coroners or Magistrates, was 1,075 of males and 284 of females, giving a total of 1,359 inquests and magisterial inquiries. Of the 1,359 deaths, the verdicts of the courts were that 1,056 were caused by violence, and of these cases 163 males and 36 females were found to have committed suicide. Of the total number of inquests it was found that death in 104 cases was attributable either directly or indirectly to intemperance.

Inquests upon Fires.

Inquiries were held during 1911 into the origin of 115 fires; accident was ascribed as the cause in 6 cases, arson in 25; in 84 instances there was insufficient evidence.

DISTRICT COURTS, &c.

District Courts are held for the trial of civil causes where the property involved or the amount claimed does not exceed £400, and in cases where a title to land not exceeding £200 in value is in question. These Courts are presided over by Judges, who also perform the duties of Chairmen of Quarter Sessions for the trial of prisoners, except those charged with capital crimes. District Courts are held during ten months of the year in the metropolis, and twice a year in all important country towns. The Judge is not usually assisted by a jury; but in cases where the amount in dispute exceeds £20, either of the parties, by giving notice to the Registrar of the Court, may have a jury consisting of four or twelve men. On questions of law, and in respect of admission or rejection of evidence, appeal lies to the Supreme Court. At the end of 1911 there were 71 District Courts in the State.

Particulars of suits brought in District Courts during the last eight years are given in the following table:—

Year.	Total Causes commenced.	Causes tried.		Causes discontinued.	Judgment for Plaintiff by default, or confession, or agreement.	Causes referred to Arbitration.	Causes pending and in arrear.	Total amount of Claims.	Court Costs of Suits.
		Verdict for Plaintiff.	Verdict for Defendant (including non-suits).						
	No.	No.	No.	No.	No.	No.	No.	£	£
1904*	4,042	833	198	1,201	1,014	1	795	103,007	8,944
1905*	3,687	763	186	995	999	2	742	100,362	9,227
1906	3,277	489	191	1,014	972	2	609	123,510	8,708
1907	2,971	388	156	852	903	2	670	134,991	9,470
1908	3,565	371	194	898	1,239	3	860	166,680	9,346
1909	4,314	479	191	1,206	1,398	5	1,035	204,642	10,853
1910	2,930	253	137	740	1,059	3	738	130,295	8,929
1911	4,123	376	186	1,278	1,326	4	953	199,437	11,824

* Year ended on 1st March.

Of the 562 causes heard during 1911, only 61 were tried by jury. During the same period there were 16 appeals from judgments given in District

Courts, of which 12 were affirmed. There were also 6 motions for new trials, of which 4 were granted. The amount of judgment for the plaintiff during the year was £58,816.

The several District Court Judges under the District Courts Acts, numbering nine, and three Judges attached to the Metropolitan District, are also the Chairmen of Courts of Quarter Sessions and Judges of the Court of Review within their respective districts, as well as Judges of the Court of Marine Inquiry.

COURT OF INDUSTRIAL ARBITRATION.

The Court of Industrial Arbitration is a superior court, and a court of record, having jurisdiction and powers conferred on it by the Industrial Arbitration Act, 1912, and those conferred in the Industrial Court by the Clerical Workers Act, 1910.

The Court or an Industrial Board exercising the jurisdiction conferred by the Act is governed in its procedure and in its decisions by equity and good conscience, and is not bound to observe the rules of law governing the admissibility of evidence.

THE SUPREME COURT.

The Supreme Court of New South Wales, consisting of the Chief Justice and seven Puisne Judges, has jurisdiction in all matters which, under any Imperial Act in force in England on 1st March, 1829, and applicable to New South Wales, or any Imperial Act adopted and directed to be applied in New South Wales, pertained to the jurisdiction of His Majesty's Courts at Westminster, or the respective Judges thereof in the administration of justice. Further, every power, jurisdiction, or authority vesting in the Court, or the Judges collectively, may be exercised lawfully by two or more Judges of the Court.

The Chief Justice and three Puisne Judges are engaged ordinarily in matters of Common Law, including the Criminal and Civil jurisdictions; and under the Supreme Court and Circuit Courts Act, 1900, the Judges then holding special jurisdictions were confirmed on their commissions as follows:—

The Chief Judge in Equity.

The Judge exercising the Matrimonial Jurisdiction of the Court.

The Judge in Bankruptcy.

The Probate Judge.

The number of Puisne Judges was limited to six until the limitation was repealed by amending legislation, which came into operation on 1st July, 1912, and provided that when the number amounts to seven, additional Judges may be appointed when resolutions are passed in both Houses of Parliament that the state of business requires such additional appointments.

Puisne Judges are maintained to the required number by appointment to any vacancy of a barrister qualified by at least five years' standing, and the commission of every appointed Judge is in force during his good behaviour, and revocable only upon address of both Houses of the Legislature.

Appointment may be made as Acting Judge of any Judge of the District Court, or of any barrister or solicitor of at least seven years' standing; and Judges may be authorised to exercise special jurisdiction, having while so doing co-ordinate jurisdiction with all the power and authority of the particular commission.

The emoluments of office are a salary of £2,600 per annum for each Puisne Judge, and £3,500 per annum for the Chief Justice; and a pension on retirement after fifteen years' service, or on permanent disability or infirmity, of seven-tenths of the actual salary at date of retirement, such pension in the

event of acceptance of any new appointment under the Crown to merge or be reduced *pro tanto* during the tenure of appointment according to the salary pertaining to such new appointment.

The work of the Court is taken in four terms, the durations of which are arranged by the Judges in the particular jurisdictions, and during vacation, to prevent possible delay and consequent mischief, every Judge is empowered to make such orders and grant such writs as are ordinarily only made or granted by the Court. In cases of exigency, such power is exercisable by any Judge during term. Under the Supreme Court and Circuit Courts Amendment Act of 1912, the Judges may make rules to empower the Prothonotary to sit in Chambers and exercise such jurisdiction as a Judge sitting in Chambers except in matters relating to the liberty of the subject.

COMMON LAW PROCEDURE.

Under the Supreme Court Procedure Act, 1900, the parties to an action may consent to dispense with a jury, and the finding of a Judge ranks as the finding of a jury. Issues under the Real Property Act may also be tried without a jury, and applications directed by the Real Property Act, 1900, to the Supreme Court may be made to the equitable jurisdiction of the Court, or the Supreme Court holden before three Judges.

RULES OF COURT.

Rules of Court regulating its practice and procedure are made by the Judges of the Court, or by any three of them, being variable from time to time, subject to the approval of Parliament; but non-compliance with such rules does not void any proceeding unless the Court or a Judge direct, though such proceedings may be set aside as irregular or amended.

EQUITY PROCEDURE.

Equitable relief may, on rules made, be given on an originating summons, appeals lying to the Full Court, and the Equity Court has discretion to refuse an administration decree if the questions between the parties can be determined otherwise.

CIVIL JURISDICTION.

Civil actions are tried usually before a jury of four persons, but either party to the suit, on cause shown, may apply to a Judge in Chambers to have the cause tried before a jury of twelve. Twice the number of jurors required to sit on the case are chosen by lot, from a panel summoned by the Sheriff, and from that number each of the parties strikes out a proportion, the remainder thus selected by both parties constituting the jury. The jury find only as to the facts of the case, being bound by the dicta of the Judge on points of law. From the Court thus constituted appeal lies to the "Full Court," sitting *in Banco*, which is composed generally of at least three of the Judges. The Chief Justice, or in his absence the senior Puisne Judge, presides over the Full Court, which gives its decision by majority. New trials may be granted where the Judge has admitted erroneously or rejected material evidence; where he has directed the jury wrongly on a point of law; where the verdict of the jury is clearly against evidence; or where, from some other cause, there has been evidently a miscarriage of justice.

Provision is made for appeal by a suitor to the Privy Council, subject to leave from the Supreme Court. The dispute must involve a minimum amount of £500, or affect the construction of a New South Wales statute. In other cases, application for leave to appeal must be made directly to the Privy Council. The British Government appointed the Chief Justice of South Australia to a seat on the Judicial Committee of the Privy Council, so as to secure in the deliberations of the Committee sound advice as to the laws, especially in relation to land, of the States.

ADMIRALTY COURTS.

On 1st July, 1911, the Vice-Admiralty Court, constituted by the Chief Justice as Judge-Commissary with a Puisne Judge in association, ceased to exist as such; but in its stead, the Supreme Court of the State was erected into a Colonial Court of Admiralty, with power to hear and determine matters previously determined by the Vice-Admiralty Court. During 1911, 3 causes were taken in the Vice-Admiralty Court, all of which were actions as to salvage. In 2 cases verdict was given for plaintiff; the remaining case was not proceeded with.

SHERIFF'S OFFICE.

The transactions of the Sheriff's Office during 1911 included the issue for service of 950 writs of summons in the Supreme Court, as against 881 for 1910; the money value involved is not recorded. Other writs issued include 256 writs of *feri-facias*, involving amounts aggregating £42,317, and other writs numbering 376 and aggregating £5,164 in value.

EQUITY JURISDICTION.

The Equity Act, 1901, consolidated enactments relating to the practice, procedure, and powers of the Supreme Court in matters of equity demanding relief, and including the appointment of guardians of infants and the administration of their estates. The Judge in Bankruptcy exercises equitable jurisdiction as the Judge in Equity, with the assistance of two other Judges, the decision of the majority having the effect of a Full Court decision. The Court, in making binding declarations of right, may call for the assistance of merchants, engineers, actuaries, or any other persons, has power to decide legal titles, to award damages, or grant specific performance; and exercises all the powers of the Common Law Jurisdiction of the Supreme Court. The Court may also delegate investigations to the Master in Equity, who is also the Master in Lunacy, and undertakes various duties, as of Taxing Officer, Head of the Records and Writ Office, &c. At 31st December, 1911, the Master in Lunacy held Trust Funds amounting to £226,044. The following is a statement of the transactions in Equity jurisdiction during the last ten years:—

Year.	Statements of Claims.	Statements of Defence	Petitions.	Summonses.	Motions.	Decrees and Orders.
	No.	No.	No.	No.	No.	No.
1902	176	86	136	149	140	797
1903	163	91	117	175	135	806.
1904	211	98	89	176	174	1,245.
1905	180	88	60	192	164	1,050
1906	149	86	64	183	127	1,030
1907	172	88	71	195	147	1,072
1908	191	124	65	151	135	1,047
1909	210	121	66	153	168	1,016
1910	181	117	87	166	120	949
1911	157	78	100	149	123	871

The amount of Trust Funds invested under Equity Jurisdiction in 1911 was £675,278, the investments being made at interest rates ranging from 1 to 6 per cent.

PROBATE JURISDICTION.

Under the Wills, Probate and Administration Act, 1898, the Supreme Court in its Probate Jurisdiction absorbed the powers previously vested in the Primary Judge in Equity; and under the Administration Amending Act, 1906, formal duties in the granting of probates and letters of administration are delegated to the Registrar of Probates, who is also the Prothonotary and Ecclesiastical Clerk. In estates of less value than £300 the intervention of a solicitor is unnecessary.

The number of probates and letters of administration granted by the Supreme Court in its testamentary jurisdiction for the last ten years is shown in the following table :—

Year.	Probates granted.		Letters of Administration.		Total.	
	Number of Estates.	Value of Estates.	Number of Estates.	Value of Estates.	Number of Estates.	Value of Estates.
		£		£		£
1902	1,729	5,188,341	1,053	619,279	2,782	5,807,620
1903	1,787	6,345,098	980	834,784	2,767	7,179,882
1904	1,854	5,536,494	996	619,469	2,850	6,155,963
1905	1,842	6,999,863	962	714,553	2,804	7,714,416
1906	1,927	6,697,600	925	891,837	2,852	7,529,437
1907	2,045	6,835,381	1,039	728,118	3,084	7,563,499
1908	2,114	7,054,170	980	784,402	3,094	7,838,572
1909	2,104	10,295,793	1,081	846,275	3,185	11,142,068
1910	2,261	7,649,344	1,075	1,184,990	3,336	8,834,334
1911	2,421	12,257,228	1,168	880,840	3,589	13,138,068

The figures here shown represent the gross values of estates, inclusive of those not subject to duty, but the Stamp Duties Department return shows the net values of the estates, excluding those not subject to duty. Probates taken out a second time, and included above, also tend to increase the difference between the figures recorded for the two Departments. The large accretion to the value of estates during 1909 and 1911 is due to the probate in one exceptionally large estate in each year.

BANKRUPTCY JURISDICTION.

Any person unable to meet his debts may surrender his estate for the benefit of his creditors, or the latter may, under certain specified conditions, apply for a compulsory sequestration, the case coming under the Bankruptcy Jurisdiction of the Supreme Court.

Certain of the powers vested in the Judge in Bankruptcy are relegated to the Registrar in Bankruptcy, and in country districts Police Magistrates and Registrars of District Courts appointed as District Registrars, have the same powers and jurisdiction as the Registrar in respect to the examination of bankrupts and the issue of summonses ; but appeal from a decision of the Registrar, or of a District Registrar, lies to the Judge in Bankruptcy, who also deals with questions relating to priority of claims.

An official assignee, deputed by the Judge to manage the estates of insolvents, receives $2\frac{1}{2}$ per cent. commission on the amount realised, and $2\frac{1}{2}$ per cent. on the amount of dividends declared, and in some cases special remuneration awarded by the Court. Creditors may accept, and the Court endorse, a proposal for a composition, or for a scheme of arrangement, subject to the approval of a majority representing three-fourths of the value of all approved claims. Such a proposal being accepted, one or two trustees may be appointed in place of, or in addition to, the official assignee. After acceptance of a composition, or approval of a scheme of arrangement, a bankrupt's estate may be released from sequestration. Release may be effected when all creditors have been paid in full, or when they have given a legal quittance of the debts due. In other cases, a bankrupt may give notice, by advertisement, three months from the time of sequestration, of his intention to apply for a certificate of discharge, whereupon the Court receives a report from the official assignee, and may either grant or refuse an absolute order of discharge, suspend the operation of the order for a certain time, or grant an order subject to conditions respecting the future earnings or income of the bankrupt. Operations in the Bankruptcy Court are detailed in discussing this matter in the chapter relating to Private Finance.

Analysis of the occupations of persons declared bankrupt during 1911 shows the following grouping:—

Group.	Number of Bankrupts.	Group.	Number of Bankrupts.
Professional	17	Industrial	121
Domestic	16	Primary Producers	45
Commercial	73	Indefinite	11
Transport and communication...	10	Total	293

DIVORCE AND MATRIMONIAL CAUSES JURISDICTION.

The Supreme Court of New South Wales has jurisdiction in divorce, dating from the Matrimonial Causes Act, 1873, under which the important grounds for divorce were adultery on the part of the wife, and adultery and cruelty on the part of the husband. The present law is contained in the Matrimonial Causes Act, 1899, under which is vested in the Supreme Court jurisdiction in respect of all causes, suits, and matters matrimonial, excepting in respect of marriage licenses. Dissolution of marriage may be granted on petition as under,—

Husband v. Wife.—Adultery, desertion, or habitual drunkenness and neglect of domestic duties, for three years; refusal to obey an order for restitution of conjugal rights; imprisonment for three years and upwards; attempt to murder or to inflict grievous bodily harm, or repeated assaults and cruel beatings during one year preceding the date of the filing of the petition.

Wife v. Husband.—Adultery and desertion for two years; desertion, or habitual drunkenness, with neglect to support and cruelty, for three years; refusal to obey an order for restitution of conjugal rights; imprisonment for three years and upwards; imprisonment under sentences aggregating three years, within a quinquennial period; attempt to murder or to inflict grievous bodily harm, or repeated assaults and cruel beatings within one year of petition.

The petitioner must have been domiciled in the State for three years or upwards at the time of instituting the suit.

Judicial separation may be sought on grounds of desertion without cause extending over two years, and nullity may be declared in cases of marriages which are void.

The law provides also for suits for the restitution of conjugal rights, for alimony, and generally for the enactment and enforcement of decrees.

Particulars as to divorces granted will be found in the part "Social Condition" of this Year Book.

INTESTATE ESTATES.

Under the Wills, Probate, and Administration Act, 1898, the Registrar of Probates, as Curator of Intestate Estates, under the jurisdiction of the Supreme Court, is empowered to apply for orders to administer estates of intestates, or of persons who have appointed the Curator as executor, or where no executor is appointed. Moneys unclaimed after six years are paid into the Consolidated Revenue Fund, but a rightful claimant may obtain payment, without interest, at any subsequent period.

The number of estates opened during 1911 was 656, from which the Curator received £46,293, and paid away £13,296; in connection with estates opened during previous years £24,754 was received, and £50,705 paid away. Commission and fees to the amount of £3,495 were paid into the Consolidated Revenue Fund during the year. The revenue also benefited to the extent of £7,921 of unclaimed moneys, but on the other hand claims amounting to £1,540 were received for moneys which had been paid into the Consolidated Revenue Fund previously.

COMMON LAW JURISDICTION.

The following table gives the number of writs issued, and the amount for which judgment was signed, in the Supreme and Circuit Courts (Common Law Jurisdiction) during the last ten years. The number of writs issued includes cases which were subsequently settled by the parties; but the total amount involved in these claims is not, of course, included in the sum for which judgment was signed. The amounts for signed judgments include taxed costs in all cases where the judgments have been completed at the end of the year. During 1911 the total bills of costs amounted to £39,502, but from this a sum of £11,384 was taxed off, leaving the net costs at £28,118. The Court costs of taxation amounted to £568:—

Year.	Writs issued.	Judgments signed.	Year.	Writs issued.	Judgments signed.
	No.	£		No.	£
1902	3,533	475,161	1907	1,832	132,839
1903	4,030	285,801	1908	2,266	189,350
1904	3,973	220,305	1909	2,023	193,039
1905	3,719	176,930	1910	1,868	139,223
1906	2,404	143,386	1911	1,892	169,708

The number of causes set down and tried is shown below:—

Year.	Causes set down.	Not proceeded with.	Referred to Arbitration.	Causes Tried.				Total.
				Verdict for Plaintiff.	Verdict for Defendant.	Disagreement of Jury.	Non-suited.	
	No.	No.	No.	No.	No.	No.	No.	No.
1902	264	86	...	114	40	6	18	178
1903	300	102	4	131	39	3	21	194
1904	266	87	7	119	33	3	12	172
1905	260	89	2	102	49	5	13	169
1906	235	76	2	105	34	5	13	157
1907	174	62	4	80	19	1	8	108
1908	221	91	1	86	30	1	12	129
1909	204	73	1	89	29	2	10	130
1910	210	80	1	106	19	...	4	129
1911	262	94	1	113	40	2	12	167

The small number of causes set down for hearing in comparison with the number of writs issued indicates the extent to which cases are settled out of Court, and the effectiveness with which the mere issue of a writ secures settlement.

The Commercial Causes Act, 1903, provided an expeditious method for the trial of commercial causes, which include matters relating to the ordinary transactions of merchants and traders, the construction of mercantile documents, affreightment, insurance, banking, and mercantile usages. The parties to a Supreme Court common law action may secure the Judge's order to have it brought upon the list of Commercial Causes, and from this order there can be no appeal. To secure speedy settlement in accordance with the aim of the Act the Judge is empowered to dispense with juries, pleadings, and technical rules of evidence, and with proofs of writing and documents, and to order inspections and admissions; he may also settle the issues for trial, and state a case on points of law for the Full Court.

COURTS OF MARINE INQUIRY.

A Court of Marine Inquiry is constituted of one or more District Court Judges assisted by assessors appointed under the Navigation Act, such assessors having power only to advise and not to adjudicate upon any matter before the Court.

Such a Court hears and determines inquiries as to wrecks, shipping casualties, charges of incompetency or misconduct of officers, and appeals and references under the Navigation Act. Inquiries held during 1911 numbered 22, of which 10 were as to collisions and 7 to stranding and shipwreck of vessels. The Courts found in 9 cases that blame was not attachable to any particular person; in 16 cases the master was exonerated.

Two cases were reheard during 1911, one related to collision and one to stranding; in both cases the original verdict was confirmed.

CRIMINAL JURISDICTION.

A Judge of the Supreme Court presides over the Central Criminal Court of Gaol Delivery held quarterly at Sydney, when all prisoners are tried by a jury of twelve, chosen by lot from the panel provided by the Sheriff. In capital cases the right to challenge, both by the Crown and by the accused, is limited to twenty jurors, except for cause shown; and in cases other than those in which the sentence of death may be imposed, whether felonies or misdemeanours, the number challenged may not exceed eight. At the close of the case for the prosecution, an accused person may also make a statement in his defence without rendering himself liable to examination thereupon, either by counsel for the Crown or by the Court. The Accused Persons Evidence Act, 1898, provides that it shall not be lawful to comment at the trial of any person upon the fact that he has refrained from giving evidence on oath on his own behalf. The verdict of the jury must be unanimous, and they may be detained until they give a verdict or are discharged by the Court. If no verdict is returned, the prisoner may be tried again before another jury.

CIRCUIT COURTS.

In accordance with the provisions of the Supreme Court and Circuit Courts Act, 1900, the State was divided into circuit districts, in which Circuit Courts were held by a Judge of the Supreme Court, such Courts being courts of record, of oyer and terminer, and of assize and nisi prius for New South Wales, and of gaol delivery in and for the particular district. Jurisdiction in civil actions vested in every Circuit Court, which was empowered to try and determine all issues of fact, and inquire into and assess damages in actions before the Court. Further, every Circuit Court had criminal jurisdiction, to hear and determine all cases of crimes and misdemeanours committed in New South Wales, upon information by or on behalf of the Attorney or Solicitor-General, conviction involving liability to the same penalties as if imposed by the Supreme Court. Procedure in Circuit Courts was as established for the Supreme Court.

The Supreme Court and Circuit Courts Act, which came into force on 1st July, 1912, revised the system of circuit towns, and provided for the hearing of civil and criminal causes in the country by sittings of the Supreme Court at towns and places notified by proclamation as circuit towns; the Supreme Court to be a court of gaol delivery, for which purpose the Court may be constituted by one Judge sitting in open Court in the exercise of criminal jurisdiction. The gaoler at each gaol is required, at prescribed times, to make returns to the Supreme Court of persons under detention.

QUARTER SESSIONS.

The Courts of Quarter Sessions are held by Chairmen, who also perform the duties of Judges of the District Courts. There are eight Chairmen of Quarter Sessions; three of these preside over the Courts in the metropolitan district, and one each in the following districts:—Southern and Hunter, south-western, northern, north-western, and western. All offences, except those involving the capital penalty, are within the jurisdiction of the Court. On the trial of prisoners at Quarter Sessions, at the request of the prisoner's counsel, the Chairman must reserve questions of law for the consideration of the Supreme Court.

OPERATIONS BEFORE HIGHER COURTS.

During the year 1911 there were 979 persons, viz., 914 men and 65 women, charged before the higher Courts of the State. The following table shows the results in the cases of these accused persons for 1910 and 1911 in comparison:—

Sex.	1910.			1911.		
	Charged.	Convicted.	Withdrawn, discharged, &c.	Charged.	Convicted.	Withdrawn, discharged, &c.
Males	935	495	440	914	507	407
Females	93	51	42	65	31	34
Total	1,028	546	482	979	538	441

Classifying accused persons according to the nature of the offences, it is found that, in cases both of males and females, offences against property are the most numerous. A statement is given below of the principal offences of the persons convicted in higher Courts during 1911:—

Offences.	Males.		Females.		Total.	
	Number.	Per cent. of total.	Number.	Per cent. of total.	Number.	Per cent. of total.
Against the person	133	26·2	8	25·8	141	26·2
Against property	300	59·2	13	41·9	313	58·2
Forgery and against the currency	45	8·9	3	9·7	48	8·9
Against good order	14	2·8	...	...	14	2·6
Other offences... ..	15	2·9	7	22·6	22	4·1
Total	507	100·0	31	100·0	538	100·0

The following statement shows the character of the principal offences of persons convicted in higher Courts during each of the last five years, and affords distinct evidence of reduced crime:—

Offences.	1907.	1908.	19 ⁰	1910.	1911.
Against the person	153	144	146	125	141
Against property	394	384	382	329	313
Forgery and against the currency	50	56	60	41	48
Against good order	8	12	3	5	14
Other offences	24	18	28	46	22
Total	629	614	619	546	538

SPECIAL COURTS.

Special Courts have been established for the purposes of particular legislative enactments, such as the Industrial Arbitration Court and the Commonwealth Conciliation and Arbitration Court, concerning which details are given in part, "Employment and Arbitration," of this Year Book, and the Land Appeal Court, to deal with matters relating to the various Land Acts.

LAND APPEAL COURT.

For the year ended 30th June, 1912, the cases referred to the Court numbered 106, of which 92 were referred by the Minister for Lands, and 14 by local Land Boards. Of the cases heard during the period, 50 resulted in the appeal being upheld, and 30 were sent back for rehearing, 56 were dismissed, and 7 withdrawn.

APPELLATE JURISDICTION.

Courts having Appellate Jurisdiction are the following:—Courts of Quarter Sessions, the Supreme Court, the Full Court, the High Court of Australia, and, finally, the Privy Council. A Court of Criminal Appeal was established in 1912.

Courts of Quarter Sessions.

Appeal lies from Courts of Petty Sessions to Courts of Quarter Sessions, which so provide a ready means of bringing the orders and convictions of Stipendiary Magistrates and Justices under review, and assure co-ordination of procedure in the lower Courts. During 1911, 366 appeals were taken before Courts of Quarter Sessions in this way, and of this total convictions were confirmed in 208 cases, varied in 23, and quashed in 79, the balance, viz., 56 cases, being not concluded at end of the year. Questions of fact as well as of law may be taken before these Courts, and the only savings as to the right of appeal from Magistrates' orders or convictions are as to orders made under the Seamen's Act, and adjudication to imprisonment for failure to comply with an order for payment of money, or for finding sureties.

Appeals to Supreme Court.

During 1911, applications for writs of prohibition and mandamus numbered 25, of which 5 were to Judges in Chambers, and 20 to the Full Court. Writs granted were 12, viz., 4 of mandamus and 8 of prohibition.

The special cases numbered 24; decisions were sustained in 6 from the Magistrates' Courts, including 1 under the Land and Income Tax Act. Decisions were reversed in 15 cases, of which 4 were land cases; and 11 were from the Magistrates' Courts, including 1 under the Local Government Act, and 4 cases stated by the Commissioner for Stamp Duties.

Appeals to Full Court.

In Common Law 31 cases were taken during 1911, 4 being criminal cases, in which 3 convictions from Quarter Sessions, Central Criminal, and Circuit Courts were affirmed, and 1 reversed. The civil cases consisted of 27 new trial motions, of which 6 were granted and 18 refused, and 3 were not proceeded with. The following statement shows the appeals in Equity, Probate, Bankruptcy, and Divorce, viz. :—

Equity, 1 sustained and 1 disallowed; Probate, 1 disallowed; Bankruptcy, no appeals; Divorce, 3 sustained and 2 not proceeded with.

Appeals from District Courts numbered 18, of which 3 were allowed and 15 refused.

High Court of Australia.

Under the Commonwealth Constitution Act, the judicial power of the Commonwealth vests in the Supreme Court, which has both original and appellate jurisdiction as the High Court of Australia. Its original jurisdiction extends to matters *inter alia*, in which the Commonwealth is a party, or which lie between States or residents of States. Its appellate jurisdiction extends to the hearing and determination of appeals from all judgments, decrees, orders and sentences of any justice exercising the original jurisdiction of the High Court, or any other Federal Court or of the Supreme Court, or any other Court of any State from which an appeal previously lay to the King in Council. The judgment of the High Court, in all such cases, is final and conclusive; its sittings are held in the capitals of the States, as may be necessary. Hitherto the majority of actions brought before the High Court have referred to its appellate jurisdiction. During 1911 the following appeals were made from decisions of Judges representing the Supreme Court of New South Wales:—

Jurisdiction.	Appeals set down.	Allowed.	Disallowed.	Settled.
Equity	4	1	2	1
Bankruptcy	1	...	1	...
Divorce	1	...	1	...
Probate	1	...	1	...

In addition, appeals from the Full Court of the Supreme Court of New South Wales numbered 15, of which 10 were allowed, 3 dismissed, and 2 otherwise settled.

One appeal from the decision of a Judge exercising Federal jurisdiction in New South Wales was dismissed. 16 notices of appeal under the Land Tax Assessment Act of 1910 were filed during 1911, in connection with which 2 special cases were deferred to the Full Court, which varied the assessment. In the other 14 cases no further steps were taken.

Appeals to Privy Council.

During 1911, 3 applications were made for leave to appeal, 2 in Common Law and 1 in Equity. There were 5 appeals to the Privy Council; 4 in Common Law were dismissed and 1 in Equity was not concluded.

COURT OF CRIMINAL APPEAL.

The Court of Criminal Appeal was established by the Criminal Appeal Act of 1912, which prescribes that the Supreme Court shall be the Court of Criminal Appeal, to be constituted by three or more Judges of the Supreme Court as the Chief Justice may direct. Any person convicted on indictment may appeal to the Court against his conviction (1) on any ground which involves a question of law alone, or (2) with the leave of the Court or upon the certificate of the judge of the court of trial, on any ground which involves a question of fact alone, or of mixed law and fact, or any other ground which appears to the Court to be sufficient. A convicted person may also, with the leave of the Court, appeal against the sentence passed on conviction; in such appeal the Court, if it thinks fit, may quash the sentence and substitute another either more or less severe.

In addition to determining appeals in ordinary cases the Court has power, in special cases, to record a verdict and pass a sentence in substitution of the verdict and sentence of the court of trial. The Court is also empowered to grant a new trial, either on its own motion or on application of the appellant.

THE GOVERNMENT IN LITIGATION.

The Government of the State was concerned in 684 actions commenced during the year 1911, viz., in 660 as plaintiff, and in 24 as defendant. Of these actions 461 were settled without coming to trial; the causes tried, numbering only 37, resulted in 32 instances in verdicts for the Government, 30 being as plaintiff, and 2 as defendant; in 2 causes as plaintiff, and 3 as defendant, the decisions were against the Government. Causes under consideration at end of the year numbered 186. The majority of actions commenced, related to taxation, 467, and to agriculture, 66.

A review of the actions at law, in which the Government has been concerned as a party, reveals that the record for 1911 is the lowest in any year of causes commenced, and the highest records were for the years 1905, 6, 7 and 8, viz., 8,378, 14,404, 9,687, and 6,831 actions respectively.

In connection with the Railway Department, the actions commenced numbered 643, of which 522 were settled without trial; 38 were tried, and 83 were pending at the end of the year. In 32 of the causes tried verdict was given for the Railway Department, viz., 14 as plaintiff and 18 as defendant.

In the Metropolitan Board of Water Supply and Sewerage the total actions commenced were 39, of which 38 were settled; the trial of the remaining case resulted in a verdict for the Board.

PATENTS.—COPYRIGHT.—TRADE MARK CERTIFICATES.

Since 1st June, 1904, the administration of the Patents, Copyright, and Trade Marks Acts has devolved upon the Federal authorities, and a patent granted under the Commonwealth Act is thus afforded protection in all the States, the period for which it remains in force being limited to fourteen years. The Patents Act of 1909 applied the law relating to patents to the Territory of Papua. The copyright in a book, the performing right in a dramatic or musical work, and the lecturing right in a lecture, continue for forty-two years, or for the author's life and seven years, whichever period is the longer. A Bill has recently been introduced into the Federal Parliament to repeal the existing Copyright Act and to substitute the British Copyright Act subject to certain modifications. Under the British law the term of copyright is the life of the author and fifty years.

The registration of a trade-mark protects it for fourteen years, but may be renewed as it expires. Under the "Commonwealth Designs Act" an industrial design may be protected for five years, provided it is used in Australia within two years of registration.

Under the various Federal acts, arrangements may be made for the protection in other countries of patents, copyrights, trade-marks, and designs.

In all cases the rights of holders under the legislation of a State were reserved to them.

During 1911 the Dominion of New Zealand enacted a Patent Designs and Trade Marks Act, which embodies, with but slight modifications, the provisions of the Commonwealth Act, and so extends a very great measure of uniformity beyond the limits of the United Kingdom to the whole of Australasia.

An important provision of the new Act enables the Supreme Court to make an order permitting the manufacture and carrying on in New Zealand of a patented article or process if the Court is satisfied that the patentee is not causing production to an adequate extent. Stringent provision is made to prohibit contracts, by which the purchaser, lessee, or licensee of a patented article or process is restrained from using or purchasing any article or process not the property of the patentee.

In connection with this process of extending uniformity towards the accomplishment, consciously or otherwise, of an Imperial ideal, it is of interest to note that in the early part of 1911 a conference was held in London of merchants and manufacturers for the purpose of securing the adoption and use of an Empire Trade Mark to indicate that the goods to which it is applied are of goods manufactured or produced in some part of the British Empire. Control of the Trade Mark was to be undertaken by the British Empire Trade Mark Association.

In connection with the compulsory working clauses in English enactments, between the introduction of the clause in 1907 and May, 1911, 75 applications were received for revocation of foreign patents allegedly not being adequately worked. In 21 instances the Comptroller-General revoked the patent. New industries established as a result of the clauses include metallic filament electric lamps, aniline dyes, mercerized cotton, safety razors, cash registers, shoemaking machinery, &c.

SOLICITORS AND BARRISTERS.

A solicitor has the right of audience in all Courts of New South Wales, and the Supreme Court may suspend or remove from the roll any solicitor who has been guilty of misconduct or malpractice.

A Candidate seeking admission as solicitor in New South Wales, provided he has not been admitted in England, Ireland, or Scotland, or in any State of the Commonwealth of Australia, must have qualified by passing examinations as outlined in part "Education" of this Year Book. Admission of a solicitor may take place only on the last day of any law term. A solicitor who ceases to practise for two years continuously is allowed to resume practice only under an order from the Court. A barrister who has been in practice as such for five years, having caused himself to be disbarred, may be admitted as a solicitor without examination.

The Board for admission of barristers of the Supreme Court consists of the Judges of the Supreme Court, the Attorney-General, and two elected members of the Bar. Applicants must have been students-at-law for three, or, in the case of graduates, for two years, and have passed all examinations prescribed by the Board. A solicitor who has been in practice for at least five years, and who has removed his name from the roll of solicitors, may be admitted as a barrister without examination.

MANUFACTURING INDUSTRY.

In 1810 the manufacturing establishments in New South Wales included a pottery, a tannery, a brewery, a manufactory for tobacco pipes, and another for coarse woollen cloths, and for the 20 years following the principal articles manufactured locally were cloths and woollens, cabbage-tree hats, salt, candles, leather, boots, drain-pipes, and other earthenware.

Naturally the development of manufacturing was influenced by sparseness of population, and the industries established were connected mainly with the preparation of foodstuffs for consumption. Subsequently to 1851, economic and industrial conditions, as compared with the years prior to the discovery of gold in payable quantities were altered materially, and impetus was given to the establishment and extension of manufactures. A gauge of progress exists in the following records of the description and number of manufacturing establishments operating in New South Wales in 1829, in 1848, and in 1861 :—

Class of Industry.	Establishments.			Class of Industry.	Establishments.		
	1829	1848	1861		1829	1848	1861
Treating Raw Materials—				Food and Drink (<i>continued</i>)—			
Boiling Down			38	Bakeries (steam)			2
Tanneries	11	40	76	Coffee Mills (steam)			2
Oils and Fats—				Distilleries, Breweries	9	25	16
Soap and Candles	6	18	23	Tobacco & Snuff Factories		4	11
Stone, Clay, Glass, &c—				Grain Mills	48	172	184
Potteries		7	5	Clothing and Textiles—			
Glassworks		1	...	Cloth Factories	6	6	8
Brickworks			118	Hat-Making	2	4	2
Stone-Crushing			1	Dye Works			4
Wood-working—				Rope Works		4	2
Saw-mills (steam & water)			61	Ship & Boat-building, &c.—			
Metal Works, Machinery, &c.			1	Docks and Slips			4
Type Foundries		1	2	Ship & Boat-building, &c.			56
Smelting		13	13	Drugs and Chemicals—			
Iron and Brass Foundries				Chemical Works			1
Food and Drink—				Heat, Light and Power—			
Sugar Refineries		2	5	Gasworks		1	1
Saltworks	2	2	1				
Meat Preserving		5	7				
				Total for the year	84	305	649

The following records at decennial intervals from 1871 indicate the aggregate number of establishments in operation, and the number of persons engaged therein. These records and their relation to the general population are shown in the following statement:—

Year.	Manufacturing Establishments.	Persons Engaged in Factories.	Factory Operatives.	
			Per Factory.	Per cent. of General Population.
1871	1,813	13,583	7·5	2·7
1881	2,961	31,191	10·5	4·1
1891	3,056	50,879	16·6	4·5
1901	3,367	66,230	19·6	4·8
1911	5,039	108,664	21·6	6·5

EXPANSION OF INDUSTRIES.

The extent and importance of the manufacturing industries of New South Wales are indicated in the following statement, which shows for the last eleven years the number of the establishments in operation, values of plant and machinery, wages and salaries paid to employees, and the corresponding annual output:—

Year.	Establishments.	Persons Employed.	Plant and Machinery.	Salaries and Wages paid.	Value of Goods Manufactured or work done.
			£	£	£
1901	3,367	66,230	5,860,725	4,945,079	25,648,471
1902	3,396	66,269	6,807,843	5,080,740	*
1903	3,476	65,633	7,121,806	4,839,557	26,391,028
1904	3,632	68,036	7,648,903	5,012,758	27,159,230
1905	3,700	72,175	8,031,948	5,191,350	30,028,150
1906	3,861	77,822	8,407,337	5,591,888	34,796,169
1907	4,422	86,467	9,155,772	6,650,715	40,018,301
1908	4,453	89,098	9,718,842	7,218,556	40,163,826
1909	4,581	91,702	10,330,724	7,665,125	42,960,689
1910	4,823	99,746	11,578,620	8,691,386	49,615,643
1911	5,039	108,664	12,510,600	10,051,161	54,346,011
Increase per cent. 1901 to 1911 ...	49·7	64·1	113·5	103·3	111·9

* Particulars not collected.

The figures representing "Goods manufactured or work done" include the value of production of factories making butter and cheese.

Within ten years additional plant and machinery, valued at over 6 million pounds, has been introduced, and for 1911 the salaries and wages were 103 per cent., and the output 112 per cent. greater than in 1901. Comparing the figures for 1911 with those of the previous year, continued and remarkable expansion is apparent—under every heading of the table given above there were substantial increases.

LEGISLATIVE REGULATION.

Between 1871 and 1881 manufacturing became an important part of the industrial life of the State, and attention was given to the development of the more highly organized branches. By 1891 the average number of persons engaged in manufacturing had increased to 16·6 per establishment. In 1895 the first measure of legislative regulation was initiated in New South Wales, the Factories and Shops Act, 1896, requiring the registration and inspection of factories and the inspection of shops, so as to secure the maximum advantage to the workers in the matter of safety to health and life. Substantially this Act remains the law of the present day, but it has been amended by Acts passed in 1908 and 1909, by the Early Closing Acts, 1899, 1900 and 1906, and by the Saturday Half-holiday Act, 1910. Under the principal Act any place is a factory in which at least two Chinese or four other persons are engaged, directly or indirectly, in working at any handicraft, or in which steam or other mechanical power or appliance is used in manufacturing, or in packing goods for transit. Each employer is required to make returns showing the wages and piecework rates being paid to all employees, whether engaged within or outside the factory; to keep records of employees, their ages, &c. The provisions of the Act are applicable only in proclaimed factory districts.

LEGISLATIVE ENCOURAGEMENT.

Under Section 51 (iii) of the Commonwealth of Australia Constitution Act, the Parliament of the Commonwealth is empowered to make laws with respect to the payment of bounties on the production or export of goods, but so that such bounties shall be uniform throughout the Commonwealth. The enactments made in this connection include: Sugar Bounty Acts, 1903-5-10, Bounties Act, 1907, Manufactures Encouragement Act, 1908, and the Shale Oils Bounties Act, 1910. An outline of the provisions of these Acts has been given in the chapter of this Year Book relating to commerce, but several amending Bills are before the Federal Parliament to extend the bounty system, viz., the Bounties Act and Manufactures Encouragement Act Amendments, extending the bounty payable on flax and hemp, jute, linseed, uncleaned rice and tobacco leaf for five years; the bounty on wool tops for two years from January, 1914, and the bounty on iron and steel and wire, &c., for two years from July, 1912. A new Bill for the payment of bounty on production of wood pulp and rock phosphate was introduced also; in connection with rock phosphate, the bounty proposed is 10 per cent. on a minimum production of 10,000 tons, up to a maximum of £5,000.

NEW SOUTH WALES CHAMBER OF MANUFACTURES.

The New South Wales Chamber of Manufactures was constituted in 1895, with the object of developing the manufactures, products, industries, and commerce of New South Wales, and generally to promote the manufacturing interests of the State, so as to assist in making Australia self-supporting. By mutual co-operation towards scientific efficiency, and the encouragement of industrial education, efforts are being made to bring Australian goods to the highest standard of quality.

CLASSIFICATION OF MANUFACTORIES.

The manufacturing industries of New South Wales are classified for statistical and comparative purposes in nineteen groups according to a standardised classification adopted at a Conference of Statisticians held in 1902.

The following table shows concisely the principal details respecting each class of industries for the year 1911 :—

Class of Industry.	Establishments.	Average Number of Employees.			Average time worked per Employee.	Total Salaries and Wages.	Actual Horse-power of Machinery used	Value of Machinery, Plant, &c.
		Males.	Females.	Total.				
Treating Raw Materials, &c. ...	272	3,803	87	3,890	Months 10-11	£ 326,218	H.-p. 4,453	£ 349,418
Oils and Fats, &c. ...	48	714	175	889	11-38	67,228	889	243,434
Processes in Stone, Clay, Glass, &c. ...	309	5,639	56	5,695	11-56	601,906	10,354	808,049
Working in Wood ...	662	8,121	60	8,181	10-82	732,465	14,311	693,017
Metal Works, Machinery, &c. ...	509	22,728	134	22,862	11-70	2,728,286	24,991	2,894,994
Connected with Food and Drink, &c. ...	769	10,734	3,316	14,050	11-10	1,301,676	20,470	2,855,174
Clothing and Textile Fabrics, &c. ...	981	7,696	18,808	26,504	11-64	1,633,509	3,385	485,056
Books, Paper, Printing, &c. ...	436	6,821	2,313	9,134	11-89	868,868	3,964	984,767
Musical Instruments ...	12	352	35	387	12-00	43,755	238	10,834
Arms and Explosives ...	5	27	6	33	8-21	1,971	20	1,000
Vehicles, Saddlery, and Harness, &c. ...	384	4,322	94	4,416	11-83	391,955	986	99,196
Ship and Boat Building, &c. ...	41	2,428	1	2,429	11-98	305,932	2,714	337,503
Furniture, Bedding, and Upholstery ...	197	3,189	345	3,534	11-58	354,368	1,095	53,118
Drugs, Chemicals, and By-products ...	82	864	596	1,460	11-77	124,844	1,189	196,370
Surgical and other Scientific Instruments ...	12	75	21	96	12-00	8,202	16	4,400
Jewellery, Plated Ware, &c. ...	48	673	60	733	11-98	75,042	204	23,470
Heat, Light, and Power ...	191	2,771	64	2,835	11-81	374,046	58,112	2,344,592
Leatherware, N.E.L. ...	20	387	74	461	11-91	36,789	156	13,087
Minor Wares, N.E.L. ...	61	779	276	1,055	11-51	74,101	691	63,121
Total, 1911 ...	5,039	82,123	26,541	108,664	11-55	10,051,161	148,218	12,510,600

Naturally, the metropolitan district is the centre of the chief manufacturing industries, particularly those connected with clothing, printing, wool-scouring, and feltmongering, ship and boat building and repairing, the manufacture of furniture, drugs, and musical instruments, and the production of light, heat, and power. The following table shows the particulars of each class of industry in the metropolitan district during the year 1911 :—

Class of Industry.	Establishments.	Average Number of Employees.			Average time worked per Employee.	Total Salaries and Wages.	Actual horse-power of Machinery used.	Value of Machinery, Plant, &c.
		Males.	Females.	Total.				
Treating Raw Materials, &c. ...	102	2,264	87	2,351	Months 11-85	£ 235,826	H.-p. 2,657	£ 225,947
Oils and Fats, &c. ...	22	441	145	586	12-00	48,713	454	131,691
Processes in Stone, Clay, Glass, &c. ...	103	3,345	28	3,373	11-79	384,215	3,949	337,518
Working in Wood ...	182	3,682	33	3,715	11-37	353,410	6,344	256,324
Metal Works, Machinery, &c. ...	341	14,205	116	14,321	11-92	1,617,100	8,066	1,074,467
Connected with Food and Drink, &c. ...	188	5,699	3,008	8,707	11-70	794,891	8,266	1,499,400
Clothing and Textile Fabrics, &c. ...	689	6,515	16,795	23,310	11-83	1,444,595	3,056	421,058
Books, Paper, Printing, &c. ...	227	5,394	2,199	7,593	11-92	732,548	3,471	755,038
Musical Instruments ...	12	352	35	387	12-00	43,755	238	10,834
Arms and Explosives ...	4	22	2	24	10-54	1,836	10	600
Vehicles, Saddlery, and Harness, &c. ...	142	2,205	77	2,282	11-76	213,831	581	45,322
Ship and Boat Building, &c. ...	30	2,305	1	2,306	12-00	293,470	2,634	383,118
Furniture, Bedding, and Upholstery ...	180	3,025	339	3,364	11-56	339,107	1,041	49,575
Drugs, Chemicals, and By-products ...	74	776	596	1,372	11-80	110,072	1,033	116,775
Surgical and other Scientific Instruments... ..	11	73	21	94	12-00	8,174	15	4,250
Jewellery, Plated Ware, &c. ...	44	649	79	728	11-97	72,615	204	22,730
Heat, Light, and Power ...	84	1,569	63	1,632	11-93	213,893	44,177	1,583,381
Leatherware, N.E.L. ...	19	385	74	459	11-91	36,659	151	12,687
Minor Wares, N.E.L. ...	56	752	276	1,028	11-53	72,854	679	61,854
Total ...	2,510	53,658	23,674	77,332	11-82	7,017,566	87,226	6,998,569

The term establishment includes branches which, whether located in separate buildings or not, deal with separate branches of industry, and are therefore counted as separate establishments.

Due regard must be given to the limitations of the figures when deductions are attempted concerning average wages, cost of production, or profits.

The value of production includes the value of products from manufacturing done in educational, charitable, or reformatory and other public institutions, excluding penal institutions. Power or lighting plants in all such institutions are, however, recorded.

ESTABLISHMENTS.

Number.

In the following table the number of establishments operating in each class is indicated at intervals since 1896 :—

Class of Industry.	Establishments.					
	1896.	1901.	1906.	1909.	1910.	1911.
Treating Raw Material, &c.	274	256	256	283	289	272
Oils and Fats, &c.	48	51	48	35	43	48
Processes in Stone, Clay, Glass, &c.	240	244	252	274	298	309
Working in Wood	399	430	457	574	620	662
Metal Works, Machinery, &c.	280	301	376	449	476	509
Connected with Food, Drink, &c.	753	673	707	761	767	769
Clothing and Textile Fabrics, &c.	394	538	724	899	936	981
Books, Paper, Printing, &c.	286	298	335	381	407	436
Musical Instruments, &c.	3	6	6	12	13	12
Arms and Explosives	1	2	3	3	5	5
Vehicles and Fittings, Saddlery, &c.	176	246	259	344	361	384
Ship Building and Repairing	16	25	34	39	42	41
Furniture, Bedding, and Upholstery	87	115	119	160	176	197
Drugs, Chemicals, and By-products	28	19	48	69	76	82
Surgical and Scientific Instruments	5	7	8	11	11	12
Jewellery, Timepieces, and Plated Ware	11	14	33	42	46	48
Heat, Light, and Power... ..	76	106	139	175	178	191
Leatherware, N.E.I.	6	5	12	16	21	20
Minor Wares, N.E.I.	23	31	45	54	58	61
Total	3,106	3,367	3,861	4,581	4,823	5,039
Proportion to total for 1896	100	108	124	147	155	162

By relating the total for each period to the total for 1896 taken as 100, as shown above, the rapid increases in recent years are emphasised.

Reviewing the advances at five-year intervals, the increase between 1896 and 1901 was 261 establishments, representing a percentage increase of 8·4 ; between 1901 and 1906 the increase was 484, being 14·4 per cent., and between 1906 and 1911 the increase was 1,178, being 30·5 per cent. The advances in the last five years have been most consistent and remarkable.

In 1911 the largest class numerically was that connected with clothing and textile fabrics, &c., the next classes in order being those relating to food and drink, working in wood, and metal works and machinery.

In 1901 the manufactories established outside the metropolitan area easily outnumbered those located within that area, the ratio being 1,952 to 1,415, but in the last ten years a process of centralisation has been evident; more new factories have been established in the metropolitan than in the extra-metropolitan area, with the result that at the end of 1911 the numbers were nearly equal. The following statement shows for the years 1901-1911 the distribution of manufactories as between the Metropolis and the remainder of the State, and further, the number of establishments in which machinery was installed:—

Year.	Metropolis.			Remainder of State.			New South Wales.		
	Establishments.			Establishments.			Establishments.		
	With Machinery.	Without Machinery.	Total.	With Machinery.	Without Machinery.	Total.	With Machinery.	Without Machinery.	Total.
1901	754	661	1,415	1,215	737	1,952	1,969	1,398	3,367
1902	833	658	1,491	1,342	563	1,905	2,175	1,221	3,396
1903	874	676	1,550	1,300	626	1,926	2,174	1,302	3,476
1904	951	699	1,650	1,252	730	1,982	2,203	1,429	3,632
1905	1,035	645	1,680	1,291	729	2,020	2,326	1,374	3,700
1906	1,136	635	1,771	1,360	730	2,090	2,496	1,365	3,861
1907	1,249	746	1,995	1,512	925	2,437	2,761	1,671	4,432
1908	1,380	712	2,092	1,527	834	2,361	2,907	1,546	4,453
1909	1,496	709	2,205	1,593	733	2,376	3,089	1,492	4,581
1910	1,622	724	2,346	1,668	809	2,477	3,290	1,533	4,823
1911	1,793	717	2,510	1,757	772	2,529	3,550	1,489	5,039

Location.

Ease of communication with the world's commercial and industrial centres, proximity to coalfields, accessibility by rail or sea from the chief centres of the State in which raw material is produced, density of population, and a good water supply—these factors have promoted the concentration of nearly all the more important industries in the metropolitan area. During the last five years or so new manufacturing industries of considerable importance have been established in the larger towns outside Sydney, and even in Sydney itself there has been a tendency to remove manufacturing businesses from the city to the outer suburbs. In country districts the principal establishments are sawmills, smelting works, sugar mills, grain mills, freezing works, and similar industries connected with the treatment of perishable produce.

Judged by classes the largest relative increase in the metropolitan area between 1901 and 1911 occurred in classes working in wood; metal works, machinery, &c.; clothing and textile fabrics, &c.; books, paper, printing, &c.; furniture, bedding, and upholstery; heat, light, and power; while outside the metropolitan area the greatest advances were in classes working in wood; metal works, machinery, &c.; clothing and textile fabrics, &c.; vehicles and fittings, saddlery, &c.; heat, light, and power. The greatest relative increases occur, of course, in those industries in which development is

comparatively recent. The following table shows the distribution of establishments by classes for the metropolitan area and for the remainder of New South Wales at the end of 1901 and 1911, and also the position of each class relatively to the total taken as 100, viz. :—

Class of Industry.	Establishments.				Proportion in each Class per cent. of Total.			
	1901.		1911.		Metropolis.		Remainder of State.	
	Metropolis.	Remainder of State.	Metropolis.	Remainder of State.	1901.	1911.	1901.	1911.
Treating Raw Material, &c.	89	167	102	170	6.29	4.06	8.56	6.72
Oils and Fats, &c.	21	30	22	23	1.48	.83	1.54	1.03
Processes in Stone, Clay, Glass, &c.	66	178	103	205	4.66	4.10	9.12	8.15
Working in Wood	86	344	182	489	6.08	7.25	17.62	18.98
Metal Works, Machinery, &c.	172	129	341	168	12.16	13.59	6.61	6.64
Connected with Food, Drink, &c.	160	513	188	581	11.31	7.40	26.28	23.97
Clothing and Textile Fabrics, &c.	372	166	689	292	26.29	27.44	8.70	11.55
Books, Paper, Printing, &c.	124	174	227	209	8.76	9.04	8.91	8.26
Musical Instruments, &c.	6	..	12	..	.42	.48	..	..
Arms and Explosives	2	..	4	1	.14	.16	..	.04
Vehicles and Fittings, Saddlery, &c.	63	152	142	242	6.57	5.66	7.84	9.57
Ship Building and Repairing	16	9	30	11	1.18	1.20	.46	.43
Furniture, Bedding, and Upholstery	99	16	180	17	7.09	7.17	.82	.67
Drugs, Chemicals, and By-products	12	7	74	8	.85	2.95	.36	.32
Surgical and Scientific Instruments	7	..	11	1	.49	.44	..	.04
Jewellery, Timepieces, and Plated Ware	14	..	44	4	.99	1.75	..	.16
Heat, Light, and Power	42	64	84	107	2.97	3.25	3.28	4.23
Leatherware, N.E.I.	5	..	19	1	.36	.76	..	.04
Minor Wares, N.E.I.	29	2	56	5	2.05	2.23	.10	.23
Totals	1,415	1,952	2,510	2,529	100.00	100.00	100.00	100.00

These ratios indicate that whereas in 1901 the largest class (clothing and textile fabrics, &c.) represented 26.29 per cent. of the total establishments in the metropolitan area, in 1911 the proportion was 27.44 per cent. of the total. Outside the metropolitan area the class connected with food, drink, &c., being 26.28 per cent. of the total in 1901, in 1911 had decreased to 23.97 per cent. of the total. On the other hand, the class working in wood, showed a considerable proportionate advance.

Size of Establishments.

The tendency for manufacturing to become concentrated in large establishments, or the reverse, is a matter of considerable interest from the standpoint of industrial organisation. The following statement shows, for 1901 and 1911, the distribution of establishments, according to the numbers of persons engaged therein, for the metropolitan area and for the remainder of New South Wales :—

Establishments employing—	1901.				1911.			
	Metropolis.		Remainder of State.		Metropolis.		Remainder of State.	
	Establishments.	Em- ployees.	Establishments.	Em- ployees.	Establishments.	Em- ployees.	Establishments.	Em- ployees.
Under 4 employees	79	188	439	1,694	238	547	538	1,282
4 employees	105	420	256	1,024	179	716	371	1,484
5 to 10 employees	429	3,036	768	5,333	743	5,336	993	6,817
11 to 20 „	334	4,919	294	4,236	520	7,834	381	5,399
21 to 50 „	279	8,564	142	4,612	477	14,695	164	4,874
51 to 100 „	107	7,443	30	2,086	202	14,360	40	2,858
101 and upwards	82	17,750	23	5,430	151	34,144	42	8,327
Total	1,415	42,320	1,952	23,815	2,510	77,632	2,529	31,032

In the metropolitan area the numbers of the smallest and of the largest factories were doubled in the 10 years. In the remainder of the State the largest increases, numerically, were in the groups in which the persons engaged numbered from 4 to 20. A comparison of the relative positions of each group is presented in the following statement:—

Establishments employing—	Proportion of each Group to Total.			
	Metropolis.		Remainder of State.	
	1901.	1911.	1901.	1911.
	per cent.	per cent.	per cent.	per cent.
Under 4 employees ...	5·6	9·5	22·5	21·3
4 employees ...	7·4	7·1	13·1	14·6
5 to 10 employees ...	30·3	29·6	39·3	39·2
11 to 20 „ ...	23·6	20·7	15·1	15·1
21 to 50 „ ...	19·7	19·0	7·3	6·5
51 to 100 „ ...	7·6	8·1	1·5	1·6
101 and upwards ...	5·8	6·0	1·2	1·7
Total ...	100·0	100·0	100·0	100·0

As regards employment generally, the factories of the metropolitan district are more important than those of all other areas, as they provide employment for twice the number of persons. The average number of employees per establishment in the metropolitan district in 1911 was 31, as compared with 12 in the country; and this average has been fairly constant over a considerable period.

EMPLOYMENT.

The relative importance of the various classes of industry, as judged by the extent of employment offered, is evidenced in the following comparative statement of the average number of persons engaged in manufacturing:—

Class of Industry.	Persons engaged in manufacturing.					
	1896.	1901.	1906.	1909.	1910.	1911.
Raw Materials, Pastoral Products ...	3,748	2,981	3,209	3,800	3,986	3,890
Oils and Fats, Animal, Vegetable, &c. ...	410	698	681	694	765	889
Processes in Stone, Clay, Glass, &c. ...	2,441	3,007	3,877	4,135	4,882	5,695
Working in Wood ...	3,934	5,108	5,205	6,690	7,423	8,181
Metal Works, Machinery, &c. ...	8,705	13,926	15,339	18,755	20,703	22,862
Food and Drink, &c. ...	10,179	11,372	11,607	12,331	13,118	14,050
Clothing and Textile Fabrics, &c. ...	9,750	14,497	19,650	23,161	24,597	26,504
Books, Paper, Printing, &c. ...	4,940	5,573	6,961	8,045	8,642	9,134
Musical Instruments ...	18	226	338	370	383	387
Arms and Explosives ...	...	11	17	31	45	33
Vehicles, Saddlery, Harness, &c. ...	1,592	2,541	2,667	3,683	4,055	4,416
Ship and Boat Building, and Repairing	1,132	1,541	1,595	1,796	1,995	2,429
Furniture, Bedding, and Upholstery ...	1,183	2,140	2,317	2,846	3,218	3,534
Drugs, Chemicals, and By-products ...	331	450	1,012	1,202	1,342	1,460
Surgical and other Scientific Instruments	35	69	86	84	87	96
Jewellery, Timepieces, and Plated Ware	102	165	457	608	658	753
Heat, Light, and Power ...	859	1,417	1,883	2,332	2,516	2,835
Leatherware, N.E.I. ...	33	117	240	322	392	461
Minor Wares, N.E.I. ...	448	391	681	817	939	1,055
Total ...	49,840	66,230	77,822	91,702	99,746	108,664

In the figures three classes stand out conspicuously, viz., the industries concerned with metal works and machinery, food and drink, clothing and textiles. In quinquennial periods the aggregate figures for all classes give the following increases :—

1896-1901	32·9	per cent.
1901-1906	17·5	” ”
1906-1911	39·6	” ”

Explanation of the relatively small increase in the middle period is to be found, in a measure, in the fact that in the early half of the quinquennium the rainfall in several parts of the State was below normal, and the consequent restriction of production in the primary industries reacted in greater or less degree upon the secondary industries. In the last five years, however, the extension of employment in these industries has been remarkable.

SHORTAGE OF LABOUR COMMISSION.

The increase in the average number of factory employees between 1910 and 1911 was nearly 9,000 persons, as compared with 8,000 for 1909-1910, and during 1911 assertions were made by employers and manufacturers generally that production was hampered by the difficulty of obtaining workers. A Royal Commission of Inquiry was appointed in June, 1911, to investigate—

1. The alleged shortage of labour in the State of New South Wales.
2. The hours and general conditions of employment of female and juvenile labour in factories and shops, and the effect on such employees.
3. The cause of the decline in the apprenticeship of boys to skilled trades, and the practicability of using technical and trade classes as aids to or substitutes for apprenticeship.

A sectional report was printed in October, 1911, in regard to the first portion of the subject matter, as to which the Commission estimated that 3,247 workers were necessary to fill prospective requirements, of which number about 1,000 men were required for manufactories, including 416 men for the Government Dockyard, and 550 women, mainly for boot and clothing factories.

The following table shows separately the average number of persons engaged in manufactures in the metropolis, as compared with the remainder of the State, for the last ten years :—

Year.	Employees.			Year.	Employees.		
	Metropolis.	Remainder of State.	Total.		Metropolis.	Remainder of State.	Total.
1902	43,577	22,692	66,269	1907	57,247	29,220	86,467
1903	43,752	21,881	65,633	1908	60,974	28,124	89,098
1904	45,409	22,627	68,036	1909	63,777	27,925	91,702
1905	48,842	23,333	72,175	1910	69,985	29,761	99,746
1906	52,605	25,217	77,822	1911	77,632	31,032	108,664

Under the classification of "Remainder of the State" are included such urban centres as Newcastle, Broken Hill, Goulburn, Bathurst, Albury, constituting parts of declared factory districts; yet it is significant of the attractive power of Sydney and suburbs as a suitable manufacturing centre, that whereas in the ten years the number of employees in the metropolitan district increased by 34,055, or 78 per cent., the increase for all other parts of the State was only 8,340 persons, or nearly 37 per cent.; and as between males and females the disparity in the increases is even greater, as the following figures will demonstrate:—

Year.	Metropolis.		Remainder of State.	
	Males.	Females.	Males.	Females.
1902	33,299	10,278	21,027	1,665
1911	53,658	23,974	28,465	2,567
Increase per cent.	61	133	35	54

SEX AND AGE DISTRIBUTION.

The following table shows the sex and age distribution of the persons engaged in manufactories for the last ten years, and for comparison similar figures for 1896 and 1901:—

Year.	Persons Employed in Manufactories.								
	Adults.			Juveniles.			Adults and Juveniles.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1896	42,365	6,782	49,147	543	150	693	42,908	6,932	49,840
1901	53,768	11,382	65,150	788	292	1,080	54,556	11,674	66,230
1902	53,666	11,692	65,358	660	251	911	54,326	11,943	66,269
1903	51,679	12,760	64,439	774	420	1,194	52,453	13,180	65,633
1904	52,717	14,127	66,844	740	452	1,192	53,457	14,579	68,036
1905	55,443	15,591	71,034	668	473	1,141	56,111	16,064	72,175
1906	59,098	17,264	76,362	881	579	1,460	59,979	17,843	77,822
1907	63,547	18,634	82,181	2,406	1,880	4,286	63,953	20,514	86,467
1908	65,141	19,623	84,764	2,475	1,859	4,334	67,616	21,482	89,098
1909	66,751	20,545	87,296	2,433	1,973	4,406	69,184	22,518	91,702
1910	72,967	22,302	95,269	2,452	2,025	4,477	75,419	24,327	99,746
1911	79,649	24,274	103,923	2,474	2,267	4,741	82,123	26,541	108,664

In the last five years, 1907-11, the term juveniles included boys and girls under 16 years of age. Prior to 1907 the age of demarcation was 15, so that the figures for juveniles for the full period quoted are hardly comparable.

The proportionate increase in the number of females has been much greater than in the case of males, for in several years the latter showed a decrease. This condition was noticeable in 1902-3-4, the decrease being chiefly of employees in metal works, establishments dealing with pastoral products, and refrigerating works.

The following statement shows the progressive variations in the proportions of adults to juveniles, males and females, at quinquennial periods since 1896 :—

	Persons Engaged.				Proportion of each Group to Total.			
	1896.	1901.	1906.	1911.	1896.	1901.	1906.	1911.
Adults—					per cent.	per cent.	per cent.	per cent.
Males ...	42,365	53,768	59,098	79,649	85·00	81·18	75·94	73·30
Females ...	6,782	11,382	17,264	24,274	13·61	17·19	22·18	22·34
Total ...	49,147	65,150	76,362	103,923	98·61	98·37	98·12	95·64
Juveniles—								
Males ...	543	788	881	2,474	1·09	1·19	1·13	2·28
Females ...	150	292	579	2,267	·30	·44	·75	2·08
Total ...	693	1,080	1,460	4,741	1·39	1·63	1·88	4·36
Grand Total.	49,840	66,230	77,822	108,664	100·00	100·00	100·00	100·00

In the figures for 1911 allowance must be made for the rise from 15 to 16 years as the age of demarcation between adults and juveniles, but over the four quinquennia there is a very evident decrease in the proportion of the older males, and correspondingly an increase of the older females and of juveniles (male and female). Judged by the similarity in the proportions of adult females to totals for 1906 and 1911, it seems as if this section of labor has reached the normal limit of employment, and that any further decrease in the proportions of adult male labor will be compensated by an increase of juvenile labor.

WOMEN AND JUVENILES.

The average number of women and juveniles engaged in manufacturing during 1911 was four times greater than during 1896. In proportion to the total employment of men, women, and juveniles, the increase in the numbers of women and juveniles was much smaller, as the following *resumé* from a previous table will indicate :—

Year.	Proportion to Total Average Employment.				Adult Males.
	Females.		Males.	Total.	
	Adult.	Juvenile.	Juvenile.	Women and Juveniles.	
	per cent.	per cent.	per cent.	per cent.	per cent.
1896	13·61	·30	1·09	15·00	85·00
1901	17·19	·44	1·19	18·82	81·18
1906	22·18	·75	1·13	24·06	75·94
1911	22·34	2·08	2·28	26·70	73·30

Even the raising of the age limit of so-called juvenile labour from 15 to 16 hardly accounts for the fall from 85·0 per cent. to 73·3 per cent. in the proportion of males above those ages to total employed, and coincidentally the increase of women and juvenile labour from 15·0 per cent. to 26·7 per cent. of the total since the year 1896.

The following table shows, at quinquennial intervals since 1896, the industries in which women and girls have been employed in greatest numbers, and for 1901 and 1911 the proportion to every hundred males employed in the same industries, viz.:—

Industry.	Average Number of Women and Girls.				Proportion per 100 Males.	
	1896.	1901.	1906.	1911.	1901.	1911.
Food, &c.—						
Aerated waters	34	49	43	152	4	11
Biscuits	136	350	522	705	71	108
Condiments, coffee, and spices	172	167	224	216	42	102
Confectionery	118	225	388	483	39	64
Cornflour, oatmeal... ..	16	71	139	199	46	73
Jam and fruit canning	81	140	214	449	28	114
Meat and fish preserving	2	24	42	121	3	13
Pickles, sauces, and vinegar ... ..	...	58	62	174	129	125
Tobacco	170	428	390	755	71	112
Clothing, &c.—						
Dressmaking and millinery	1,738	2,526	3,602	5,053	4,141	5,677
Hats and caps	50	198	694	1,029	150	192
Oilskins and waterproofs	94	290	129	98	203	377
Shirts and ties	56	337	1,028	1,655	1,021	1,191
Slop clothing	1,290	2,636	3,971	5,503	434	528
Tailoring	1,036	1,437	1,773	3,004	100	136
Woollen and tweed mills	70	72	178	569	44	149
Sails, tents, and tarpaulins	15	86	127	245	88	147
Boots and shoes	849	1,118	1,589	1,593	39	57
Chemicals and drugs	32	66	199	365	20	79
Furnishing drapery, bedding	43	128	143	271	7	58
Printing and bookbinding	394	703	915	1,539	16	26
Paper, paper bags, and boxes	150	148	495	754	149	157
Other industries	386	417	976	1,609	1	3
Total	6,932	11,674	17,843	26,541	21	32

The classes of industry in which women and children engage most extensively are those connected with clothing and textiles, food and drink, books and paper, and, to a less degree, drugs and chemicals, metal works, furniture, bedding, and minor wares.

In 1896 the proportion of females to every hundred males employed was 16. Between 1901 and 1911 the increase in the proportion was greater relatively than in the years prior to 1901, and in the fifteen years 1896-1911 the proportion rose from 16 to 32.

CHILD LABOUR.

The law regulating primary education requires that children must attend school until they reach their fourteenth year, exception being made only in case of those who, prior to reaching that age, have obtained exemption certificates. The Shops and Factories Act of 1896 prohibits the employment of

children under age 14 in any factory, unless by special permission of the Minister for Labour and Industry; such special permission may not be given to a child under the age of 13 years. From 30th December, 1909, the Minister decided that permission would not be granted except under extreme circumstances to any girl under 14 years of age.

Out of 4,741 juveniles engaged in manufacturing, 3,803 were employed in factories within the metropolitan area. Reviewing the records of juveniles since 1896, it is noticeable and natural, since male labour constitutes three quarters of the labour force employed in manufacturing, that male juveniles have formed consistently a larger body than female juveniles. But practically all the girls employed are working in Sydney and suburbs, while a fair proportion (30 per cent.) of the boys are employed in establishments located outside the Metropolitan area.

CERTIFICATES OF PHYSICAL FITNESS.

The employment of juveniles under age 16 is conditional upon a medical certificate as to physical fitness being secured by the factory occupier under the Factories and Shops Acts. Particulars regarding such certificates issued in each year since 1905, are as follows :—

Year.	Metropolitan District.		Newcastle.		Hartley.		Broken Hill.	Goulburn.		Albury.	Total.		
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Males.	Females.	Males.	Males.	Females.	Total.
1905	1,261	591	169	39	39	3	1	...	...	...	1,470	633	2,103
1906	1,751	686	209	52	46	4	27	...	...	...	2,033	742	2,775
1907	1,924	838	297	84	46	...	...	3	...	...	2,270	922	3,192
1908	2,182	1,172	229	57	27	...	...	6	...	...	2,444	1,229	3,673
1909	2,265	1,282	206	53	36	...	...	4	...	...	2,511	1,340	3,851
1910	2,221	1,709	276	59	42	...	...	11	1	6	2,556	1,769	4,325
1911	2,475	2,229	265	50	37	1	...	6	...	...	2,783	2,280	5,063

PERMITS TO WORK.

As to special permits issued to children between ages 13 and 14, following are the records of each factory district for the last ten years :—

Year.	Metropolitan District.		Newcastle.		Hartley.	Broken Hill.	Goulburn.	Albury.	Total.		
	Males.	Females.	Males.	Females.	Males.	Males.	Males.	Males.	Males.	Females.	Total.
1902	358	85	38	9	...	...	...	...	396	94	490
1903	264	95	36	7	...	...	...	...	300	102	402
1904	190	95	36	7	...	...	...	...	226	102	328
1905	165	93	17	9	3	1	...	...	186	102	288
1906	212	77	19	6	1	...	...	...	232	83	315
1907	287	128	17	7	2	...	3	...	309	135	444
1908	213	121	12	...	...	...	...	...	225	121	346
1909	231	145	16	3	1	...	...	...	248	148	396
1910	158	7	19	...	1	...	...	1	179	7	186
1911	175	6	5	...	2	...	...	...	182	6	188

OCCUPATIONAL STATUS.

Of all the persons engaged in the manufactories in 1911, approximately 84 per cent. were actually engaged in the different processes of manufacture, or in the sorting and packing of finished articles. The following statement shows the occupational status of the persons engaged in each class or industry for 1911 :—

Class of Industry.	Working Proprietors, Managers, and Overseers.	Clerks, &c.	Engine-drivers, &c.	Workers in Factory, Mill, &c.	Carters, Messengers, and others.	Persons regularly employed at their own homes.	Total.
Treating Raw Materials, &c. ...	409	86	212	3,012	169	2	3,890
Oils and Fats, &c. ...	75	77	26	674	30	7	889
Processes in Stone, Clay, Glass, &c.	407	175	172	4,648	293	...	5,695
Working in Wood ...	954	368	449	5,964	446	...	8,181
Metal Works, Machinery, &c. ...	1,016	716	389	20,451	290	...	22,862
Connected with Food and Drink, &c.	1,017	815	700	11,059	459	...	14,050
Clothing and Textile Fabrics, &c. ...	1,507	354	51	23,650	181	761	26,504
Books, Paper, Printing, &c. ...	852	620	43	7,416	202	1	9,134
Musical Instruments ...	18	29	4	335	1	...	387
Arms and Explosives ...	8	2	1	21	1	...	33
Vehicles, Saddlery and Harness, &c.	503	144	14	3,721	30	4	4,416
Ship and Boat-building, &c. ...	89	54	32	2,177	77	...	2,429
Furniture, Bedding, and Upholstery	286	56	12	3,137	35	8	3,534
Drugs, Chemicals, and By-products	124	115	35	1,166	20	...	1,460
Surgical and other Scientific Instruments	15	7	...	67	7	...	96
Jewellery, Timepieces, and Plated Ware...	71	46	...	629	6	1	753
Heat, Light, and Power ...	195	123	521	1,767	229	...	2,835
Leatherware, N.E.I. ...	31	10	2	404	14	...	461
Minor Wares, N.E.I. ...	90	28	10	913	14	...	1,055
Total ...	7,667	3,825	2,673	91,211	2,504	784	108,664

CAPITAL INVESTED IN PREMISES.

In regard to the capital invested in manufacturing industries, only scanty particulars are available. Where the land and buildings in use for manufacturing purposes are the property of the occupier the assessed value is recorded; otherwise the rental value is stated. The following statement serves to show the extent to which in the last five years the capital value and the rental value of premises have both increased, and have been accompanied by an increase in the value of plant and machinery installed :—

Year.	Premises.		Value of Machinery and Plant.
	Capita Value when occupier is owner.	Annual Rental Value when leased or rented.	
1907	6,751,523	£ 172,296	£ 9,155,772
1908	6,608,164	245,756	9,718,842
1909	6,625,066	274,331	10,330,724
1910	7,208,392	306,274	11,578,620
1911	8,126,487	334,248	12,510,600
Percentage increases, 1907-1911	20.37	94.00	36.64

Allowing for interest on owned premises at 5 per cent. net, the aggregate annual income value for land, buildings, and fixtures, used in manufacturing was, for 1911, £740,000; or capitalising rentals paid on a 10 per cent. basis the aggregate value of all premises was £11,469,000, being less by one million pounds than the assessed value of plant and machinery in all factories at the same date.

The value of the land and buildings, machinery and plant, &c., in the metropolis as compared with other areas for each class of industry, is shown in the following table for the year 1911 :—

Class of Industry.	Metropolis.			Remainder of State.		
	Land and Buildings.		Value of Plant and Machinery.	Land and Buildings.		Value of Plant and Machinery.
	Capital value.	Rental value.		Capital value.	Rental value.	
	£	£	£	£	£	£
Treating Raw Material, &c....	180,117	6,265	225,947	86,096	1,241	123,471
Oils and Fats, &c. ...	162,189	995	131,691	43,603	995	111,743
Stone, Clay, Glass, &c. ...	340,021	5,162	337,518	201,397	2,950	470,531
Working in Wood ...	269,606	14,891	256,324	154,850	8,658	436,693
Metal Works, Machinery, &c.	1,241,772	28,415	1,074,467	497,499	4,118	1,820,527
Food and Drink, &c....	1,162,469	27,048	1,499,400	865,211	11,907	1,355,774
Clothing, Textile Fabrics, &c.	328,550	86,157	421,058	67,119	13,295	63,998
Books, Paper, Printing, &c....	335,623	40,680	755,038	76,140	8,173	229,729
Musical Instruments, &c. ...	27,141	1,909	10,834	.....	.....	.....
Arms and Explosives... ..	1,600	50	600	1,600	100	400
Vehicles, Saddlery, &c. ...	94,330	14,806	45,322	98,918	8,489	53,874
Ship-building, &c. ...	573,588	1,898	383,118	5,796	467	4,335
Furniture, Bedding, &c. ...	61,557	17,879	49,575	6,473	605	3,543
Drugs, Chemicals, &c. ...	103,377	7,307	116,775	18,520	198	79,595
Surgical Instruments, &c. ...	.....	1,603	4,250	.....	75	150
Jewellery, &c....	1,800	6,356	22,730	500	341	740
Heat, Light, and Power ...	828,944	3,516	1,589,381	233,342	1,697	755,211
Leatherware, N.E.I. ...	21,089	1,344	12,687	460	...	400
Minor Wares, N.E.I. ...	34,123	4,554	61,854	1,727	104	1,267
Total	5,767,896	270,835	6,998,569	2,358,591	63,413	5,512,031

Class of Industry.	State of New South Wales.		
	Capital value.	Rental value.	Value of Plant and Machinery
Treating Raw Materials, product of Pastoral pursuits, &c. ...	£ 266,213	£ 7,506	£ 349,418
Oils and Fats, Animal, Vegetable, &c. ...	205,192	1,990	243,434
Processes in Stone, Clay, Glass, &c. ...	541,418	8,112	808,049
Working in Wood ...	424,456	23,549	693,017
Metal Works, Machinery, &c. ...	1,739,271	32,533	2,894,994
Connected with Food, Drink, &c. ...	2,027,680	38,955	2,855,174
Clothing and Textile Fabrics and Materials ...	395,669	99,452	485,056
Books, Paper, Printing, and Engraving ...	411,763	48,853	984,767
Musical Instruments ...	27,141	1,909	10,834
Arms and Explosives... ..	3,200	150	1,090
Vehicles and Fittings, Saddlery, Harness, &c. ...	193,248	23,295	99,196
Ship and Boat Building, &c. ...	579,384	2,365	387,503
Furniture, Bedding, and Upholstery ...	68,030	18,484	53,118
Drugs, Chemicals, and By-products ...	121,897	7,505	166,370
Surgical and other Scientific Instruments ...	.....	1,678	4,400
Jewellery, Timepieces, and Plated Ware... ..	2,300	6,697	23,470
Heat, Light, and Power ...	1,062,286	5,213	2,344,592
Leatherware, N.E.I. ...	21,489	1,344	13,087
Minor Wares, N.E.I. ...	35,850	4,658	63,121
Total	8,126,487	334,248	12,510,600

MACHINERY AND PLANT.

In 1896, the value of machinery and plant used in manufacturing, including machinery and engines of indicated horse-power, in addition to all other tools and implements used in the various processes of manufacture, as well as the conveyance plant, was assessed at £5,035,905. By 1901 the value had increased to £5,860,725. Particulars have been given in a previous table of the number of establishments in which machinery was installed, as compared with those not so equipped. The most powerful machinery is used in the supply of heat, light, and power, in the manufacture of metals, and in the preparation of foods and drink, while in the clothing industries machinery enters into use only to a minor degree.

In the table given below are shown comparative figures for the last ten years, and for 1896 and 1901, as to the number of establishments using machinery, with the aggregate value of the plant and machinery, and the indicated and developed horse-power. By the term "full capacity" is understood the power which can be generated by the boilers or machinery, while "average used" represents the power generally used in carrying on the process of manufacture:—

Year.	Establishments equipped with Machinery.	Value of Machinery and Plant.	Power of Engines.	
			Full Capacity.	Average Used.
		£	h.-p.	h.-p.
1896	2,118	5,035,905	44,839	33,258
1901	1,969	5,860,725	63,405	44,595
1902	2,175	6,807,843	75,907	52,813
1903	2,174	7,121,806	81,475	59,353
1904	2,203	7,648,903	86,878	62,407
1905	2,326	8,031,948	90,896	70,054
1906	2,496	8,407,337	97,244	74,756
1907	2,761	9,155,772	108,257	81,293
1908	2,907	9,718,842	116,571	88,109
1909	3,089	10,330,724	145,349	99,327
1910	3,290	11,578,620	155,590	114,871
1911	3,550	12,510,600	185,089	127,547

The capacity of engines as shown is exclusive of electrical power which is dependent on steam or other engines for its development, as the power is credited to their agency. The figures relating to establishments and value of machinery, &c., are inclusive of electric-generating machinery.

For manufacturing purposes, nearly the whole of the power used for the purpose of driving machinery is derived from steam; in some instances, chiefly in the metropolis, gas is employed. Other power is used only to a limited extent, and although there are electric engines of considerable power, they are used mainly for lighting and tramway purposes, and their power is usually dependent upon some other class of engine for its development.

Year.	Nominal Horse-power of Machinery in use.					Developed Horse-power of Machinery.				
	Steam.	Gas.	Electricity.	Water.	Oil.	Steam.	Gas.	Electricity.	Water.	Oil.
1902	72,534	3,001	16,046	98	130	50,545	2,010	8,820	66	78
1907	90,376	6,624	14,951	135	602	66,620	4,901	10,072	101	429
1908	106,809	8,691	14,521	386	685	80,894	6,578	10,937	154	483
1909	132,069	12,168	16,368	372	740	89,917	8,658	11,773	209	543
1910	140,310	13,985	21,444	362	933	103,857	10,123	15,991	197	649
1911	166,980	16,338	27,466	372	1,399	113,939	12,201	20,671	222	1,185

This classification of the horse-power indicated and developed according to the class of power evidences wide differences in relative importance, viz.:

Source.	Developed Horse-power.		Proportion of Total.	
	1902.	1911.	1902.	1911.
Steam	50,659	113,939	82·19	76·87
Gas	2,010	12,201	3·26	8·23
Electricity	8,820	20,671	14·31	13·95
Water	66	222	·11	·15
Oil	78	1,185	·13	·80
	61,633	148,218	100·00	100·00

The distribution of the various kinds of power, and the value of fuel used and power rented, among the different classes of industries, in 1911, was as follows:—

Class of Industry.	Horse-power of Machinery in use.										Value of Fuel used or Power rented.
	Full Capacity.					Average used.					
	Steam.	Gas.	Electricity	Water.	Oil.	Steam.	Gas.	Electricity.	Water.	Oil.	
Treating Raw Materials, Product of Pastoral Pursuits, &c.	4,911	850	530	20	36	3,307	563	439	20	34	£ 38,481
Oils and Fats, Animal, Vegetable	1,050	19	204	..	..	669	16	204	..	..	15,464
Processes in Stone, Clay, Glass, &c.	8,815	2,140	2,097	..	270	7,274	1,559	1,262	..	239	173,720
Working in Wood	13,550	1,206	3,421	38	43	10,576	951	2,716	27	41	15,826
Metal Works, Machinery, &c.	18,521	3,046	10,690	..	206	14,875	2,324	7,609	..	183	491,913
Connected with Food and Drink, &c.	22,506	2,697	3,402	..	296	15,697	1,902	2,639	..	232	156,430
Clothing and Textile Fabrics, and Materials	1,355	1,574	1,310	2	13	1,011	1,216	1,143	2	13	29,476
Books, Paper, Printing, and Engraving	787	1,269	2,643	19	204	619	927	2,240	18	160	24,601
Musical Instruments	110	112	116	..	..	40	112	86	..	..	526
Arms and Explosives	35	..	..	..	..	20	..	..	..	..	44
Vehicles and Fittings, Saddlery and Harness, &c.	420	338	381	..	140	338	229	310	..	109	11,132
Ship and Boat Building, &c.	2,716	47	564	..	65	2,303	42	309	..	60	10,841
Furniture, Bedding, and Upholstery	144	485	749	..	11	126	321	640	..	8	5,201
Drugs, Chemicals, and By-Products	556	438	641	1	..	395	324	469	1	..	17,313
Surgical and other Scientific Instruments . . . . .	..	10	10	..	..	..	6	10	..	..	189
Jewellery, Tinpieces, and Plated Ware . . . . .	..	63	190	..	..	..	44	160	..	..	1,535
Heat, Light, and Power	90,936	1,836	282	292	112	56,111	1,488	253	154	106	245,068
Leatherware, N.E.I.	58	160	18	..	..	35	108	13	..	..	985
Minor Wares, N.E.I.	510	98	223	..	..	453	69	169	..	..	3,968
Total	166,980	16,338	27,466	372	1,399	113,939	12,201	20,671	222	1,185	1,242,613

FACTORY COSTS.

Running expenses in manufacturing comprise chiefly costs of services, i.e., salaries and wages, and of fuel or power and light, and of material operated upon. In the following statement the aggregate values under these

heads are shown for the last nine years, 1903-11, and for 1901. For 1902 particulars are available only concerning salaries and wages paid, viz., £5,080,740:—

Year.	Values of—				
	Salaries and Wages Paid.	Materials Used.	Fuel consumed or Power rented.	Goods manufactured or work done.	Production, being Value added to Raw Materials.
	£	£	£	£	£
1901	4,945,079	15,140,896	496,715	25,648,471	10,010,860
1903	4,839,557	16,086,875	512,661	26,391,028	9,791,492
1904	5,012,758	16,492,242	533,304	27,159,230	10,133,684
1905	5,191,350	18,636,720	572,700	30,028,150	10,818,730
1906	5,591,888	22,102,685	609,998	34,796,169	12,083,486
1907	6,650,715	25,533,451	843,686	40,018,301	13,641,164
1908	7,218,556	25,507,414	876,565	40,163,826	13,779,847
1909	7,665,125	27,314,486	940,840	42,960,689	14,705,363
1910	8,691,386	31,416,579	1,184,282	49,615,643	17,014,782
1911	10,051,161	33,702,391	1,242,613	54,346,011	19,401,007

The value of fuel consumed and power rented may include a small proportionate value for lighting costs.

SALARIES AND WAGES.

The wages paid to employees in factories amounted in 1911 to £10,051,161; male workers received £8,921,082, or £108 12s. 7d. per head; and females, £1,130,079, being £42 11s. 7d. per head.

In 1901 the general average wage per worker per annum was £74 13s. 4d., and between that date and 1908 an upward tendency was apparent, but comparison of the rates for males and females was not possible till 1909. In the last three years there has been an increase of £10 in the annual average for males, but of only £5 in the average for females.

VALUE OF PRODUCTION FROM MANUFACTORIES.

In stating in a previous table the value of production from manufactories, the returns from factories dealing with milk products are included.

The value of goods manufactured or work done in 1911, excluding the production of factories dealing with milk products, amounted to £50,661,141. Of this amount, £31,547,510 represent the value of materials and fuel used, the value added by the processes of treatment being £19,113,631. This amount includes the values of salaries and wages.

The proportions of the total output which the various items represent are shown in the following table:—

Heading.	Industries connected with Milk Products.	Other Industries.	All Industries.	Proportion of total, all Industries.
	£	£	£	per cent.
Materials	3,371,301	30,331,090	33,702,391	62·1
Fuel	26,193	1,216,420	1,242,613	2·2
Salaries and wages...	125,826	9,925,335	10,051,161	18·5
Total	3,523,320	41,472,845	44,996,165	82·8
Goods manufactured or work done ...	3,684,870	50,661,141	54,346,011	.....
Balance	161,550	9,188,296	9,349,846	17·2

The difference between the cost of material, fuel, and wages, as shown, represents the values accruing to proprietors and manufacturers, from which are to be deducted cost of premises rented, depreciation, &c. Under the heading of fuel is included the cost of rented power, but waste product fed for fuel, as in sawmills, is for purposes of these tables regarded as valueless.

Thus out of every hundred pounds worth of goods produced in factories, materials and fuel used in the manufacture thereof cost £64 6s., while the workers received £18 10s., and the proprietors £17 4s. There are, of course, numerous other sources of expense, and the balance shown as accruing to proprietors by no means represents the actual profits. A considerable margin must be allowed for such items as renewal of plant and machinery, &c., insurance, rent, advertising, rates, taxes other than duty or income tax, and, in addition, a sum to cover the interest on invested capital; the balance being the actual reward of the manufacturers' exertions.

The proportions of the items of material, fuel, and wages, vary considerably in the different classes of industries:—

Class of Industry.	Values.				Proportionate Value of Manufactured Goods represented by—			
	Goods Manufactured.	Materials.	Fuel and Power.	Salaries and Wages.	Materials.	Fuel.	Wages.	Balance According to Proprietors.
Treating Raw Materials, Pastoral Products	£ 4,591,465	£ 3,903,225	£ 38,481	£ 326,218	per cent. 85·0	per cent. '8	per cent. 7·1	per cent. 7·1
Oils and Fats, &c.	978,772	697,214	15,464	67,228	71·2	1·6	6·9	20·3
Processes in Stone, Clay, Glass, &c.	1,538,773	231,081	173,720	601,906	18·3	11·3	39·1	31·3
Working in Wood	3,059,227	1,875,068	15,826	732,465	61·3	'5	23·9	14·3
Metal Works, Machinery, &c.	12,205,898	6,349,103	491,913	2,728,280	56·1	4·0	22·4	17·5
Connected with Food and Drink, &c.	17,744,466	13,836,037	156,430	1,301,676	78·1	'9	7·3	13·7
Clothing and Textile Fabrics, &c.	5,287,762	2,741,126	29,476	1,633,509	51·8	'6	30·9	16·7
Books, Paper, Printing, and Engraving	2,269,792	805,018	24,601	868,868	35·5	1·1	38·3	25·1
Musical Instruments, &c.	146,583	69,461	526	43,755	47·4	'4	29·9	22·3
Arms and Explosives	11,622	9,047	44	1,971	77·8	'4	17·0	4·8
Vehicles, Saddlery, and Harness, &c.	1,076,110	457,671	11,132	391,955	42·5	1·0	36·4	20·1
Ship and Boat Building, Repairing, &c.	547,117	165,786	10,841	305,932	30·3	2·0	55·9	11·8
Furniture, Bedding, Upholstery, &c.	1,047,000	525,717	5,201	354,368	50·2	'5	33·9	15·4
Drugs, Chemicals, and By-products	910,912	493,145	17,313	124,844	54·1	1·9	13·7	30·3
Surgical and other Scientific Instruments	26,948	7,587	180	8,202	23·2	'7	30·4	40·7
Timepieces, Jewellery, and Plated Ware	240,554	113,758	1,535	75,042	47·3	'5	31·2	21·0
Heat, Light, and Power	2,127,822	509,222	245,068	374,046	23·9	11·5	17·6	47·0
Leatherware, N.E.I.	210,572	142,214	955	36,789	67·5	'5	17·5	14·5
Minor Wares, N.E.I.	324,616	190,911	3,868	74,101	58·8	1·2	22·8	17·2
Total	54,346,011	33,702,391	1,242,613	10,951,161	62·1	2·2	18·5	17·2

It is interesting to note the extent to which the value of materials is enhanced by the processes of treatment. For all industries, materials averaged 62 per cent. of the value of the output; there was, however, great diversity amongst the various classes, the proportion ranging from 18 per cent. in those industries engaged in processes in stone, clay, glass, &c., to 85 per cent. in those treating raw pastoral products. These variations can be understood easily when the wide difference between the operations of the industries is considered, and the value of the plant employed taken into account. The extensive use of machinery, however, is not always the chief factor controlling the value added to materials, and the industries dealing with food, &c., and those engaged in ship-building, &c., may be cited as examples. In the former class, materials represent 78 per cent. and wages only 7 per cent. of the total value, while in the latter class, the wages amount to almost twice the value of the materials used and represent

56 per cent. of the total cost. It must be noted, however, that in ship and boat-building and repairing a very large proportion of the work consists of repairs and renovations in which the cost of materials is much less than in making new goods.

The following statement shows the progress of manufactories, inclusive of those connected with milk products, as regards value of production and wages paid in each year since 1903 :—

Year.	Value of—					Salaries and Wages paid.
	Materials Used.	Fuel consumed or Power rented.	Goods manufactured, or work done.	Production, being Value added to Raw Materials.	Production per head of population.	
	£	£	£	£	£ s. d.	£
1903	16,086,875	512,661	26,391,028	9,791,492	6 18 6	4,839,600
1904	16,492,242	533,304	27,159,230	10,133,684	7 0 11	5,012,800
1905	18,636,720	572,700	30,028,150	10,818,730	7 7 5	5,191,300
1906	22,102,685	609,998	34,796,169	12,083,486	8 1 0	5,591,900
1907	25,533,451	843,686	40,018,301	13,641,164	8 17 5	6,650,700
1908	25,507,414	876,565	40,163,826	13,779,847	8 15 11	7,218,600
1909	27,314,486	940,840	42,960,689	14,705,363	9 4 9	7,665,100
1910	31,416,579	1,184,282	49,615,643	17,014,782	10 9 10	8,691,400
1911	33,702,391	1,242,613	54,346,011	19,401,007	11 13 5	10,051,161

INDIVIDUAL INDUSTRIES.

In the following pages some details are given in regard to the separate industries included in the group classification hitherto under discussion :—

I.—TREATING RAW MATERIALS, PASTORAL AND AGRICULTURAL PRODUCTS.

The industries in which raw materials, as derived from pastoral and agricultural operations, are treated, form five distinct groups. Details for 1911 for these groups are :—

Industries.	Establishments.		Average Number of Employees.		Average time worked per Employee.	Power used.			Value of Machinery, Plant, &c.
	Total.	Using Machinery	Males.	Females.		Steam.	Electricity	Other.	
Boiling-down, Tallow Refining, &c....	35	32	466	19	11'64	604	...	60	£ 60,858
Sausage skin making	5	..	184	1	12'00	...	...	...	670
Tanning	76	73	1,030	9	11'90	624	20	400	82,241
Wool-scouring and Fellmongering...	59	56	1,545	58	9'57	1,573	346	90	160,200
Chaff-cutting, Corn-crushing, &c. ...	97	97	578	...	6'52	506	73	67	45,449
Total	272	258	3,808	87	10'11	3,397	439	617	349,418

Boiling-down, Tallow Refining, &c.

In the figures given above regarding establishments, particulars are not included concerning boiling-down or wool-washing plants in operation on sheep stations and runs. Such plants are necessarily operative for more or less restricted periods.

Tallow refining as an industry is, in a measure, dependent upon seasonal conditions, activity being greatest when there is a disposable surplus of live stock, and coincidentally a market price for tallow which encourages

production. The following statement shows the estimated production for the last ten years in comparison with the figures for 1900. The output from all sources, including station plants, is indicated; the amount used locally is shown also; this constitutes the raw material used in soap and candle works. The balance of the local production is exported:—

Year.	Estimated Quantity of Tallow.		Year.	Estimated Quantity of Tallow.	
	Produced.	Used Locally.		Produced.	Used Locally.
	cwt.	cwt.		cwt.	cwt.
1900	436,090	135,370	1907	490,430	115,770
1902	246,580	97,680	1908	420,630	117,610
1903	220,710	114,200	1909	640,110	116,200
1904	353,080	117,940	1910	742,200	118,450
1905	495,160	113,720	1911	729,330	123,740
1906	487,830	116,740			

Exclusive of operations on stations and large farms, for which details are not available, the value of carcasses, fat, refuse, bones, etc., treated during 1911 in boiling-down works, was £723,261, and 6,312 cwt. of raw tallow were used; the output included 499,892 cwt. of raw and refined tallow, valued at £727,439; 417,758 cwt. of blood and bone fertilisers, valued at £117,145; whilst the values of hides, oils, bones, glue-pieces, and other by-products amounted to £42,621.

Sausage-skin Making.

This industry has only recently emerged from the rank of miscellaneous industries, in which only one or two establishments are operative, no machinery being installed in any of the establishments. The industry is manifestly a hand industry.

Tanning.

In tanneries, 531,706 hides and 2,537 cwt. of hide pieces produced 4,655,524 pelts, valued at £64,455, and 13,945,005 lb. of leather, worth £791,909. In addition, 4,642,865 pelts and 125,576 other skins were operated on; 11,706 tons of wattle bark were used in treating these materials; 357,833 pelts, valued at £9,734, were pickled; others were converted into 4,324,139 lb. of basils, valued at £159,211. Other skins after treatment were valued at £17,151.

Wool-scouring and Fellmongery.

In wool-scouring works and fellmongeries 34,023,054 lb. of greasy wool and 5,180,335 skins were treated, producing 15,158,383 lb. and 18,124,995 lb. respectively, of scoured wool, valued in the aggregate at £2,068,496.

Included with wool-scouring works is a wool-combing factory established at Botany, near Sydney. The Bounties Act passed by the Federal Parliament in 1907 provides for the payment of a bounty for the encouragement of this industry. The rate of bounty is fixed at 1½d. per lb. of combed wool or tops exported for three years from 1st January, 1909, and at 1d. per lb. for two succeeding years; the maximum amount payable in any one year is £10,000. A large proportion of the tops is exported to Japan.

An amending Bill, extending the bounty for two years from January, 1914, is before the Federal Parliament. The maximum amount payable as bounty in each year is £10,000, but the bounty rate is 1d. per lb. for the first million pounds of tops exported, and ¾d. per lb. over that amount.

II.—OILS AND FATS.

The industries in which oils and fats, animal and vegetable, are treated, are grouped under two heads, and particulars for each group for 1911 include the following :—

Industries.	Establishments.		Average Number of Employees.		Average time worked per Employee.	Power used.			Value of, Machinery Plant, &c.
	Total.	Using Machinery.	Males.	Females.		Steam.	Elec- tricity.	Other.	
Oil and Grease	11	9	225	6	Months 9·88	H.-p. 259	H.-p. 4	H.-p. 11	£ 92,981
Soap and Candles	37	25	489	169	11·90	380	200	5	150,453
Total	48	34	714	175	11·88	669	204	16	243,434

Establishments dealing with mineral oils are included in the Class, in connection with the development of heat, light, and power.

In the last ten years the establishments dealing with oil and grease have doubled, and the average number of workers has increased from 108 to 231. The average time worked per employee, viz., 9·88 months, in 1911, indicates considerable broken time for the factories. In soap and candle works, employment was more constant, averaging 11·9 months for the year.

Soap and Candle Factories.

The following table gives some particulars of the soap and candle making industry during the last ten years :—

Year.	Soap and Candle Factories.	Average Number of Employees.	Quantity Manufactured.		Horse-power of Plant (full capacity).
			Soap.	Candles.	
			cwt.	lb.	H.-p.
1902	40	425	175,822	2,965,766	533
1903	47	520	199,807	3,231,842	744
1904	46	508	208,677	3,984,035	556
1905	40	574	212,658	4,226,082	520
1906	41	602	221,834	5,076,048	522
1907	34	547	234,022	5,656,354	489
1908	29	553	232,441	5,566,776	454
1909	26	571	229,846	6,922,488	427
1910	33	624	251,662	6,689,875	648
1911	37	658	277,449	5,388,848	872

In 1911 the candles manufactured were valued at £116,130, while the soap manufactured included the following quantities and values :—

	Quantity.	Value.
	cwt.	£
Household	233,474	337,851
Toilet	10,805	57,042
Sand	25,522	21,798
Soft... ..	7,648	6,311
Total	277,449	£423,002

And in addition 965,807 lb. of soap extract and powders valued at £8,568, and soda crystals valued at £14,914 were made. Tallow, 117,425 cwt.; alkali, 6,370,007 lb.; and other materials such as copra oil, resin, and paraffin, valued at £180,697 were used in the manufacture.

III.—STONE, CLAY, GLASS, &C.

The majority of the industries in this class are associated with the building trade, and their operations reflect, to a great extent, the condition of that trade. Details of each industry for 1911 were as follow :—

Industries.	Establishments.		Average Number of Employees.		Average time worked per employe.	Power used.			Value of Machinery, Plant, &c.
	Total	Using Machinery.	Males.	Females.		Steam	Electricity.	Other	
Bricks and Tiles	222	78	2,990	27	11-29	3,310	60	1,495	449,100
Glass (including Bottles)	8	5	840	1	11-87	36	18	54	22,458
Glass (Ornamental)	17	8	243	4	11-96	18	96	3	6,889
Lime, Plaster, Cement, and Asphalt	30	13	873	3	11-93	3,706	939	110	276,175
Marble, Slate, &c.	12	11	227	...	11-41	33	143	87	15,040
Modelling	2	...	11	...	12-00	177	6	49	38,387
Pottery, Earthenware, &c.	18	14	450	21	11-89				
Total	309	129	5,639	58	11-56	7,274	1,262	1,798	808,049

With the exception of 239 horse-power derived from oil-engines, and used in brick and tile works, all the "other power" used was derived from gas.

Brick-works.

Brick-works have been established in proximity to nearly every large town throughout the State.

In 1891 there were 2,018 persons employed, and the output of bricks was 184,682,000. Subsequently there was a decline in building operations, and the annual output fell below 100,000,000. In 1901 the output was 159,254,000 bricks from 182 works, employing 1,823 persons.

The following figures give details concerning the industry during the last ten years :—

Year.	Brick-works.	Average Number of Employees.	Bricks made.	Horse-power of Plant (full capacity).
				H.-p.
1902	182	1,973	180,727,000	1,986
1903	163	1,921	202,681,000	2,243
1904	165	1,893	154,480,000	2,701
1905	172	2,006	162,643,000	2,974
1906	187	2,147	172,010,000	3,172
1907	186	1,844	195,594,000	3,535
1908	189	1,919	214,606,000	3,853
1909	201	2,108	222,558,000	4,547
1910	220	2,514	251,546,000	5,382
1911	222	3,017	327,864,000	6,311

The output of brickworks for 1911 was valued at £695,822.

The impetus given to brick-making during the last three years is a result of the remarkable activity of the building trades in the metropolitan and suburban areas.

State Brick-works.

To supply the requirements of railways and other public works the Government established State brick-works during 1911. A suitable area of clay land was selected at Homebush Bay, near Sydney. The first bricks were manufactured in November, 1911, but most of the output in the period of inauguration was used in constructing and amplifying the works of which the estimated capacity is 1,500,000 bricks per week. Sand-lime brick-works were established at Botany, the capacity of the machinery installed being 250,000 bricks per week.

The manufacture of tiles, pottery, and earthenware is carried on usually in conjunction with brickmaking, although some establishments are devoted to this branch of the industry solely. The values of the tile, pottery, and earthenware manufactured in 1911 were as follows :—

Tiles	£24,857
Pipes	52,241
Pottery	51,763
Terra Lignum Blocks ..	3,864
	£132,725

IV.—WORKING IN WOOD.

Wood-working industries are connected generally with the preparation and supply of building materials, and, as in the class immediately preceding, afford a reliable index to the state of the building trade.

Industries.	Establishments.		Average Number of Employees.		Average time worked per Employee.	Power used.			Value of Machinery, Plant, &c.
	Total.	Using Machinery.	Males.	Females.		Steam.	Elec- tricity.	Other.	
Boxes and Cases ...	40	35	702	7	11·01	605	860	104	45,747
Cooperage	15	11	228	.....	11·79	101	39	62	22,803
Joinery	123	103	1,806	13	11·54	794	602	583	81,564
Saw-mills... ..	452	452	5,171	34	10·47	8,681	1,164	235	526,909
Wood Turning, &c. ...	32	32	214	6	11·33	195	51	35	15,994
Total	662	633	8,121	60	10·82	10,576	2,716	1,019	693,017

Other power includes 568 h.-p. derived from water or oil, used in saw-mills and joinery works.

Of the 8,181 persons employed in these industries, 3,715 were engaged in the metropolitan district, and 4,466 in the country, the employment in the latter district being almost wholly in connection with saw-mills, which provided work for 3,989 persons.

In connection with the wood-working industries, it is of interest to note that in the beginning of 1912 the Government acquired a site for a timber depot to permit of timber used in constructional work being properly seasoned. Joinery works at Rozelle were acquired also.

Box and Case Making.

Employment in box factories has extended considerably in recent years, mainly on account of advances made by the export trade. In 1902 there were only 183 employees in these establishments, as compared with 709 in 1911, and the number of establishments increased from 14 to 40.

Saw-mills.

Details concerning the saw-milling industry during the last ten years, in which period the number of workers increased by 75 per cent., were as follows:—

Year.	Saw-mills.	Average Number of Employees.	Plant and Machinery.		Year.	Saw-mills.	Average Number of Employees.	Plant and Machinery.	
			Power (full capacity).	Value.				Power (full capacity).	Value.
			H.-p.	£				H.-p.	£
1902	331	3,930	6,536	273,402	1907	377	3,983	8,909	332,239
1903	333	3,936	6,857	289,258	1908	385	4,127	9,367	367,005
1904	324	3,655	6,379	285,935	1909	407	4,307	10,947	370,671
1905	339	3,886	6,903	286,011	1910	437	4,826	11,961	470,081
1906	338	3,642	6,936	260,810	1911	452	5,205	13,342	526,909

During 1911 the output of sawn timber from logs sawn in the forests amounted to 142,358,000 superficial feet, of which 98,766,000 superficial feet, or more than two-thirds, were hardwoods. From imported logs only 9,113,000 superficial feet of timber were sawn, of which 7,800,000 feet were softwoods. The value of the timber sawn from native logs was stated as £967,898 at the works, and the imported timber when sawn £102,469.

V.—METAL WORKS, MACHINERY, &C.

The industries included in this class are by far the most important to the industrial workers in the State, regarded from the aggregate wage aspect, although the clothing trade employs a greater number of persons.

The following table shows the employment afforded, and other particulars, for each branch of the industry during 1911:—

Industries.	Establishments.		Average Number of Employees.		Average time worked per Employee.	Power used.			Value of Machinery and Plant.	
	Total.	Using Machinery.	Males.	Females.		Months	H.-p.	H.-p.		H.-p.
Agricultural Implements	20	18	612	3	12-00	50	25	95	18,360	
Art Metal Works	5	4	50	...	12-00	...	13	6	4,250	
Brass and Copper	20	19	275	2	11-99	35	26	36	15,514	
Cutlery	6	6	32	2	12-00	...	13	12	2,080	
Engineering	178	175	5,690	29	11-85	1,659	1,256	790	443,380	
Galvanized Iron	44	24	779	12	11-76	54	134	122	44,850	
Ironworks and Foundries	67	65	2,416	9	10-67	2,595	464	286	232,368	
Nails	3	3	84	...	12-00	...	19	182	17,807	
Railway Carriages and Rolling Stock	4	4	1,131	5	12-00	340	...	15	51,696	
Railway and Tramway Workshops	22	22	6,087	13	12-00	1,631	869	452	495,031	
Smelting and Ore Dressing	34	32	3,359	5	11-33	8,217	4,452	13	1,428,211	
Stoves and Ovens	12	10	446	5	11-48	...	72	137	23,915	
Tinsmithing	66	27	828	38	11-85	85	26	44	31,969	
Wireworking	16	15	614	5	12-00	30	173	221	53,677	
Other Metal Works (including Lead Mills)	12	10	325	6	11-97	179	67	96	31,886	
Total	509	434	22,728	134	11-70	14,875	7,609	2,507	2,894,994	

In 1902 there were only 13,695 persons engaged in works of this class, so that there has been an increase of 9,167, or 67 per cent. since that year. The chief increase is in works connected with the manufacture of agricultural implements, the manufacture and repair of railway engines, carriages, and rolling-stock. Engineering works show an increase of 1,866 employees since 1902, the increase during the last three years being due partly to the local manufacture of locomotives.

In connection with the figures in the above table it should be remembered that the work carried out at the railway and tramway workshops is of such a character that the particulars shown under this heading and for engineering should be considered in conjunction.

The building locally of vessels for the Australian navy, in accordance with contracts placed with the Fitzroy Dock, Sydney, will give considerable impetus to the iron trades. Steel rails for use in Australian rail and tramways are made at Lithgow.

In smelting works, including treatment plants in conjunction with mining plants, there are 806 more persons employed than there were in 1902. The bulk of the work done is in connection with the treatment of silver and lead ores of domestic production; but some establishments deal with gold, copper, tin, and other ores, which are brought from all parts of Australia, and also from New Caledonia. Quartz batteries are excluded from these figures, but establishments using a cyanide plant are included. Within recent years, zinc-extraction plants on an extensive scale have been established in the State, and at Broken Hill and elsewhere great attention is being directed to this matter. Further details in connection therewith are given in the chapter dealing with "Mining Industry," where are quoted the quantities of iron and steel made locally, for which bounties were paid by the Federal Government under the Manufactures Encouragement Act, 1908. Following are the particulars of the bounties paid in connection with the production of galvanized iron from Australian ore, and of wire netting from wire made in the United Kingdom, viz. :—

Year ended 30th June.	Galvanized Iron.		Wire Netting.	
	Quantity.	Bounty Paid.	Quantity.	Bounty Paid.
	Tons.	£	Tons.	£
1909	125	193	Nil	Nil.
1910	204	286	3,461	6,036
1911	87	122	2,675	4,824
1912	55	74	3,109	5,968

An amending Bill is before the Federal Parliament to extend the time during which the bounties are payable on iron, steel, and wire products.

VI.—FOOD AND DRINK, AND NARCOTICS.

There have been large individual increases in several industries in this group, notably confectionery, biscuits, and tobacco, but these have been counterbalanced by a decline in sugar-milling, and in meat-preserving. The number of workers fluctuates considerably during the year, as employ-

ment in establishments manufacturing aerated waters, butter, cheese, flour, sugar, and jam varies with the seasons. The following table shows the average number of persons employed in each industry during 1911:—

Industries.	Establishments.		Average Number of Employees.		Average time worked per Employee.	Power used.			Value of Machinery, Plant, &c.
	Total.	Using Machinery.	Males.	Females		Steam.	Electricity.	Other.	
Bacon-curing	21	20	180	1	Months. 11-55	H.-p. 196	H.-p. 56	H.-p. 27	£ 26,222
Butter Factories and Creameries .. .	150	150	951	17	11-81	1,778	26	357	230,485
Butterine and Margarine .. .	4	4	48	1	11-75	48	8	..	4,100
Cheese Factories .. .	28	25	80	1	11-66	68	..	..	8,980
Condensed Milk .. .	3	3	32	..	12-00	40	..	..	4,115
Meat and Fish Preserving .. .	16	16	920	121	8-71	197	..	24	42,702
Biscuits .. .	6	6	655	705	12-00	323	217	16	86,192
Confectionery .. .	41	32	758	483	11-96	131	209	144	64,270
Cornflour, Oatmeal, &c. .. .	15	15	272	199	11-80	372	244	68	64,715
Flour-mills .. .	73	73	962	5	11-17	4,287	21	362	340,316
Jam and Fruit Canning .. .	15	11	393	449	9-85	175	12	..	25,333
Pickles, Sauces, and Vinegar .. .	18	8	139	174	12-00	60	..	6	10,252
Sugar Mills .. .	4	4	469	..	4-89	3,000	..	..	467,976
Sugar Refinery .. .	1	1	551	30	12-00	718	772	..	394,472
Aerated Waters, Cordials, &c .. .	225	209	1,330	152	11-86	303	128	252	154,611
Breweries .. .	37	36	911	1	11-91	540	79	29	281,316
Condiments, Coffee, Spices, &c. .. .	16	15	211	216	12-00	96	75	38	20,888
Distilleries .. .	3	3	19	..	11-37	51	50	..	42,940
Ice and Refrigerating .. .	80	80	1,132	6	10-05	2,971	420	779	472,269
Malting .. .	4	4	46	..	7-35	93	42	32	21,773
Tobacco, Cigars, &c. .. .	10	6	676	755	11-98	250	280	..	92,138
Total	769	720	10,734	3,316		15,697	2,639	2,134	2,855,174

In the preparation of food and drink, machinery and power are used considerably, as will be seen from the figures given above. Creameries are not considered as separate establishments when worked in conjunction with butter factories; the persons employed are included. There has been an enormous increase in the quantity of butter made in recent years, and particulars of the machinery in use and the number of persons employed during each of the last ten years are given in the following table. The number of factories and of employees do not coincide with those shown in the preceding table, as they include factories on farms, the employees in which (694 males and 9 females in 1911) are not exclusively engaged in manufacturing dairy products, but in general farm labour, and are consequently included elsewhere:—

Year.	Factories.							Estimated Value of Plant and Machinery.	Machinery in use.					Persons employed.			
	Butter only.	Creameries only.	Cheese only.	Bacon and Ham only.	Butter and Cheese.	Butter and Bacon.	Butter, Cheese and Bacon.		Total.	Engines.					Males.	Females.	
										Number.	Horse-power.	Butter Workers.	Churns.	Cream Separators.			Cheese Presses.
1902	163	306	31	18	6	3	1	528	263,764	576	3,297	153	274	571	147	1,304	56
1903	153	284	31	16	4	3	3	494	246,350	552	3,094	163	262	486	146	1,373	33
1904	145	271	28	14	4	2	1	465	251,322	525	3,066	178	257	431	96	1,364	26
1905	153	255	36	16	3	..	..	463	277,908	546	3,179	195	289	425	104	1,342	9
1906	170	193	57	20	4	..	1	445	255,109	511	3,453	199	311	358	105	1,420	33
1907	176	140	36	16	6	..	..	374	278,380	447	3,413	213	321	274	113	1,309	30
1908	160	172	42	17	3	3	..	397	287,771	466	3,526	197	283	270	123	1,301	24
1909	168	222	43	17	4	1	..	455	286,517	524	3,909	201	291	310	131	1,398	25
1910	157	346	46	19	5	..	..	573	319,111	680	4,725	188	282	441	138	1,591	16
1911	163	629	49	19	5	..	..	865	389,585	956	5,944	185	279	715	154	1,923	28

* Includes 5 combined churns and butter makers.

During 1911 the bacon factories, apart from farms, cured 13,393,536 lb. of bacon and ham, valued at £341,300, and lard weighing 690,628 lb., of £13,772 value, was produced; also small goods to the value of £11,465. The butter factories showed during 1911 a return of 78,421,512 lb., valued at £3,430,532. Cheese factories produced 3,485,919 lb., valued at £84,589, and at condensed milk factories 3,058,497 lb. of condensed and concentrated milk was made, the value being stated as £41,488.

As bacon and ham, butter and cheese are also made on farms, apart from factories, the special chapter in this Year Book dealing with the Dairy Industry should be consulted for complete information regarding these industries.

Meat and Fish Preserving and Refrigerating.

In the last ten years there has been practically no alteration in the number of establishments, or of persons employed in connection with meat and fish preserving. Following are the records for the last ten years of establishments dealing with meat by preserving or chilling:—

CARCASES TREATED.

Year.	Meat Preserving Works.		Refrigerating Works.	
	Cattle.	Sheep.	Cattle.	Sheep.
1902	17,51	965,972	12,468	445,892
1903	7,794	188,248	3,666	299,131
1904	10,696	58,902	4,133	570,934
1905	10,931	356,894	3,435	1,306,160
1906	9,955	274,950	5,352	1,283,862
1907	5,197	554,072	2,248	1,366,543
1908	4,078	620,013	1,719	1,196,996
1909	18,468	1,061,276	2,482	1,599,663
1910	36,145	1,093,577	10,357	2,226,750
1911	61,596	925,475	10,188	1,469,923

In addition to sheep and cattle, in 1911 112,810 pairs of rabbits were treated.

The output of tinned meat in 1911 was 25,551,803 lb., valued at £552,449, and other products valued at £28,167. By-products were valued at £390,642.

37,911 tons of ice, valued at £59,759, were made at the ice-works.

Fish Canning.

Fish canning has not risen to the rank of a definite industry in Australia, and although the waters along the coasts are teeming with edible fishes, local markets are supplied chiefly with imported canned goods. To encourage the industry the Commonwealth Government provided a bounty of $\frac{1}{2}$ d. per lb., up to a maximum of £10,000 per annum, payable for five years from 1st July, 1907, for fish canned in Australia, but none of this bounty has been claimed on account of products of New South Wales. During 1912 the Royal Commission of inquiry as to food supplies and prices issued a progress report as to the supply and distribution of fish, and in regard to the lack of local industry the report states that Canneries have been started in New South Wales, but they have not proved successful, owing partly to the fact that the people engaged in them were without the necessary experience, and partly to the absence of regular supplies of fish, as the cannery owners made no attempt to engage a special staff of fishermen, and consequently had to

compete in the market for fresh fish. The common fishes specially suitable for treatment by way of canning, smoking or salting include pilchard, sandy sprat, anchovy, tailer, Samson fish, cowanyung, king fish, trevally, mackerel, bonito, tunny (little and southern) and Spanish mackerel.

Flour Mills, Biscuit Factories, &c.

The amount of mill-power for grinding and dressing grain is ample for treating the flour consumed in the State, and an export trade of growing importance is maintained.

The output of the flour mills was below the normal level in 1902 and in 1903 on account of a restricted wheat crop. In 1908 also the output was below normal, as a result of a decrease in the yield of wheat. The following table shows various details regarding flour mills for a period of ten years:—

Year.	Flour Mills.	Average Number of Employees	Wheat treated.	Flour made.	Plant and Machinery.	
					Power (full capacity).	Value.
			Bushels.	Tons.	H.-p.	£
1902	81	812	8,853,048	185,147	4,495	267,372
1903	79	751	6,030,409	121,074	4,947	262,297
1904	81	875	10,418,979	210,137	4,851	293,328
1905	78	875	10,117,793	205,805	5,158	294,760
1906	78	873	11,151,126	225,995	5,532	297,859
1907	74	858	11,617,905	237,614	4,342	273,459
1908	68	792	8,737,228	180,843	5,609	284,954
1909	71	860	10,466,329	214,426	6,126	307,321
1910	72	945	12,045,148	242,813	6,083	326,502
1911	73	967	12,616,111	253,556	6,302	340,316

During 1911 the value at the Mills, of flour made in 1911 was £2,016,418, the output of bran and pollard amounted to 65,182 tons and 45,276 tons respectively, valued in the aggregate at £494,969. The value of other products amounted to £22,579. They included 2,308 tons of sharps and screenings, and 1,092 tons of wheatmeal, etc. Considerable quantities of oatmeal, maizena, etc., are manufactured locally.

In biscuit factories 8,755 tons of flour were used during 1911, and 22,029,000 lb. of biscuits, valued at £510,812, were made.

Jam, Pickle, and Sauce Factories.

The principal articles produced in jam and pickle factories during 1911 were 25,488,627 lb. of jam and preserves, valued at £325,855; 553,750 lb. of candied peel, 24,192 lb. of dried and evaporated fruit and pulp, 2,387,577 pints of pickles, valued at £44,738; 2,065,315 pints of sauces, valued at £41,332; and 557,967 gallons of vinegar, valued at £29,180.

Aerated Water and Cordial Factories.

Particulars regarding the output of aerated-water factories show that during 1911 the following articles were produced, viz.:—1,364,395 syphons and 5,270,785 dozen bottles of aerated and carbonated waters, 199,476 dozen of cordials and syrups, 294,444 dozen of hop beer, 1,254,663 dozen of ginger beer, and 117,520 dozen of other cordials, the total value at the factories being £552,914. The number of persons employed varies with the season of the year, the greatest number at work in 1911 being 1,870.

Breweries.

The number of breweries is decreasing, and the number of persons engaged is 121 less than in the year 1902, but the output shows an increase, especially during the last four years. The materials used in breweries for manufacturing purposes and the actual output since 1903 were as follows :—

Year.	Malt.	Hops.	Sugar.	Other Materials.	Ale, Beer, &c., manufactured.
	Bushels.	lb.	Tons.	Centals.	Gallons.
1903	466,673	601,339	3,495	10,081	14,211,888
1904	441,844	557,400	3,252	10,133	13,651,208
1905	458,371	558,661	3,370	6,209	13,873,259
1906	488,982	586,438	3,405	5,530	14,032,390
1907	533,825	636,650	3,651	4,996	15,361,227
1908	559,950	677,884	3,842	4,291	16,202,242
1909	571,526	681,614	3,871	6,440	16,754,728
1910	604,366	718,994	4,119	8,392	17,885,373
1911	667,457	790,866	4,421	7,705	19,804,540

Particulars are not available as to the materials used in 1902, but the quantity of ale, beer, etc., made was 15,074,794 gallons. In the following table is given the quantity on which excise was paid :—

Year.	Breweries.	Average Number of Employees	Ale, Beer, &c., manufactured, which paid Excise.	Horse-power of Plant (full capacity).	Year.	Breweries.	Average Number of Employees	Ale, Beer, &c., manufactured, which paid Excise.	Horse-power of Plant (full capacity).
			Gallons.	H.-p.				Gallons.	H.-p.
1902	46	1,033	14,029,648	1,074	1907	38	854	14,994,537	1,253
1903	45	969	13,201,098	982	1908	37	885	15,791,878	1,426
1904	42	968	12,877,757	961	1909	37	831	16,154,906	1,416
1905	42	1,028	13,248,336	1,089	1910	38	825	17,411,827	1,466
1906	39	881	13,587,336	1,087	1911	37	912	19,352,995	1,192

The total value at the breweries of the 19,352,995 gallons of beer and stout made during 1911, and on which excise was paid, amounted to £905,916.

The local malt works treated 197,170 bushels of barley during 1911, and produced 185,149 bushels of malt, valued at £60,559.

Distilleries.

There are three distilleries in the State, two of which are wine distilleries. The output of the latter was 16,935 proof gallons of brandy, valued at £4,930, from 57,870 gallons of wine; the other establishment is worked in connection with sugar-refining, and used 251,384 cwt. of molasses in 1911 to produce 1,157,148 gallons of white spirit, valued at £45,132. The following is a statement of distilleries since the year 1902 :—

Year.	Distilleries.	Average Number of Employees.	Molasses used.	Spirit distilled therefrom.
			cwt.	proof gallons.
1902	1	10	108,714	479,559
1903	2*	18	128,635	593,131
1904	2*	16	140,973	662,141
1905	2*	18	125,530	620,887
1906	2*	17	133,409	634,240
1907	2*	17	168,100	863,131
1908	2*	24	163,270	844,416
1909	3†	29	222,554	1,132,917
1910	3†	21	260,241	1,191,371
1911	3†	19	251,384	1,157,148

* Includes one wine distillery.

† Includes two wine distilleries.

A number of vigneron are licensed by the Customs Department to distil spirit for fortifying purposes; during 1911 138,850 gallons of wine distilled produced 24,247 proof gallons of brandy.

Sugar Mills.

The manufacture of sugar has long been an important industry. So far back as 1878 there were 50 mills, of which 24 used steam-power, and 26 were worked by cattle. The number of employees was 1,065. By 1886 the establishments numbered 83 steam-mills and 19 worked by cattle; the number of men employed and the quantity of sugar and molasses produced had increased correspondingly; since that time the smaller establishments have closed; the tendency to concentration of manufacturing processes in large central establishments is obvious. There are now only four sugar mills in the State, and employment is afforded to a smaller number of persons than were engaged ten years ago. The sugar manufactured in 1911 was valued at £198,463, and molasses at £7,814:—

Year.	Sugar Mills.	Average Number of Employees.	Quantity manufactured.		Horse-power of Plant (full capacity).
			Sugar.	Molasses.	Steam.
			cwt.	Gallons.	H.-p.
1902	8	633	430,884	1,073,640	3,407
1903	6	586	435,718	1,367,020	3,146
1904	6	643	400,150	1,296,590	3,146
1905	5	652	402,040	1,263,100	3,140
1906	5	622	479,993	1,305,466	3,485
1907	5	610	583,446	1,211,000	3,491
1908	4	543	299,920	922,549	3,196
1909	4	529	296,200	1,072,400	3,180
1910	4	506	402,300	918,900	3,196
1911	4	469	345,978	796,440	3,546

Sugar Refinery.

There is only one sugar refinery in the State, and it treats both local and imported sugars, so that its operations are extending each year. In the last ten years there has been little alteration in the number of persons employed, but owing to greater power and improvements in plant, the quantity of sugar treated has increased. The following table shows particulars of the industry. The sugar-cane treated in 1911 represented 1,828,900 cwt. of refined sugar, valued at £1,360,596:—

Year.	Persons Employed.	Cane Sugar Melted.	Refined Sugar.	Horse-power of Plant (full capacity).	Year.	Persons Employed.	Cane Sugar Melted.	Refined Sugar.	Horse-power of Plant (full capacity).
		cwt.	cwt.	H.-p.			cwt.	cwt.	H.-p.
1902	531	1,179,200	1,141,800	958	1907	431	1,554,200	1,514,840	,031
1903	415	1,284,380	1,250,560	973	1908	487	1,732,000	1,695,080	982
1904	390	1,313,800	1,276,820	974	1909	555	1,896,500	1,848,180	1,024
1905	410	1,368,000	1,317,500	948	1910	521	1,779,740	1,678,960	1,307
1906	454	1,459,400	1,406,000	932	1911	581	1,869,200	1,828,900	1,490

Tobacco Factories.

Tobacco of local manufacture is, to a large extent, superseding the imported article; cigarettes made in this State now practically command the Australian market; and the manufacture of cigars is increasing also.

A large amount of imported leaf is used in the manufacture of tobacco, the proportion of locally-grown tobacco being about one-seventh of the total.

As shown in the chapter of this Year Book dealing with "Agriculture, the acreage and production of tobacco declined in each year from 1897 to 1901. Then, as a result of efforts to stimulate the industry, a decided increase was noticeable, the manufacturers having arranged to take all the leaf grown, at fixed prices according to quality. The following table shows details of the operations of tobacco factories for the last ten years. The large increase in the number of females employed is due principally to the extension of cigarette making:—

Year.	Establishments.		Average Number of Employees.		Tobacco Leaf used, exclusive of waste.		Tobacco, Cigars, and Cigarettes manufactured.			Plant and Machinery.	
	Tobacco.	Cigars and Cigarettes.	Males.	Females.	Australian grown Leaf.	Imported Leaf.	Tobacco.	Cigarettes.	Cigars.	Power (full capacity).	Value.
					lb.	lb.	lb.	lb.	lb.	H.-p.	£
1902	5	13	678	440	966,156	2,520,581	3,089,613	634,175	66,330	338	82,269
1903	5	18	569	426	1,009,745	2,714,578	3,329,938	790,697	45,297	462	92,355
1904	4	17	648	376	1,256,339	2,709,569	3,404,201	829,851	47,756	464	106,793
1905	4	16	573	391	1,145,923	2,606,702	3,318,719	818,400	48,850	425	104,766
1906	5	20	649	397	1,178,183	3,056,906	4,057,965	837,835	50,326	431	104,226
1907	5	23	622	497	1,050,107	3,254,656	3,899,196	972,875	54,048	435	111,346
1908	3	25	665	674	1,039,909	3,549,966	3,916,388	1,119,269	57,716	567	119,723
1909	2	23	629	631	847,030	3,570,143	3,694,918	1,300,045	57,148	571	120,216
1910	3	22	669	763	815,809	4,130,059	3,850,154	1,548,872	73,194	589	125,703
1911	3	23	697	765	745,405	4,617,756	3,996,471	1,899,462	87,818	837	92,138

NOTE.—The reduced value in 1911 of machinery has been caused by writing off obsolete machinery at some of the principal factories.

In addition to the factories enumerated in a previous table, several establishments licensed by the Customs Department are included above.

The value at the factories of the tobacco, cigars, and cigarettes manufactured in 1911 was £1,248,621.

VII.—CLOTHING AND TEXTILES.

These industries afford the greatest employment numerically, but in point of production and wages paid per employee they are below several of the other classes. The number of persons engaged in each branch of the industry during 1911 is shown in the following table:—

Industries.	Establishments.		Average Number of Employees.		Average time worked per employee.	Power Used.			Value Machinery, Plant, &c.
	Total.	Using Machinery.	Males.	Females.		Steam.	Electricity.	Other.	
					Months.	H.-p.	H.-p.	H.-p.	£
Woolen and Tweed Mills	13	10	382	569	11'88	692	17	228	122,927
Boots and Shoes	106	78	2,818	1,593	11'93	56	174	625	156,643
Shop Clothing	99	88	1,042	5,603	11'79	..	315	36	40,529
Clothing (Tailoring)	331	24	2,206	3,004	11'90	..	34	..	18,157
Clothing (Waterproof and Oilskin)	4	4	26	98	11'88	10	8	..	2,622
Dressmaking and Millinery (makers' material)	195	29	85	4,117	11'93	4	42	2	11,204
Dressmaking and Millinery (customers' material)	122	8	4	986	11'62	..	19	..	4,478
Dyeworks and Cleaning	7	4	36	32	12'00	17	..	3	2,228
Furriers	3	2	24	24	12'00	..	3	1	190
Hats and Caps	32	28	537	1,029	11'78	103	297	33	60,807
Shirts, Ties, and Scarfs	43	37	139	1,655	11'49	..	156	45	20,045
Rope and Cordage	6	5	230	3	11'45	129	..	253	34,111
Sailmaking	6	2	32	4	12'00	..	2	2	553
Tents and Tarpaulins	14	10	135	241	11'88	..	76	3	10,562
Total	981	329	7,696	18,808	11'64	1,011	1,143	1,231	485,956

The most recently developed of the industries included in this table is the making of shirts, ties, and scarfs. In 1898 only 74 persons were thus engaged, and in 1900, before the Federal tariff came into operation, 133. In 1911 the number was 1,794.

There has been a large increase in the number of persons engaged in the clothing trade, in "slops" and order work, the numbers of employees having increased by rather more than 100 per cent. in the last ten years; in the former trade more attention is being devoted to the manufacture of ready-made costumes for women.

The number of persons now employed in tent and tarpaulin making is 376, of whom the majority are machinists.

Woollen and Tweed Mills.

Although one of the greatest wool-producing countries in the world, only 951 persons find employment in the manufacture of woollen materials. Woollen-mills were amongst the earliest works established in the State, but the industry has progressed little, the number of persons employed, until the last four years when a decided increase took place, had practically remained stationary for forty years. Details of the persons employed, and the output for the last ten years, are given below:—

Year.	Woollen Mills.	Average Number of Employees.			Woollen Cloth and Tweed manufactured.	Horse-power of Plant (full capacity).
		Males.	Females.	Total.		
					yds.	H.-p.
1902	4	172	104	276	566,296	305
1903	4	170	110	280	458,302	330
1904	3	148	97	245	481,289	305
1905	3	151	111	262	459,590	329
1906	5	160	178	338	498,164	327
1907	5	179	216	395	512,640	397
1908	5	210	245	455	524,885	476
1909	7	283	345	628	594,512	924
1910	8	319	429	748	804,146	1,188
1911	13	382	569	951	1,054,845	1,075

There are really only five woollen and tweed mills in the State, the other establishments shown in the table are engaged in the making of hosiery, &c.

During 1911, 1,225,470 lbs. of scoured wool were used in the mills, and, in addition to the cloth shown above, valued at £173,655, there were manufactured flannel, blankets, rugs, and shawls to the value of £95,313. The quantity of cloth manufactured showed no signs of increase until the latter half of 1905, since which time there has been an improved demand for locally-made cloth.

Boot and Shoe Factories.

Following are the records of boot and shoe factories for the last ten years. In 1911 the boots and shoes made were valued at £1,147,378; slippers, &c., at £40,431; and uppers at £14,789:—

Year.	Boot and Shoe Factories.	Average Number of Employees.			Output (as returned by manufacturers).	
		Males.	Females.	Total.	Boots and Shoes made.	Slippers, and Canvas and Cloth Shoes made.
					Pairs.	Pairs.
1902	102	2,886	1,212	4,098	3,052,914	451,588
1903	93	2,938	1,350	4,288	3,166,475	397,531
1904	92	2,858	1,459	4,317	3,291,087	477,302
1905	98	3,021	1,444	4,465	3,250,243	435,912
1906	102	3,178	1,589	4,767	3,567,555	378,599
1907	102	3,163	1,623	4,786	3,687,868	460,132
1908	105	3,048	1,602	4,650	3,672,244	440,571
1909	102	2,854	1,606	4,460	3,597,359	408,527
1910	106	2,866	1,609	4,475	3,820,633	502,731
1911	106	2,818	1,593	4,411	3,730,760	439,425

A striking feature of the above table is the large increase in the employment of females. During the ten years the number of males decreased, while the females increased by 381 and now represent more than one-third of the total number of employees.

Hat and Cap Factories.

There has been a great expansion in the establishments connected with the manufacture of hats and caps. Until 1898 less than 100 persons were employed, but each year subsequently has seen an increase, and between 1902 and 1911 the number of employees increased from 474 to 1566, and in 1911 there were nearly twice as many females as males:—

Year.	Hat and Cap Factories.	Average Number of Employees.			Power of Machinery.	Value of Plant and Machinery.
		Males.	Females.	Total.		
					H. p. (full capacity).	£
1902	10	185	289	474	37	19,422
1903	15	225	318	543	142	22,152
1904	18	269	460	729	139	26,117
1905	21	318	586	904	120	29,650
1906	23	342	694	1,036	144	32,570
1907	22	335	759	1,094	175	35,653
1908	26	361	860	1,221	216	34,315
1909	30	398	951	1,349	247	39,966
1910	29	454	944	1,398	382	52,057
1911	32	537	1,029	1,566	625	60,807

The hats and caps manufactured during 1911 numbered 2,692,778, valued at £282,003. Rabbit-skins are used in the making of felt hats.

VIII.—BOOKS, PAPER, PRINTING, &c.

These industries give employment to 9,134 persons, who are mostly engaged in printing or bookbinding. In the process of bookbinding and in the manufacture of paper boxes and bags, women are employed largely and on an increasing scale; in 1900, females represented 14 per cent. of the total employees, as against 25 per cent. in 1911. The details of each industry for the latter year were as follow :—

Industries.	Establishments.		Average Number of Employees.		Average time worked per Employee.	Power Used.			Value of Machinery, Plant, &c.
	Total.	Using Machinery.	Males.	Females.		Steam.	Electricity.	Other.	
Electrotyping and Stereotyping...	5	5	54	...	11.70	...	37	...	8,098
Paper-making, Paper-boxes, Bags, &c.	31	26	481	754	11.65	580	149	98	107,292
Photo-engraving	17	15	180	20	12.00	...	70	2	16,111
Printing and Binding	383	318	6,106	1,539	11.95	39	1,984	1,005	858,266
Total	436	364	6,821	2,313	11.89	619	2,240	1,105	884,767

IX.—MUSICAL INSTRUMENTS.

Twelve establishments are engaged in the manufacture and repairing of musical instruments and sewing machines, and they employed 352 males and 35 females. The machinery in use was 238 horse-power, of which the greater part was derived from gas; the value of the machinery and plant was £10,834. The most important of the industries is piano-making, and instruments of a high class are being produced.

X.—ARMS AND EXPLOSIVES.

The manufacture of small arms and ammunition is a matter of national importance, which has occupied the attention of the Commonwealth Government. A small arms factory at Lithgow was opened during 1911. In New South Wales there are only five establishments for the manufacture of explosives; these employed 27 males and 6 females during 1911. The machinery in use was 20 horse-power, and the value of machinery and plant £1,000.

XI.—VEHICLES, SADDLERY, HARNESS, &c.

The work done in these establishments is connected mainly with the repair of vehicles; but there are many establishments where coaches and waggons are built throughout. With the extension of railways and tramways, and the introduction of other improvements in methods of locomotion, this industry cannot be expected to show much further development. In many establishments in the Metropolitan district persons are now employed in the motor trade who were previously engaged in building vehicles for horse traction, as motor vehicles are coming into general use, especially in the city; in most cases the chasses are imported, and the bodies built locally. Other industries in this class, such as cycle-building, are

growing in importance, and the whole group of industries employs more than twice as many people as in 1902. The following table shows the operations of each industry during 1911 :—

Industries.	Establishments.		Average Number of Employees.		Average time worked per Employee.	Power used.			Value of Machinery, Plant, &c.
	Total.	Using Machinery.	Males.	Females.		Steam.	Electricity.	Other.	
Coach and Waggon Building ...	246	78	2,608	13	11·85	99	121	282	55,788
Cycles	51	42	663	15	11·85	...	133	45	21,136
Perambulators	3	3	77	6	12·00	...	5	1	470
Saddlery and Harness	73	11	812	59	11·76	...	16	10	8,317
Whips	3	...	19	...	12·00	...	...	...	205
Spokes, &c.	8	8	143	1	11·83	239	35	..	13,280
Total	384	142	4,322	94	11·83	338	310	338	99,186

XII.—SHIP AND BOAT BUILDING AND REPAIRING, &c.

Nearly all the ships built in the State are small wooden vessels for the river and island trades, or for passenger traffic on Sydney harbour. The ferry steamers which are built in the private docks of Sydney are among the finest in the world. In regard to boat-building, there is always considerable employment afforded in the Metropolitan district by the constant demand for yachts, motor-launches, and other pleasure craft. In the docking of ships, considerably less number of persons are employed than formerly, although additional accommodation has been provided, and there are now four large graving docks at Sydney. Employment in this connection, however, is subject to great fluctuation, and at one period of the year there were 1,265 persons employed in dockyards and 2,063 in ship and boat building, &c. The following table shows the details of each industry for 1911 :—

Industries.	Establishments.		Average Number of Employees.		Average time worked per Employee.	Power used.			Value of Machinery, Plant, &c.
	Total.	Using Machinery.	Males.	Females.		Steam.	Electricity.	Other.	
Docks and Slips	6	6	930	...	12·00	2,005	...	...	286,153
Ship and Boat Building and Repairing... ..	35	22	1,498	1	11·96	298	309	102	101,350
Total	41	28	2,428	1	11·98	2,303	309	102	387,503

An increase of employment in the ship-building trade is to be anticipated during the next two years by reason of the construction of war vessels for the Australian Navy, some of which are to be built at the Fitzroy Dock, Sydney, the parts to be made locally.

XIII.—FURNITURE, BEDDING, &c.

Industries connected with the manufacture of furniture, bedding, &c., have increased greatly in importance since 1900, when only 1,916 persons were employed. The particulars relating to each industry for the year 1911 are shown in the following table :—

Industries.	Establishments.		Average Number of Employees.		Average time worked per Employee.	Power used.			Value of Machinery, Plant, &c.
	Total.	Using Machinery.	Males.	Females.		Steam.	Electricity.	Other.	
Bedding, Flock, and Upholstery	25	13	398	105	11.75	40	143	53	8,244
Billiard Tables...	3	3	68	1	12.00	..	11	19	1,624
Chair-making ...	16	15	182	8	11.27	..	63	46	4,098
Furnishing Drapery, &c. ...	10	5	72	166	10.83	...	10	...	662
Furniture and Cabinet-making ...	123	75	2,282	20	11.60	86	385	196	35,605
Picture Frames ...	15	14	121	43	11.98	...	23	2	2,130
Window Blinds ...	8	3	66	2	12.00	...	..	13	755
Total ...	197	128	3,189	345	11.58	126	640	329	53,118

XIV.—DRUGS AND CHEMICALS AND BY-PRODUCTS.

There are several large establishments for the manufacture of drugs and chemicals, and nearly three-quarters of the employees are females, who are principally engaged in packing or labelling the manufactured articles. The manufacture of by-products includes many articles such as baking powder, blue, blacking, &c., for domestic use, and the local article is gradually superseding imported goods. Following are the leading details in regard to each industry for the year 1911 :—

Industries.	Establishments.		Average Number of Employees.		Average time worked per Employee.	Power used.			Value of Machinery, Plant, &c.
	Total.	Using Machinery.	Males.	Females.		Steam.	Electricity.	Other.	
Baking Powder and Self-raising Flour...	17	13	89	88	11.73	16	71	14	7,690
Chemicals, Drugs, and Medicines.	36	25	462	365	11.79	155	228	15	145,195
Paints and Varnishes, &c....	29	23	313	143	11.73	224	170	296	43,485
Total ...	82	61	864	596	11.77	385	469	325	196,370

XV.—SURGICAL AND OTHER SCIENTIFIC INSTRUMENTS.

Most of these establishments, which number 12, are engaged in the manufacture of optical instruments, such as spectacles, &c. ; 75 males and 21 females were engaged. The total average power of machinery in use was 16 horse-power, and the value of machinery and plant £4,400.

XVI.—TIMEPIECES, JEWELLERY, AND PLATED WARE.

While there are numerous small establishments where timepieces are repaired, there are but few in which the articles are actually manufactured, and these are included with manufacturing jewellery :—

Industries.	Establishments.		Average Number of Employees.		Average time worked per Employee.	Power used.			Value of Machinery, Plant, &c.
	Total.	Using Machinery.	Males.	Females.		Steam.	Electricity.	Other.	
Electro-plating	12	12	169	10	11·92	...	68	44	8,892
Manufacturing Jewellery...	36	25	504	70	12·00	...	92	...	14,578
Total... ..	48	37	673	80	11·98	...	160	44	23,470

In 1900 there were only 102 employees engaged in manufacturing jewellery ; in consequence of the import duty under the Federal tariff a number of factories were established, the figures for 1911 being 36 establishments with 574 employees. The progress of this and other industries which supply commodities which are not essentials is a notable indication of the general prosperity of the State. Australian gem-stones are extensively used in the jewellery trade, and have commanded favourable attention in other countries.

XVII.—HEAT, LIGHT, AND POWER.

Establishments connected with the supply of heat, light, and power show an increase each year, and the number of persons employed has been doubled within the last ten years :—

Industries.	Establishments.		Average Number of Employees.		Average time worked per Employee.	Power used.			Value of Machinery, Plant, &c.
	Total.	Using Machinery.	Males.	Females.		Steam.	Electricity.	Other.	
Coke-works	13	12	425	...	12·00	885	79	10	156,913
Electric Apparatus	22	21	307	1	11·48	...	123	64	15,841
Electric Light and Power ...	104	104	928	1	11·94	53,214	...	1,520	1,257,173
Gas-works and Kerosene	47	36	1,051	2	11·72	1,212	30	152	888,711
Lamps and Fittings, &c.	4	4	45	60	12·00	...	21	2	2,043
Hydraulic Power	1	1	15	...	12·00	800	...	...	23,911
Total... ..	191	178	2,771	64	11·81	56,111	253	1,748	2,344,592

The chief development in this class has occurred in connection with the supply of electric power and light, principally owing to the development of electric tramways in the Sydney and suburban area, and of electric lighting systems.

Electric Light and Power Works.

The value of the machinery used in furnishing electric power and light now exceeds the plant in gas-works by £368,462, and the engines have a capacity of 89,155 horse-power. In 1911 the electric light produced was valued at £248,300, and the power at £646,846. The rapid progress of these establishments is shown by the following table:—

Year.	Electric Supply Works.	Average Number of Employees.	Plant and Machinery.	
			Power (full capacity).	Value.
			H. p.	£
1902	58	413	21,175	469,985
1903	73	434	21,994	523,587
1904	65	464	24,492	624,686
1905	67	521	31,862	778,313
1906	66	565	38,327	975,723
1907	91	634	43,215	1,109,535
1908	97	748	46,200	1,012,231
1909	103	769	66,428	1,047,680
1910	99	784	67,745	1,176,920
1911	104	929	89,155	1,257,173

In the metropolitan area there are numerous small establishments; outside that area, in which the tramway and the City Council's systems are the most extensive, the largest establishments are connected with mines, as at Broken Hill and Cobar, or are controlled by municipal councils. Practically all the power is generated from coal.

During 1911-2 investigations were carried out, under the direction of the Department of Public Works, for the utilisation of the water and coal resources of the State, in a general scheme for the development and distribution of electric light and power over the more populated parts of the State.

Gasworks, &c.

Considerable progress has been made in the installation of electric lighting plants; but the use of gas for lighting, power, and cooking is extending continually. The following table shows particulars of the operations of gas-works during each of the last ten years. The value of plant does not include mains.

The rate charged to consumers of gas varies in different country localities between 3s. per 1,000 feet in Bathurst and 15s. in Deniliquin. The price charged by the principal company in Sydney to private consumers during 1912 was 3s. 9d. per 1,000 feet.

Year.	Gas-works.	Average Number of Employees.	Gas made.	Plant and Machinery.	
				Power (full capacity).	Value.
			1,000 cubic feet.	H. p.	£
1902	42	648	2,304,814	1,011	536,338
1903	39	716	2,487,807	1,001	542,775
1904	40	692	2,598,650	1,091	601,976
1905	43	663	2,683,396	1,057	598,047
1906	44	654	2,790,494	1,221	628,339
1907	40	679	3,044,756	1,273	607,856
1908	39	689	3,307,083	1,368	610,914
1909	37	748	3,503,402	1,394	647,812
1910	44	916	3,861,771	1,799	748,473
1911	47	1,053	4,275,859	1,928	888,711

During 1911 the quantity of coal used for gas was 323,910 tons, which, with 55,621 tons of shale, produced, in addition to the gas (valued at £678,624), 176,728 tons of coke (valued at £93,217), 3,650,000 gallons of tar (valued at £45,360), and 3,365,000 gallons of ammoniacal liquor (valued at £8,924).

At the coke works, 387,732 tons of coal were used in 1911 to produce 264,687 tons of coke, valued at £184,337.

XVIII.—LEATHERWARE.

There are 20 establishments with 387 males and 74 females employed in the manufacture of leatherware not elsewhere included, the majority of the employees being engaged in making bags and portmanteaux. The employees in this class were busily engaged throughout the year, averaging 11·91 months per person. The power of the machinery in average use was 156 horse-power, and the value of the machinery and plant was £13,087.

XIX.—MINOR WARES.

Of the minor industries which cannot be classified under any of the preceding headings, the more important are broom and brush making, umbrella-making, and the manufacture of baskets, wicker-ware, and mats. The brooms are manufactured principally from millet grown in the State. An interesting feature of this industry is the employment which it affords to persons afflicted with blindness, and in 1911 there were 87 males and 2 females in the Sydney Industrial Blind Institution, who were employed in the manufacture of brushes, baskets, mats, &c. The particulars of the different industries for the year 1911 were as follows :—

Industries.	Establishments.		Average number of Employees.		Average time worked per Employee.	Power used.			Value of Plant, Machinery, &c.
	Total.	Using Machinery.	Males.	Females.		Steam.	Electricity.	Other.	
Baskets and Wicker-ware, Matting, &c.	7	1	106	3	Months 12·00	H. p. ...	H. p. 2	H. p. ...	£ 388
Brooms and Brushware ...	22	15	208	15	11·80	6	9	39	5,247
Rubber Goods ...	6	6	229	62	12·00	361	42	12	35,735
Toys ...	3	4	13	...	12·00	...	11	...	1,700
Umbrellas ...	5	3	50	84	11·86	...	...	16	250
Other Industries ...	18	11	173	112	10·43	86	105	2	19,801
Total ...	61	40	779	276	11·51	453	169	69	63,121

EDUCATION.

THE STATE SYSTEM OF EDUCATION.

ON the foundation of New South Wales as a British Colony, authority was given to the Governor to reserve 200 acres of land in the vicinity of each township to provide for the maintenance of a teacher. This idea was not followed, however, and for the first sixty years, from 1788 to 1848, education remained the province of private initiative. The first four teachers accredited in New South Wales were provided through the instrumentality of the Society for Promotion of the Gospel in Foreign Parts, the Society granting, at the urgent request of the Rev. R. Johnson, a sum of £40 towards their salaries. The first school was opened at Parramatta in 1796, and most of the schools established subsequently were conducted under the auspices of religious bodies, the cost of their maintenance being met by voluntary subscriptions. From 1810, these subscriptions were supplemented by subsidy from the Government out of Customs Duties, and in 1834, one year after the Imperial Parliament made its first appropriation for elementary schools, the Government of New South Wales made a grant for the same purpose, the money to be distributed to the controlling religious bodies in proportion to the amount expended by them for educational purposes.

In 1839 a grant was authorised from the public funds of New South Wales to permit of undenominational schools being established when and where required, but little activity was evinced in this connection till 1848, when following a recommendation made in 1844 by a Select Committee of the Legislative Council, an Act was passed authorising the incorporation of a Board of National Education to administer the appropriation for State undenominational education. At the same time a Denominational School Board was created, with one representative each from the Church of England, the Roman Catholic, Presbyterian, and Wesleyan Churches, to distribute to the respective denominations the moneys allotted from the Treasury in support of their educational work.

The period characterised by this dual administrative control of moneys supplied from the Treasury of the State lasted from 1848 to 1866, and was naturally distinguished by a spirit of rivalry. The extension of National Schools was hampered by a regulation that one third of the cost of building and equipment should be contributed by the applicants for such schools. In 1857, arrangements were made for the establishment and maintenance of non-vested schools, property in which was not vested in the Board of National Education. These schools won a degree of public approval, and prepared popular sentiment for a more truly national administration.

The Public Schools Act, 1866, which was operative from January, 1867, to 30th April, 1880, was devised as a measure "to make better provision for public education." A Council of Education of five members was constituted, in which were vested all the lands, moneys, securities, and personal property of the Board of National Education, all lands and school buildings held by trustees under the regulation and inspection of the Denominational School

Board as well as all personalty of the latter Board. The new Council was empowered to disburse all moneys appropriated by Parliament for elementary instruction, to establish and maintain public schools, and to grant aid to certified denominational schools, and, subject to regulations, to define the course of secular instruction generally.

Four classes of schools were recognised, viz., Public, Denominational, Provisional, and Half-time ; while, for sparsely settled districts, itinerant teachers might be appointed, or private schools assisted, provided they were subject to inspection as prescribed by the Council. The Council was empowered to authorise a scale of fees to be charged in the public and in the certified denominational schools, but inability to pay such fees did not constitute a valid reason for excluding children from the schools.

Training schools for teachers were authorised ; Public School Boards were appointed to exercise a localised supervision ; four hours per school-day were reserved for secular instruction exclusively, and a maximum period of one hour per school-day was left available for visiting religious teachers to impart religious instruction ; all existing national schools, vested and non-vested, were declared public schools. On its establishment in 1867 the Council of Education assumed control over 259 national and 310 denominational schools. From 1875 the entire cost of building and maintaining public schools was defrayed from the public funds, and the number of schools increased so rapidly that in 1880, when the Department of Public Instruction was created, there were 1,220 schools under control, viz., public, 705 ; provisional, 313 ; half-time, 97 ; and denominational, 105 ; and a degree of standardisation had been attained.

The Public Instruction Act, 1880, marked a new era. Under it the powers and authority of the Council of Education were vested in a responsible Minister of the Crown as Minister for Public Instruction, with power to disburse all moneys appropriated by Parliament for public instruction. The subsidies to certified denominational schools ceased, after due notice, on 31st December, 1882 ; an undenominational system of education was established as a public service, and attendance at school for a minimum period of 70 days in each half-year was declared obligatory, failing just cause of exemption, on all children between the ages of 6 and 14 years. The classes of schools to be established and maintained were defined as follows :—Public schools, primary and superior ; evening public schools ; and high schools for girls and for boys ; and the conditions in regard to provisional schools and itinerant teachers, as contained in the Public Schools Act, 1866, were retained but in amplified form, along with other features of that Act, *e.g.*, regarding allocation of hours of instruction, &c.

The Public Instruction Act, 1880, remains the basis of the educational system of the present day, though it was amended by the Free Education Act, 1906, which expressly enacts that instruction in primary and superior public schools shall be free, no fees being chargeable therefor. Previously, the maximum fee chargeable in public primary schools was 3d. per week per child, with a limitation of 1s. per week for all the children of one family. Fees chargeable in higher schools were determined by regulation, and following the lead of the Free Education Act, 1906, amended regulations were issued making instruction in high schools also free from 1st January, 1911.

In the thirty years during which the Public Instruction Act, 1880, has been operative, numerous adjustments in organisation and procedure have been made to permit of educational development in consonance with changing ideals. In New South Wales a considerable proportion of the population is

located in sparsely settled districts, and in virtual detachment from community life. On the other hand, an urban population is concentrated at a few points only. These two entirely diverse conditions of settlement complicated the difficulties of administering a general education policy, by making the higher standards designed by the law unattainable except in large centres of population, and necessitating special adjustments of standards for isolated areas and pioneer settlements.

In these circumstances extensions of school accommodation followed the obvious demands for an immediately necessary primary school establishment on which superior departments were grafted as occasion arose.

Except for the work carried on in high schools in Sydney and in Maitland, secondary education remained the province of denominational or private schools, of which one only, the Sydney Grammar School (for boys) was subsidised from the public funds, while all were exempt from any measure of supervision or superintendence. Some of the private schools and colleges were linked in a defined plan of organisation and administration, but for the most part they existed as independent and isolated units, and consequently the curricula devised varied with the controlling authorities. Failing any other means of co-ordination of standards, entrance to the University as the highest educational institution, was conditioned by a test of fitness prescribed by the University for individual students.

Realisation of the importance of thorough education led to a conference in the beginning of 1902 of representatives of different interests in educational matters in New South Wales. In April of the same year a Royal Commission of two members was appointed to proceed to Europe and America "to enquire into existing methods of instruction in connection with primary, secondary, technical, and other branches of education," and to recommend for adoption whatever improvements might in the judgment of the Commission be introduced with advantage in New South Wales.

Extensive investigations and comprehensive recommendations were made by the Commission, and following these a further Conference, convened by the Minister for Public Instruction, was held in 1904 to consider the question of State Education from every point of view. The plan of action embodied in the most important resolutions adopted at this Conference involved the cessation of the pupil-teacher system, which had been operative in the public schools since 1852; the introduction of specially trained teachers, and for this purpose the equipment and maintenance of a Normal School, with a Practice School attached; of a Kindergarten Training College, and of local training schools for country-school teachers. The establishment of a Chair of Pedagogy at the University of Sydney, of truant schools, and schools for the feeble-minded was urged, and other resolutions involving alterations in matters mainly of procedure in the public (primary) schools were adopted.

To accord with the new policy, a Syllabus of Instruction for Primary School Work was prepared and issued in 1905. Following is the grouping of subjects in this syllabus, in which all the school work is correlated:—

English.—Correct speech, reading, writing, spelling, composition, recitation, grammar.

Mathematics.—Arithmetic, mensuration, algebra, geometry.

Nature Knowledge.—Geography, object-lessons, elementary science.

Civics and Morals.—History, scripture, moral duties, citizenship.

Art Manual Work.—Drawing, brushwork, kindergarten exercises, modelling, woodwork, needlework.

Musical and Physical Education.

This syllabus was arranged for five classes.

The course outlined for Infants' Departments should be completed, under ordinary conditions, at the age of 8 years. Thence in point of time the work should proceed in gradations of one year each till the Primary course is completed in the fifth class at the age of 12 years.

Pending extension of the secondary school system a Higher-Primary course was arranged to cover the procedure as to sixth and seventh classes.

To suit the special conditions of one-teacher schools a modification of the primary syllabus was made dividing the instruction into that required for a lower division and an upper division.

An important alteration in procedure was the substitution of inspection for examination.

Since 1905 steady progress has been made towards embodying, with a minimum of disruption of existing institutions, the adjustments necessary to effect complete co-ordination of educational effort in all stages and between all the controlling agents; but the last two years have been most fruitful in this direction, having been marked by progress in organisation and administration, expressed in many lines of development. The regular school work has been extended, to include more manual and vocational training for boys, and more general opportunities for domestic science for girls; increased emphasis has been put upon the application of school work in its relation to the daily life of the citizen, as is evident in the specialised courses of the continuation schools newly organised. Decided progress has been made in modernising school buildings; the question of playgrounds has received attention; medical inspection is being conducted over more extensive areas. The increase so lately initiated of high school facilities is significant of the desire to provide a higher standard of education to a greater proportion of the people than has been the case hitherto.

The secondary school system was extended greatly and a new syllabus was introduced in 1911, which, with certain modifications, has been adopted not only in State High Schools, but in all the private schools registered under the Bursary Endowment Act.

A system of certificates has been introduced. The Qualifying Certificate marks the completion of the Primary course, and gives admission to a secondary school. The Intermediate Certificate is issued on the completion of the first two years of the secondary course, and the Leaving Certificate after the completion of the full High School course. The Leaving Certificate is accepted under certain conditions by the University as equivalent to matriculation, and also secures admission to the Teachers' College.

Important statutory provisions affecting educational matters are contained in the Bursary Endowment Act, 1912, and in the University Amendment Act, 1912, concerning which details are given subsequently.

Under the Public Instruction Act any school with an attendance of twenty pupils who had completed the Primary course, could be made a Superior School, taking the higher primary course or the first two years of the secondary course. These Superior Schools have now been entirely reorganised on a vocational basis, and a special syllabus has been arranged, having for its objective the training of pupils in the direction of their probable future needs. These schools are classed as Commercial, Junior Technical, and Domestic Superior Schools.

DIFFUSION OF EDUCATION.

Some idea of the diffusion of education among the people of New South Wales may be gathered from the following figures, derived from the Census of 1911 :—

	Males.	Females.	Total.
English Language—			
Read and write ...	696,258	645,022	1,341,280
Read only ...	2,565	3,140	5,705
Foreign Language only—			
Read and write ...	5,889	650	6,539
Read only ...	497	61	558
Cannot read ...	134,215	123,808	258,023
Not stated ...	18,274	16,355	34,629
Total ...	857,698	789,036	1,646,734

As regards those who cannot read, classification according to age shows the following, viz. :—

Age.	Males.	Females.	Total.
0—4 ...	102,003	98,863	200,866
5—9 ...	16,612	14,944	31,556
10—14 ...	605	440	1,045
15—19 ...	641	338	979
20 and upwards ...	13,934	8,922	22,856
Unspecified ...	420	301	721
Total ...	134,215	123,808	258,023

Persons above the age of 4 years who could not read, in proportion to the total population, were :—Males, 3·7 per cent. ; females, 3·1 per cent. These figures relating to persons 5 years of age and upwards who could not read included immigrants and persons who had not come under the jurisdiction of the Public Instruction Act of New South Wales.

SCHOOL POPULATION.

Attendance at a school is, under the Public Instruction Act, 1880, obligatory upon children between the ages of 6 and 14 years ; but this period of eight years does not entirely cover the full school age, which is extended frequently by kindergarten training on the one hand and by continuation or secondary school work on the other. In these conditions, the full school age may fairly be taken as from ages 5 to 18 inclusive. The following statement,

derived from the records of the Census in April, 1911, shows the population of the State (exclusive of full-blood aborigines), in relation to schooling, distinguishing the persons receiving instruction at school, at the University or at home, and those not so classified:—

Age.	At School.			At University (Day Students only).	At home.	Not recorded as receiving instruction.	Total.
	Public.	Private.	Unspecified.				
MALES.							
Under 5 ...	1,463	551	97	...	82	99,810	102,003
5 ...	5,237	1,372	288	...	935	10,990	18,522
6 ...	10,126	2,305	472	...	755	4,200	17,858
7 ...	11,518	2,497	501	...	593	1,266	16,375
8 ...	11,980	2,563	484	...	494	752	16,258
9 ...	12,131	2,449	453	...	455	636	16,124
10 ...	12,529	2,469	518	...	351	567	16,434
11 ...	12,345	2,455	495	...	297	751	16,343
12 ...	11,002	2,224	470	...	250	884	14,830
13 ...	10,348	2,140	436	...	241	2,518	15,683
14 ...	4,953	1,606	308	...	137	8,842	15,846
15 ...	1,882	1,329	89	...	94	12,597	15,982
16 ...	681	963	52	11	52	14,368	16,127
17 ...	295	635	16	36	39	15,851	16,872
18 ...	136	406	24	93	34	16,544	17,237
19 ...	90	238	15	121	14	16,235	16,763
20 and upwards	122	689	51	501	79	502,509	503,951
Unspecified ...	177	79	52	...	15	4,167	4,490
Total ...	107,015	26,975	4,792	762	4,617	713,537	857,698
FEMALES.							
Under 5 ...	1,319	659	70	...	75	96,740	98,863
5 ...	4,870	1,443	337	...	669	10,672	17,991
6 ...	9,108	2,627	406	...	894	4,437	17,472
7 ...	10,431	2,824	425	...	679	1,524	15,883
8 ...	11,409	2,969	445	...	548	821	16,192
9 ...	10,930	2,974	449	...	519	710	15,582
10 ...	11,612	3,091	402	...	458	691	16,254
11 ...	11,315	3,057	393	...	401	770	15,936
12 ...	10,506	2,957	404	...	369	1,092	15,328
13 ...	8,818	2,830	355	...	323	2,757	15,083
14 ...	4,600	2,199	244	...	227	8,127	15,397
15 ...	2,050	1,648	122	...	163	11,910	15,893
16 ...	822	1,261	77	16	97	13,690	15,963
17 ...	373	742	34	18	46	15,100	16,313
18 ...	206	371	37	30	26	16,038	16,708
19 ...	125	226	32	25	13	15,717	16,133
20 and upwards	105	279	816	82	10	442,945	444,237
Unspecified ...	155	71	63	...	13	3,501	3,803
Total ...	98,754	32,228	5,111	171	5,530	647,242	789,036

Summarising the totals under the various heads of the table given above, the following comparison for all ages and for school ages is derived:—

	All ages.			School ages (6-14).		
	Males.	Females.	Total.	Males.	Females.	Total.
Receiving Instruction—						
At School—						
Public... ..	107,015	98,754	205,769	91,979	84,129	176,108
Private	26,975	32,228	59,203	19,107	23,329	42,436
Unspecified	4,792	5,111	9,903	3,809	3,279	7,088
Total	138,782	136,093	274,875	114,895	110,737	225,632
At the University	762	171	933	.....	.....	.....
At home	4,617	5,530	10,147	3,436	4,191	7,627
Total receiving in- struction.	144,161	141,794	285,955	118,331	114,928	233,259
Not under instruction	713,537	647,242	1,360,779	11,574	12,802	24,376
Total	857,698	789,036	1,646,734	129,905	127,730	257,635

Persons of all ages who were receiving instruction formed 17·36 per cent. of the total population; persons of school age (6-14 years) represented 15·65 per cent. of the total, the proportion of girls being rather greater than the proportion of boys, viz., 16·19 per cent. as against 15·15 per cent., respectively.

Improvement in the diffusion of education is shown in a comparison of the records at each census since 1891, of persons aged 5 years and over. The following figures represent the proportion of the total population over 5 years of age, in two groups, 5-14 years and 15 years and over, who could read and write, or read only, in English or a foreign language, and the proportions unable to read:—

CENSUS.

	1891.		1901.		1911.	
	Males.	Females.	Males.	Females.	Males.	Females.
Read and write—	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Ages 5-14 years	73·1	74·3	76·2	77·1	88·9	89·8
15 and over	92·4	92·2	94·0	95·3	97·0	97·7
Total, 5 and over	87·5	86·8	89·3	90·0	95·3	95·9
Read only—						
Ages 5-14 years	8·4	7·7	5·0	4·7	·3	·3
15 and over	2·4	3·7	1·4	1·8	·4	·5
Total, 5 and over	4·0	4·9	2·3	2·7	·4	·5
Unable to read—						
Ages 5-14 years	18·5	18·0	18·8	18·2	10·8	9·9
15 and over	5·2	4·1	4·6	2·9	2·6	1·8
Total, 5 and over	8·5	8·3	8·4	7·3	4·3	3·6

The increase in the proportion of those who can read and write is evidence of the extension of educational facilities.

As to the ages of compulsory attendance, viz., 6 and under 14 years, some further details are available to enable a comparison between the urban area of Sydney and suburbs, and the remainder of New South Wales, viz. :—

Children of School Ages. 6-14 years.	Sydney and Suburbs.		Remainder of State.		Total.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
Receiving Instruction at School :—							
Public	30,051	27,433	61,928	56,696	91,979	84,129	176,108
Private	9,086	11,436	10,021	11,893	19,107	23,329	42,436
Unspecified	1,345	1,301	2,464	1,978	3,809	3,279	7,088
Total	40,482	40,170	74,413	70,567	114,895	110,737	225,632
At home	373	694	3,063	3,497	3,436	4,191	7,627
Not under Instruction	2,757	3,131	8,817	9,671	11,574	12,802	24,376
Total	43,612	43,995	86,293	83,735	129,905	127,730	257,635

Of 24,376 children of ages 6 and under 14 years who were not recorded as receiving instruction 18,488 were resident outside the Metropolitan area.

The following statement summarises the records in regard to children of statutory school age, as derived from the last three censuses :—

	Sydney and Suburbs.			Remainder of State.		
	1891.	1901.	1911.	1891.	1901.	1911.
At school—						
Public	44,448	53,976	57,484	103,783	118,476	118,624
Private	16,894	27,280	20,522	18,934	27,213	21,914
Unspecified	477	2,137	2,646	336	4,608	4,442
Under instruction at home	1,580	1,773	1,067	9,173	10,982	6,560
Total receiving instruction	63,409	85,066	81,719	132,226	161,279	151,540
Not recorded as receiving instruction	2,972	3,561	5,888	13,235	13,896	18,488
Total	66,381	88,627	87,607	145,461	175,175	170,028

In 1901 children of compulsory school age were nearly one sixth of the total population ; in 1911 they were more nearly one seventh.

The following statement shows the figures in each group reduced to percentages of the total number of children of the statutory school age at each date :—

	Sydney and Suburbs.			Remainder of State.		
	1891.	1901.	1911.	1891.	1901.	1911.
At School—						
Public	20·98	20·42	22·31	48·99	44·91	46·04
Private	7·97	10·34	7·97	8·94	10·32	8·51
Unspecified	·23	·81	1·02	·16	1·75	1·72
Under instruction at home	·75	·67	·41	4·33	4·16	2·55
Total receiving instruction	29·93	32·24	31·71	62·42	61·14	58·82
Not recorded as receiving instruction	1·40	1·35	2·29	6·25	5·27	7·18
Total	31·33	33·59	34·00	68·67	66·41	66·00

In the period between 1891 and 1911 there was a gain to the metropolitan area in the proportion of children of school age. There was also an increase in the proportion of the children attending public schools, and of the total receiving instruction. For the rest of the State there were proportionate decreases in the numbers receiving instruction, in all cases except the unspecified schools. The increases in the number of children "not recorded as receiving instruction" are unsatisfactory features of the table.

STATE EXPENDITURE ON EDUCATION.

The actual expenditure of the Government on Education, includes grants and subsidies to Educational and Scientific institutions, cost of maintenance of industrial schools and reformatories, as well as expenditure for premises, equipment, and maintenance of public schools; the aggregate has been increasing steadily as the figures for the past ten years will show. Relatively to the mean population the increase was almost imperceptible until 1907, but for the last four years there has been a distinct advance in all items of educational expenditure, particularly in the amount spent on schools and other buildings.

In the following statement of the public expenditure on education during the last ten years, the expenditure on buildings, equipment, sites, &c., representing capital expenditure, and contributed from Loan Funds, or since 1907 from Public Works Account, has been distinguished as far as practicable from expenditure for maintenance, including grants and subsidies, all of which constitute annual running costs, and are payable out of Consolidated Revenue:—

Year ended 30th June.	Expenditure.			Cost per head of mean population.
	Capital.	Annual.	Total.	
	£	£	£	s. d.
1902	69,175	874,977	944,152	13 7
1903	72,466	905,439	977,905	13 10
1904	57,951	913,197	971,148	13 6
1905	30,227	916,071	946,298	12 11
1906	42,937	938,640	981,577	13 1
1907	99,338	946,044	1,045,382	13 7
1908	132,753	1,058,864	1,191,617	15 3
1909	203,954	1,110,621	1,314,575	16 6
1910	159,890	1,148,520	1,308,410	16 2
1911	176,778	1,213,368	1,390,146	16 9

These figures are exclusive of amounts spent on colleges, experiment farms, or societies for the promotion of agriculture and allied interests, concerning which reference should be made to the chapter on Agriculture. Naturally, under each head, the largest item relates to the Public Schools of the State. The following statement, giving in more detail the expenditure for 1911, demonstrates this fact:—

Object.	Expenditure.	
	Capital. £	Annual. £
Public Instruction Department, Schools, &c. ...	155,259	1,126,590
Educational Institutions, Schools of Arts, &c. ...	1,665	9,624
University, and affiliated Colleges ...	14,735	25,586
Sydney Grammar School ...	.....	1,500
Industrial Schools ...	1,564	17,964
Kindergarten Union ...	.....	1,000
Public Library ...	2,509	9,906
Museums ...	1,046	9,048
Grants and Subsidies to Various Societies ...	.....	12,150
Totals ...	176,778	1,213,368

The major portion of the annual expenditure of the Government in connection with the promotion of educational interests is obviously for institutions which are under control of governmental or delegated officials, as the Department of Public Instruction, industrial schools, public library, &c. The University of Sydney, though a publicly endowed institution, was a notable instance of freedom from any measure of Governmental supervision, but this condition is altered by the University Amendment Act, 1912, under which the Government is represented on the Senate of the University. Grants and subsidies to institutions, schools, and societies represent annual payments conditional upon satisfactory fulfilment of functions.

SCHOOLS AND TEACHING STAFFS.

The total number of public and private schools in operation in New South Wales at the end of each of the past ten years, and the aggregate teaching staff in each group are shown in the following table:—

Year.	Schools.			Teaching Staffs.		Total.
	Public.	Private.	Total.	In Public Schools.	In Private Schools.	
1902	2,846	868	3,714	5,401	3,339	8,740
1903	2,862	841	3,703	5,589	3,368	8,957
1904	2,870	852	3,722	5,699	3,396	9,095
1905	2,901	853	3,754	5,719	3,482	9,201
1906	2,885	852	3,737	5,758	3,557	9,315
1907	2,918	806	3,724	5,965	3,524	9,489
1908	3,002	792	3,794	6,012	3,501	9,513
1909	3,075	789	3,864	6,176	3,633	9,809
1910	3,105	774	3,879	6,262	3,602	9,864
1911	3,125	756	3,881	6,517	3,659	10,176

These figures, which are exclusive of Technical Schools, the Sydney Grammar School, the Ragged, and Free Kindergarten Schools, the New South Wales Institution for the Deaf and Dumb and the Blind, Institutional schools under denominational control, Shorthand and Business Colleges, Agricultural Colleges, &c., represent the extent of normal, primary and secondary educational facilities. In 1902 there was on the average, one school to 375 persons; in 1911 there was only one school to 428 persons in the population of the State. In the 10 years there was an increase of 279 in the number of public schools, which increase was partly off set by a decrease of 112 in the number of private schools. The Teaching Staff averaged 1 per 159 persons in the population in 1902 and in 1911, 1 to 163. The Teaching Staff per school was much greater for the private schools than for the public, but it must be remembered that the staffs of the private schools include a number of visiting teachers who do not devote their whole time to one school.

As to the private schools, there has been practically a continuous drop in their number since 1901, when there were 889, until in 1911 there were 756, a decrease of 133. Included in these schools are those of the Roman Catholic denomination, which show a substantial increase, in contrast to the diminution of other private schools.

In the public schools there was little advance in numerical strength during the first half of the period covered by the table. The policy of conveying children to central schools rather than of opening a large number of small schools is partly accountable for this. The granting of educational subsidies has in many cases obviated the necessity of increasing the number of small country schools, but during the last five years an advance is apparent, due mainly to the extension of small schools in scattered districts. The increase of the State Schools during the period has been 289 schools, equivalent to about 10 per cent.

ENROLMENT.

A comparative review of the enrolment of children at public and private schools is restricted to the last quarter in each year, as the figures collected in regard to private schools refer only to that period. The following statement shows the recorded enrolment of public and of private schools for the December quarter during each of the last ten years:—

Year.	Enrolment.			Proportion of Total Children Enrolled.	
	In Public Schools.	In Private Schools.	Total.	In Public Schools.	In Private Schools.
1902	210,726	58,939	269,665	per cent. 78·1	per cent. 21·9
1903	211,558	58,258	269,816	78·2	21·8
1904	207,860	57,811	265,671	78·2	21·8
1905	206,010	57,854	263,864	78·1	21·9
1906	207,298	58,707	266,005	77·9	22·1
1907	209,229	57,440	266,669	78·2	21·8
1908	214,495	57,111	271,606	79·0	21·0
1909	213,739	58,361	272,100	78·6	21·4
1910	214,776	59,247	274,023	78·4	21·6
1911	221,810	60,963	282,773	78·4	21·6

During the greater part of the period under review the total enrolment appears almost stationary, if not retrogressive, a condition referable probably in large measure to the decline in the birthrate.

The figures relating to enrolment are exclusive of the Sydney Grammar School for Boys, Business and Shorthand Schools, the School held in connection with the Deaf and Dumb and Blind Institution, the Ragged Schools and Free Kindergarten Schools, Institutional Schools under denominational control, Agricultural and Technical Schools, etc.

AVERAGE ATTENDANCE.

A comparison over the last ten years between the average quarterly enrolment and the average attendance for Public Schools is derived from the rolls for all quarters of the year, not for the December quarter only. The pupils attending Subsidised Schools are included only for 1907 and

subsequent years. For Private Schools the ratio is on the December quarter for the first five years (1902-6) and on the average daily attendance during the whole year for the last five years (1907-1911):—

Year.	Public Schools.			Private Schools.		
	Average Quarterly Enrolment.	Average Attendance during the year.	Ratio of Attendance to enrolment.	Enrolment December Quarter.	Average Attendance.	Ratio of Attendance to enrolment.
1902	212,848	155,916	per cent. 73·3	58,939	47,195	per cent. 80·1
1903	213,318	154,332	72·3	58,258	46,982	80·6
1904	211,489	153,260	72·5	57,811	46,667	80·7
1905	209,227	152,105	72·7	57,854	46,480	80·3
1906	207,741	151,261	72·8	58,707	46,942	80·0
1907	213,709	152,607	71·4	57,440	46,697	81·3
1908	216,747	155,997	71·9	57,111	43,203	84·4
1909	218,248	160,080	73·3	58,361	48,792	83·6
1910	218,539	157,498	72·1	59,247	43,351	83·3
1911	223,603	160,776	71·9	60,963	51,569	84·6

The quarterly enrolment, as the standard for comparison of children under tuition, and, by means of the average attendance, of the degree of constancy in the education of children, is a somewhat unsatisfactory test.

Yearly, quarterly, or weekly rolls of the pupils are functions of the same variable *daily attendance*, and the longer the intervals of compiling the roll, whether for a week, a quarter, or a year, the greater the error introduced by multiple enrolment into the basis of comparison. Figures for the gross enrolment in public schools indicate that in each year some 60,000-65,000 enrolments result from children attending more than one school and being enrolled more than once.

The Department of Public Instruction finds that 12·8 per cent. of the gross yearly enrolment must be deducted to obtain the number of individual pupils enrolled. Furthermore, the effective quarterly enrolment is only 90 per cent. of the yearly roll, and the weekly roll again only 91 per cent. of the quarterly.

It is remarkable, however, how greatly the percentage varies in the different inspectorial districts.

As might be expected there is more school migration in the tourist districts, while in the western districts the percentage of pupils who have been enrolled in more than one school during the year is extremely small.

In the Moss Vale district, for example, the percentage is 17·3; Wollongong, 17·1; and Blackheath, 16·3. On the other hand, the percentage at Broken Hill is only 5·7; Hay, 7·6; Albury, 9·1; and Wellington, 9·8.

The weekly roll is clearly the best test, inasmuch as it most nearly approaches the basis (daily) on which the average attendance is computed; but preferably the average attendance of scholars should be compared with the total children who can be regarded as in need of education. Such comparison is rendered possible by, and is given in, the census figures for 1911 already quoted.

The following statement shows, for the last ten years, the average attendance at public and private schools in comparison with the estimated numbers of children requiring education :—

Year.	Estimated children of school age. (6-14).	Other Children under and over school age on roll.	Total Children requiring education.	Average Attendance, Public and Private Schools.	Proportion per cent. attending school.
1902	266,500	44,907	311,407	203,111	65.2
1903	265,400	44,682	310,082	201,364	64.9
1904	266,100	44,606	310,706	199,927	64.3
1905	264,200	40,352	304,552	198,585	65.2
1906	262,500	41,436	303,936	198,203	65.2
1907	260,800	43,111	303,911	199,304	65.6
1908	259,400	42,551	301,951	204,203	67.6
1909	259,200	43,242	302,442	208,872	69.1
1910	257,900	44,364	302,264	206,849	68.4
1911	260,800	43,979	304,779	212,345	69.7

The figures in this table are inclusive only of primary and secondary normal schools.

Following is a comparison of enrolment and attendance in public schools, excepting subsidised schools, in recent years :—

Enrolment.								
Year.	Individual Pupils.			Averages.				
	Boys.	Girls.	Total.	Quarterly.	Weekly.			
1905	121,233	103,790	228,023	209,227	*			
1906	121,294	108,194	229,488	207,741	*			
1907	123,730	112,006	235,736	213,709	*			
1908	122,383	110,741	233,124	216,747	194,641			
1909	125,116	113,398	238,514	218,248	197,979			
1910	129,364	114,475	243,839	218,539	198,874			
1911	130,926	118,606	249,532	223,603	203,385			

Attendance.							Attendance in Proportion to Enrolment.	
Year.	During the Year.			December Quarter.			Quarterly.	Weekly.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.		
1905	81,445	70,660	152,105	80,868	70,165	151,033	Per cent. 72.69	Per cent. * *
1906	80,904	70,357	151,261	80,245	70,878	151,123	72.81	*
1907	81,103	71,505	152,608	79,769	70,717	150,486	71.40	*
1908	82,550	73,447	155,997	84,090	75,205	159,295	71.97	80.10
1909	84,830	75,250	160,080	83,379	73,956	157,335	73.34	80.85
1910	83,710	73,788	157,498	80,917	71,328	152,245	72.07	79.19
1911	85,196	75,580	160,776	87,097	77,245	164,342	71.85	79.00

* Information not obtainable.

On the individual enrolment the attendance during the year was slightly better for boys than for girls, viz., 65.1 per cent. as compared with 63.7.

The discrepancy between enrolment and attendance is ascribed to several contributing causes—(1) laxity of home control ; (2) indifference to the need for education ; (3) desire to exploit the energies of children, and (4) ineffective compulsory-attendance laws. The question of truancy inspection has aroused considerable attention at various times, and the need for making attendance at continuation schools obligatory has been discussed recently.

To reduce the disproportion between attendance and enrolment, in State schools particularly, and to secure the enrolment of all children of school age, amendment of the Public Instruction Act is projected, to enable the Department to deal more stringently with truants and children who fail to attend a school regularly.

During 1911, in the State schools, 37,763 children between the ages of 6 and 14 years, in the first half of the year, and 27,773 in the second half-year, failed to complete the minimum attendance of 70 days. Legal action to enforce attendance was taken in 923 cases, viz., 564 in the first half-year, and 359 in the second. In 3,204 cases the parents were cautioned.

AGE DISTRIBUTION OF PUPILS.

The age-grouping of pupils enrolled at schools during the last ten years is shown in the following table ; for Public Schools the basis is the mean quarterly enrolment ; for Private Schools the basis is the enrolment for December quarter in each year :—

Year.	Public Schools.				Private Schools.			
	Under 6 years.	6 years and under 14.	14 years and over.	Total.	Under 6 years.	6 years and under 14.	14 years and over.	Total.
1902	8,777	182,962	21,109	212,848	5,507	44,918	8,514	58,939
1903	8,413	182,421	22,484	213,318	5,336	44,473	8,449	58,258
1904	8,559	180,480	22,450	211,489	5,193	44,214	8,404	57,811
1905	7,430	182,460	19,337	209,227	4,848	44,269	8,737	57,854
1906	8,302	180,228	19,211	207,741	4,972	44,784	8,951	58,707
1907	8,762	184,858	20,089	213,709	4,859	43,180	9,401	57,440
1908	8,933	187,750	20,064	216,747	4,839	43,549	8,723	57,111
1909	9,613	189,074	19,561	218,248	5,007	44,293	9,061	58,361
1910	10,140	188,770	19,629	218,539	5,180	44,652	9,415	59,247
1911	10,688	194,394	18,521	223,603	5,247	46,193	9,523	60,963

Since 1907 the figures relating to public schools include enrolment at subsidised public schools.

These figures as to age distribution raise the question of classification, and the treatment of a typical children. Retardation is a feature of the Infants' Departments, and even of the first class of the primary school, a chief reason for this being found in the fact that children are enrolled when much beyond the minimum age of 6 years. Another cause of retardation lies in lack of continuity, and re-enrolment in different schools.

RELIGIONS.

A comparative view of the aggregate enrolment in all schools (public and private) for the December quarter during the last ten years, is given here-under, and the figures, being on the same planes of comparison for each year, may be accepted as illustrative of the progression of each type of school during the period.

The first table contains the numerical enrolment and its constituent subdivisions; and the second table supplies the ratios per cent. which such subdivisions bear to the aggregate enrolment, thus providing a ready means for comparisons :—

Year.	Total Enrolment.	Public Schools— Denomination of Children.					Private Schools— Denomination of Schools.		
		Church of England.	Roman Catholic.	Presbyterian.	Methodist.	Other.	Church of England.	Roman Catholic.	Other.
1902	239,665	110,615	30,957	23,586	26,201	19,367	4,263	40,868	13,808
1903	269,816	110,843	31,308	23,841	26,849	18,717	4,466	40,989	12,803
1904	265,671	109,658	30,233	23,829	28,240	15,900	4,116	41,112	12,583
1905	263,884	108,333	29,985	24,070	28,603	15,019	3,954	41,268	12,632
1906	266,005	108,497	30,636	24,207	28,866	15,092	3,922	42,106	12,679
1907	266,669	109,306	31,436	24,453	28,954	15,080	3,434	42,005	12,001
1908	271,606	112,728	32,209	24,913	29,581	15,064	3,415	42,295	11,401
1909	272,100	113,019	31,190	24,941	29,582	15,007	3,308	43,615	11,438
1910	274,023	114,677	30,937	25,021	29,640	14,501	3,500	44,249	11,498
1911	282,773	118,794	31,044	26,347	30,595	15,030	3,297	46,097	11,569

Taking the total enrolment as 100, following are the proportionate values under each head of the table given above, viz. :—

Percentage of Total Enrolment.

Year.	Public Schools— Denomination of Children.					Private Schools— Denomination of Schools.		
	Church of England.	Roman Catholic.	Presbyterian.	Methodist.	Other.	Church of England.	Roman Catholic.	Other.
1902	41·02	11·48	8·75	9·72	7·18	1·58	15·15	5·12
1903	41·08	11·60	8·84	9·95	6·94	1·66	15·19	4·74
1904	41·28	11·38	8·97	10·63	5·98	1·55	15·47	4·74
1905	41·06	11·36	9·12	10·84	5·69	1·50	15·64	4·79
1906	40·79	11·52	9·10	10·85	5·67	1·47	15·83	4·77
1907	40·99	11·79	9·17	10·86	5·65	1·29	15·75	4·50
1908	41·50	11·86	9·17	10·89	5·55	1·26	15·57	4·20
1909	41·54	11·46	9·17	10·87	5·51	1·22	16·03	4·20
1910	41·85	11·29	9·13	10·82	5·29	1·28	16·15	4·19
1911	42·01	10·98	9·32	10·81	5·32	1·17	16·30	4·09

It will be noticed that in the public school figures the column headings indicate the denomination of the children, and in the private school figures the denomination of the schools. In the former case the denomination of the child is ascertained, but not in the latter, and the pupil, although attending a school of stated denomination, is not necessarily to be considered of that denomination. It may be assumed, however, for purposes of comparison, that on the whole the religion of the child accords with that of the denomination of the private school he is attending, and on this basis we obtain the following comparisons.

As to the children of the Church of England, its constituent percentages of the total children were—

Year.	Per cent. of Total Children attending School in—		
	Public Schools.	Church of England Schools.	All Schools.
1902	41·02	1·58	42·60
1903	41·08	1·66	42·74
1904	41·28	1·55	42·83
1905	41·06	1·50	42·56
1906	40·79	1·47	42·26
1907	40·99	1·29	42·28
1908	41·50	1·26	42·76
1909	41·54	1·22	42·76
1910	41·85	1·28	43·13
1911	42·01	1·17	43·18

The percentage evidently has been very constant during the whole period for both classes of schools—public and private—the advance, on the whole, for the period covered by the table being 1 per cent. of the total school children enrolled, and the Church of England children at present attending public schools are to those attending their own denominational schools in the ratio approximately of 97 to 3.

As to the Roman Catholic Church, the figures appear as follows :—

Year.	Per cent. of Total Children attending School in—		
	Public Schools.	Roman Catholic Schools.	All Schools.
1902	11·48	15·15	26·63
1903	11·60	15·19	26·79
1904	11·38	15·47	26·85
1905	11·36	15·64	27·00
1906	11·52	15·83	27·35
1907	11·79	15·75	27·54
1908	11·86	15·57	27·43
1909	11·46	16·03	27·49
1910	11·29	16·15	27·44
1911	10·98	16·30	27·28

Here is observed extremely slight fluctuation in the percentage attending public schools, and as to the denominational schools, the rates show a tendency to rise. The Roman Catholic children at present attending public schools are to those attending their own denominational schools in the ratio of 40 to 60.

Religious Instruction in State Schools.

A provision of the Public Instruction Act, 1880, retained from the Public Schools Act, 1866, reserves a maximum period of one hour in each school day, during which religious instruction may be given to scholars in State schools by visiting ministers and teachers of religious bodies. That full advantage of this provision is not taken by the various denominations, is evident from the total number of visits paid by clergymen and religious teachers during the years 1908-11, viz. :—

Denomination.	Number of Visits.			
	1908.	1909.	1910.	1911.
Church of England	24,701	24,977	25,209	26,101
Roman Catholic	1,032	936	840	711
Presbyterian	7,143	6,920	7,132	7,452
Methodist	7,604	8,301	8,430	8,800
Other Denominations	4,441	4,542	5,094	5,536
Total	44,921	45,676	46,705	48,600

During 1911 some 1,200 visits were paid each week that the schools were open. The extent to which opportunities for religious instruction are used could be measured more closely if the number of children taught were recorded.

In connection with this matter it may be noted that, in all parts of the civilised world a considerable amount of attention is bestowed on the problem of moral education; in New South Wales civics and morals are subjects of study in the Public School curricula, and efforts are being made to devise the best means of teaching ethics.

THE STATE SCHOOLS.

Annual Expenditure.

The following statement shows the expenditure by the Department of Public Instruction in each calendar year since 1905, for maintenance, administration, and building, on account of primary and secondary public day schools and technical schools :—

Year.	Primary and Secondary Schools.				Technical Education.		
	Maintenance and Administration.				Building, including Repairs.	Maintenance and Administration.	Land and Building, including Repairs.
	Rent and Rates.	Maintenance and Salaries.	Administration and Training.	Total.			
	£	£	£	£	£	£	£
1905	9,171	729,464	51,692	790,327	49,648	25,315	...
1906	8,570	737,041	54,565	800,176	81,405	26,879	...
1907	10,965	758,131	60,817	829,913	92,382	33,569	187
1908	7,342	873,748	64,557	945,647	139,373	40,896	10,918
1909	17,445	877,916	66,324	961,685	148,254	45,489	15,963
1910	18,657	911,641	71,711	1,002,009	189,704	49,293	16,430
1911	19,494	967,900	80,683	1,068,077	174,499	51,473	10,393

These figures represent governmental expenditure only.

In regard to Technical Education particularly, it is necessary to note that fees paid by students constitute a considerable item of receipt in each year.

Fees in primary schools were abolished as from 8th October, 1906, and High School fees from 1st January, 1911. The last fees received—year 1911—amounted to £3,575.

Throughout the period quoted, the item of rent paid on account of public day schools has fluctuated between £1,300 and £1,700 per annum approximately. Rates which, therefore, constitute the greater part of the amount shown under the heading of rent and rates include water and sewerage rates.

The figures given above represent the annual normal expenditure. To estimate the total cost of State school education during any year would necessitate investigation of the capital value of buildings and equipment, the rate of depreciation to be allowed, &c. At the present time the Department of Public Instruction estimates the value of primary and secondary day-school buildings at £1,154,460; residences for school purposes at £353,337, or a total of £1,509,797. The annual rental value of vested residences in 1911 was assessed at £27,000. The approximate value of school sites is given as £242,372 at December, 1912.

For the moneys spent on school buildings and teachers' residences, £1,509,797, it would be only fair that the department should be charged an average rate of interest, as the greater part has been provided out of Loan funds; or supposing that the whole moneys so expended since the foundation of the department had been derived from the public revenue, it would still be only a reasonable presentation of the true position to charge the Department with interest on the capital. On the basis of $3\frac{1}{2}$ per cent., which represents a normal rate for State funds, an amount of £52,843 would be chargeable under this head, and this amount added to the annual cost of £1,068,077 shown above, would give a cost for 1911 of £1,120,920 chargeable against the department. On these figures the average cost per head of mean population for 1911 was 13s. 6d., or for each child in average attendance, £6 19s. 9d.

The comparative intensity of annual cost in primary and secondary classical schools is indicated in the following table, in which the relative cost per school is shown for the same years:—

Year.	Schools.	Per School.		
		Municipal and other Rates.	Maintenance and Salaries.	Administration and Training.
	No.	£ s. d.	£ s. d.	£ s. d.
1895	2,563	0 11 8	215 2 2	17 19 7
1900	2,745	2 6 2	223 19 10	18 12 2
1905	2,901	2 12 8	251 9 0	17 16 5
1906	2,885	2 9 10	255 9 5	18 19 2
1907	2,918	3 6 3	259 16 2	20 16 10
1908	3,002	1 18 1	291 1 0	21 10 0
1909	3,075	5 3 7	285 10 0	21 11 5
1910	3,105	5 10 7	293 12 1	23 1 11
1911	3,125	6 4 9	309 14 10	25 16 4

The following statement shows, in comparative form, the distribution of expenditure (exclusive of rates, &c.) in connection with primary schools and secondary classical schools under the Department of Public Instruction in 1910 and 1911 :—

	1910.	1911.
	£	£
School premises	191,188	176,194
Maintenance—		
Primary and Subsidised Schools :		
Teachers' salaries and allowances	840,092	869,928
Other expenses	54,995	72,320
High Schools :		
Salaries and maintenance	10,394	18,223
Scholarships and bursaries	6,159	7,429
Training of teachers	23,263	30,040
Administration	48,448	50,643
Total	£1,174,539	£1,224,777

SCHOOL ACCOMMODATION, SITES, AND PLAYGROUNDS.

There was accommodation in the schools in 1881 for 98,721 children, and at the end of 1911 for 228,253 ; and comparison of the latter number with the average attendance at the present time shows that there is, on the whole, ample space in the school buildings to meet requirements. On the basis adopted in 1908 in regard to school buildings, 150 cubic feet of air space are required per child, though under the Public Instruction Act, 1880, the minimum apportionment of space inside a public school building is 100 cubic feet for each child ordinarily in attendance. In the last four years, Departmental expenditure for building has been far in excess of earlier years, and during 1911 progress was made in the work of remodelling existing buildings ; effecting improvements in lighting, ventilation, and general sanitation ; erecting science, cookery, and manual-training rooms ; and providing assembly-halls and supplying furniture of modern type.

During 1911, 86 sites for public schools were vested in the Department. Of these, 52 were grants of Government lands, 22 were resumed, 17 purchased, and 3 conveyed as gifts. In eight cases additional land was secured for the purpose of enlarging existing playgrounds. In the city and suburban area the question of adequate ground space in connection with the public schools is complicated by the high resumption values involved, and attention is being directed to the possibility of using public parks and reserves as children's playgrounds, such "park kindergartens" to be under supervision of trained kindergarten teachers, who will give elementary instruction by means of organised games.

School furniture and general equipment is supplied in the Public School by the Department of Public Instruction. Specific articles, as teaching aids and equipment, may be provided from school funds. An inventory made during 1911 of articles so provided in the Public Schools shows an aggregate of 2,247 items, of the minimum value of £1 each, the total value being £14,960. This list includes pianos, sewing machines, magic lanterns, barometers, microscopes, typewriters, &c. Most of the schools in the State have school libraries, frequently well stocked. In the larger schools books of reference are supplied by the Department of Public Instruction, with the object of encouraging research work.

PRIMARY AND SECONDARY SCHOOLS.

The number of Primary and Secondary Schools open at the end of each of the last seven years is shown in the following statement:—

Year.	Secondary High.	Primary Day.				Primary Evening.	
		Primary and Superior.	Provisional and Half-time.	House-to-house.	Subsidised.	Primary.	Continuation.
1905	4	1,923	768	12	160	32	...
1906	5	1,908	750	10	195	34	...
1907	5	1,927	721	9	220	33	...
1908	5	1,941	727	9	284	33	...
1909	5	1,949	729	12	344	33	...
1910	5	1,950	740	9	362	36	...
1911	8	1,915	746	6	414	16	18

Forty-eight new schools and residences were erected in 1911; additions to school buildings were effected in 69 instances. Details concerning each type of school are given in subsequent tables. The number of schools open at any time during the year does not necessarily coincide with the number open at the end of that year, as with variations in population variations are being made constantly in the classification of schools opened, and new schools are established or existing schools closed. The most consistent demand for new schools or additional accommodation is from Sydney and the contiguous suburbs. Country towns, with a comparatively stationary population, present little difficulty; but the continuous demands for new schools in freshly-settled districts, remote from towns, with existing educational facilities, account in great measure for the increase in recent years in the number of subsidised schools.

The following table affords a comparison between the number and type of State schools in operation in 1881, the first full year in which the Department of Public Instruction was under immediate ministerial control, and the numbers open during the years 1891, 1901, and 1911; the figures represent the gross number of schools in operation at any time during the year.

Type of School.	Schools in operation.			
	1881.	1891.	1901.	1911.
High ... ..	...	5	4	8
Public, Primary and Superior	1,100	1,697	2,049	1,945
Day ... ..	...	...	...	...
Provisional	246	349	428	514
Half-time	93	300	276	303
House-to-house ... ..	...	92	20	6
Evening, Primary	57	14	41	24
Continuation ... ..	...	...	...	18
Subsidised ... ..	...	...	...	494
Reformatory and Industrial ...	2	3	4	3
Total	1,498	2,460	2,822	3,315

Study Courses.

Details have been given previously regarding the Primary School Syllabus as revised in 1905, and instruction in all primary schools is along the lines of this syllabus, with such adaptations from traditional methods in the scope of treatment of each subject as may be essential to bring the schools into close relationship with the outside world, and fit the pupils for useful citizenship.

Primary and higher primary work is undertaken in schools classifiable broadly in two groups—(a) primary and superior schools in more or less populous centres, and (b) schools in isolated and sparsely settled districts, viz., provisional, half-time, house-to-house, and subsidised schools. The subsidised school was till recently the outpost of the State's educational activity, but in 1908, to supply means of education for families so isolated that even two could not readily combine to form a subsidised school, a travelling school was established in the Narrabri district; the teacher was provided with a vehicle to carry school requisites, and a tent for use as a schoolroom, and was to teach for a week at a time at each centre in his circuit. At the close of 1912, the appointment of itinerant teachers for other districts was contemplated, as investigation had revealed the fact that about 1,000 children in the most inaccessible localities in New South Wales were still lacking any educational facilities.

Another form of the travelling school is established in connection with extensive railway construction works, where Railway Camp Schools render educational facilities available to the children of the men engaged on the works.

SUBSIDISED SCHOOLS.

For the education of children resident in places remote from any State schools, the subsidised school was instituted in 1903 with good effect. The conditions upon which aid is granted are that two or more families must combine to engage a private teacher, who, after approval of the Minister as to his qualifications, will receive, if in the Eastern portion of the State, a subsidy at the rate of £5 per pupil per annum, the maximum amount being £50 per school; and if in the Western portion, a subsidy of £6 per pupil per annum—the maximum per school being £60. The provisions of the Regulation have been extended recently in the direction of granting a subsidy to any family with not less than four children of school age and living in complete isolation, or, subject to certain conditions, subsidy at the stipulated rates may be paid as an aid towards boarding children in a township for the purpose of attending a public school. The amount paid for salaries of teachers of subsidised schools for the year 1911–12 was £15,225.

Following are the records of subsidised schools for the last nine years:—

Year.	Teachers.			Pupils.						Attendance per cent. of Enrolment.
				Weekly Enrolment.			Average Attendance.			
	Males.	Females.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.	
1903	49		49	237	217	454	356		356	78·4
1904	118		118	540	458	998	801		801	80·2
1905	160		160	701	659	1,360	570	538	1,108	81·5
1906	195		195	969	915	1,884	694	691	1,385	75·5
1907	220		220	926	883	1,809	747	712	1,459	80·7
1908	37	247	284	1,131	1,132	2,263	1,039	1,039	2,078	91·8
1909	35	309	344	1,446	1,440	2,886	1,294	1,299	2,593	89·8
1910	38	324	362	1,509	1,543	3,052	1,394	1,437	2,831	92·8
1911	39	386	425	1,691	1,653	3,344	1,521	1,502	3,023	90·3

At the close of 1912, regulations and arrangements were in preparation whereby subsidised school teachers might be examined, certified on passing examination and registered, the subsidy then to be given only when registered teachers are employed.

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

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

Centralisation.

In 1904 the consolidation of small schools was initiated, the Department of Public Instruction granting a subsidy for the conveyance, to central schools, of children attending various small schools. The advantages of this system are that better buildings and equipment, as well as a larger teaching staff, can be provided, and a higher range of instruction imparted. The number of central schools and the cost of conveyance of children to them are shown in the following statement for each year:—

Year.	Schools.	Cost of Conveyance. £	Year.	Schools.	Cost of Conveyance. £
1904	12	267	1908	47	3,280
1905	13	959	1909	51	3,713
1906	17	1,802	1910	63	3,967
1907	38	2,812	1911	80	4,650

EVENING PRIMARY SCHOOLS.

For some years evening primary schools have been open in localities where there was a definite demand for them, to enable students to make good deficiencies in early education. The pupils enrolled were boys. Following is the record of evening primary schools for the last two years:—

Year.	Schools.	Teachers.	Students.		Average Age, Years.
			Enrolment.	Average Attendance.	
1910	36	36	981	539	17
1911	16	16	639	343	17

The minimum enrolment for such schools is 10 persons, and the fees chargeable are payable to the teachers.

KINDERGARTEN.

Three special kindergarten schools have been in operation in connection with the public schools since 1903, and, in addition to these kindergarten schools, the majority of large schools are equipped for kindergarten classes under skilled teachers.

Details concerning enrolment and attendance of pupils at the special kindergarten schools are as follows:—

Year.	Enrolment.			Attendance.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.
1903	496	450	946	297	246	543
1904	385	348	733	277	246	523
1905	423	375	798	311	271	582
1906	521	449	970	372	321	693
1907	537	509	1,046	399	356	755
1908	511	481	992	387	355	742
1909	519	463	982	371	324	695
1910	507	470	977	353	310	663
1911	493	453	946	362	330	692

CLASSIFICATION.

Public schools are classified according to average attendance, and in the largest schools there are separate departments for infants (up to about age 8), for boys, and for girls, the schools in Classes I, II, and III, in 1911, constituting 403 departments.

In the classification of schools, made in January of each year, the schools were graded as follows:—

Class.	Average Attendance.	Schools.			
		1908.	1909.	1910.	1911.
I	600 (+)	58	62	65	70
II	400-600	45	45	42	35
III	200-400	84	85	85	86
IV	50-200	379	378	370	375
V	30-50	581	605	600	605
VI	20-30	488	482	455	460
VII	20 (—)	1,034	1,025	1,077	1,030

In the smaller schools work beyond the primary syllabus is not usually undertaken, but in the larger schools, constituted in several departments, higher primary work is featured.

VOCATIONAL TRAINING AND SECONDARY EDUCATION.

Provision is made in State Schools for education beyond the primary stage in Superior or Continuation District and High Schools, and in Technical Schools and Colleges.

SUPERIOR AND CONTINUATION SCHOOLS.

Art and manual training, nature study and the school garden, and elementary science, as adjuncts to the primary work, are initiatory stages in vocational training, which may be continued in a more specialised way in the higher schools.

Till 1912 the Superior Schools continued the work of the primary syllabus, with such additional subjects as would enable pupils to compete at public examinations.

Following are the records of attendance and enrolment, &c., at Superior Schools during the last ten years:—

Year.	Schools.	Departments.	Enrolments.	Average Attendance.
1902	121	286	83,960	62,239
1903	129	302	86,636	63,919
1904	140	320	90,604	66,510
1905	141	323	88,234	64,452
1906	142	325	91,096	68,011
1907	142	325	92,926	68,923
1908	142	325	91,935	69,958
1909	145	326	92,695	69,631
1910	145	328	96,028	70,077
1911	145	328	92,498	70,033

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

The course of instruction in superior schools is designed for pupils between ages 13 to 15 years. In 1912 the study course was remodelled, and some of the schools reorganised as Day Continuation Schools.

In January, 1911, the Director of Education was entrusted with a commission to inquire into the working of continuation schools in Great Britain and Europe, and to recommend for adoption whatever improvements might with a *l'vantage* be introduced in New South Wales. Following his report, issued in July, 1911, Evening Continuation Schools were organised, and numbers of the evening primary schools are being converted into continuation schools.

Prior to the year 1910 evening schools were maintained, with the object of affording instruction to those who had failed to receive the full advantage of primary education. As the need for thus simply completing an unfinished primary course became subordinated to the imperative demand for an evening-school system to serve the requirements of pupils who had completed their primary school work, it became necessary to modify and adjust the evening school organisation accordingly. Consequently, the evening schools now comprehend two distinct types of training—(a) the Primary Schools, to complete elementary education, which are now practically obsolete (b) the Continuation Schools, properly so-called, to provide instruction on special lines for persons engaged in daily employment.

The first of these schools were artisan, commercial, or domestic, and were instituted in populous suburbs of Sydney and Newcastle. At the end of 1911, eighteen such schools had been opened—commercial schools in such districts as Mosman, Petersham, Gladstone Park (Balmain), Cook's Hill, Cleveland-street, &c.; junior technical schools at Paddington, Newtown, Rozelle, Wickham, &c.; and domestic schools at Newtown, North Sydney, &c. The enrolment was heavier at commercial than at the junior technical schools, but both types were well supported. In connection with the system the question of compulsory attendance has been subject of much discussion, particularly as the responsibility for the direction of military training of youths for the Commonwealth Defence Force has been imposed upon the State school teachers primarily. Related to the question of obligatory attendance, at continuation schools for boys and girls between ages 14 and 16 years is the question of conducting these schools at times which will not involve attendance at late hours of the night.

Following is the record of these evening continuation schools to the end of 1911:—

Classification.	Schools.	Teachers.	Pupils.	
			Enrolment.	Average attendance.
Junior technical (boys)	11	62	897	476
Commercial (boys) ...	5	44	1,060	609
Domestic (girls) ...	2	9	188	105

In these schools the fee chargeable is 6d. per week for forty weeks, on three nights for two hours each; but on completion of a satisfactory attendance above a stipulated minimum, in each year, the amount paid is returnable to the student. The average age of pupils attending all three classes of schools was 18 years. In June, 1912, there were twenty-one Evening Continuation Schools in the metropolitan area and fourteen in country districts ten of the latter were artisan schools.

In the superior schools organised as Day Continuation Schools, specialised instruction for any one vocation is not designed, but preparation fundamental to various groups of industry is made possible. The schools are organised as junior technical (boys), commercial (boys and girls), and domestic (girls), and in all three types provision is made for a group of studies having no immediate bearing upon vocational ends, but designed for training in citizenship. These subjects are, English, civics and morals, history, music, and social exercises. The hours of instruction are twenty-five weekly, as compared with six hours per week in the Evening Continuation Schools. A Special Certificate marks the satisfactory completion of the two years' course.

Such of the superior schools as have not been reorganised as day continuation schools will continue the general higher primary work up to the Intermediate Certificate standard till such time as high schools are constituted in the different localities.

HIGH SCHOOLS.

In December, 1911, there were eight High Schools, including a Technical High School, where both boys and girls attended. The course of instruction covered practically secondary education in literary subjects up to the highest standard of University entrance examination. In 1911 fees in High Schools were abolished; entrance was conditional on satisfactory completion of the primary school work and a guarantee of attendance for the full period of four years.

Following are the records of High Schools in the last ten years :--

Year.	Schools	Teachers.			Pupils. Enrolment.		Attend- ance. Daily average.	Holders of—		Fees received.	Cost per head of enrolment.
		M.	F.	Total.	Total.	Average Q'terly.		Bur- saries.	Scholar- ships.		
1902	4	17	11	28	661	510	473	89	131	£ 3,519	£ s. d. 4 13 0
1903	4	15	10	25	672	520	484	...	...	3,546	4 10 3
1904	4	16	12	28	696	550	512	111	183	3,689	4 4 11
1905	4	14	12	26	693	563	524	127	148	3,481	4 11 8
1906	5	21	13	34	917	723	670	126	143	3,350	4 19 5
1907	5	23	12	35	908	739	669	129	149	3,617	6 9 7
1908	5	24	17	41	969	811	728	143	196	3,702	6 5 4
1909	5	25	16	41	1,035	875	756	151	220	3,703	6 5 6
1910	5	29	19	48	1,168	894	826	162	246	3,575	7 13 3
1911	8	59	38	97	2,293	1,864	1,786	201	250	...	10 6 10

The increased attendance at High Schools in recent years is most noticeable. In 1912 the teaching staff in High Schools was rearranged and reclassified.

The revised syllabus provides for complete secondary courses, extending over four years, designed as preparation for various types of vocation :—(a) A general course leading to professional study in higher institutions; (b) a commercial course preparatory to business careers; (c) a technical course; (d) a domestic course, qualifying for home management.

So far the schools are constituted on the basis of professional study, except for the Technical and Agricultural High Schools in connection with the Technical College. Particulars as to the various High Schools for 1911 are as follows:—

School.	Teachers.			Pupils.		Attendance.			
	M.	F.	Total.	Total Enrolment.	Average Quarterly Enrolment.	Average Daily.	Holders of Bursaries.	Scholarships.	
Sydney ...	{ Boys ...	19	...	19	354	292	279	91	91
	{ Girls ...	2	14	16	371	262	270	42	53
Fort-street ...	{ Boys ...	23	...	23	620	535	512	1	1
	{ Girls ...	...	17	17	360	312	289	3	3
Technical... ..	{ Boys }	5	...	5	{ 171	125	118	} 25	14
	{ Girls }	...	...	...	{ 49	23	23		
Maitland ...	{ Boys ...	4	...	4	83	78	73	7	5
	{ Girls ...	...	4	4	85	72	65	11	7
Newcastle ...	{ Boys }	6	3	9	{ 123	99	95	} 21	71
	{ Girls }	...	...	...	{ 86	67	63		
Total		59	38	97	2,293	1,865	1,787	201	250

In 1912 High Schools were established at Grafton, Orange, and Wagga.

In 1911 there were twenty-five District Schools in country towns, which, as adjuncts to the Superior Public Schools, supplied an additional two-years' course of study in higher education for 1,578 country children. The course includes instruction in science, manual training and agriculture, and the practical application of these principles. These District Schools also serve as preparatory training schools for probationers who desire to enter the teaching profession.

At the close of 1911 the probationary students in District Schools numbered 360, viz.:—

	Boys.	Girls.	Total.
First year	33	154	187
Second year	36	137	173

Of the second year students, 170 passed in September, 1911, the examination for entrance to the Teachers' Training College. Reclassification of these schools is projected, with a view to ranking them as Country High Schools.

TECHNICAL EDUCATION.

Technical education in New South Wales developed somewhat fortuitously. The foundation of the New South Wales Technical School was due in great measure to the efforts of a few enthusiasts connected with the Sydney Mechanics' School of Arts; and, in 1873, it was decided to establish a Technical College, affiliated to that institution, with the object of improving the scientific knowledge of Australian artisans. In the year 1878 a sum of £2,000 was granted by Parliament towards the organisation of a Technical College, and the work of the institution was carried on in connection with the School of Arts. In 1883, however, a Board was appointed by the Government to take over the management, and the Technical College became a State institution. In addition to the classes held in the metropolis, lectures were delivered in country towns, and wherever sufficient support was given classes were established.

Towards the end of 1889 the Board was dissolved, and the Technical College placed under the direct control of the Department of Public Instruction. Technical education is administered by a superintendent, with financial and general procedure independent of primary and secondary education. Suitable accommodation for the classes was provided by the erection of the Technical (Central) College, at Ultimo. This central College was opened for the reception of students in January, 1892, and has, since that date, been subjected to extensive additions and alterations, of which may be mentioned the Turner Hall, opened in August, 1911, to accommodate at least 1,000 persons. Additional land was secured, and the Central College block now comprises 6 acres. During 1911 a new Engineering Department was added.

Colleges are established in the more important centres outside Sydney, viz., Bathurst, Newcastle, Maitland, Goulburn, Albury, Broken Hill, and Granville; and special classes are held in many country towns.

During 1911 premises for a Technical College were under construction at Balmain, and additions were made to the College premises at Granville, Newcastle, and Maitland.

Many persons require the aid of evening classes for the purpose of receiving instruction only in a few subjects directly related to their daily occupations, and, in the absence of other provision by the State for this class of students, they have been encouraged in the past to attend the Technical College, with the result that the conducted classes came to embrace a miscellaneous group of subjects. The provision of trade or Continuation Evening Schools with definite vocational courses relieves the Technical Schools, and particularly the Central College, of much extraneous work and further reorganisation of Technical College work, with a view to the concentration of Art Classes (exclusive of Applied Arts) under a Director of Art, and the transfer of commercial classes to a Special Advanced Continuation School, leave opportunity for wider development along the line of pure Technology the proper province of the Technical Education Branch.

In the large centres of population outside Sydney, the courses of instruction in technical subjects have been adapted to the requirements of the local industries. Thus, at Cobar, there are classes in assaying and mineralogy; Granville, in trades-drawing and coach painting; at Balmain, in naval architecture; at Lithgow, in iron and steel manufacture; and at Maitland and Newcastle, in electricity as applied to mining; and in connection with Broken Hill Technical College the establishment of a school of mines for the Barrier District is in contemplation. New classes established in 1911 included one for the management of steam and one for motor drivers, and a course was inaugurated in sanitary engineering for council and shire clerks.

Generally the course of study in the Technical College is arranged in three schools with various departments, in which the subjects constituting the department are taught. Following are the schools and departments:—

Technology.—Agriculture, architecture, biology, chemistry, domestic economy, engineering (electrical and mechanical), geology, industrial and decorative art, mathematics, printing and lithography, sanitation, sheep and wool, women's handicrafts. Separate Classes: Bootmaking, leather-dressing, naval architecture, saddlery, tailors' cutting, window-dressing, elocution.

Art.—Art modelling, painting.

Commercial.—Commercial.

In addition to courses given in the central and branch colleges, technical classes—principally in dressmaking, cookery, and science—are conducted at Public Schools. The number of classes and of students enrolled in the Technical Education Branch have increased considerably in the last five years, as may be seen from the following record covering the past decade :—

Year.	Classes.		Individual Students.		Average Weekly Attendance.		Fees paid by Students.
	Technical College and Branches.	Public Schools.	Technical College and Branches.	Public Schools.	Technical College and Branches.	Public Schools.	
	No.	No.	No.	No.	No.	No.	£
1902	345	86	7,586	2,819	7,094	1,748	9,122
1903	408	164	7,853	5,379	6,402	2,269	10,205
1904	415	231	7,147	6,074	6,673	2,587	10,053
1905	449	176	7,282	4,344	7,287	2,560	9,861
1906	482	172	8,169	4,232	7,606	2,165	11,007
1907	565	153	10,106	4,129	8,616	2,644	13,046
1908	667	123	12,451	2,415	9,506	992	14,176
1909	736	128	12,434	3,036	10,924	1,341	15,475
1910	777	109	12,712	3,127	12,192	1,083	15,873
1911	816	57	14,147	1,600	14,560	514	16,395

Except the classes conducted in public schools a great part of the technical work is done in evening classes.

Trade schools include a school of bootmaking at Erskineville, and a school of leather-dressing at McMahon's Point. Technical Secondary Day Schools numbered four—two of them ranking as High Schools, viz., a Technical High School (incorporated with the Central Technical College), the Agricultural High School, Ashfield, and Technical Day Schools at Newcastle and Goulburn (in connection with the Technical Colleges in those places). The Technical High School, Sydney, is preparatory to the Engineering and Building professions; the Agricultural High School is referred to in connection with the teaching of Agriculture. In these High Schools the teaching is free.

The Public School Classes included manual training at Granville and at Newcastle, and science at Goulburn. Shorthand was taught at fifteen schools, the enrolment being 150; typewriting at four public schools attracted an enrolment of forty-eight pupils, and elocution at thirty-seven schools attracted 1,131 pupils.

The teaching staff in connection with technical education consists of lecturers in charge of departments and resident masters in charge of branch schools, with salaried and partially-paid teachers. The following statement shows the number of teachers in the Technical Education branch in the last five years.

Year.	Lecturers in charge.	Resident Masters.	Teachers.						Total.	
			Salaried.				Unsalaries, receiving Fees.			
	Males.	Males.	Masters.		Assistants.		Males.	Females.	Males.	Females.
			Males.	Females.	Males.	Females.				
1907	10	8	122		36		97		273	
1908	10	7	139		30		94		280	
1909	11	8	126	32	36	3	31	45	212	80
1910	11	7	139	31	55	4	31	56	243	91
1911	11	8	151	33	54	9	28	49	252	91

AGRICULTURAL AND RURAL TRAINING.

For the boys of the present school generation education in subjects pertaining to rural industries is commenced in the primary schools of the State, with the teaching of the elementary principles of agriculture, both practical and theoretical. School gardens and experiment plots are adjuncts to the majority of State schools, and for these gardens grants are made of farm, vegetable, and flower seeds.

In 1905 an Instructor of School Agriculture was appointed, to direct the work of the teachers in the primary schools; his duties are to visit schools in the interests of school agriculture, and to supply the teachers with information required to direct the work of the pupils.

Rural camp schools, inaugurated in 1906, are held in each Autumn and Spring at which metropolitan school-boys are accommodated for a short period, while they visit dairies, farms, &c., under suitable guidance, and are instructed by direct illustration. The object of these camps is to familiarise city lads with the important rural industries of the State and to foster an inclination for rural pursuits.

At the Rural Camp School held in the Spring term of 1910, at Bathurst 685 boys and 52 teachers participated. At the Autumn School at Nowra 516 boys and 45 teachers were present.

During 1911, as a result of largely increased attendances, the camp schools were practically continuous throughout the year, being held as follows:—

Location.	Duration.	Attendance.
Richmond	February-April	593 boys.
Morpeth	June-August	636 „
Mudgee... ..	October-December	844 „

The teachers taking part in these schools numbered 163; the camp equipment, previously borrowed periodically from the Military Department, is now provided by the Department of Public Instruction.

In twenty-five District Schools, in various parts of the State, agricultural science classes, including milk testing, are held regularly, and experimental agricultural work is undertaken strictly on scientific lines. At the Royal Agricultural Society's Easter Show (1911) exhibits were received from 240 suburban and country schools. A special Agricultural High School (Hurlstone) is established at Ashfield, and forms part of the Technical Education system; the grounds, covering 26 acres, are used for teaching practical operations and for experimental work in the growth of crops, action of fertilisers, &c. The course at this school extends over two years, and covers a general English education in addition to science with laboratory practice, and agriculture with field work. During 1910 there were fifty-eight students on the roll, of whom thirty-one were in residence. At the end of 1911 there were twenty-seven students in residence of whom four were bursars. For resident students the fee is £6 6s. per quarter; for day students no fees are charged.

The training at Hurlstone Agricultural High School forms a preparatory course to the more advanced work at Hawkesbury Agricultural College and, from the school, three scholarships are available annually to the Hawkesbury College. The school has been endowed privately with a scholarship, known the "Herald and Mail Scholarship," in addition to liberal provision of scholarships by the State.

At the Central Technical College at Ultimo, a diploma course covering two years is available for evening students.

Supplementing the training given to pupils under the Department of Education a graduated scheme of agricultural instruction is organised in

connection with the development of rural industries, by the Department of Agriculture of New South Wales. This scheme provides the following institutions:—Apprentice Schools for lads between the ages of 16 and 20 years who intend to become agricultural workers. These schools are conducted in connection with Experiment and Demonstration Farms at Cowra (mixed farming), Glen Innes (mixed), Grafton—both opened in February, 1912—Yanco (irrigation), Dural (orchard), and Wollongbar; and, for the most part, offer one year practical courses at a charge of £5 per half-year.

Experiment Farm Schools, which provide a preparatory course for older lads to enable them to work their own farms, are established in connection with the Experiment Farms at Wagga, Bathurst, and hitherto at Berry. At these Schools, scholarships are available as follows: Wagga, three; Bathurst, three; Wollongbar, one.

During recent years lads have been received for short courses of agricultural training at the Casual Labour Farm at Pitt Town. From 1910 the whole establishment, converted into the Government Agricultural Training Farm, was devoted exclusively to the training of lads, particularly in connection with the Dreadnought Funds, publicly subscribed, of which the Government has undertaken the administration. At 30th June, 1912, ninety-eight lads were in residence.

Hawkesbury Agricultural College provides higher agricultural education. At this College the average number of students in attendance during the year ended 30th June, 1911, was 172. The farm covers 3,250 acres, and accommodation is available for 200 students. From the establishment of the College to June, 1911, 1,471 students had passed through the College courses in addition to 609 State school teachers who attended Summer Schools, and 612 farmers who attended Winter Schools. The Diploma course at the College covers three years' work and, for the year 1910–11, ten students obtained this award. Students holding the Diploma of the College may be permitted to complete the course for the degree of Bachelor of Science in Agriculture at the University in three years instead of four. Certificates are obtainable for shorter courses, and, under the direction of the College, Dairy Science Schools have been held in various centres for the benefit of factory managers and assistants. The College has been provided with twenty scholarships and bursaries, as follows:—

Department of Agriculture	3
Department of Public Instruction—	
For Students of the Teachers' Training College	10
For Students of the Hurlstone Agricultural High School... ..	3
Messrs. J. Fairfax & Sons (<i>Sydney Morning Herald</i>)	1
The <i>Daily Telegraph</i> Newspaper Co.	1
Farrer Research Scholarship... ..	1
Government Farrer Scholarship	1

In addition to these scholarships, prize funds have been provided liberally from public and private sources.

The following statement shows the attendance during the last five years at Agricultural Farms, Schools, and Hawkesbury College:—

Year.	Experiment Schools.			Apprentice Schools.				Pitt Town.	Hawkes- bury College.
	Wagga.	Bathurst.	Berry.	Wollongbar.	Cowra.	Yanco.	Dural.		
1907	63	23	11	18	.....	.....	.....	90	230
1908	58	33	5	18	.....	.....	.....	105	231
1909	60	45	5	19	.....	.....	.....	199	237
1910	69	48	.....	23	.....	.....	3	88	221
1911	77	49	.....	11	18	20	5	177	217

The culmination of agricultural education and training in this State is in the University, where, in the beginning of 1910, in the Faculty of Science, a Department of Agriculture was instituted. A four-years' course leads to the degree of Bachelor of Agricultural Science and in providing a higher training ground for teachers and experts, completes the whole system of preparation for rural industries. The Experiment Farms of the State are available for the practical and experimental work in connection with the degree course.

In addition to the educational work undertaken, either under the State system of education, or in the development of rural industries, agricultural interests are developed by means of such institutions as Agricultural Bureaux, shows, &c. In regard to the agricultural shows, detailed figures are given in the Part "Agriculture."

During each year various short courses of study and practice in matters pertaining to rural industries are held. Following is the record of short-course students in the last seven years ended June :—

Year.	Students Attending.		
	Dairy Science Schools.	Hawkesbury.	
		Winter School for Farmers.	Summer School for Teachers.
1906	13	61	102
1907	.....	77	98
1908	17	78	88
1909	19	67	96
	12		
1910	14	113	96
	13		
1911	.....	125	81
1912	20	94	48

TEACHERS.

The following table shows the sources from which additions to the teaching staff have been derived during the past seven years, and also the number of eliminations :—

Year.	Appointed as—				Appointed after undergoing a Training College course.		Teachers re-employed.	Others.	Total.	Teachers who left the Service.
	Pupil Teachers.	Teachers Small Schools.	Junior Assistants.	Sewing Mistresses.	Probationary Students.	Other Candidates.				
1906	171	98	.....	9	.....	.....	6	...	284	226
1907	194	182	.....	6	.....	.....	4	...	386	257
1908	36	163	58	5	40	7	...	...	309	237
1909	.....	157	65	6	72	10	2	...	312	220
1910	1	173	114	8	36	5	2	...	339	241
1911	.....	141	77	5	65	9	13	11	321	232

Training of Teachers.

Until the year 1905 the teaching staff in the State Schools was recruited generally through the pupil-teacher system, under which boys and girls commenced between the ages of 14 and 16 years as pupil-teachers, charged with the control and instruction of a certain number of children; in return for their services they received, in addition to a small salary, instruction and

practical advice from the principals of the schools where they were employed. After four years service, marked by annual examinations conducted by the Department of Public Instruction, those who passed the qualifying examinations were admitted to a course at the Training College—men at a non-residential institution in connection with Fort-street Model School; and women at Hurlstone College, where residence was provided. On completion of the course, trainees were classified as teachers.

Pupil-teachers who did not enter the training schools were appointed as assistants, or placed in charge of small schools, and after a probationary service were allowed to compete for classification on the same footing as the trained teachers. A number of practically untrained teachers entered the service as teachers of small schools in outlying districts, and became eligible for classification.

The inadequacy of this system for maintaining an efficient and well-trained body of teachers becoming apparent the pupil-teacher system was abandoned, and a more adequate training system instituted for all prospective teachers.

The training schools at Hurlstone and Fort-street were closed in 1905, and a general training school established in connection with Blackfriars Public School, with a one-year training course; ninety-five students were in training. In 1911, Hereford House School, Glebe, was opened as an adjunct to the Blackfriars School, but both these establishments were intended as temporary expedients. The necessity for adequate accommodation in a specially equipped building has been obvious, and is accentuated by the urgent need of teachers for (a) primary work in small country centres, (b) specialised work in (1) continuation schools, (2) in secondary schools.

During 1912 the Teachers' College and Building Acts were passed, authorising the construction and maintenance by the Department of Public Instruction of a Teachers' College within the domain of the University of Sydney.

At the present time training for prospective teachers takes two forms—a short course of six months at Hereford House School for assistant teachers and teachers in small country schools, and, for the larger primary and higher primary school-teachers' certificate, the complete course extending over two years, with the option of a third and fourth year for specialised work. Entrance to the short course is conditional upon the passing of a qualifying examination, held twice annually, viz., in February and August.

During 1911 swimming was included in the curriculum as a compulsory subject for women students of the Training College; 161 students were instructed, and at the end of the season eighteen gained certificates for life-saving, seven obtaining bronze medallions.

Entrance to the full course at Blackfriars has been hitherto conditional upon passing a special entrance examination, held annually. The first examination for the Intermediate Certificate in 1912 gave entrance to the Teachers' Training College, but from 1913 entrance will be dependent on the results of the leaving Certificate examination.

Candidates for admission to the Teachers College are provided with a two-year preliminary training course in District Schools, &c. During 1911 probationary students numbering 288, viz., 65 boys, and 223 girls, were distributed as follows:—

In Metropolitan schools	...	...	...	...	85
Newcastle	„	...	...	...	27
Country	„	...	...	...	176

The maximum age of entrance for candidate probationary students has been 18 years. From 1911 the age limits are over 15 and under 20 in January following the examination. During the year 170 second-year probationers in District Schools qualified for entrance to the Training College.

In 1911, 318 students were undergoing courses of instruction, viz., 143 men and 175 women. These were distributed among the different years as follows:—

Course.	Total.	Scholarship holders.
First year	175	284
Second	128	
Third	14	14
Fourth	1	1

On completion of training, trainees qualify for II A or III B Teachers' certificates.

Departmental examinations during 1911 included the following:—

Candidates for Training.			
Probationary students ... ..	...	...	172
Pupil-teachers and assistants ... ..	...	...	47
Small school teachers ... ..	...	...	12
For short-course training ... ..	...	...	260
Others ... ..	...	...	8

1,121 teachers were examined at Easter for classification. Special examinations involved 681 teachers.

Conditions of Service.

Prior to 1908 the salaries paid to classified teachers in charge of schools depended entirely on the classification of their schools, as determined by average attendance. Under the present system the classification is rendered more stable by restrictions upon the transference of schools from class to class, and arrangements have been made by which the teachers' promotion depends, not only on the promotion of their schools, but also on the improvement of their qualifications. To qualify for a higher grade the teachers must pass a series of examinations, but to obtain promotion they must show also the requisite degree of efficiency in practical work. During 1911-12 regrading of salaries was effected, special attention being given to the question of residence or rent allowance.

The range of salaries paid as at December, 1912, to teachers of State Schools is shown in the following statement:—

Class of School.	Required Average Attendance.	Principal Teachers.		Mistress.				First Assistant.			
				Girls' Department.		Infants' Department.		Male.		Female.	
		Classification.	Salary.	Classification.	Salary.	Classification.	Salary.	Classification.	Salary.	Classification.	Salary.
I.	Over 60	1A	£ 450	1A	£ 288	1A	£ 252	1B	£ 288	1B	£ 210
		...	...	1B	£ 252	1B	£ 240	2A	£ 246	2A	£ 180
		...	...	...	...	2A	£ 216	...	...	...	...
II.	400-600	1A	£ 408	1A	£ 252	1A	£ 216	1B	£ 264	2A	£ 168
		1B	£ 390	1B	£ 240	1B	£ 210	2A	£ 234	2B	£ 150
		...	...	2A	£ 216	2A	£ 198	2B	£ 198	...	...
III.	200-400	1A	£ 366	1B	£ 216	1A	£ 210	1B	£ 240	...	...
		1B	£ 342	2A	£ 204	1B	£ 198	2A	£ 216	...	...
		2A	£ 306	...	...	2A	£ 192	2B	£ 198	...	...
IV.	50-200	1A	£ 324								
		1B	£ 306								
		2A	£ 270								
V.	30-50	2B	£ 258								
		2A	£ 234								
		2B	£ 222								
VI.	20-30	3A	£ 216								
		3B	£ 192								
		2B	£ 104								
VII.	Under 20	3A	£ 192								
		3B	£ 174								
		3A	£ 174								
		3B	£ 156								
		Uncl.	£ 110								

When the average attendance in a boys department exceeds 500, the principal receives £500, and the first assistant £312. When the average exceeds 400, the salaries are £175 and £300 respectively. Similarly, if a girls' department exceeds 400, the mistress receives £312, and the first assistant (1B) £222, or (2A) £192.

Assistants.—The salaries of ordinary assistants are:—1B men £228, women £162; 2A men £204, women £156; 2B men £186, women £144; 3A men £174, women £126; 3B men £156, women £120; Unclassified, £110; Junior Assistants under 21 years, men £72, women £60.

In addition to these rates, special allowances are made to teachers of District schools and to teachers of special subjects, such as Science, Manual Training, Cookery, &c. If married, teachers in charge of schools are granted residences at an assessed rental. Extra allowances may be granted to teachers stationed in remote localities, where the cost of living is high. Teachers in half-time schools and teachers of house-to-house schools are paid at the same rates as those in public schools of corresponding classification; subsidised teachers receive £5 per head of average attendance, with a maximum of £50 per annum. In the western districts the subsidy is £6, and the maximum £60 per annum. Teachers are eligible for a minimum salary of £110 per annum on attainment of age 21; and extended leave after twenty years' service is part of the conditions of service.

Classification and Improvement.

State school teachers are graded and obtain promotion after passing a series of examinations, framed to test their progress in scholastic attainments as well as their skill in imparting knowledge. For meritorious service, also, teachers may receive promotion.

Teachers associations are established in inspectorial districts, with the object of keeping the teachers in touch with modern educational methods. Meetings are held at frequent intervals for the discussion of educational topics; addresses are delivered, and demonstration and practical lessons are given on subjects of professional interest. Circulating libraries have been established by a large number of these associations.

In isolated districts, where the teachers are unable to be present at these meetings, they are allowed to attend for a short period, from time to time, at larger schools.

Summer schools are held regularly to improve the skill and knowledge of teachers. During 1911-12 in addition to the usual summer school for teachers at Hawkesbury Agricultural College, schools for art work, music, and physical culture were conducted. Schools of instruction are held by inspectors.

During 1911, 130 teachers were enrolled as evening students in the University of Sydney; a special day course of instruction for work-mistresses was given at the Central Technical College; special classes in Art and Manual Training were formed at various centres.

Supervision.

An inspectorial body is constituted for the purpose of exercising supervision over educational work in Public Schools. In 1911 the inspectorial staff for primary and superior schools numbered 38. In addition there were attached to the Department of Public Instruction an Inspector of Continuation Schools, and an Inspector of Secondary Schools. The latter, under the Bursary Endowment Act, is charged with the inspection of such private secondary schools as apply for registration.

Methods of inspection have been radically altered in recent years to accord with the spirit pervading the new syllabus. Detailed exhaustive examination of schools has been abandoned, a quarterly examination by

the principal of the school in certain subjects having been substituted, which is tested at various points, so as to bring the inspector and teacher into close and friendly contact in their co-ordinate duties.

This mode enables the inspector to devote his attention to general observation of the work of the school, inspecting minutely where signs of weakness may be apparent.

As the result of his examination, the Inspector will assess the value of the teaching, with special reference to various considerations, as detailed in his official instructions.

During each year it is expected that the Inspector will meet the teachers of his district; the meetings being devoted to lectures, essays, and the discussion of educational topics.

In 1911 Schools of Instruction were conducted by Inspectors at Mudgee, Central Tilba, Narrandera, and Rous.

Although the whole internal administration of schools is reserved to the Minister, Public School Boards are appointed to visit schools, to induce parents to send their children regularly, and to carry out other duties either in support of the teachers or to check or report misconduct. These Boards are restricted in supervision to the schools in their respective districts, which are defined by the proclamation of the Governor. The total number of Boards in operation at the close of 1911 was 325; 108 members of these Boards were women.

During recent years, a number of Parents' and Citizens' Associations have been formed in connection with schools. Their growth testifies to a widespread desire to do something independently of State aid to make the schools better fitted in the matter of equipment for educational work. These associations have no authority in respect of the internal management of the schools nor in the expenditure of public moneys.

CAREERS ADOPTED BY EX-PUPILS.

In the last two years returns obtained from teachers in State schools give some indication of the avenues of employment which their ex-pupils seek. In 1910, 5,941 boys, and 5,130 girls; in 1911, 12,162 boys, and 10,974 girls are recorded as passing to other schools, State or private. A review of the reasons given, or the careers adopted in the remaining cases is of interest:—

Objective on Leaving School.	1910.		1911.	
	Boys.	Girls.	Boys.	Girls.
To continue in technical classes ...	130	...	150	...
To enter the University ...	38	1	72	14
" Public Service ...	446	121	504	170
" Business Colleges ...	...	122	...	185
" Professions ...	295	12	161	14
To take up Commercial pursuits ...	1,132	193	1,031	169
" Agricultural pursuits ...	842	...	1,932	...
To follow Building trades ...	329	...	291	...
" Carrying, &c. ...	304	...	421	...
" Mining ...	242	...	248	...
" Metal ...	82	...	134	...
" Clothing ...	...	491	34	518
" Other skilled trades ...	260	39	498	19
" Unskilled trades ...	310	...	379	...
To become Shop Assistants ...	535	82	262	88
Factory workers, unspecified ...	224	73	148	65
Domestic workers—				
Home ...	...	3,353	...	4,650
In service ...	...	168	...	244
Miscellaneous ...	550	...	1,069	64
	5,719	4,655	7,334	6,200

In 1911, of the boys who entered the University 17 came from country districts; the majority of entrants were in the Schools of Engineering and of Medicine (24 and 23 respectively). Of the boys who entered technical classes 88 were from metropolitan schools, and 62 from schools outside that area. A majority of entrants to the Public Service were country boys, viz., 348, as against 156 from the city. Also 1,784 boys from country schools entered on agricultural pursuits; on the other hand a majority of city boys, as might be expected, entered commercial pursuits. Of the girls, University entrants were 12 from the city and 2 from the country. The majority of recruits to domestic service were country girls (201); 112 country girls chose teaching for a profession, as against 38 city girls.

MEDICAL INSPECTION.

In 1907, arrangements were made for the medical inspection of children in the State schools, but inspections were restricted in the first couple of years mainly to schools in the most populous centres of Sydney and Newcastle. During 1911, the medical inspection was extended to the South Coast District and to a number of the largest inland towns, and a still further extension is contemplated in 1912, the ultimate aim being to embrace all the school population of the State in, at least, two medical examinations during the school life. At the close of 1911, the medical inspection staff of the Department of Public Instruction included four doctors, three of whom were located in Sydney, and one in Newcastle; and in 1912 four trained nurses were appointed to assist in the work.

The following statement shows the extent of the inspection work since 1907:—

	May, 1907, to April, 1908.	April, 1908, to June, 1909.	Year ended June.	
			1910.	1911.
Medical Officers	2	3	3	4
Schools visited	50	98	127	144
Enrolment	36,118	66,000	75,854	67,577
Children presented	4,000	14,360	16,036	16,909
Complaints disclosed—Boys and girls ...	4,795	22,824	21,558	18,341

The defects disclosed in 1911 are summarised as follows:—

Defect.	Cases observed.			Ratio per cent. of total defects.
	Boys.	Girls.	Total.	
Vision and Eye	2,685	3,663	6,348	34·61
Nose	2,833	2,917	5,750	31·35
Throat	913	1,112	2,025	11·04
Glands	279	214	493	2·69
Teeth	358	293	651	3·55
Ear	680	329	1,009	5·50
Other	801	1,264	2,065	11·26
Total	8,549	9,792	18,341	100·00

In all cases the children concerned were advised to apply to the family doctor for treatment, and in the past two years the proportion of cases in which treatment has been undergone on the School Doctor's advice has risen from 25 to 36 per cent. of complaints diagnosed. Dental troubles generally were not investigated by medical officers, as Dental inspection specially is undertaken by the Dental Association in a limited number of schools.

It is still noticeable that more than half the number presented were girls; the eyesight of girls is, on the whole, worse than of boys; and cases of defective vision are more frequent in the metropolis than in country districts. Many of the defects are, of course, slight. These matters will be discussed in greater detail in part "Social Condition." In the endeavour to rectify the abnormalities discovered the medical inspectors have delivered addresses to parents; attention has been given to school architecture, sanitation, &c. Special schools for delinquent or mentally defective children are referred to elsewhere.

In connection with the Teachers' Training College, a school clinic was established during 1910 to provide opportunity for training women students to take the Infant Teachers' Course. The students are trained to observe children, and to treat simple ailments.

PHYSICAL AND MILITARY TRAINING.

At the close of 1910 there were in the State schools 7,000 cadets in Metropolitan and Country Corps, in addition to senior companies at the Sydney Boys' High School, Fort-street Model School, Hurlstone Agricultural High School, and Cleveland-street School. The ranges in use numbered 239, including 75 miniature rifle ranges, constructed during 1910. On the 1st July, 1911, the State Schools' organisation of senior mounted and school cadets was superseded by the Commonwealth compulsory training system, initiated in the latter half of 1911; the first half of the year having been devoted to the preparation of candidates for posts as non-commissioned officers in the forces. The State Department of Public Instruction acts in co-operation with the Defence authorities, since the responsibility for carrying out the defence scheme devolves largely upon teachers. To complete their year's training, junior cadets must serve for 120 hours, and this time is arranged in periods of $2\frac{3}{4}$ hours per week for 44 weeks. Elementary marching drill occupies one half-hour per week, and the optional subjects include miniature rifle shooting, swimming, running exercises, and first aid. Senior cadets (14-18 years) attend weekly drills after school hours; and 6 half-day musketry parades per annum are required, in addition to 4 whole day parades, and 6 half-day parades on public holidays or Saturdays. Senior cadets having now the option of choosing whether they will drill with the school unit or the area unit, may be enrolled in the school corps. Particulars concerning the system of universal military and naval training are given in the chapter dealing with "Defence."

Three instructors, assigned by the Commonwealth Defence Department to New South Wales, were occupied during 1911 in visiting schools and instructing teachers.

To secure the efficiency of the teaching staff for the universal training of cadets, schools of instruction for teachers are arranged—the course to cover physical training, drill, shooting, swimming, first aid, &c.

All other pupils, boys under 12 years of age, and girls practice drill and physical exercises daily in school.

Swimming is encouraged; one afternoon per week in the season may be devoted to acquiring and practising the art of swimming.

In 1911, 10,072 boys, and 5,387 girls from metropolitan schools attended public baths; 3,330 boys and 1,805 girls were taught to swim. Life-saving certificates were obtained by 239 boys and 66 girls; medallions being obtained by 50 boys and 23 girls. At country schools, when possible, instruction in swimming and life-saving is given.

In 1913 the Defence Department of the Commonwealth extended its activities to include the physical training of girls. In April a School of Instruction was held in Melbourne for selected women-teachers from public schools in the several States. Six women teachers attended from New South Wales. After completing the instructional course these teachers will specialise in the physical training of girls in their respective districts.

The Royal Life-saving Society's awards, numbering 781, were made to teachers and pupils as under :—

Bronze medallions	...	...	...	...	...	157
Elementary certificates	...	...	...	...	...	267
Proficiency	„	...	...	...	...	331
Teacher's	„	...	...	...	...	5
Honorary instructor's certificates	...	...	...	...	...	15
Awards of merit	...	...	...	...	...	6

SCHOLARSHIPS AND BURSARIES.

In addition to providing schools the policy of the State has been to assist promising students, especially to High Schools and to the University, by means of scholarships and bursaries, of different tenures and values.

During 1911 scholarships were awarded in District and High Schools without supplementary grants for maintenance. 537 scholarships, each of the value of £1 10s. per annum for four years, were awarded after competitive examination for the qualifying certificate to boys and girls under age 15. For the future the age limit will be 14 years. 302 scholarships, carrying in addition to the grant of 30s. per annum for books, a maintenance allowance of £5, £10, £15, and £20 in successive years for pupils living at home, or £30 per annum for those living away from school were also awarded.

The scholarships awarded at schools on the Qualifying Certificate examinations in 1911 were as follows :—

Scholars.	Boys.	Girls.	Total.
With grant	186	116	302
Without grant	297	240	537
	483	356	839

Bursaries to the number of twenty, tenable for three years, and available in Arts or Science Schools in the University, were open to competition among pupils of High and Public Schools, and to State Bursars in the Sydney Grammar School, under age 19. The annual value of the Bursary is £48, which is increased by £30 if the Bursar boards away from home.

Scholarships tenable at the Teachers Training College were till 1911 classified in two classes, carrying different rates of remuneration. In January, 1912, all scholarships were fixed at the higher rate, viz., £50 per annum for students boarding away from home, and £30 per annum for students living at home.

In 1908, Travelling Scholarships of an annual value of £150 to £200, and open to ex-students of the college, were established.

In 1912 a special scholarship on the lines of the Falkiner scholarship was provided by the Department of Public Instruction for the Riverina district, and is to be available in alternate years.

PRIVATE ENDOWMENT.

In 1911 a sum of £2,500 was provided by Mrs. Falkiner, of Deniliquin, to establish a scholarship fund for the Hay District. A Falkiner scholarship, carrying University training, with text-books and costs of board and residence while in attendance at lectures and examination, for four years, has been founded. It is open for competition at the Leaving Certificate examination for boys who have passed through the Hay District School.

BURSARY ENDOWMENT.

In 1912 the Bursary Endowment Act was passed by the Parliament of New South Wales, providing for the allocation of public moneys for the purpose of establishing a fund for bursaries, tenable in secondary schools, public, or private, and in the University of Sydney. This fund is administered by a specially constituted board, comprising two representatives each of the University of Sydney, and of the Department of Public Instruction, and of the Secondary schools registered under the Act. A representative of the Department of Public Instruction is chairman.

Schools desiring to benefit under the Act must register, and such registration is effective for two years; it is conditional upon inspection to determine the suitability of school premises, the organisation and equipment of the school, the method and range of instruction, efficiency of the teaching staff, and the general conduct of the school. The inspection is conducted by the Inspector of Secondary schools under the Department of Public Instruction.

The general conditions attached to registration are (1) a school must be capable of providing a four-year course of instruction beyond the primary stage, (2) such course shall lead to a standard not lower than that of the leaving certificate in at least six subjects (of which mathematics shall count as two subjects), and (3) the subjects of the course shall be such as the Board may approve.

Forty-three non-State schools were registered in 1912 under the Bursary Endowment Act as eligible to receive bursaries in 1913.

Twenty Bursaries, tenable for three years at the Sydney University, were open to be awarded to pupils from Public Schools, on the position of candidates at the Senior Examination of November, 1912; candidates to be under 19 years of age at date of examination.

A full Bursary will entitle holders to a grant of text-books not exceeding £5 per annum, and free education, together with an allowance not exceeding £20 per annum, to those who need not board away from home, and not exceeding £50 per annum to those who must do so; provided that a Bursar who wins and elects to hold a Scholarship or Exhibition offered by the Senate of the University shall be entitled to receive from the two sources conjointly an allowance of not more than £50 per annum. Holders of these Bursaries may enter as students either in the Arts or Science course. Should a Bursar enter one of the professional schools within the University he will be obliged to pay the prescribed fees. The Bursary allowance will not be continued beyond the third year of the student's attendance at the University.

PRIVATE SCHOOLS.

Concerning private schools, particulars have been given of the aggregate number of schools and the pupils enrolled. Little other information is available; many of these schools are denominational, and none are subsidised excepting the Sydney Grammar School, which was incorporated by an Act of Parliament of 1854, and opened on 3rd August, 1857; it was established to

confer on all classes and denominations of British subjects the advantages of a regular and liberal course of secondary education. The Act authorised the payment of £20,000 for the erection of school buildings, and an annual endowment of £1,500. Following is the record for the last five years of the numbers of teachers and students in the Sydney Grammar School, which since its foundation has been conducted exclusively for boys:—

Year.	Teachers.			Students.					
	Holding University Degrees.	Not Holding University Degrees.	Total.	Enrolment.		Attendance.	Age Groups.		
				Total.	Quarterly Average.	Daily Average.	December Enrolment.		
							6-14 years.	Over 14 years.	
1907	17	8	25	647	553	523	122	412	
1908	17	9	26	700	601	574	123	481	
1909	18	8	26	719	604	574	112	469	
1910	17	8	25	689	572	536	138	414	
1911	18	8	26	696	584	553	153	434	

New pupils admitted in 1911 numbered 239, viz., 117 under and 122 over 14 years of age.

This school has occupied a special place in the educational world on account of its early establishment under Government support. Private endowments have made available various prize funds and two exhibitions annually for students proceeding to the University.

The income and expenditure of the school for 1911 were as follows:—

<i>Income.</i>			<i>Expenditure.</i>		
	£			£	
From State grant	1,500	By Expenditure	11,675		
From school fees	10,071				
From special prizes, &c.	151				

The cost per pupil in average attendance was £21 2s. 2d., being 19s. 5d. less than in 1910; the expense to the State was £2 14s. 3d. per head, being 1s. 8d. less than in the previous year.

Kindergarten.

Free Kindergarten schools are conducted by the Kindergarten Union of New South Wales, which is assisted by a grant from the Government. There were 10 Free Kindergarten schools in 1911, with 55 teachers. The number of scholars on the roll during the December quarter was 599, of whom 562 were under 6 years of age. The average daily attendance was 420.

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

Business Colleges and Shorthand Schools.

Students at many of the public and private schools receive instruction in business methods, and this branch of education is undertaken also at the Technical schools of the Department of Public Instruction.

A return of the number of pupils taught in these special subjects is not available, but the following statement shows that many persons annually receive instruction at special Business and Shorthand Schools which are entirely under private management, and the pupils attending which have

passed the school age—Bookkeeping, Business Methods, Shorthand, and Typewriting are the main subjects taught:—

Year.	Schools.	Teachers.		Enrolment.			Average Attendance.			Total Fees Received.
		M.	F.	M.	F.	Total.	M.	F.	Total.	
1907	17	73		1,776	1,185	2,961	1,137	699	1,836	11,447
1908	19	96		2,430	2,237	4,667	1,301	1,281	2,582	16,509
1909	18	99		2,177	2,558	4,735	1,069	1,230	2,299	16,293
1910	18	65	36	2,492	2,638	5,130	1,316	1,184	2,500	17,159
1911	19	66	36	3,336	4,225	7,559	1,490	1,741	3,231	19,436

A considerable portion of the instruction given at these colleges is imparted through the medium of correspondence.

Evening classes are conducted by various institutions, *e.g.*, classes held at the Young Men's Christian Association; also, at the Railway Institute. These institutions have really been carrying on Continuation School work for some years.

At the Railway Institute, lectures of a technical and scientific character are arranged, in addition to the regular class work, in subjects ranging from ordinary English and commercial subjects to engine-driving, electrical physics, safe railway working, goods and coaching accounts, &c. The institute, also, has succeeded in accumulating a choice collection of New South Wales timbers. Under the ægis of this institute, ambulance classes, &c., are undertaken and the attendance is exceptionally good.

SCHOOL SAVINGS BANKS.

A system of school savings banks was initiated during 1887 in connection with the public schools of the State. The object of these school banks is to inculcate practically, principles of thrift while the minds of the children are susceptible of deep impressions.

In 1911 these banks numbered 710; the estimated number of depositors was 60,000. The deposits amounted to £30,122, and withdrawals, £29,236; £6,003 were transferred to the Government Savings Bank, leaving £11,809, as credit balances in the school banks.

EXAMINATIONS.

Since 1867 the University has conducted annual Public Examinations, Junior and Senior, which are open to candidates from any school, on payment of the necessary fee. These examinations have ranked as tests of the soundness of instruction imparted in the public and private schools of the State.

The number of candidates and the passes at these examinations are shown for quinquennial periods as under:—

Period.	Senior.			Junior.		
	Candidates.	Passes.		Candidates.	Passes.	
		Total.	Per cent. of Candidates.		Total.	Per cent. of Candidates.
1867-1870	35	30	85·7	69	53	76·8
1871-1875	294	174	59·2	951	544	57·2
1876-1880	316	237	75·0	1,737	1,046	60·2
1881-1885	311	238	76·5	2,471	1,589	64·3
1886-1890	617	471	76·3	4,756	3,152	66·3
1891-1895	771	586	76·0	8,606	5,250	61·0
1896-1900	602	496	82·4	6,102	3,915	64·2
1901-1905	674	568	84·3	5,841	3,944	67·5
1906-1910	867	719	82·9	6,403	4,560	71·2
1911-1912	378	298	78·8	2,405	1,830	76·1

The following table shows the distribution of successful candidates in recent years :—

Year.	Senior Passes.			Junior Passes.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.
1896	59	49	108	633	332	965
1906	92	34	126	582	263	845
1907	104	45	149	531	273	804
1908	101	50	151	582	332	914
1909	90	55	145	604	311	915
1910	114	34	148	721	361	1,082
1911	100	31	131	645	299	944
1912	114	53	167	615	271	886

The scope of the examinations is wide enough to embrace all subjects usually included in the curricula of secondary schools ; seven subjects at the Junior, and eight at the Senior now constitute the maximum for proficiency prizes, and the attainment of specified standards is the equivalent of matriculation. Honours at matriculation are obtainable at the Senior examination. To standardise the teaching of subjects essential to commercial pursuits, the University in recent years has issued Commercial Junior and Senior Certificates, in addition to certificates for academic subjects.

Examinations for the admission of articled clerks in Law have been conducted by the University since 1877 under a rule of the Supreme Court. The records of these examinations in the past two years were :—

	Candidates.				Passes.	
1910	43	...	...	25
1911	55	...	...	27

The subjects of examination are English, Latin, Mathematics, and Greek, or French, or German.

Various other public examinations are conducted by different bodies, for which the schools prepare their pupils, notably the Institute of Bankers for admission to the Bank service, and the Public Service examination for admission to the Service of the State.

Prior to 1911 students from public schools, superior and high, were successful competitors at public examinations. With the introduction of a co-ordinated system of secondary education, designed to furnish adequate preparation for various types of vocation, the necessity for competing at such examinations has vanished with the acceptance by the University, &c., of the certificates of the Department of Public Instruction as indicating the attainment of satisfactory standards of education.

The higher school courses are designed to furnish preparation for various types of vocation, viz :—(1) A general course leading to the professional studies of higher institutions. (2) A commercial course, preparing for business careers. (3) A technical course, leading to industrial pursuits. (4) A domestic course, qualifying for home management. Three certificates mark definite stages in the progress of public school pupils. The Qualifying Certificate indicates that the holder has completed the primary course, and is fitted to enter upon a secondary course. This standard is a condition precedent to admission to all higher schools. The Intermediate Certificate marks the

completion of the higher primary stage constituting the first two years of the secondary course. The Leaving Certificate is obtainable on graduation from the full four years' course of the High Schools, and is accepted as indicative of adequate preparation for the University, if it shows a pass in matriculation subjects.

The first examination for the Qualifying Certificate was held in December 1911, at some 600 centres in New South Wales. Following are particulars regarding the two examinations held to date:—

Year.	Examinees.	Qualifying Certificates Issued.	High School Scholarships and Bursaries.
1911	12,000	7,092	900
1912	16,500	7,869	1,000

As the object of this examination is to avoid stereotyped questions and discourage "cramming," the schools were classified in districts, and the papers set in each had a bias towards problems especially applicable to local conditions. In allotment of the certificates on this examination, which also determines the allocation of Scholarships to District and High (including Agricultural and Technical Schools) the teachers' reports and the record of school attendance are influential factors.

SPECIALISED EDUCATIONAL ACTIVITIES.

Reference has been made to the recently inaugurated system in State Schools of secondary education in preparation for various types of vocation. In this scheme consideration is given to the necessity of commercial as well as domestic training.

The course of study in primary schools includes lessons in needlework, dressmaking, cookery, general housewifery, nursing, and laundry work. In the smaller schools instruction in needlework is imparted by teachers' wives, payment ranging from £24 to £30 per annum. In larger schools sewing mistresses are appointed.

During 1911, 55 cookery schools were in operation at various centres, and were attended periodically by girls from neighbouring schools. At the end of the year, 3,033 girls were receiving instruction. The course covers twelve months. The Technical College provides more advanced courses. Evening domestic schools provide one year courses in home nursing, cookery, and domestic science, and courses in domestic science and arts are included in the curriculum of the Teacher's Training College.

The provision of higher education in a special college of domestic science is under consideration.

The Examining Board in connection with the intermediate and leaving certificates is constituted of the Director of Education, the Chief Inspector, the Principal of the Teachers' College, the Inspector of Secondary Schools, and four delegates appointed by the University.

Scholars of Private Secondary Schools may, subject to regulations, compete for the Leaving certificate.

COMMERCIAL EDUCATION.

Preparatory education for commercial life has been provided in the State schools by means of the curricula of classes in which youths are coached for the commercial certificates issued in connection with the University public examinations, and special preparation is given in the Commercial Continuation Schools recently established.

Private schools and colleges provide facilities for commercial training, both by day and evening classes, and advanced preparation for commercial life has been provided in the University evening lectures for the diploma in Economics and Commerce. This section of the University teaching was promoted originally by the Sydney Chamber of Commerce in the form of brief lecture courses available to the general public, and in examinations conducted for senior and junior commercial certificates issued by that body. The diploma course in 1913 will be converted into a full degree course; separate Chairs for applied chemistry and for economics have been provided, and the hope is entertained that with the advent of the former Chair opportunity would offer for practical research work that would be of incalculable benefit to Australian industries. Such industrial research work is warranted by the necessity for keeping abreast of similar movements now being developed, particularly in numerous Universities and higher colleges of the United States of America.

In connection with the question of vocational training and compulsory attendance at continuation schools, it is of interest to note that the Royal Commission of Inquiry into the alleged shortage of labour, &c., in New South Wales, reporting in 1912 under the second head, viz., "Hours and general conditions of employment of female and juvenile labour in factories and shops, and the effect on such employees," recommended as the most essential reform the raising of the entry age to 16 years, and, as a corollary, education with vocational direction. In regard to the third part of the inquiry, viz., "Cause of the decline in apprenticeship of boys to skilled trades, and the practicability of using technical and trade classes as aids to or substitutes for apprenticeship," the Commission emphasised the fact that children may leave the primary school at age 14. The Technical College evening classes being devised for adults, boys under age 16 are discouraged from attending. Similarly, in entering on an apprenticeship, employers favour boys of at least age 16, so that they may have the benefit of the full five years' term. The interval between ages 14 and 16 thus presents a serious problem. The remedy recommended is an Apprenticeship Commission (with the Director of Education as President) to—

- (a) Classify for apprenticeship trades and branches of trades which may be deemed skilled;
- (b) Determine with regard to apprenticeship the period, rates of pay, length of attendance at technical classes, and amount of pay for certificated attendance;
- (c) Supervise the carrying-out by masters and apprentices of the apprenticeship agreement, and transfers of indentures.

Supplementary to the Apprenticeship Commission, a new apprenticeship law is deemed essential, making—

- (a) Apprenticeship in skilled trades compulsory for future juvenile labour;
- (b) Technical education obligatory on all apprentices; and
- (c) Additional wage payment enforceable for certified technical study.

DELINQUENTS AND DEFECTIVES.

The special provision made for delinquent and defective children expresses the humanitarian tendencies of the times, in striving to enable such of these classes as can profit by education to receive that special training which may best fit them for life, consistently with their capabilities.

In addition to purely educational establishments, the State of New South Wales maintains several reformatories and industrial schools. For girls there is the Industrial School at Parramatta; and for boys, till recently, the Carpenterian Reformatory (Brush Farm Home) and the nautical

school-ship "Sobraon," these institutions being under the control of the Minister of Public Instruction. At the Parramatta Industrial School the enrolment of girls during the year 1911 was 130; of the 96 girls at the institution during the December quarter, 3 were under, and 93 over, 14 years of age, and the net cost of maintaining the school in 1911 was £3,071.

At the Carpenterian Reformatory (Brush Farm Home), the boys were taught, under strict discipline, farming, wood-turning, carpentry, boot making, tailoring, painting, and general industrial work. During the year 1911 there were 140 lads admitted to the Reformatory, of whom 12 were under 14 years of age. The net State expenditure on this institution amounted to £2,223. Since its inception the institution has dealt with 946 boys, and of the discharges it is estimated that fully 84 per cent. have turned out industrious citizens. On account of the abandonment of the "Sobraon" as a nautical school-ship the number of boys at the Brush Farm was increased largely during the latter part of 1911; to facilitate a more complete training in agricultural work, the Brush Farm establishment has been sold, and the Reformatory re-established in new quarters in the locality of Gosford, with a considerable area of land, most of it well timbered.

Education of deaf and dumb and blind children is undertaken at a school in connection with the Institution for the Deaf and Dumb and the Blind. This institution receives periodical grants from the Government, and the school fees are remitted in cases where the parents are unable to pay.

In 1911, the sum of £5,210 was received from legacies, the whole amount being placed to credit of the Perpetual Subscribers' Fund. The income of the institution, excluding legacies, was £6,505. The expenditure for the year was:—For maintenance, £3,450; salaries and wages, £2,803; total, £6,253.

The number of teachers employed was 18, and the average cost per pupil was £46 13s. 4d., as against £41 8s. 8d. for 1910.

Pupils in residence during 1911 numbered 146, as compared with 145 in 1910. Of these, 117 were under and 29 were over 14 years of age. The admissions during the year were 25, of whom 22 were under 14 years of age. Eighteen pupils were discharged, 6 being under and 12 over 14 years of age.

Ragged Schools have been conducted since 1860 in Sydney, to provide education and attention for neglected children. During 1911, 5 schools were open, 7 teachers were employed, and 297 individual scholars were enrolled. The average daily attendance was 162. Meals and clothing are provided when necessary. The operations of these schools have decreased in recent years, with the enactment of free education in State schools.

THE UNIVERSITY OF SYDNEY.

An Act to incorporate and endow the University of Sydney was passed by the Parliament of New South Wales on 1st October, 1850, and received Royal Assent on 9th December, 1851.

The Government of the University was vested in a Senate of sixteen elective fellows (at least twelve to be laymen) and a maximum of six *ex officio* members, professors of the University. Vacancies are filled by election at a convocation of persons entitled to vote, to be held within sixty days of the first meeting of the Senate after the occurrence of the vacancy. The Chancellor and Vice-Chancellor are elected by the Senate from their own body—the Chancellor triennially under the by-laws, the Vice-Chancellor annually by statute. The Senate is empowered to make by-laws and regulations relating to the government of the University, examinations, conferring of degrees, &c., such by-laws, &c., being subject to approval of the Governor of the State.

By the Act of foundation, the University was required to be undenominational, a religious test for admission to any privilege being prohibited expressly; degrees in Theology or Divinity are not conferrable. Authority was given to examine, and to grant degrees in Law and Medicine as well as in Arts.

The first Senate was appointed on 24th December, 1850, and established immediately three Chairs—in Classics, Mathematics, and Chemistry and Experimental Physics. On the 11th October, 1852, the University was opened, and twenty-four matriculated students were admitted to membership.

In 1858 a Royal Charter was granted, declaring that "the degrees of this University in arts, law, and medicine shall be recognised as academical distinctions of merit, and be entitled to rank, precedence, and consideration in the United Kingdom as fully as if the said degrees had been granted in any university of the United Kingdom."

Since the passing of the original Act various amendments have been made. In 1884 the Senate's powers as regards teaching and degrees were extended so as to provide instruction and to grant degrees or certificates in all branches of knowledge, other than Theology or Divinity, subject to a proviso that no student should be compelled to attend lectures or to pass examinations in Ethics, Metaphysics, or Modern History; and the benefits and advantages of the University in all respects were extended to women equally with men. In 1900 all the various enactments were consolidated in the University and University Colleges Act.

The University Amendment Act 1912, which is operative from the beginning of 1913, makes radical alterations in the Constitution of the Senate, which will consist of 24 members, viz:—

- 4 Fellows appointed by the Governor of New South Wales.
- 1 Fellow elected by the Legislative Council.
- 1 " " " " Assembly.
- 5 Fellows representing the Teaching Staff of the University, *i.e.*, one elected by the Professorial Board, and one each by the four Faculties.
- 10 " " " " elected by Graduates.
- 3 " " " " the aforesaid Fellows.

Special provision is made in the Act for the retention of the Chancellor and Vice-Chancellor as additional Fellows for their lifetime; otherwise the maximum term of office is five years. Authority is given for the establishment and maintenance of evening tutorial classes; the State endowment is increased to £20,000 per annum, with proportionate increases of £1 for each 15 persons between ages 17-20, added to the population of the State as determined by Census records after 1912. Public exhibitions covering cost of matriculation, tuition, and degree fees are authorised in the proportion of one for every 500 persons between ages 17-20 in the population of the State as shown by Census records.

The establishment of colleges of residence in connection with religious denominations for the association of students in the cultivation of secular knowledge was authorised by an Act passed in 1854. Under this provision three colleges have been established adjacent to the University, namely, St. Paul's (Church of England), St. John's (Roman Catholic), and St. Andrew's (Presbyterian). Action is being taken at the present time for the foundation of a Methodist College. A college of residence for women was established in 1892, on a strictly undenominational basis. The colleges provide assistance to students in preparing for the University lectures and examinations.

Endowment.

On incorporation an endowment of £5,000 per annum was provided from the public revenue for "defraying the stipends of teachers in literature science, and art," and for purposes of administration; but provision was not made for teaching in other branches of learning.

This endowment remained unaltered until 1880, when £1,000 was added for assistant lectureships; in 1882 a further allocation of £5,000 was made for the establishment of schools of Medicine and Engineering, and to assist the Faculty of Arts. Periodically grants were made, until in 1893 the Government endowment for general purposes amounted to £13,000, and the special grants to £6,595. In 1902 the endowment for maintenance was placed upon a statutory footing at £10,000 per annum, payable quarterly; the special grants for 1903 amounted to £3,750. These included a sum of £2,000 per annum as a provision for evening lectures, which were initiated in 1882. In 1908 and 1909, £2,500 were added for the establishment of departments of Veterinary Science and Agriculture, and a sum of £5,000 is voted annually for the maintenance of these departments. During 1910 the amounts received from the Government for general purposes aggregated £18,800.

In 1911 the Government provided additional grants, approximating £20,000, to be distributed as follows:—

	£		£
Extensions of existing departments	2,500	Retiring allowances	1,800
Chair of Botany	2,000	Organic and Applied Chemistry ...	2,500
„ Economics and Commerce	3,000	Equipment and apparatus—	
Library	1,600	Medical	3,000
Science Research Scholarships	1,000	Engineering	3,000

Excepting the vote for equipment, these votes will require to be made annually.

The vote for additions, repairs, and furniture was raised to £3,000, the vote for evening lectures was £2,500, and the total endowment from the State for 1912-13, including the statutory endowment of £10,000, was £43,956.

Private Benefactions.

Many benefactions have been bestowed on the University by private persons. Among the first were gifts of £1,000 each from Mr. Thomas Barker, Sir Daniel Cooper, and Sir Edward Deas-Thomson, represented by lands which have multiplied in value. The sum of £445 given in 1862 by Mr. W. C. Wentworth for the foundation of a travelling scholarship had, in December, 1912, accumulated to £3,534. Many others followed, and at the close of 1912, the aggregate value of the original endowments was £474,812. Some prizes have been exhausted by award, but by careful investment, increases in value, unawarded scholarships, and other causes, these private foundations showed at 31st December, 1912, credit balances to the extent of £547,165.

These endowments include a sum of £30,000, bequeathed by Mr. Thomas Fisher, for a library, and £6,000 given in 1888 by Sir William Macleay for a Curatorship of the Natural History Museum, the collection contained in the Museum having been presented by him to the University, and for which the Government erected a suitable building. Bequests of property, other than money, are estimated to be worth £51,000; the Hovell bequest—made in 1877—of properties for the endowment of a Professorship in Geology and Physical Geography, is valued at £5,200; and the late Mr. John Henry Challis, in 1880, bequeathed his residuary real and personal estate, subject to certain annuities, to the University, "to be applied for the benefit of that Institution in such manner as the governing body thereof shall direct." In

December, 1890, the trustees of the Challis Estate handed over to the University the major part of the Australian portion of the estate, approximating to £200,000 in investments, together with a cash balance. The balance, bringing the capital of the fund to £276,856 was transferred, upon the termination of the last annuity, to the University in 1905, and under the bequest the Senate has created Chairs in Law, Modern Literature, History, Logic and Mental Philosophy, Anatomy, Engineering, and Biology, and a Directorship in Military Science, in addition to five Lectureships in Law. To each of these it has given the testator's name. The Hovell and Challis bequests constituted, until 1896, the chief resources of the University for education, apart from the public endowments.

During 1896 Sir Peter Nicol Russell, (formerly of Sydney), presented £50,000 for the purpose of endowing the Department of Engineering as the Peter Nicol Russell School of Engineering, and this gift was supplemented by a further grant of £50,000 in 1904, with the stipulations that efficient teaching in electrical engineering be provided and additional scholarships founded, and that the Government should expend £25,000 upon buildings. Through this endowment, seven Lectureships in Engineering have been established, in addition to Assistant Lectureships and for Instructors and Demonstrators. The deeds of gift stipulate practical and theoretical teaching in Mechanical and Electrical Engineering, Surveying, Mining, Metallurgy, Architecture, and other instruction as the Senate deems necessary. The income of the Fund is applicable to the maintenance of the School, but is not chargeable with the costs of existing buildings, of service of attendants, of Professorships of Mathematics, Chemistry, Physics, Geology, nor of the Challis Professorship of Engineering. Scholarships in Mechanical Engineering are provided out of the fund, viz., three each of the annual value of £75, and tenable for four years.

In 1909 the sum of £7,050 was given by Mr. Hugh Dixon, of Summer Hill, to enable the University to purchase the Aldridge Collection of Minerals from the Barrier District of New South Wales. This collection is distributed in four parts, viz., (a) a primary collection, completed by exchanges, in the Museum of the University; (b) a second collection for exhibition at the Technological or Australian Museum, or other suitable institution; (c) a collection for exhibition in London; and (d) specimens for exchange, analysis, or cabinet purposes. During 1910 a bequest of £450 was received from Miss Frances M. Busby, for the foundation of a Musical Scholarship, and two subscriptions of £400 for prize funds. In 1912, £200 was received for a Russell prize in Astronomy.

Receipts and Disbursements.

Below is given a statement showing the amounts derived by the University from each of the principal sources of revenue, and the total expenditure, during each of the last six years. Under the items are included sums received for special expenditure and amounts from benefactors to establish new benefactions.

Year.	Receipts.					Disbursements.	Private Endowments Credit Balance.
	Government Aid.	Fees.	Challis Fund and other Private Foundations.	Other Sources.	Total.		
	£	£	£	£	£	£	£
1907	13,750	19,961	42,473	251	76,435	52,756	541,232
1908	21,084	19,672	22,781	665	64,202	58,959	543,752
1909	15,425	20,714	30,630	483	67,252	68,331	546,634
1910	18,800	19,453	25,756	296	64,305	63,764	549,295
1911	22,550	20,206	26,710	91	69,557	72,149	546,260
1912	43,956	18,822	24,398	97	87,273	75,618	547,165

The principal item of disbursements in each year is for salaries. In 1911-12 the total expenditure was distributed as follows :—

	Amount.		Percentage of Total.	
	1911.	1912.	1911.	1912.
	£	£		
Salaries	51,296	52,849	71·1	69·9
Maintenance	10,551	12,256	14·7	16·2
Buildings and Grounds	4,207	3,486	5·8	4·6
Scholarships and Bursaries	3,554	3,770	4·9	5·0
Books, retiring allowances	2,541	3,257	3·5	4·3
Total	72,149	75,618	100·0	100·0

Faculties and Cost of Graduation.

Within the University there are four Faculties, viz., Arts, Law, Medicine, and Science, and in addition there are four Departments. A Dean for each Faculty is appointed for a period of two years. The Professors of the four Faculties, with the Chancellor and Vice-Chancellor, form the Professorial Board which superintends in matters relating to study and discipline. In each faculty the higher degree includes the lower. The degrees and diplomas given, and the cost of graduation, including matriculation in the faculties and departments, are as follows :—

Faculty or Department.	Degree or Diploma.	Cost of Graduation.	Minimum Term of Study.	Degree Fee.
		£ s. d.	Years.	£
Faculty of Arts	Bachelor of Arts. B.A. ...	55 8 0	3	3
	Master " M.A. ...	.....	2	5
	Diploma in Education (post graduate).	.....	1	3
Department of Economics and Commerce.	Diploma in Economics and Commerce.	19 18 0	3	1
	Bachelor of Economics. B.Ec. ....	.....	...	3
Faculty of Law	Bachelor of Laws. LL.B. ...	169 13 0	5	10
	Doctor " LL.D. ...	.....	2	10
Faculty of Medicine... ..	Master of Surgery. Ch.M. ...	163 4 0	5	10
	Bachelor of Medicine. M.B. ...			
	Doctor " M.D. ...	2	10	
	Diploma in Public Health (post graduate).	20 10 0	1	10
Department of Dental Studies.	Bachelor of Dental Surgery. B.D.S.	154 16 0	4	10
	.....	15 15 0	1	...
Department of Pharmacy	.....	22 1 0	2	...
Faculty of Science	Bachelor of Science. B.Sc. ...	71 3 0	3	3
	Doctor " D.Sc. ...	.....	3	10
Department of Engineering.	Bachelor of Engineering, B.E.--	125 8 0	4	10
	Civil			
	Mining and Metallurgical Mechanical and Electrical			
	Master of Engineering. M.E.	82 12 0	3	10
Department of Veterinary Science.	Licentiate in Veterinary Science. L.V.Sc.	82 12 0	4	5
	Bachelor of Veterinary Science. B.V.Sc.	23 18 0	2	10
Department of Agriculture	Bachelor of Science in Agriculture. B.Sc.Ag.	83 15 0	4	3
Department of Military Science.	Diploma in Military Science...	13.12 0	3	1

The total cost of graduation shown above includes lecture and laboratory fees, matriculation, and degree or diploma fees, also—in the medicine and dentistry course—hospital fees.

The University also awards an Australian Diploma in Tropical Medicine on a post graduate course in the Faculty of Medicine.

Matriculation.

Students proceeding to degrees must qualify for entrance to the University by matriculating, the examination fee being £2.

The subjects of examination for matriculation are—

- (1) English, (2) Mathematics, (3) Latin, Greek, French or German, (4) one or more in accordance with the regulations for admission to the several faculties, viz., (a) one or more languages not already taken, (b) Mechanics, (c) History (i.) English, (ii.) Modern, (d) one of the following sciences:—Botany, Chemistry (Inorganic) Geology, Physics, Physiology, Zoology.

Of the above-mentioned subjects, certain subjects must be taken at a high standard, as prescribed for admission to the respective faculties or departments of study, viz. :—

Arts : Latin or Greek, and one other subject. Law : Latin, and two other subjects. Medicine, Science and Agriculture : Three subjects, of which one must be Latin, Greek, French, or German. In the Department of Engineering, Mathematics, Mechanics, and one of the languages, Latin, Greek, French, or German are prescribed. In the Department of Veterinary Science, two subjects, one of which must be Latin, Greek, French, or German.

Matriculation examinations are conducted in March of each year, but matriculation passes are obtainable at the public examinations, junior and senior. In 1912, 214 students were admitted to matriculation. Persons of the minimum age of 21 years, not being graduates of any university, may be admitted as advanced students, and graduates in Arts with qualifications for advanced study and research may be admitted as advanced students in Science; they proceed to a Certificate of Research, and thence to the degree of B.A. or B.Sc.

In 1912 arrangements were made with the Government for acceptance, in lieu of matriculation examination, of the Leaving certificate awarded in High Schools under the Department of Public Instruction. On the examining board for this certificate the University is entitled to four representatives.

Lectures and Lectureships.

Non-matriculated students are admitted to lecture and laboratory practice, but are not eligible for degrees. Lectures are given during the daytime in all subjects necessary for the degrees and diplomas quoted above, and, in addition, evening lectures are provided in the subjects of the Arts course, including elementary science. In 1912, arrangements were made whereby the Government Astronomer of New South Wales was appointed Professor of Astronomy in the University, and lectures are given in connection with this subject.

In 1912, the Teaching Staff included 19 professors, 7 assistant professors, and 97 lecturers and demonstrators, of whom 7 professors and 5 lecturers were paid out of the Challis Fund, and 12 from the Peter Nicol Russell Fund. There were, in addition, 2 honorary lecturers and 5 honorary demonstrators. Professors are paid a fixed salary, and the majority of lecturers also are paid by fixed salary. Provision is made for a pension scheme for professors appointed since 1898 after twenty years' service, and after attaining the age of 50 years. Other teachers are not included in this scheme, which receives special assistance from the State.

Degrees and Diplomas.

From the foundation of the University to the end of 1912 there have been 3,874 Degrees of various kinds conferred; 237, the number bestowed in 1909, being the highest in any year. Of the total, male graduates numbered 3,319, and females 555. The Degrees conferred during 1911 and 1912, and the total Degrees from the foundation of the University to the end of 1912, are shown in the following statement:—

Degree.	Conferred during				Total up to December, 1912.						
	1911.		1912.		Conferred by Examination.		Admitted <i>ad eundum</i> .		Total.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
M.A.	7	5	9	1	332	48	21	2	353	50	403
B.A.	54	22	40	31	1,303	411	9	...	1,312	411	1,723
LL.D.	...	...	...	...	22	...	3	...	25	...	25
LL.B.	10	...	10	...	187	1	4	...	191	1	192
M.D.	3	...	2	...	30	...	26	...	56	...	56
M.B.	57	3	14	...	562	37	9	...	571	37	608
Ch.M.	23	1	26	...	371	27	1	...	372	27	399
L.D.S.	...	...	...	...	28	2	...	...	28	2	30
B.D.S.	3	...	2	...	43	2	...	...	43	2	45
D.Sc.	2	...	2	...	9	...	...	...	9	...	9
B.Sc.	4	2	7	2	96	25	5	...	101	25	126
M.E.	...	...	...	...	5	...	1	...	6	...	6
B.E.	16	...	13	...	249	...	1	...	250	...	250
E.V.Sc	...	...	2	...	2	...	...	...	2	...	2
Total	179	33	127	34	3,239	553	80	2	3,319	555	3,874

All the degrees conferred in 1911 were on examination, except two admissions of men *ad eundum gradum* in M.D.; in 1912 one man was admitted *ad eundum gradum* in M.A.

In connection with the degrees quoted as conferred in 1911, it is to be noted that examinations are held for most subjects in December and March, and the Degrees, &c., earned at these examinations are conferred publicly usually in May following.

The diplomas issued are as follows:—

Diploma	Half-year, 1912.	Total to 30th June, 1912.
Diploma in Military Science	3	19
„ Public Health	...	2
„ Economics and Commerce	15	50
„ Education	...	1
Total	18	72

In addition to the foregoing, Massage and Pharmacy students attend certain courses, and certificates are issued for attendances and examinations passed.

The University has not power to confer honorary degrees, but may admit *ad eundum gradum* graduates of other recognised universities.

Students.

The following statement shows the number of students attending lectures at the University at intervals since 1876 :—

Year.	Matriculated.	Non-matriculated.	Total.
1876	34	24	58
1886	122	81	203
1896	438	16	454
1906	836	218	1,054
1907	871	307	1,178
1908	875	449	1,324
1909	924	350	1,274
1910	1,005	337	1,342
1911	1,060	327	1,387
1912	1,083	389	1,472

The following table shows the distribution of the students attending lectures during 1911-12, and includes students taking more than one degree course :—

Department.	Matriculated.				Non-matriculated.				Total.	
	Men.		Women.		Men		Women.		Total.	
	1911.	1912.	1911.	1912.	1911.	1912.	1911.	1912.		
Arts—Day	109	107	92	90	20	7	14	16	235	220
„ Evening	96	115	20	24	...	19	...	8	116	166
„ Post-graduate	20	22	14	19	...	...	...	...	34	41
Law	86	84	...	...	2	6	...	...	88	90
Medicine... ..	448	432	14	16	1	...	16	18	479	466
„ Post-graduate	4	8	...	...	...	...	...	...	4	8
„ Dentistry	19	23	3	3	26	7	...	...	48	33
Science—Pure	37	29	12	14	16	12	4	10	69	65
„ Agricultural	7	9	...	...	...	1	...	...	7	10
„ Engineering	76	87	...	...	4	8	...	...	80	95
„ Veterinary	16	15	...	...	...	...	...	...	16	15
Pharmacy ... ..	...	...	...	...	61	94	1	3	62	97
Military History and Science	...	...	...	...	81	59	...	...	81	59
Economics and Commerce	...	...	...	...	84	120	...	...	84	120
Research Study	3	10	1	1	...	...	...	...	4	11
Total	921	941	156	167	295	333	35	55	1,407	1,496

The figures given above show that unmatriculated students, numbering 330 in 1911 and 388 in 1912, represented 23·5 and 25·9 per cent. respectively of the total number of students proceeding through the degree courses. Women students represent 13·6 and 14·8 per cent. respectively of the total students.

Scholarships, Bursaries and Fellowships.

Scholarships, exhibitions, and bursaries have been founded, chiefly by private benefactors, as rewards for proficiency and for the purpose of placing the advantages of a University education within the reach of capable students, who otherwise might be excluded through want of financial means.

Such scholarships and exhibitions are awarded only when the examinations disclose a satisfactory degree of proficiency, and no candidate may hold more than two scholarships.

Candidates for bursaries are required to show that they do not possess sufficient means to attend the University. Bursaries to the number of nineteen are provided by the Senate; they are tenable only in the Faculties of Arts or Science (not including Engineering), and are supplemented, on the

part of the Senate, with exemption from fees. In the case of the Struth Exhibition and the Henry Wait Bursary, awarded to students proceeding from the first year in the Arts course to the Faculty of Medicine, no exemption from payment of lecture fees is granted. In addition, bursaries are granted annually by the Government to pupils of State schools, and under the Bursary Endowment Act, 1912, bursaries will be available for pupils from private secondary schools.

A Rhodes Scholarship of the value of £300 per annum, tenable for three years at the University of Oxford, is awarded annually to students of Sydney University, and a commission in the British Army is also offered every year.

The following statement shows the number of students who attended University Lectures as non-paying students since 1910 :—

Year.	State and University Bursars.	Government Officers.		Military Science.	With remission of fees.	Total.
		Departments of—				
		Public Instruction.	Agriculture.			
1910	48	179	...	78	34	339
1911	49	160	7	49	30	295
1912	42	192	9	63	32	333

In 1912 the cost of bursaries allowed by the Senate of the University was £1,005. Scholarships cost the Senate £2,264.

Fellowships available to graduates in science of the University include four annually under the Macleay bequest of £35,000 made in 1904 to the Linnean Society of New South Wales. These fellowships are intended to encourage and advance research in Natural Science, by means of post graduate work ; each is of the annual value of £400.

The University enjoys the privilege, bestowed through the Orient Royal Line of Mail Steamers, of allotting three first-class return passages to Europe to graduates desiring to continue studies abroad.

Clinics.

In 1873 the Government resumed land for the erection of the Royal Prince Alfred Hospital for the sick, which was designed as a General Hospital and Medical School for the instruction of University students, and for the training of nurses. The Hospital is open for students (during 42 weeks in each year) for certificates of hospital practice necessary for admission to final degree examination in medicine and surgery. Clinical lectures are delivered, in accordance with the University curriculum. All appointments to the Medical and Surgical Staff of the Hospital are made conjointly by the Senate of the University and the Directors of the Hospital.

In 1911 Lectureships in Clinical Medicine and Clinical Surgery were increased from one to three each.

Sydney Hospital, founded in 1811, also provides a Clinical School under direction of a Board of Medical Studies, and all appointments of clinical lecturers and tutors are subject to the approval of the Senate.

Other hospitals recognised as places where studies may be undertaken in connection with the Faculty of Medicine, are :—The Royal Hospital for Women, Royal Alexandra Hospital for Children, St. Vincent's Hospital, the Gladesville and Callan Park Hospitals for the Insane, and the Women's Hospital.

In connection with the Department of Dental Studies, the United Dental Hospital of Sydney was established in 1901, and provides facilities for

instruction of students. It was amalgamated with the Dental Hospital of Sydney in 1905. The University lecturers in Surgical and Mechanical Dentistry are, *ex officio*, honorary dental surgeons of the Hospital. The fee payable by students for dental practice in the Hospital is ten guineas per annum.

Buildings.

The University buildings consist of the main building, containing the great hall, lecture rooms, and offices, all built of Pymont sandstone; the Medical School, which is in the same style, and is now being enlarged; the Fisher Library, adjacent to the main building, and designed to form part of the main quadrangle. This is the latest addition to the buildings, and is of modern design, with a bookstack of steel and glass for 200,000 volumes, and with ample reading-room accommodation for students.

Separate buildings for the Departments of Chemistry, Physics, Geology, Biology, and Veterinary Science, and the Macleay Museum are distributed over the grounds, which, including lands vested by the Senate in the Affiliated Colleges, &c., cover an area of 126 acres. The Peter Nicol Russell School of Engineering has a separate building, provided by the State at a cost of £25,000.

Most of the buildings and equipment of the University have been provided by the Government.

Recently half the cost of a new chemical laboratory, viz., £7,500, was provided out of the Challis Fund.

In 1912 one of two wings being added to the Medical School was completed.

The building for the School of Veterinary Science was ready for use early in 1912. A building for the University Union was completed, practically, by the end of 1912.

EXTENSION LECTURES.

University Extension Lectures were inaugurated in 1886, and have been conducted since that date under the direction of a University Extension Board of eighteen members appointed annually by the Senate, and including at least four members of that body, and four of the teaching staff. Courses of Lectures are given in various centres upon topics of literary, historical, and scientific interest. At the conclusion of a course, which may consist of a minimum of three lectures, an examination may be held and a certificate awarded to successful candidates. During 1912 the ordinary extension lectures were delivered in Sydney and suburban centres, and in other centres embracing country districts in New South Wales. The Board has till recently conferred the benefits of its lectures on other States.

AFFILIATED COLLEGES.

In the affiliated colleges within the University 146 students were in residence during 1911. Following are the figures relating to these colleges:—

College.	Students in Residence.	Principals and Lecturers.	Receipts.	Disbursements.
			£	£
St. Paul's (C.E.) ...	36	4	3,321	3,046
St. John's (R.C.) ...	20	4	1,506	1,516
St. Andrew's (Pres.)...	67	9	8,693	8,434
Women's ...	23	2	1,885	2,181

These colleges have been endowed from private sources with funds for scholarships, and each college is subsidised by the Government to the extent of £500 per annum for the Principal's salary; which subsidy is included in the income quoted above. During 1910 an Act was passed to incorporate Wesley College as a college of and within the University, to afford systematic religious instruction in accordance with the doctrines and laws of the Methodist Church of Australasia, the incorporation being on terms similar to those governing the colleges already established, viz., St. Paul's, by Act 18 Victoria, in connection with the Church of England; St. John's, by Act 21 Victoria, in connection with the Roman Catholic Church; St. Andrew's, by Act 31 Victoria, in connection with the Presbyterian Church of New South Wales. The Women's College, incorporated by Act 53 Victoria, No. 10, is not attached to any religious denomination. The Wesley College Incorporation Act, 1910, repealed an earlier Act of incorporation (23 Victoria), and empowered the University to grant the land necessary for a college in lieu of the earlier grant for a Wesleyan Methodist College, which had been allowed to lapse. For the purpose of establishing the college the Government, under the University and University Colleges Act, 1900, may subsidise the building fund of a college by sums corresponding to the amounts expended for the purpose of building by the college, out of its subscribed funds, up to a maximum of £20,000.

RECIPROCITY.

By Royal Charter in 1858 the same rank, style, and precedence were granted to graduates of the University of Sydney as are enjoyed by graduates of universities within the United Kingdom. The University of Sydney was affiliated to the University of Oxford in November, 1888, and later with the Universities of Cambridge and Dublin. The Universities of Oxford and Cambridge extend certain privileges to students of two-years' standing in the University of Sydney who desire to compete for honors, and graduates of Sydney, subject to certain conditions, are eligible for admission as advanced students at Cambridge, proceeding then to Degrees of Bachelor of Arts or of Law, or to Research Certificates.

Admission *ad eundem gradum* in the University of Sydney is obtainable by distinguished graduates of approved universities, viz., Oxford, Cambridge, London, Durham, Victoria, St. Andrew's, Edinburgh, Glasgow, Aberdeen, and Dublin, Queen's of Ireland, and the Royal of Ireland; and the universities of Melbourne, New Zealand, and Adelaide.

CONGRESS OF UNIVERSITIES OF THE EMPIRE.

In July, 1912, a Congress of Universities of the Empire was held in London, at which fifty-two Universities in the British Empire were represented. The University of Sydney was represented by four delegates. The subjects of discussion were arranged as follows:—

I. Universities in their relation to one another.

1. Conditions of entrance—equivalence and mutual recognition of entrance tests.
2. Interchange of University teachers—conditions.
3. Inter-University arrangements for post graduate and research students.
4. Division of work and specialisation among universities.
5. Establishment of a Central University Bureau—constitution and functions.

- II. Universities in their constitutional aspects and in relation to teachers, graduates, and students.
1. Relation to technical and professional education, and to education for the Public Services.
 2. Courses of study and examination of "other than for degrees," extension and tutorial work, and specialised courses for professional, commercial, and industrial pursuits.
 3. Representation of teachers and graduates on the governing body.
 4. (a) Action of Universities in relation to after careers of students.
(b) Position of women.
 5. The problem of Universities in the East—influence on character and moral ideals.
 6. Residential facilities—colleges and hostels.

THE ADVANCEMENT OF EDUCATION.

Various organisations exist which have for their objective the encouragement of professional interests, the advancement of Science, Art, and Literature, and the promotion of the social well-being of the members, and the Commonwealth Government has afforded a measure of recognition to the efforts of Australian men of letters by establishing in 1908 a Commonwealth Literary Fund to provide pensions and allowances to literary men and their families. Concerning this Fund reference should be made to part Social Condition of this Year Book.

As far back as the year 1821 a scientific society, under the title of the Philosophical Society of Australasia, was founded in Sydney, and after many vicissitudes of fortune was merged, in 1866, into the Royal Society of New South Wales. The Society is now in a flourishing condition, counting amongst its members some of the most eminent men in the State. Its objects are the advancement of science in Australia, and the encouragement of original research in all subjects of scientific, artistic, and philosophic interest, which may further the development of the resources of Australia, draw attention to its productions, or illustrate its natural history.

The study of the botany and natural history of Australia has attracted many enthusiastic students, and the Linnean Society of New South Wales was established for the special purpose of furthering the advancement of these particular sciences. The Society possesses a commodious building at Elizabeth Bay, Sydney, attached to which are a library and museum. The Society's proceedings are published at regular intervals, and contain many valuable papers, with excellent illustrations of natural history.

Among the principal scientific societies are the Royal Zoological Society of New South Wales, inaugurated in 1879; a branch of the British Medical Association, founded in 1881; and of the British Astronomical Association, whose first meeting was held in 1895; the Royal Anthropological Society of Australasia; the Australasian Association for the Advancement of Science (which meets every second year); the Royal Geographical Society; and the University Science Society. The Australian Historical Society issues records and furnishes information of great value.

All the learned professions are represented by associations or societies.

The Royal Art Society holds an annual exhibition of artists' work at Sydney; and of the many musical societies, mention may be made of the Royal Sydney Liedertafel, and the Royal Sydney Philharmonic Society, with over 1,000 members.

Last year there were 156 associations existing for the advancement of agriculture, horticulture, and pastoral pursuits, all subsidised by the Government. Of these societies, the Royal Agricultural Society of New South Wales, which holds an annual show at Sydney, had a membership of 3,154 persons, and received a subsidy of £1,000.

SYDNEY OBSERVATORY.

The Sydney Observatory, established in the year 1856, is an institution of a scientific and educational character, which the State supports. Situated in a commanding position, it is admirably fitted by natural conditions for the purpose it is intended to serve; but the growth of an immense city, radiating in every direction, has caused such adverse atmospheric conditions that another site has been selected.

Daily time-ball services are maintained at Sydney and Newcastle.

During 1911, 137 earth tremors were recorded on the seismograph; and at the Red Hill Observatory Station 24 test photographic plates were taken for focus and adjustment purposes; the Astrographic Telescope being in process of remodelling, magnetic work was continued at Red Hill. The mean variation for the year, from 81 observations, was $9^{\circ} 23' 0''$ east; the mean dip, $63^{\circ} 6' 0''$. The resultant mean variation of Sydney is $9^{\circ} 27' 0''$ east.

Observations taken comprised 884 zone stars, 474 clock stars, 111 azimuth stars, and 357 determinations of collimation and azimuth; 16 pairs of double stars were measured with an $11\frac{1}{2}$ in. refractor. The measurement of star plates, undertaken jointly with Victoria, has proceeded during the year.

Meteorological observations are directed by a special Bureau, under the administration of the Commonwealth Government. Three bulletins and one weather chart are published daily by the Bureau. They contain full reports from 226 stations as to wind, weather, and sea at 9 a.m. and 2 p.m.; and in addition, at 9 a.m., as to rain, state of rivers, pressure, and temperature. For the chief centres of the State a bulletin, showing pressure, temperature, wind, rain, weather, and state of sea, is issued daily at 1 p.m. Weather charts, published each afternoon, contain complete data, isobars, full notes, shaded rain area, and forecast for the ensuing twenty-four hours. A local forecast for Sydney is published at 10 a.m., and forecasts for the whole Commonwealth at 1 p.m. daily. Rain maps show daily, monthly, annual, and storm distribution of rainfall, and departures from the average. An isobaric chart, symbolising for various stations, wind-direction, rain area, thunderstorms, and condition of sea, is prepared for publication in the Sydney daily newspapers, with weekly and monthly reviews of weather over Australia. During the year 1911 there were 14,400 bulletins, 16,640 weather charts, and 12,416 rain maps of New South Wales issued.

Forecasts were telegraphed to 100 towns daily. The Observatory at Sydney was visited by 642 persons during 1911.

During 1911, 43 new climatological stations were established, the total at the end of the year being 2,061. All stations are equipped with self-recording rain gauges; 131 have maximum and minimum thermometers; and 45 have also mercurial barometers. Among these last, four have self-recording thermographs, and eight barographs.

Time-signals were exchanged between Sydney, Perth, Adelaide, and Boundary between Victoria and South Australia.

Expenditure for 1911 was £1,996, viz., salaries and allowances, £1,468; and maintenance, £488. The Government Astronomer is also Professor of Astronomy at Sydney University.

MUSEUMS, LIBRARIES, AND ART GALLERIES.

Recognising Museums, Libraries, and Art Galleries as powerful factors in broadening the outlook, and promoting the intellectual well-being of the people, the Government of New South Wales has been active in founding and maintaining such establishments.

The following statement shows the total expenditure by the State on buildings for Museums, Libraries, and Art Galleries, to 30th June, 1912:—

Museums—	£	£
Australian... ..	...	79,148
Agricultural, Forestry, Mining and Geological ...	...	14,191
Technological ... ..	...	19,366
Botanical—Herbarium ... ..	...	11,426
Libraries—		
Public, of New South Wales	28,957	
Mitchell	39,614	
		68,571
Fisher—Sydney University ... ..	...	77,568
National Art Gallery ... ..	...	94,437
		<u>94,437</u>
Total... ..	...	£364,717

All these institutions are open to the public free of charge, but subject to any necessary regulations.

Museums.

The Australian Museum, the oldest institution of its kind in Australia, was founded in Sydney in 1836 as a Museum of Natural History; it contains a fine collection of specimens of the principal objects of natural history, and an unparalleled collection of zoological and ethnological specimens of distinctly Australian character, for which special accommodation was provided in a separate wing, opened in 1910. The expenses of the institution in that year amounted to £8,819, exclusive of £1,480 expended on account of the purchase of exhibition cases for the new building. A fine library is attached to the institution, containing many valuable publications, the total volumes numbering 16,800. The specimens acquired during 1910, numbering 11,996, included a series of rare insects from Northern Queensland, ethnological collections from Central Australia and New Guinea, a remarkable sarcophagus and remains from New Caledonia, some ancient Peruvian (Inca) pottery, also a collection of fishes from the Philippine Islands. Lectures and gallery demonstrations are given in the Museum on the third Thursday in each month, and are open to the public. On Mondays students and artists only are admitted.

In 1853 the Museum, till then managed by a committee, was incorporated under control of trustees, and with a State endowment, which is supplemented by annual Parliamentary appropriations. Following is the record of expenditure in 1911:—

	£
Salaries and allowances	6,953
Purchase, collection, and carriage of specimens	180
Books and binding	599
Catalogues and publications	916
Cases, bottles, and receptacles	247
Miscellaneous	625
	<u>625</u>
Total	£9,520

A Technological Museum was instituted in Sydney at the close of 1879 on the initiative, and under the administration of, a committee of management appointed by the trustees of the Australian Museum. The whole original collection of some 9,000 specimens was destroyed in 1882 by the Garden Palace fire. Efforts were at once made to replace the lost collection, and in December, 1883, the museum was again opened to the public.

In 1890 it was transferred to the Department of Education, as an adjunct to the Technical College, and now contains a valuable series of specimens illustrative of various stages of manufacturing, and an excellent collection of natural products. Technological Museums are established also at Goulburn, Bathurst, West Maitland, Newcastle, and Albury. The exhibits in the central and branch museums exceed 109,000, acquired by purchase, gift, loan, and exchange.

The principal additions made to the exhibits during 1910 consisted of timber and ornamental and building stones of Australia. Special provision is made for displaying specimens of the mohair industry. In 1911 especial exhibits included minerals, pottery clays, and lace manufactures. Natural history exhibits included flies and mosquitoes commonly found in the neighbourhood of Sydney, and oysters from Port Macquarie. The former was supplied by the Department of Public Health. Research work is carried on by the Curator and his staff, and particularly in respect of the pines (natural order coniferæ) of Australia, important characteristics were discovered.

Following are the records of attendance at museums in 1911 :—

Museum.	Visitors.			Average Attendance.		Expenditure.	
	Week-days.	Sundays.	Total.	Week-days.	Sundays.	Salaries, &c.	Purchases.
Australian... ..	121,992	47,978	169,970	462	905	£ 6,953	£ 2,567
Technological—							
Sydney	49,224	38,544	87,768	159	741	4,438	
Newcastle	29,379	.....	29,379	116	.....	178	
Bathurst	32,211	.....	32,211	127	.....	70	
West Maitland	30,660	.....	30,660	121	.....	226	
Goulburn	23,231	.....	23,231	81	.....	146	
Albury	12,875	.....	12,875	51	.....	96	

Additions to the Collections in Technological and Australian Museums in the last two years are classified as under :—

Classification.	Donation.		Exchange.		Purchase.		Collection.		Total.	
	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.	1910.	1911.
TECHNOLOGICAL.										
Mineral	139	224	5	1	661	90	964	743	1,769	1,058
Vegetable	83	59	3	...	32	9	90	23	208	91
Animal	305	244	...	1	27	17	23	90	355	352
Applied Art	48	21	87	43	332	59	...	...	467	123
Miscellaneous										
Total	575	548	95	45	1,052	175	1,077	856	2,799	1,624
AUSTRALIAN.										
Vertebrata	1,417	762	236	44	35	20	201	1,408	1,889	2,234
Invertebrata	4,575	7,407	1,068	968	240	132	2,503	924	8,386	9,431
Fossils and Minerals	172	137	67	7	53	17	...	11	292	172
Ethnological and Historical	278	111	32	41	594	64	14	75	918	291
Miscellaneous	54	57	...	3	387	3	70	279	511	342
Total	6,496	8,474	1,403	1,063	1,309	236	2,788	2,697	11,996	12,470

The Mining and Geological Museum is connected with the Department of Mines. Exhibits number 4,296, the number acquired during 1911 being 1,122, viz., 550 by collection and 572 otherwise. The Agricultural and Forestry Museum is an adjunct of the Department of Agriculture and contains some 7,000 exhibits. Both these collections are housed in George-street North, Sydney.

The functions of the Mining and Geological Museum include the preparation of collections of minerals to be used as teaching aids in schools and in other institutions. During December, 1911, 36 collections, comprising 1,750 specimens, were prepared; 566 specimens received from country schools were classified.

The public have access to the "Nicholson" Museum of Antiquities, the "Macleay" Museum of Natural History, the Museum of Normal and Morbid Anatomy, attached to the Sydney University, and the National Herbarium and Botanical Museum at the Botanic Gardens. Housed in the Macleay Museum is the Aldridge collection of Broken Hill minerals, specially purchased for, and donated to, the University by Mr. Hugh Dixon.

PUBLIC LIBRARIES.

The principal public libraries, with the number of volumes in each at the end of the years 1910 and 1911, is shown in the following statement:—

Name of Library.	Total number of volumes.	
	1910.	1911.
Public Library of New South Wales, including Mitchell Library	230,889	241,294
Sydney University (Fisher Library)	92,000	95,500
Australian Museum	16,800	18,000
Botanical Museum	5,000	5,500
Technological Museum	7,255	8,480
Sydney Municipal Library	29,244	27,273
Other Municipal Libraries... ..	40,463	33,277
Schools of Arts, Mechanics' Institutes, &c.	590,799	623,090
State Schools	132,000	145,000
Total	1,144,450	1,197,414

The Public Library of New South Wales was established, under the designation of the Free Public Library, on the 1st October, 1869, when the building and books of the Australian Subscription Library, founded in 1826, were purchased by the Government. The books thus acquired numbered about 16,000, and formed the nucleus of the present Library. In 1890 the Library was incorporated under its present designation, with a statutory endowment of £2,000 per annum for the purchase of books. The number of volumes in the Library on the 31st December, 1908, had been increased to 240,743, including those in the lending branch or lent to libraries or private students in the country. During 1909 the number was decreased by the transference to the Sydney Municipal Council of 29,808 books in the lending branch, but at the end of 1910 there were 230,889 volumes. During last year the accessions included 10,403 volumes, of which 1,575 were donated, and 754 books, maps, newspapers, and periodicals were received under the Copyright Act.

The scope of the Public Library, which is essentially a reference institution is extended by a loan system, under which boxes, containing from 60 to 100 books, are forwarded to country libraries, schools of arts, progress associa-

tions, &c., to lighthouses, and to Public School Teachers' Associations. These collections are to be returned or exchanged within four months. This system was initiated in August, 1883, and has been extended gradually, the Lighthouse Library being taken over in 1903.

Loan operations during 1911 included the following :—

	No.	Volumes.
Country Libraries	111	13,300
Lighthouses	17	2,260
Public School Teachers' Associations	59	4,723
Country Students ... ..	...	105

Students are expected to pay return freights on parcels, but all the other charges are defrayed by the State.

The Reference Department of the Public Library contains 229,678 volumes, and there are also 11,616 volumes for country libraries under the lending system. The books and pamphlets belonging to the institution are classified as under :—

Classification.	Reference Department.	For Country Libraries.	Total.
Natural Philosophy, Science, and the Arts	15,633	1,440	17,073
History, Chronology, Antiquities, and Mythology	8,357	1,382	9,739
Biography and Correspondence	6,310	1,361	7,671
Geography, Topography, Voyages and Travels, etc....	7,741	1,415	9,156
Periodical and Serial Literature... ..	34,749	415	35,164
Jurisprudence, Political Economy, Social Science, etc.	7,154	382	7,536
Theology, Moral and Mental Philosophy, and Education	7,040	1,356	8,396
Poetry and the Drama	3,750	212	3,962
General Literature, Philology, and Collected Works..	7,398	3,627	11,025
Works of Reference	4,626	26	4,652
Duplicates	5,575	...	5,575
"Mitchell" Library	71,461	...	71,461
Classified according to the Dewey System—			
General Works	5,302	...	5,302
Philosophy	950	...	950
Religion	1,706	...	1,706
Sociology	12,117	...	12,117
Philology	515	...	515
Natural Science	4,732	...	4,732
Useful Arts	7,700	...	7,700
Fine Arts	3,000	...	3,000
Literature	6,124	...	6,124
History (including Biography and Travel)	7,738	...	7,738
Total... ..	229,678	11,616	241,294

Cataloguing of works in the Mitchell Library is in process.

The total cost to the Government of the library buildings has been £28,785; this includes expenditure for extensions in 1886 and 1887, and for the reconstruction of the main building, completed in 1890.

In 1899 Mr. David Scott Mitchell donated to the trustees of the Public Library a collection of 10,024 well-chosen volumes, together with 50 valuable pictures, and at his death, in 1907, bequeathed to the State the balance of an unique collection, consisting principally of books and manuscripts relating to Australasia, and comprising over 60,000 volumes, and 300 framed paintings of local historic interest, valued at £100,000. A separate building designed on modern lines is under erection. The portion completed at a cost of £37,688, and opened on the 8th March, 1910, now holds the Mitchell bequests, which, being so decidedly of Australian interest, form the nucleus of an historical library. During 1911, 4,295 volumes were added to the

original collections, making a total of 71,461 volumes in the library. Of the additions the volumes and pamphlets donated numbered 2,825.

The attendance at the Public Library during 1911; was as follows:—

Visitors during Year.				Average Attendance.	
Branch:	Week-days.	Sunday (afternoon).	Total:	Week-days.	Sunday (afternoon).
Reference	154,663	9,161	163,824	434	177
Mitchell	14,260	...	14,260	46	...

The following statement shows the cost of maintenance and administration of the Public Library, including the Mitchell Library, for the last two years:—

Year.	Salaries.			Books, &c., and Binding.	Miscel- laneous.	Total.
	Reference.	Mitchell.	Country.			
1910	£ 3,997	£ 1,580	£ 111	£ 2,456	£ 848	£ 8,992
1911	4,121	2,201	115	2,178	1,616	10,231

Salaries in the Reference Library include expenditure in connection with the Board for International Exchanges and the preparation of Historical Records.

The Sydney Municipal Library was formed by the transfer to the City Council in 1908-9 of the lending branch of the Public Library. The volumes forming the library and their daily average issue in classes for 1910 and 1911 were as follows:—

Classification.	1910.		1911.	
	Volumes.	Average Daily Issue.	Volumes.	Average Daily Issue.
Natural Philosophy, Science, and the Arts	6,320	28·9	6,567	60·6
History, Chronology, Antiquities, and Mythology...	3,708	11·6	3,296	13·4
Biography and Correspondence	4,553	12·0	4,148	17·5
Geography, Topography, Voyages and Travels, etc.	4,079	10·8	3,560	20·4
Jurisprudence and Social Science	1,717	5·7	1,788	11·5
Moral and Mental Philosophy and Religion	1,871	5·9	1,721	7·4
Poetry and Drama	1,150	5·8	1,137	10·0
Fiction and Prose	3,326	78·6	2,276	112·3
Miscellaneous—General Philological and Juvenile	2,520	16·5	2,780	86·7
Total	29,244	175·8	27,273	339·8

The attendance at the newspaper-room, attached to the library, was 269,745 persons for the year 1911, or an average daily attendance of 870.

Maintenance costs during 1911 amounted to £3,963, made up as follows:—Salaries, &c., £2,357; books, periodicals, binding, and electric lighting, £1,606.

Local libraries established in the principal population centres throughout the State, may be classed broadly under two heads—Schools of Arts, receiving an annual subvention in proportion to the amount of monetary support accorded by the public; and Free Libraries, established in connection with

municipalities. Those of the former class preponderate. Under the provisions of the Local Government Act of 1906, any shire or municipality may establish a public library, art gallery, or museum. At the end of 1911 there were, in addition to the Sydney Municipal Library, 37 municipal libraries in the State, with 33,277 volumes.

The library of the Australian Museum, though intended primarily as a scientific library for staff use, is accessible to students.

Similarly with the library in connection with the Technological Museum, at the Central Technical College the volumes, including 5,102 text books, and 2,026 periodicals of a technical nature, were, at December, 1911, valued at £1,500. At branch colleges there were 1,352 volumes, viz., Albury, 178; Bathurst, 169; Broken Hill, 197; Goulburn, 281; Maitland, 238; Newcastle, 289.

The Parliamentary Library contains over 52,000 books, and large numbers of volumes are at the libraries of the Law Courts and Government Offices.

The Bush Book Club, a private foundation, is intended to make books accessible to people in localities not served usually by Schools of Art, &c., and in sparsely settled districts.

Private circulating libraries, the subscribers to which are charged comparatively small fees, are used extensively.

NATIONAL ART GALLERY OF NEW SOUTH WALES.

The National Art Gallery contains an excellent collection of paintings and statuary, including some of the most famous works of the best modern artists, and some valuable gifts from private persons. The presentations made during 1910 included two oil paintings, some old prints (engravings), and Mosaic work. The collection of water colours is exceptionally fine, and it is estimated that the present value of the contents of the Gallery is at least £136,000.

The paintings, &c., in the Gallery on 31st December, 1910 and 1911, were as follows:—

	1910.	1911.	Expenditure.
			1911.
			£
Oil Paintings	366	377	1,890
Water Colours	374	375	52
Black and White Works	515	523	72
Statuary, Casts, and Bronzes... ..	153	154	300
Various Art Works in Metals, Ivory, Ceramics, Glass, Mosaic, &c.	353	360	55

In addition to the cost of purchases shown above, maintenance, including insurance, &c., cost £612; salaries, &c., £1,738; and wages, £574.

The attendance at the National Art Gallery during the last five years has been as follows:—

Year.	Visitors in the Year.		Average Attendance.	
	Week Days.	Sundays.	Week Days.	Sundays.
1907	165,638	95,194	532	1,830
1908	184,767	104,340	592	2,066
1909	173,361	99,730	557	1,918
1910	171,686	98,059	548	1,897
1911	183,745	104,319	587	2,006

Art students, under certain regulations, may copy any of the various works, and enjoy the benefit of a collection of books of reference on art subjects. In 1894 a system of loan exchanges between Sydney, Melbourne, and Adelaide

was introduced, by which pictures are sent from Sydney to Melbourne and Adelaide and reciprocally, with results most beneficial to the interests of art. Since 1895 the distribution of loan collections of pictures to the principal country towns is permitted for temporary exhibition. During 1911, 108 pictures were so distributed among six country towns, and shown in technical museums and municipal buildings. At the close of 1911 the total expenditure on the National Art Gallery, inclusive of the building, amounted to £263,952, of which £106,831 had been expended on works of art. The disbursements during 1910 and 1911 were:—

	1910.	1911.
	£	£
For works of art	1,627	2,369
For employees	2,199	2,312
For sundries	725	612
Cost to State	£4,551	£5,293

The annual endowment for purchase of works of art is £2,000, but for some years this sum also covered portion of the expenditure for maintenance, &c. The Gallery has received but small support from private endowments, and, consequent upon its limited funds, is largely restricted to the collection of specimens of contemporary art. During the last twenty years more than £10,000 have been expended upon the purchase of works of Australian artists.

SCHOOLS OF ARTS, ETC.

Schools of Arts, and Mechanics' or Working Men's Institutes, are established in nearly all centres of population throughout New South Wales. Particulars for the years 1910 and 1911 regarding these institutions, which are really libraries and recreation centres, are given below:—

	Year.	
	1910.	1911.
Institutions	390	438
Membership	43,792	46,350
Books	590,799	623,440
	£	£
Value of library contents	72,034	69,708
„ buildings	290,086	343,251
Government subsidy	11,054	11,353
Subscriptions	18,390	19,647
Other receipts	37,460	48,933
Expenditure—		
On books, &c.	11,670	11,083
„ maintenance	48,033	67,249

Other receipts in 1911 include £16,904 on account of billiards. Expenditure for maintenance includes £9,066 in this connection. The Sydney Mechanics' School of Arts is naturally the principal institute, having a membership of 2,576 and a library of 40,000 volumes. This institution was formed in 1833, essentially as a mechanics' institute, and was intended to provide opportunities for evening study for those employed during the day. In 1873 the Working Men's College was formed, but this section, devoted to the mechanic trades, was taken over by the Government in 1883 and so carried on till 1893, when the Technical College was opened. The educational work of the evening school has been continued at the institute, and classes for adults are held in literary and commercial subjects.

THE ARTS AND PROFESSIONS.

Apart from the initiatory work of instruction in art manual work and in singing, as portion of the syllabus work of the State schools, there is no organised State system of higher training for the arts. In the Technical Education scheme provision is made for teaching art work, modelling, and painting. At the public examinations of the University, drawing and the theory of music form the subjects of the art section, and to accord with the standard of these examinations the requisite instruction is available in the State schools. Practically all the preparation for art careers is undertaken by private schools. But though the State system of education makes no direct provision for higher training in this connection, it offers encouragement indirectly by means of subsidies, such as that to the Royal Art Society of New South Wales, and by the maintenance of libraries, museums, and especially of the National Art Gallery. In connection with this institution, a private bequest enables the trustees to offer annually the Wynne Art Prize, valued at £33 5s., for the best landscape painting of Australian scenery, or the best figure sculpture executed by an Australian artist.

During 1911-12 initiatory investigations were made in connection with the projected establishment by the Government of New South Wales of a Conservatorium of Art, and at the close of 1912 a commencement was made with the establishment by the Department of Public Instruction of a musical library, to be controlled by a specially appointed board, and to be available to musical societies, etc.

In New South Wales the majority of professional workers are connected with a society or association peculiar to their particular profession, and in most cases, excluding of course those professions for which the University of Sydney supplies preparation, such associations direct the educational work for entrance to the profession, mainly by conducting examinations and issuing certificates. Physicians, dentists, and pharmacists are bound by statute to register with the Medical or Dental Board before they can proceed to practice; similarly, barristers and solicitors must be formally admitted to their profession. Similar control is contemplated in regard to hospital nurses, but other professions have not yet been regulated by statute, except in so far as restrictions are placed on employment, such as in mining industries and in connection with local government control, engineering, surveying, &c. In these cases the Government sets standards and issues certificates of fitness.

For the medical and legal professions and in various branches of science the University provides the requisite training. The practice of medicine is restricted to persons registered by the New South Wales Medical Board under the Medical Practitioners Act of 1898 and Amendments of 1900. To become a legally qualified medical practitioner an applicant must prove to the satisfaction of the Board (*a*) that he is a doctor or bachelor of medicine of some University, or a physician or surgeon licensed or admitted as such by a college of physicians or surgeons in Great Britain or Ireland; (*b*) that he has completed a five-years' medical course of a University or equivalent college, and has received after examination a diploma, degree, or license entitling him to practice medicine; (*c*) or he is a member of the Company of Apothecaries of London, or a member or licentiate of Apothecaries' Hall, Dublin.

Medical officers duly appointed in His Majesty's sea or land service are eligible for registration.

During the last ten years the registrations of medical practitioners have been on an average seventy-eight per annum, and at 31st December, 1911, there were 1,834 registrations in force. Holders of degrees of M.D., M.B. and Ch.M. conferred by the University of Sydney are entitled to registration

and recognition in the United Kingdom in the same way as holders of similar degrees conferred by a British University are recognised in New South Wales.

Dentists, to qualify before the Dental Board of New South Wales, in terms of the Dentists Act, 1900, and the Amending Act of 1909, must show proof of holding a recognised certificate, or of having been engaged for not less than four years in acquiring a professional knowledge of dentistry, and of having passed an examination, or of having obtained a diploma in dentistry from an Australian University. Persons in actual practice, or preparing for the profession at the time of passing of the Act, were of course safe-guarded.

Following is the record of students in the School of Dentistry at the United Dental Hospital —

Year	Students.		
	Dental Board.	University.	Total.
1907	12	29	41
1908	21	37	58
1909	24	27	51
1910	23	38	61
1911	14	34	48

At the end of December, 1911, there were 1,308 registrations in force.

Pharmacists are registered under the Pharmacy Board appointed under the Act of 1897. To qualify for registration, evidence must be adduced of three years' apprenticeship in the business of a pharmacist keeping open shop; or of holding a certificate of competency from a recognised College or Board; or of registration under the Sale and Use of Poisons Act; or of having passed a preliminary examination before the Board, or the usual examinations of a recognised college or university. The Board is charged with the publication, in January of each year, of a list of all registered pharmacists, corrected up to 31st December previous. At the end of 1911 the registrations in force numbered 1,049. In addition to qualified pharmacists, other dealers in poisons must be registered before the Pharmacy Board and obtain annual licenses. During 1911, 339 such poison licenses were issued, besides 44 to registered pharmacists. During the past ten years the registrations of pharmacists have averaged 34 per annum.

Members of the nursing profession are registered and certificated by the Australasian Trained Nurses' Association, which was established in New South Wales in 1899, and has branches in the other States. For the year ended 30th June, 1912, the register of nurses in New South Wales showed as follows:—General, 1,260; Obstetric, 638.

Barristers and solicitors may proceed through the courses provided in the Law School at the University, or they may qualify for admission by the Bar examinations. Barristers practising in New South Wales at the end of 1911 numbered 156; solicitors at the same date numbered 1,014 viz., 411 in the country, and 603 in Sydney.

Men desirous of entering into articles of clerkship with Attorneys, and who have not taken a University Degree, nor passed the preliminary examination required in England, Scotland, and Ireland, are required to pass a preliminary examination conducted by the University. The standard of the law matriculation examination is the University matriculation examination, lower division. Clerks are also required to pass three subsequent examinations in Legal History and Law before application for admission as solicitors. The examinations are conducted by a Board appointed by the Supreme Court.

AGRICULTURE.

THE advantages derivable from a wide range of climate, and from fertile soils of varying characteristics, are such as render possible the cultivation in New South Wales of plants indigenous to cold, temperate, and even tropical regions.

Very few parts of the State are so barren or unwatered as to be thereby unsuitable for cultivation; but the country which is essentially suitable for farming operations is situated in the Eastern and the Central land divisions, the whole area in those divisions, with the exception of portions of the mountain chain, being capable of profitable agricultural development. The rainfall within this region is such as to admit of the successful cultivation of about 50,000,000 acres under ordinary conditions; and that area might be extended by the application of modern scientific methods relating to intense cultivation.

The rainfall of the Great Western Plains land division is so uncertain that no reliance can be placed on payable results accruing from agricultural pursuits; moreover, from the grazier's aspect as to cost, results, and markets, the pastoral industry presents superior attractions in this part of the State.

AREA UNDER CULTIVATION.

During the year ended 31st March, 1912, an area of 4,748,934 acres, including grassed lands, was under cultivation, of which the area under crops was 3,629,170 acres, and the area sown with grasses was 1,119,764 acres.

The progress of cultivation in quinquennial periods since 1881 is shown in the following table:—

Period (year ended 31st March).	Average area under—		Acres per inhabitant under—	
	Cultivation, including grasses.	Crops.	Cultivation.	Crops.
	acres.	acres.		
1881-85	746,017	662,085	0·93	0·82
1886-90	1,011,567	835,367	1·01	0·83
1891-95	1,398,199	1,048,554	1·19	0·90
1896-1900	2,252,649	1,894,857	1·74	1·47
1901-5	2,942,506	2,436,765	2·11	1·75
1906-10	3,575,873	2,824,253	2·29	1·81
1911	4,437,224	3,381,921	2·74	2·08
1912	4,748,934	3,629,170	2·85	2·18

During the first thirty years covered by the table, exceedingly slow progress was made in agricultural development; even including grass lands, the average cultivation per inhabitant in 1891-5 was only a little over one acre, and the total area under crop did not reach a million acres till March, 1893. During the next six years expansion was much more rapid, and the recorded area increased to 2,000,000 acres. Since 1899 the rate of growth has been much slower, until the year ended March, 1912, when the area amounted to 3,629,170 acres, an advance of 247,249 acres, or 7·3 per cent., on the previous year. The recent increase is due mainly to the favourable ploughing seasons, the high prices of agricultural produce, and the subdivision of large estates.

Comparison of the area actually under crop with the population shows that the area reached 1 acre per inhabitant in March, 1894. During the next five years the industry had so far developed that in 1898-9 the rate was 2 acres per head; but since that year, until quite recently, the cultivation per capita has remained practically stationary. The following statement shows, in decennial periods to 1910, and for the year 1910-11, the relative increases in population and in area under crop:—

	1870-80.	1880-90.	1890-1900.	1900-10.	1910-11.
Increase per cent. in population ...	50·0	50·0	21·6	20·2	3·3
Increase per cent. in area under crop	58·3	35·5	186·8	38·2	7·3

During the first ten years quoted above, the crop area increased more rapidly than the population. From 1880 to 1890 these conditions were reversed, and the population increased at a faster rate by 41 per cent. than the crop area; but during the next period, 1890-1900, cultivation increased no less than 187 per cent., or nearly nine times faster than the population. This increase was due mainly to the cultivation of large areas on holdings previously devoted to pastoral purposes. Since 1900 this phenomenal increase has not been maintained, and the decline in rapidity of development has been due partly to the check induced by adverse seasons, but more materially to the increased attention given to dairying; yet in the period 1900-1910 the area cropped increased 89 per cent. faster than population. During the last year of the period reviewed the rate of increase of the crop area was $2\frac{1}{4}$ times as great as the population rate.

The following statement of the area under crops in the years ended 31st March, 1902, 1907, and 1912, shows the districts in which the greatest advances have been made:—

Division.	Area under Crops.			Index Numbers. (1902=100).	
	1902.	1907.	1912.	1907.	1912.
Coastal—	acres.	acres.	acres.		
North Coast	105,893	99,661	91,177	94	86
Hunter and Manning	110,615	105,375	101,912	95	92
Cumberland	46,097	46,082	39,836	100	86
South Coast	56,419	52,802	47,863	94	85
Total	319,024	303,920	280,788	95	88
Tableland—					
Northern	64,948	68,326	72,109	105	111
Central	213,050	219,903	264,245	103	124
Southern	55,242	53,202	60,004	96	109
Total	333,240	341,431	396,358	102	119
Western Slopes—					
North	171,951	274,574	404,319	160	235
Central	262,098	418,141	559,381	160	213
South	347,286	454,196	698,956	131	201
Total	781,335	1,146,911	1,662,656	147	213
Western Plains—					
North	6,819	10,153	12,075	149	177
Central	170,026	276,268	277,500	162	163
Total	176,845	286,421	289,575	162	164
Riverina	646,390	729,187	986,024	113	153
Western Division	19,685	16,341	13,769	83	70
All Divisions	2,276,528	2,824,211	3,629,170	124	159

It is evident from these figures that, between 1902 and 1912, there has been a general increase throughout the State, with the exception of the coastal districts and Western Division.

The largest aggregate increase as compared with 1902 has taken place in South-western Slope, and amounts to 351,670 acres. Taken as a whole, the Western Slopes show an advance of 831,321 acres. The districts which show the heaviest proportions of the total cultivation are the Riverina, with 27·2 per cent., and the Western Slopes, with an aggregate of 45·8 per cent., in its three divisions. The remaining 27 per cent. of the total cultivation is distributed over the Coastal, Tableland, Western Plains, and Western Division, less than 14 per cent. of the area under crop being in the last-named.

The great extension of cultivation since 1893 has been fostered by wheat-growing on large estates formerly devoted almost exclusively to grazing, by the added security against bad seasons afforded by wool and wheat-farming in conjunction, also by the adoption of the system of farming on shares, and, more recently, by the subdivision of large holdings for closer settlement.

CULTIVATION IN EACH DIVISION.

In order that the figures relating to cultivation may be fully appreciated, the following table has been prepared, showing the area under crops, in conjunction with the total area, and the area in occupation, in each division during the year ended 31st March, 1912:—

Division.	Total area of Division.	Area under—			Proportion of area under crops to—	
		Occupation in holdings of 1 acre and over.	Crops.	Sown grasses.	Total area.	Area under occupation.
Coastal—	acres.	acres.	acres.	acres.	per cent.	per cent.
North Coast	5,409,370	4,051,841	91,177	770,813	1·7	2·3
Hunter and Manning	10,390,920	6,060,492	101,912	93,587	1·0	1·7
Cumberland	1,070,989	544,884	39,836	4,099	3·7	7·3
South Coast	5,484,122	2,470,351	47,863	183,444	0·8	1·9
Total	22,355,401	13,127,468	250,783	1,051,943	1·3	2·1
Tableland—						
Northern	8,923,487	7,682,841	72,109	24,805	0·8	0·9
Central	8,989,259	6,416,870	264,245	5,128	2·9	4·1
Southern	7,913,500	6,692,816	60,004	3,882	0·8	0·9
Total	25,831,246	20,792,521	396,358	33,815	1·5	1·9
Western Slopes—						
North	9,813,555	8,693,86	404,319	4,702	4·1	4·6
Central	6,252,567	5,123,213	559,381	3,308	8·9	10·9
South	8,185,759	7,204,533	698,956	7,463	8·5	9·7
Total	24,251,881	21,032,607	1,662,656	15,473	6·9	7·9
Western Plains—						
North	10,030,901	7,697,537	12,075	81	0·1	0·2
Central	16,029,880	15,277,343	277,500	1,592	1·7	1·8
Total	26,060,781	22,974,877	289,575	1,676	1·1	1·3
Riverina	19,767,073	18,679,19	986,024	9,798	5·0	5·3
Western Division	80,368,498	77,346,166	13,769	7,059	...	...
All Divisions	198,634,880	173,952,937	3,629,170	1,119,764	1·8	2·1

Only 1·8 per cent. of the total area of New South Wales is actually devoted to the growth of agricultural produce; and if the small extent of land upon which grasses have been sown for dairy-farming purposes be added to the area under crops, the proportion reaches only 2·7 per cent., and represents about 2·2 acres per head of population. The proportion of the cultivation area on alienated holdings is only 6·2 per cent. of the total area of alienated rural lands in holdings of 1 acre and over; of the area in occupation, 53,406,884 acres are alienated and 120,546,052 acres are leased from the Crown.

Purely agricultural settlements are confined to limited areas in the alluvial lands of the lower valleys of the coastal rivers, and to parts of the southern and central divisions of the tableland; and the cultivation of crops is conducted, to a large extent, conjointly with grazing operations. Tenant occupancy, so general in the United Kingdom, is but little known in New South Wales; of the total area under crop, 3,078,567 acres, or 84·8 per cent., were cultivated by owners, and 550,603 acres, being 15·2 per cent., were cultivated by tenant occupiers, including Crown land lessees.

In addition to the area shown as cultivated and under sown grasses, 63,871,448 acres were ringbarked and partly cleared, and 2,015,563 acres were ready for cultivation on alienated holdings, comprising 1,457,511 acres which had been cropped previously, 376,299 acres of new land cleared and prepared for ploughing, and 181,753 acres in fallow.

Cultivation is not confined to particular districts, but is carried on in all parts of the State. Some of the best lands for producing cereals are in the hands of the pastoralists, so that farmers have not always been settled on the kind of country best suited for the cultivation of their crops.

The county of Cumberland, which contains the densest population, has a large area cultivated in proportion to area under occupation; but generally the Western Slopes show the largest relative areas under cultivation, followed in order by the Riverina and Central Tableland. In the North-western Plain and the Western Division there is practically no cultivation.

RELATIVE IMPORTANCE OF EACH CROP.

The largest proportion of the area under crops is devoted to the cultivation of wheat, which in 1911-12 accounted for 65·5 per cent. of the total; the area for hay was 18·0 per cent., maize 4·6 per cent., for green food 5·8 per cent., and oats 2·0 per cent. The following statement shows the cultivation area for each of the principal crops, at intervals since 1881, and the relative importance of each crop:—

Crop.	Area.				Proportion per cent.			
	1881.	1901.	1911.	1912.	1881.	1901.	1911.	1912.
	acres.	acres.	acres.	acres.				
Wheat	253,137	1,530,609	2,128,826	2,380,710	40·2	62·6	62·9	65·5
Maize	127,196	203,051	213,217	167,781	20·2	8·4	6·3	4·6
Barley	8,056	9,435	7,082	10,803	1·3	·4	·2	·3
Oats	17,022	29,333	77,991	71,047	2·9	1·2	2·3	2·0
Hay	131,153	466,236	638,577	654,149	20·9	19·1	18·9	18·0
Green food	21,333	78,144	179,382	211,874	3·4	3·2	5·3	5·8
Potatoes	19,095	29,408	44,452	43,148	3·0	1·2	1·3	1·2
Sugar-cane	10,971	22,114	13,763	13,907	1·7	·9	·4	·4
Vines	4,800	8,441	8,321	8,231	0·8	·3	·2	·2
Orchards	24,565	46,234	47,354	48,191	3·9	1·9	1·4	1·3
Market-gardens								
Other crops	10,992	12,943	17,239	12,683	1·7	·5	·5	·4
Total	629,180	2,446,767	3,386,017	3,632,022	100	100	100	100

The figures for the years 1901, 1911, and 1912 include the areas double-cropped, viz., 1,203 acres, 4,096 acres, and 2,852 acres respectively.

The area devoted to wheat has always exceeded that given to other crops, and from the year 1881 the proportion, though fluctuating, has remained high; it now stands at nearly two-thirds of the whole area under cultivation. During the same time the proportion under maize has decreased from 20 per cent. to 4·6 per cent.; other crops have not varied materially.

CULTIVATED HOLDINGS.

The number of holdings on which the various crops were cultivated during the last five years is shown below. The figures relating to oranges, lemons, and other fruits since 1909-10 are not comparable with those of the preceding years, as they have been compiled on a slightly different basis:—

Crop.	Number of Holdings.				
	1907-8.	1908-9.	1909-10.	1910-11.	1911-12.
Wheat	15,931	16,810	18,432	18,261	18,263
Maize	17,428	18,647	20,142	20,951	18,472*
Barley	1,635	2,225	1,973	1,447	1,445
Oats	11,966	13,396	14,193	13,187	12,754
Potatoes	8,249	7,609	8,083	8,081	7,271
Tobacco	48	66	90	94	115
Sugar Cane	1,063	858	1,022	927	1,168
Grapes	1,723	1,657	1,611	1,679	1,514
Oranges, Lemons, &c.	2,482	2,709	4,010	4,799	4,735
Other Fruit	7,236	6,902	8,572	9,325	9,110
Market Garden Produce	3,324	3,462	3,803	3,598	3,368
Total Cultivated Holdings	44,359	46,051	48,692	49,323	47,810

*The dry weather prevented many maize-growers from cropping their land.

Although the wheat area is far in excess of the maize, the number of holdings growing maize is the greater; many dairy-farmers crop small areas of maize for use on the farms, while one-seventh of the wheat acreage is cultivated under the shares system by which a number of growers cultivate one holding.

The steady increase of tobacco-growers is a noticeable feature of the comparison shown above.

VALUE OF PRODUCTION.

The average value of the principal crops, with the proportion of each to the total value, during the last three years, is shown in the following table; the values are not the Sydney market quotations, but are based on prices realised on the farm:—

Crop.	Value.			Proportion per cent.		
	1910.	1911.	1912.	1910.	1911.	1912.
	£	£	£			
Wheat	5,111,990	4,303,310	4,113,400	46·9	45·3	42·2
Maize	798,560	791,050	961,470	7·3	8·3	9·2
Barley	46,440	13,370	28,170	·4	·1	·3
Oats	196,660	177,360	173,270	1·8	1·9	1·8
Hay and straw	2,782,310	1,915,290	2,034,740	25·5	20·2	21·4
Green food... ..	422,410	358,800	417,130	3·9	3·8	4·3
Potatoes	400,570	658,030	500,150	3·7	6·9	5·1
Sugar-cane... ..	126,050	156,500	143,620	1·2	1·7	1·5
Grapes	61,450	56,350	77,170	·6	·6	·8
Wine and brandy... ..	64,810	58,830	66,590	·6	·6	·7
Oranges and lemons	196,820	190,360	289,140	1·8	2·1	3·0
Orchards	233,050	272,290	374,140	2·1	2·9	3·8
Market-gardens	311,580	333,690	357,230	2·8	3·5	3·6
Other crops	155,620	198,840	222,600	1·4	2·1	2·3
Total	10,908,320	9,493,060	9,748,820	100	100	105

The value of agricultural production in the year ended March, 1912, was less than the value in the year 1909-10, on account of the lower prices of products; but, with this exception, it was the highest on record.

It is apparent that the agricultural wealth of New South Wales at present depends mainly on the return from wheat and hay, the value of these crops in 1912 being £6,198,140, or 63·7 per cent. of the total. The return of wheat for the year ended March, 1912, shows a total crop of 25,088,102 bushels, valued at £4,113,400. The value of maize is next in importance, but at a considerably lower level; the value of potatoes ranks third; the returns from sugar-cane, vines, green food, orchards, and gardens are comparatively of much smaller value.

The next statement shows the areas cultivated and the value of the production from agriculture, as well as the average value per acre over five-year periods since 1881:—

Period. (Year ended 31st March.)	Area Cultivated.	Value of Production.	Value per acre.
	acres.	£	£ s. d.
1881—1885	3,310,427	17,971,776	5 8 7
1886—1890	4,176,834	19,229,839	4 12 1
1891—1895	5,242,770	18,940,086	3 12 3
1896—1900	9,474,285	26,003,897	2 14 11
1901—1905	12,183,823	30,827,138	2 10 7
1906—1910	14,121,264	39,875,810	2 16 6
1911	3,381,921	9,493,060	2 16 2
1912	3,629,179	9,748,820	2 13 9

The highest relative value received in any year was in 1881-2, when the return was £4,215,268, or £7 4s. 5d. per acre. Decrease in prices, not want of productiveness, caused the decline in value after 1882. The fall in prices, especially of wheat, was very rapid down to 1896; for the next three years there was a very material increase; in 1900 they fell again to the 1896 level; but in 1902 there was a general increase; while towards the close of 1903, and almost up to the close of 1903-4, the effects of the adverse season were acutely felt, and prices rose to double those of the previous year. At the end of the 1903-4 season, when heavy crops began to arrive, prices again fell, but they recovered during the following year. The value of production per acre rose steadily from the year ended March, 1905, to 1910, when it was the highest since 1893.

AVERAGE VALUE PER ACRE.

The average values per acres of various crops during the last three years are shown below in comparison with the average for the last ten years:—

Crop.	Average Values per Acre.			
	1910.	1911.	1912.	Average for 10 years, 1903-12.
Grain—				
Wheat	£ s. d. 2 11 4	£ s. d. 2 0 5	£ s. d. 1 14 7	£ s. d. 1 14 11
Maize	3 15 1	3 14 2	5 7 5	4 0 6
Oats	2 8 3	2 5 6	2 8 9	2 2 11
Hay	4 5 7	2 19 0	3 2 11	3 7 4
Potatoes	11 4 3	14 16 1	11 11 10	11 0 7
Sugar Cane	19 19 1	27 19 4	27 7 9	20 5 11
Vineyards	15 19 3	14 17 3	19 10 0	15 10 7
Orchards	11 10 8	12 8 5	17 19 9	9 14 1
Market Gardens	30 7 9	34 0 1	37 12 3	29 1 1

WHEAT ACREAGE.

In New South Wales, as in most other countries, the area devoted to wheat far exceeds that of any other cereal; and it is in this form of cultivation that the returns of the State show the greatest expansion. In the year ended March, 1912, the area under wheat for grain was 2,380,710 acres, which was 65·5 per cent. of the whole area under cultivation. The year 1897-8 may be said to mark the beginning of the present era of wheat-growing in the State, for it was in that year that the production for the first time exceeded the consumption, and left a surplus available for export. The following statement shows the area under wheat in the various districts in the years ended March, 1908 and 1912 in comparison with 1898:—

Division.	Area under Wheat for Grain.			Proportion in each District.		
	1898.	1908.	1912.	1898.	1908.	1912.
	acres.	acres.	acres.	per cent.	per cent.	per cent.
Coastal	16,192	4,940	5,066	1·6	·4	·2
Tableland—						
Northern	20,686	6,362	6,287	2·1	·4	·3
Central	80,318	62,587	101,970	8·1	4·5	4·3
Southern	22,421	4,990	8,376	2·2	·4	·3
	123,425	73,939	116,633	12·4	5·3	4·9
Western Slopes—						
North	59,330	172,907	264,428	6·0	12·4	11·1
Central	102,136	273,025	427,788	10·3	19·6	18·0
South	198,268	274,950	541,823	19·0	19·9	22·7
	359,734	720,882	1,234,039	36·2	51·9	51·8
Western Plains ...	31,589	142,979	225,345	3·2	10·3	9·5
Riverina	460,474	445,537	798,403	46·4	32·0	33·5
Western Division ...	1,936	1,894	1,224	·2	·1	·1
All Divisions ...	993,350	1,390,171	2,380,710	100·0	100·0	100·0

As might be expected, the proportions of land under wheat in each district generally follow the same order as shown in a previous table for the total area under cultivation. Between 1898 and 1912, however, the proportions in each district have changed considerably. The tablelands, for instance, now include only 4·9 per cent. of the whole area, as against 12·4 per cent. in 1898, and the Riverina 33·5 per cent., as against 46·4 per cent., while the Western Slopes have increased from 36·2 per cent. to 51·8 per cent., and the Western Plains from 3·2 per cent. to 9·5 per cent. The largest proportionate increase in area has been in the Western Plains, where it is now more than seven times the area of 1898; closely following is the North-western Slope; then Central-western and the South-western Slopes. On the Northern and Southern Tablelands wheat-growing is declining in favour. The great bulk of the wheat is grown on the Western Slopes and in the eastern part of the Riverina, these two districts together contributing over 85 per cent. of the whole. On the Coast, in the Western Division, and in the Central-western Plain, with the exception of the eastern fringe, the wheat area and the yield are very small. The expansion in the Western Plains is attributable to the increase around Narromine.

WHEAT YIELD.

The next statement shows the yield in each of the above-named districts in the same years:—

Division.	Yield of Grain.			Average yield per acre.			
	1898.	1908.	1912.	1898-1908	1898.	1908.	1912.
Coastal	bushels. 329,274	bushels. 23,996	bushels. 63,929	bushels 12·4	bushels 20·3	bushels 4·9	bushels 12·6
Tableland—							
Northern	300,215	90,728	92,700	13·8	14·5	14·3	14·7
Central	933,296	479,404	1,066,461	11·6	11·6	7·7	10·5
Southern	242,556	42,176	87,655	11·9	10·8	8·5	10·5
	1,476,067	612,368	1,246,816	11·9	12·0	8·3	10·7
Western Slopes—							
North	1,208,859	1,070,344	2,308,655	12·1	20·4	6·2	8·7
Central	1,398,967	2,033,284	4,219,080	11·1	13·7	7·4	9·9
South	1,849,521	2,482,004	6,989,527	10·1	9·3	9·0	12·9
	4,457,347	5,585,632	13,517,262	10·9	12·4	7·7	11·0
Western Plains ...	563,066	611,852	1,995,365	8·4	17·8	4·3	8·9
Riverina	3,725,421	2,306,188	8,258,481	8·3	8·1	5·2	10·3
Western Division	8,936	15,908	6,249	5·5	4·6	8·4	5·1
All Divisions...	10,560,111	9,155,884	25,088,102	9·8	10·6	6·6	10·5

The most prolific district usually is the North-western Slope, which shows the highest average yield over the whole period covered by the table, except the Coastal Division and the Northern Tableland, where the aggregate yields are not large. The Riverina and South-western Slope, which yield the largest aggregate crops, control the general average for the State.

To further illustrate the relative extent of the acreage under wheat for grain, and the resultant yield for 1908 and 1912, the following table shows the index numbers of those years in relation to 1898, which is taken as a basis, and is equal to 100:—

Division.	Wheat Acreage.		Yield.	
	1908.	1912.	1908.	1912.
Coastal	30·5	31·3	7·3	19·4
Tableland—				
Northern	30·7	30·4	30·2	30·9
Central... ..	77·9	127·0	51·4	114·3
Southern	22·6	127·4	17·3	36·1
Total, Tableland	59·9	94·5	41·5	84·5
Western Slopes—				
North	291·4	445·7	88·5	191·0
Central... ..	267·3	418·8	145·3	301·6
South	138·7	273·3	134·2	377·9
Total, Western Slopes	200·4	343·0	125·3	303·3
Western Plains ...	452·1	713·4	108·8	354·4
Riverina	96·8	173·4	101·9	221·7
Western Division	97·8	63·2	178·0	69·9
All Divisions ..	139·9	239·7	86·7	237·6

A great proportion of the immense area of the State, hitherto devoted exclusively to pastoral pursuits, consists of land which could be profitably utilised for agriculture, much of it being more suitable for the cultivation of wheat than some of the land now under crop; and the returns show that wheat-growing, which was formerly confined to small farmers, is now engaging the attention of a number of the large landholders, who cultivate areas of thousands of acres in extent, and use the most modern and effective implements and machinery for ploughing, sowing, and harvesting.

WHEAT—SHARE FARMING.

A considerable portion of the new area which is being brought under wheat in New South Wales is cultivated on the shares system, especially in the southern portion of the State. Under this system, the owner leases his land to the agriculturist for a period, for the purpose of wheat-growing only, the farmer tenant possessing the right of running upon the estate the horses necessary for working the farm, and the owner the right of depasturing his stock when the land is not in actual cultivation. It is usual for the owner to provide the seed, and the tenant the labour; and up to a specified yield, the parties to the agreement take equal shares of the produce, any excess going to the farmer as a bonus. The system, however, is subject to local arrangements. The number of acres farmed on the shares system in each of the last ten years is shown below:—

Year.	Area.	Year.	Area.
	acres.		acres.
1903	255,192	1908	348,444
1904	304,415	1909	307,750
1905	340,015	1910	364,579
1906	402,234	1911	473,079
1907	429,543	1912	616,607

Of the area cultivated on the shares system in 1911-12, 354,774 acres were in the Western Slopes and 185,093 acres in the Riverina Division.

EXTENSION OF WHEAT CULTIVATION.

The progress of wheat-growing for many years was slow and irregular. Prior to 1867 the area under crop had remained almost stationary—a little more than 125,000 acres; but in 1867 the acreage increased to 175,000. Eleven years later the area reaped for grain was practically the same, although during the intervening period it had fluctuated somewhat. Then more land was laid under the cereal, and in 1879 the area increased to 233,252 acres. In 1891, twelve years later, the acreage stood at 333,233 acres, although, during the interval, it had reached as high as 419,758 acres. From 1893 onwards progress was more regular. A great impetus was given to the industry in 1897, when the area increased to 866,112 acres; in 1901 it had advanced to 1,530,609 acres, and in 1906 to 1,939,447 acres. During the next three years the area decreased on account of unfavourable ploughing seasons, but it has since increased, and in 1912 the area—2,380,710 acres—was the highest yet recorded.

The following statement shows the area under wheat for grain at intervals since 1867, together with the total production and average yield per acre:—

Year ended 31st March.	Area under Wheat for Grain.	Yield.		Year ended 31st March.	Area under Wheat for Grain.	Yield.	
		Total.	Average per acre.			Total.	Average per acre.
1876	133,609	1,958,640	bushels.	1907	1,866,253	21,817,938	bushels.
1881	253,137	3,717,355	14·66	1908	1,390,171	9,155,884	6·59
1886	264,867	2,733,133	10·45	1909	1,394,056	15,483,276	11·11
1891	333,233	3,649,216	10·95	1910	1,990,180	28,532,029	14·34
1896	596,684	5,195,312	8·71	1911	2,128,826	27,913,547	13·11
1901	1,530,609	16,173,771	10·56	1912	2,380,710	25,088,162	10·54
1902	1,392,070	14,808,705	10·64				
1903	1,279,760	1,535,097	1·24	Average for 30 years ended 1912			10·88
1904	1,561,111	27,334,141	17·51	„ 10 years			12·92
1905	1,775,955	16,464,415	9·27	„ „			1902 10·07
1906	1,939,447	20,737,200	10·69	„ „			1912 10·96

Despite the vicissitudes of the climate it will be seen from the above table that lack of capacity to produce a payable average has not been the cause of the tardiness in development of wheat cultivation. During the last thirty years the mean annual average yield has been 10·88 bushels to the acre; the average for 1912 was slightly below this figure, having been affected by the badly distributed rainfall. The highest averages recorded have been 17·51 in 1904, and 17·37 in 1887. The lowest was 1·24 bushels in the disastrous year of 1903. During the whole period there were only seven seasons when the yield fell below 10 bushels per acre, the failures in each case being due to drought conditions.

In spite of the lower averages of certain years, it may be said that from equal qualities of soil a better yield is now obtained than was realised twenty years ago—a result due largely to extension of agricultural education, leading to improved farming, the use of fertilizers, and of more economical harvesting appliances; also to the fact that rust, smut, and other forms of disease in wheat have been less frequent and less general in recent years.

PRINCIPAL WHEAT-GROWING COUNTRIES.

A comparison of the production of this cereal in the principal wheat-growing countries is supplied in the following table:—

State.	Production.	Country.	Production.
	bushels.		bushels.
New South Wales	25,088,102	United States	621,358,000
Victoria	20,891,877	Russia	509,494,000
Queensland	285,109	British India	370,414,000
South Australia	20,352,720	France	320,142,000
Western Australia	4,358,904	Austria-Hungary	251,923,000
Tasmania	659,615	Canada	215,851,000
		Italy	192,397,000
Total, Australia	71,636,327	Argentina	170,565,000
		Germany	150,053,000
New Zealand	7,261,133	Spain	148,497,000
		Roumania	95,657,000
		Bulgaria	72,005,000
		United Kingdom	64,381,000
		Turkey	64,000,000
		Chile	38,581,000
		Egypt	37,933,000
		Algeria	36,596,000
		Japan	24,820,000

Estimates of the wheat crop of New South Wales are made at this Bureau of Statistics, and are published periodically during each season.

AREA SUITABLE FOR WHEAT-GROWING.

The area suitable for wheat-growing is roughly defined as that part of the State which has, theoretically, sufficient rainfall—(a) to admit of ploughing operations being carried out at the right time of the year; (b) to cover the growing period of the wheat plant—April to October, inclusive; and (c) to fill the grain during the months of September and October, or, in the case of districts where the rainfall in these months is light, to counteract the deficiency by the increased falls in the earlier or later months.

September and October are regarded generally as the most critical months as regards rainfall—being the time for the filling of the grain. Heavy soils require more rain than light soils, especially if the latter possess retentive subsoils. The nature of the soil, and considerations of elevation, temperature, evaporation, &c., have an important bearing on the rainfall needed for wheat and general culture, and one of the most important considerations in determining the area of profitable wheat-growing is the seasonal distribution. Heavy falls early in the season may induce a too vigorous growth, which would require correspondingly heavy rains in the spring or early summer. On the other hand, comparatively light showers, in addition to encouraging surface-rooting, would result in a larger proportion of evaporation than if the falls amounted to about 1 inch at a time.

The average rainfall gradually diminishes towards the western limits of the State, the figures ranging from a mean of about 50 inches on the seaboard to 10 inches on the western boundary.

In the early days of the industry wheat-growing was confined to the coastal districts, but its cultivation in these areas has been practically abandoned on account of the prevalence of rust, caused by excessive moisture, combined with the discovery that the drier districts are more suitable because the crop can be more easily and more cheaply grown.

In some of the northern districts much of the land is unsuitable for wheat-growing, as it consists of stony, hilly country, too rough for cultivation, and of black-soil plains, which bake and crack, and present mechanical difficulties in tillage. The rich soils of river flats must also be omitted from good wheat-growing areas, as such land has a tendency to produce excessive straw growth, although excellent hay can be grown in those localities.

Until recently land with an average rainfall of less than 20 inches has also been excluded from the area which is considered safe for profitable wheat-growing. With the exceptions of the coastal districts and unsuitable northern districts, it has been estimated that the area with an average annual rainfall of not less than 20 inches, suitable for wheat-growing, covers from 20 to 25 millions acres.

The South Australian farmers place the annual rainfall limit at 16 inches; but in that State the fall in many districts, though low, is more regular and more opportune than in New South Wales, though much is undoubtedly due to the more general application of advanced methods of cultivation in South Australia. Assuming that wheat could be profitably grown in New South Wales in areas with an annual fall of 16 inches, another 10,000,000 acres would be added to the wheat belt.

As previously stated, however, the seasonal distribution of the rainfall is an important factor, and it has been found that wheat can be cultivated successfully in parts of Australia with an average of 10 inches, provided that the falls occur during the growing period.

On the map attached to the volume of this "Official Year Book" are shown the experience lines of profitable wheat cultivation, that is, the

western boundaries of the area in which wheat has been successfully cultivated, as determined in 1904 and in 1912; the western boundary of the area over which the average rainfall is not less than 10 inches during the wheat-growing period is also defined.

Considerable improvement has been manifested during recent years in the methods of wheat culture. The old system has been altered gradually to accord with modern ideas, and the adoption of scientific methods has enabled farmers—especially in the districts of scanty rainfall—to secure profitable returns with a precipitation much less than that required formerly. It is not surprising, therefore, that the boundary of successful wheat production, as laid down in 1904, has been extended further westward.

It is estimated that the wheat belt has been increased by about 13,430,000 acres since 1904, and this has been made possible by the adoption of scientific methods of cultivation. The greatest extension has taken place in the southern wheat areas, especially in the Riverina division, where the spring rainfall is more suitable than on the north-western plain for filling and maturing the grain.

South of the Murrumbidgee from 65 to 70 per cent. of the annual average falls between the beginning of April and the end of October; in the central wheat areas, *i.e.*, the central western slopes and parts of the western plains, the percentage of the annual means drops to between 50 and 60, and in the northern wheat country to a range from 45 to 55 only.

In determining the present wheat experience line, due consideration has been given to low yields attributable to bad farming and other preventable causes. This is a very necessary precaution, as the average wheat yields for the various districts do not always accurately disclose the possibilities of the districts. Notwithstanding the improvement made during the last few years in cultural methods generally it is still, unfortunately, the case that the majority of the farmers do not obtain from their land anything like the results which are possible under good treatment. The conservation of moisture by fallowing and subsequent cultivation has not received sufficient attention, and the use of artificial manures should be much more general.

The conservation of moisture in the subsoil by fallowing and proper treatment of the fallows, may carry over an equivalent of from 5 to 8 or 10 inches of rain to supplement the falls during the growing season, and it will be conceded that the risk of failure, in the drier western districts especially, may be greatly diminished, if not entirely eliminated, by these means.

It must not be concluded that the wheat line as now laid down will remain stationary. There are still large areas, especially in northern and western Riverina, admirably suited to wheat production. With the advance of settlement, the subdivision of large estates, and the extension of railway communication, there is every reason to believe that the area now known as the wheat belt will be extended considerably in the early future, provided the farmers are prepared to adopt the latest approved methods of cultivation.

DRY-FARMING.

The term "dry-farming," in its general significance, is applied to any method founded on scientific principles for the production of crops without irrigation in arid or semi-arid districts.

Dry-farming methods have been practised for many years in New South Wales, Victoria, and South Australia. The last-mentioned State is specially noted for the amount of grain produced in districts of scanty

rainfall; in the mallee districts of Victoria, with an annual rainfall of 12 to 16 inches, wheat-growing has been conducted with most successful results; and the prosperous condition of many towns in the dry western areas furnishes undoubted evidence of the success of dry-farming in New South Wales. It must be admitted that the advanced methods have not been generally adopted in this State, but conditions are steadily improving, and the problem of effective utilisation of the dry districts is now attracting considerable attention in agricultural and scientific circles.

In July, 1910, a conference was arranged by the Department of Agriculture, in conjunction with the Farmers and Settlers' Association, to which prominent farmers from the wheat-growing districts of this State were invited to meet the experts of the Department and to discuss the subject of wheat-growing with special reference to dry-farming. The report of the conference, which has been issued as a Departmental Bulletin, contains discussions on the three main factors for successful farming in dry districts, viz., the production of suitable varieties of wheat, the conservation of fertility by the proper use of fertilisers and rotation of crops, and the conservation of soil moisture. The fixing of the wheat standard and transportation methods were also discussed, and many interesting comparisons with conditions in other wheat-producing countries were placed before the conference.

Present indications with regard to the western portion of the State are that the best results will be obtained by combining wheat-culture with sheep-raising. But the Department emphasises a warning to intending growers that successful wheat culture under arid conditions requires a thorough knowledge, and a strenuous application of the most modern methods. Experiments in dry-farming were conducted for a number of years at Coolabah Experiment Farm, and since 1909 at a more accessible site—the Nyngan Demonstration Farm. The results of the experience gained and practical advice are readily available to interested persons on application to the Department of Agriculture.

At the instance of the Minister for Agriculture of South Australia, the first Interstate Dry-farming Conference was held at Adelaide in March, 1911. Representatives of New South Wales, Victoria, Queensland, and South Australia attended, and the following resolutions were passed:—

1. The appointment to be recommended of an Agricultural Board of Advice to consist of three official representatives of each Australian State.
2. Such Board to decide on a common basis of scientific investigation and a common plan of experimentation.
3. The data collected by the Board and the results of experiments to be published by the respective Governments.
4. The above resolutions to be conveyed to the State Governments, and each to be urged to make necessary arrangements to carry them into effect.

VARIETIES OF WHEAT.

Since 1897 Government agricultural experts have been endeavouring to determine the varieties of wheat most suitable for the various districts, and to secure new types which would return the best milling results under local conditions. It is gratifying to record that their efforts have been attended with marked success.

In connection with this branch of agricultural science the name of the late William J. Farrer, Wheat Experimentalist of the Department of Agriculture of New South Wales has become world-famous. His efforts were directed towards the production of new varieties of greater milling value

and more resistant to rust than the old. Farrer wheats, which rank amongst the most prolific grain varieties, are largely cultivated throughout the State; and it has been proved, as a result of his work and that of his successors, that Australia can produce strong white wheat equal in flour production to the old varieties, and equal in strength to the famed standard Manitoba wheat which had hitherto been imported for blending with Australian soft wheats. This importation has been abandoned in this State, and it is the intention of the Sydney Chamber of Commerce to make a special standard under the name of "New South Wales Strong White." This indicates that New South Wales is likely to become an exporter rather than an importer of strong wheat.

Wheat experiments are conducted at the Cowra Experiment Farm, which is the headquarters, and at the Hawkesbury College and Wagga Bathurst, Glen Innes, Nyngan, and Yanco Farms. At Nyngan tests are made with a view to determining the suitability of the different varieties for cultivation in dry areas. The work at each farm consists of:—

1. Pedigree plots of the main varieties grown on the farm.
2. Crossbreds in course of fixation for local conditions of soil and climate.
3. A "Stud Variety Trial," including all standard varieties, newly-introduced wheats, and samples sent for identification.
4. "Stud Bults" to provide seed for planting the farm areas which supply seed wheat for sale.

MILLING QUALITIES OF NEW SOUTH WALES WHEAT.

The Department of Agriculture has recently published the results of an investigation regarding the variations in the strength and gluten-content of New South Wales wheats during the last thirteen years; interesting information regarding the milling quality of the various classes of wheat obtained therefrom is shown below.

For the purposes of the investigation, tests were made of seven classes, which represent fairly the typical wheats grown in New South Wales:—

1. *Farrer wheats, strong flour varieties*, include such crosses as Bobs, Comeback, Jonathan, Cedar, and similar varieties, as well as Departmental crosses not at present in general cultivation.
2. *Farrer wheats, weak flour varieties*, include Federation, Bunyip, Jade, Bayah, Plover, and other such varieties, as well as Departmental crosses not in general cultivation.
3. *Local soft wheats* are farmers' wheats, of the Purple Straw and Steinweidel type, which are being gradually replaced by the stronger varieties, but which still constitute the bulk of the wheat produced in New South Wales, as will be seen on comparison with the F.A.Q. wheats.
4. *Wheats at the Royal Agricultural Society's Show—strong white class*—are practically confined to the two Farrer wheats—Bobs and Comeback—although before 1908 this class was not so rigidly defined, and included other grain of lower flour strength.
5. *Wheats at Royal Agricultural Society's Show—"soft white" class*—include both the local soft wheats (No. 3) and the Farrer weak-flour varieties (No. 2).
6. *F.A.Q. wheat* is part of the sample taken annually by the Sydney Chamber of Commerce for the convenience of shippers, and represents the fair average quality of the wheat grown in the State.
7. *Millers' Flour* includes typical samples from both Sydney and country millers.

The figures under the term "strength" in the table indicate the number of quarts of water required by 200 lb. of flour to make a dough of the proper consistency for baking, and it is to be understood that a high figure means not only more loaves from the quantity of flour, but loaves of better texture, lighter, and more nutritious. The figures under "gluten" are the percentages of dry gluten in the flour.

The particulars shown hereunder are for the last eight years; the average relates to the period 1900-12, except for the wheat at the Royal Agricultural Society's Show, 1905-12, and the F.A.Q. 1906-12. The seasons 1908-10 were exceptionally high in both strength and gluten, and have inflated the average in all cases.

Class of Wheat.			1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	Average 1900-12.
Farrer wheats, strong flour	..	Strength	51.9	52.2	50.9	52.6	54.5	51.9	53.2	52.5	52.56
	..	Gluten	15.2	16.1	11.5	15.6	16.9	14.1	13.2	13.8	14.27
Farrer wheats, weak flour	..	Strength	47.9	46.5	47.3	47.1	49.5	47.5	47.1	46.8	47.16
	..	Gluten	13.6	12.8	10.2	15.0	17.8	12.1	13.3	12.6	13.25
Farrer wheats, all kinds	..	Strength	50.6	49.7	49.8	50.8	53.4	49.7	49.9	49.8	50.30
	..	Gluten	14.6	14.7	11.1	15.4	17.1	13.4	13.3	13.2	13.90
Local soft wheats	..	Strength	46.6	45.8	46.9	46.5	48.7	49.1	45.8	44.9	46.30
	..	Gluten	9.1	10.2	9.2	13.4	12.3	14.2	11.3	10.4	11.17
Wheats at R. A. S. Show Strong white	..	Strength	46.6	48.5	48.4	52.5	53.5	50.0	53.4	52.7	50.70
	..	Gluten	10.0	11.0	9.3	12.2	11.9	13.8	12.5	13.4	11.76
Wheats at R. A. S. Show Soft white	..	Strength	45.2	45.7	45.4	46.4	49.2	47.8	47.0	45.2	46.50
	..	Gluten	9.7	9.8	8.3	10.2	8.6	12.1	11.0	10.6	10.03
F.A.Q. for New South Wales	..	Strength	—	45.5	46.1	48.5	48.0	48.0	45.0	45.0	46.60
	..	Gluten	—	10.2	9.4	10.6	12.2	10.4	10.2	11.9	10.70
Millers' flour	..	Strength	48.0	47.4	48.0	49.9	49.9	48.5	46.7	47.9	47.61
	..	Gluten	9.5	9.7	9.9	14.6	15.6	10.2	9.8	11.4	10.94

INCREASE IN THE WHEAT YIELD.

It has been shown that the area under wheat is 2,380,710 acres, which is a very insignificant portion of the total area available; and even this small area is not worked as profitably as it might be. Compared with the principal wheat-growing countries of the world, an average yield of 10.54 bushels per acre is very small, as will be seen from the table below. The averages shown are based on the latest available returns:—

Country.	Average yield peracre.	Country.	Average yield peracre.
United Kingdom	32.96	Italy	13.05
Germany	29.29	Russia	10.88
France	15.42	Argentina	9.75
Hungary	19.35	Canada (excluding British Colum- bia)	16.14
United States	13.70		
India	12.80		

A bare statement of average is, however, not entirely conclusive, as the relative cost of production should also be taken into consideration.

Moreover, in the older countries, the efforts of farmers are more concentrated, and more intense cultivation is necessary. In New South Wales, wherever agriculturists have confined their operations to a restricted area, and have made systematic efforts to till the soil completely, their returns have been much greater than those obtained by imperfect cultivation of areas which are beyond the capacity of the holder's teams and implements.

The crude methods of farming practised on many of the outlying districts are steadily improving, and it is reasonable to expect that the yield will be considerably increased. The lack of system in farming is almost necessarily prevalent amongst pioneers in new countries. In many instances the settlers have begun with insufficient capital and with very little practical knowledge; and there are probably very few places where persons without capital could have succeeded so well as in this State.

The last two seasons have furnished excellent object lessons as to the benefits to be derived from a proper system of fallowing, the intelligent working of the land, and the judicious use of fertilisers. From almost every district reports indicate that, notwithstanding the dry conditions prevailing during practically the whole period of growth, the average yield of the crops on fallowed and properly cultivated land have ranged from 20 to 45 bushels per acre. The general average yield suffers by reason of the large proportion of poor crops on stubble land, and the knowledge of this fact should stimulate farmers generally to adopt more scientific methods of cultivation when it has been proved so conclusively by practical experience that fallowed and properly-worked land will give far better results than a much larger area of stubble land.

Striking examples are shown in the following comparison of results obtained in various districts during 1911-12:—

District.	Highest Yield.		Average for District.		Rainfall during Growth.
	bus.	lb.	bus.	lb.	
Deniliquin	14	34	7	24	332
Wyalong	24	2	8	24	668
Jindera	28	56	9	42	752
Forbes	16	30	5	36	500-600
Quirindi	42	46	7	24	628
Pallamallawa	33	22	14	42	641

The possibilities of New South Wales are great; and if only a quarter of the area favourable for growing wheat were cultivated on scientific lines there would be a much greater surplus available for export, after satisfying all the demands of the local population. There is a very large market for breadstuffs in the United Kingdom, the average annual import during the last five years having been 212 million bushels, of which, on the average, slightly more than 5 million bushels per annum have been received from this State. Were the farmers to grow the wheats most in demand in Great Britain, there should be very little of the year's crop unsold, and little risk of the local price falling so low as to be unprofitable. There is also an increasing demand for Australian wheat in the markets of the East.

PRICES OF WHEAT.

The price of wheat is subject to constant fluctuation, as shown in the following table, which gives the average rates ruling in the Sydney market in the months of February and March of each year since 1865. These figures exhibit clearly the tendency to a gradual reduction in the value of the cereal down to 1895, when the price was the lowest of the series. In 1896, however, owing to a decrease in the world's supplies, the price rose considerably, and led to an extension of cultivation in Australasia. Up to a few years ago, with a deficiency in the local production, the price in Sydney was generally governed by the rates obtained in the neighbouring Australian markets where a surplus was produced. These, again, are now determined by the figures realised in London, which are usually equal to those ruling in Sydney, plus freight and charges. The prices in the following table are for an imperial bushel, and, being for new wheat, are slightly below the average for the year:—

Year.	February.	March.	Year.	February.	March.	Year.	February.	March.
	per bushel.	per bushel.		per bushel.	per bushel.		per bushel.	per bushel.
	s. d.	s. d.		s. d.	s. d.		s. d.	s. d.
1865	9 6	9 7½	1881	4 1	4 3	1897	4 8	4 6½
1866	8 4½	8 0	1882	5 5	5 6	1898	4 0	4 0
1867	4 3	4 4	1883	5 1½	5 2	1899	2 7½	2 9
1868	5 9	5 9	1884	4 3	4 3	1900	2 9	2 8
1869	4 9	4 10	1885	3 10½	3 7½	1901	2 7	2 7
1870	5 0	5 1½	1886	4 3½	4 5	1902	3 2	3 2¾
1871	5 7½	5 9	1887	3 10	3 11	1903	.....	.....
1872	5 0½	5 3	1888	3 6	3 6½	1904	3 0½	3 0¾
1873	5 1	5 8½	1889	4 9	5 3	1905	3 4½	3 3¾
1874	6 9	6 1½	1890	3 6	3 6	1906	3 1¾	3 2¼
1875	4 7½	4 6	1891	3 7½	3 10	1907	3 0¾	3 1½
1876	5 1½	5 6	1892	4 9	4 9	1908	4 4	4 5½
1877	6 1½	6 6	1893	3 6½	3 6	1909	4 0¾	4 6½
1878	6 1½	5 7½	1894	2 11	2 8	1910	4 1¾	4 1
1879	5 0	4 9½	1895	2 7	2 7	1911	3 7¾	3 5
1880	4 8	4 9	1896	4 4½	4 5	1912	3 9¼	3 8½

As to recent years prices did not vary greatly in 1899, 1900, and 1901. There were no quotations in 1903, owing to the almost universal failure of the 1902-3 crop. In 1908 and 1909 the prices were higher than in any year since 1897. In 1910 they were lower than in 1909, but otherwise were better than in any year since 1898. In 1911 and 1912 the prices were much lower than those of the previous three years.

The average values in the British markets of English and imported wheat for the years 1910 and 1911 are shown below:—

Country.	Average Value per Quarter.	
	1910.	1911.
	s. d.	s. d.
Australia	37 2	34 10
Canada	36 9	34 10
United States	37 3	34 9
India	35 5	33 7
Argentine	34 11	33 4
Russia	35 7	33 4
United Kingdom	31 8	31 8

The comparison shows that the price of Australian wheat was equal to the Canadian, and higher than the English or that of any other country from which large consignments were received.

COST OF GROWING AND EXPORTING WHEAT.

The cost of raising wheat depends upon the size of the holding, as a large farm with first-class agricultural appliances can be worked at a very much lower proportionate cost than a small area. An estimate of the cost of growing wheat should include rent, or interest on purchase-money of land, and carriage to the market. Careful inquiries show that in New South Wales, taking into account the producing factors, such as the proportion of lands variously prepared and sown, the proportion of crops harvested by different methods, average railway and other freights, but excluding interest on capital, rent, &c., the cost of landing wheat in Sydney may be assumed at 1s. 7d. to 2s. per bushel with a 10-bushel crop. With the increased use of improved machinery, the average cost may be much reduced, and the cost of harvesting a 10-bushel crop with a harvester is less than 6d. per bushel if carried out by contract labour. The freight to Sydney and other freight and selling charges to the Sydney market are assessed at 4½d. per bushel.

As estimated for wheat farms on large areas with a minimum expenditure per acre, the average cost includes initial expenses for seed, for ploughing, harrowing, sowing, rolling, &c.; then the cost of gathering the crop, stripping, winnowing, bagging, &c.; the cost of these operations averages from 20s. to 21s. per acre, to which must be added the expenditure for transporting the crop from the farm to the market, including road haulage and train transport. These initial charges would naturally vary with conditions—with the size of the farm, the type of machinery, and distance from market—but for a 10-bushel crop might be approximately assessed at £1 5s. per acre.

But apart from these initial charges is to be considered the cost of placing the product on the London market, for since wheat is a world product with a world market, of which London is the pivot, this cost affects selling prices. It includes charges for freight, transshipment, insurance, selling charges, and varies also with the type of vessel and other conditions, but always assists to raise the cost by another 1s. per bushel, approximately.

GRADING, HANDLING, AND MARKETING WHEAT.

The development of the wheat industry is largely dependent upon the facilities for economical transportation to the world's markets and at the present time, when combined efforts are being made by scientists and practical farmers to extend the cultivation and improve the quality of the wheat, the co-operation of the commercial and transport agencies by the introduction of improved methods of grain handling is necessary for the success of the industry.

Grading.

Australian wheat for export is marketed on the basis of a single standard known as f.a.q.—that is, fair average quality. In New South Wales the standard is fixed annually by a committee of members of the Sydney Chamber of Commerce and two Government representatives. Samples obtained from each of the wheat districts are weighed on McQuirk's Patent Scale, and an average struck, which is used as a standard in all wheat export transactions.

The proportion of six different grades of wheat, as well as the amount of broken and pinched grain, oats, whiteheads, etc., in a standard bushel from the wheat-producing districts of New South Wales for the last four harvests, were as follows:—

Grade.	Harvest.			
	1909-10.	1910-11.	1911-12.	1912-13.
	lb. oz.	lb. oz.	lb. oz.	lb. oz.
3·25 millimetre mesh ...	0 13	1 12·5	0 5·5	0 0
3·00 „ „ ...	3 7	5 10·25	2 6·5	0 11·75
2·75 „ „ ...	11 9	13 0	12 9·4	7 0
2·50 „ „ ...	19 8	14 11·5	18 13·1	22 1·5
2·25 „ „ ...	18 12	20 15·5	19 8·8	24 15·75
2·00 „ „ ...	4 13	2 15	5 2·9	5 3
Broken and pinched grain...	2 3	2 0	2 1·2	1 8
Oats, whiteheads, &c. ...	0 15	1 3·25	0 8·6	0 12
	62 0	62 4	61 8	62 4

The f.a.q. standard of New South Wales for the 1912-13 harvest has been fixed at 62½ lb. per bushel; of Victoria, at 63 lb.; of South Australia, at 62 lb.; and of Western Australia, at 62 lb. per bushel.

The chief objection raised by wheat-growers to this method of grading on a single standard is that it discourages the cultivation of grain of superior quality which does not command a price commensurate with its greater value as compared with wheat which just reaches the standard. Moreover, it is stated that the weight of the grain is not a true indication of its quality, the standard of which varies according to the purposes for which it is required.

The following comparison shows the standard in New South Wales for each season since 1898-9, and the date on which it was fixed in each year:—

Year.	Date Fixed.	Standard.	Year.	Date Fixed.	Standard.
		lb.			lb.
1898-1899	23rd Feb., 1899	61	1906-1907	24th Jan., 1907	62½
1899-1900	23rd „, 1900	61	1907-1908	24th „, 1908	62½
1900-1901	21st „, 1901	61	1908-1909	22nd „, 1909	61½
1901-1902	27th Jan., 1902	61½	1909-1910	31st „, 1910	62
1902-1903	None fixed—drought.		1910-1911	13th Feb., 1911	62½
1903-1904	23th Jan., 1904	61	1911-1912	1st „, 1912	61½
1904-1905	19th „, 1905	59½	1912-1913	31st Jan., 1913	62½
1905-1906	24th Jan., 1906	62			

Methods of Transport.

Under the present system of transport the wheat is bagged on the farm and brought to the nearest railway station, whence, if for export, it is carried in bags by rail to Sydney for shipment. At some of the stations the Railway Department has erected sheds, and a small charge is made to the farmers for storage. At Darling Harbour, Sydney, where all the grain ships are loaded, grain sheds and bag elevators have been provided.

This system has many disadvantages, apart from the cost of bags and the great amount of labour required for handling grain in bags. In the event of a large yield considerable loss is caused by delays at country railway stations, especially where the shed accommodation is insufficient and the stacks are exposed to damage by rain as well as pests, and the supply of rolling-stock is inadequate, as the space at Sydney is too limited for the speedy manipulation of the trucks.

A comparison with these methods is found in the United States, Canada, Russia, and Argentine, where wheat is handled in bulk. In Canada, for example, the grain is brought from the farms and stored in a loose condition in elevators at country railway stations pending transport by rail to large terminal elevators in the trading and shipping centres. On depositing the grain in the country elevator the farmer may obtain a certificate of its weight and quality; this certificate is guaranteed by the Government, and practically has legal currency in the Dominion. The grain elevators and warehouses in operation in Canada under Government license during the year ended 31st August, 1912, numbered 2,068. In the Western Grain Division there were 1,998 public country elevators and 31 warehouses capable of holding 62,114,500 bushels, and 18 terminal and milling elevators with a capacity of 27,400,400 bushels; in the Eastern Division there were 21 transfer elevators of a capacity of 19,135,000 bushels, making a total of 2,068 elevators capable of holding 108½ million bushels of grain. The rapid expansion of the elevator system may be seen by a comparison with the figures for the year 1900-1, when there were only 523 elevators, with a total capacity of less than 19 million bushels.

In the United States the elevator system is used for grain shipped from the Atlantic Coast, but in the Pacific Coast region the grain is still handled in bags. A great obstacle to the introduction of the elevator system in the latter region, as in Australia, has been the difficulty regarding marine insurance, as it has not been considered safe to load a vessel with bulk grain for the long sea voyage to Europe. The distance is about the same as from Australia, but will be considerably shortened by the opening of the Panama Canal.

In 1910, however, a project was reported for the establishment in the Pacific coast region of a line of elevators for coastwise trade, which is rapidly increasing, while the foreign exports have declined. The explanation for this change in the direction of the trade is as follows:—The four States which constitute the Pacific Coast region are Washington, Oregon, Idaho, and California. In California grain production is giving place to other forms of agriculture which are more profitable in that State, and many grain ranches which formerly produced large quantities of wheat have been divided into small fruit and vegetable farms. In consequence of this diversity of industry and the rapid growth of population, a large and increasing proportion of the surplus grain of the other three States is required for consumption in California, and the quantity available for foreign export has decreased.

In comparing the systems of Canada and the United States with the Australian it must be noted that in America, on account of the great distances of the wheat areas from the commercial and shipping centres, the grain must be handled several times and conveyed by rail from 1,200 to 3,000 miles; whereas in Australia the wheat districts are, in most cases, in proximity to the coast. The advantage of Australia in this respect, however, is modified by the longer sea distance from the European markets.

Comparative Rates of Freight.

The extra cost to Australia for freight to the United Kingdom will be seen in the following comparison. The rates relate to the year 1909-10:—

Country.	Average Freight per ton (2,240 lb.)	Country.	Average Freight per ton (2,240 lb.)
United States—	s. d.	Russia—	
San Francisco ...	23 9	Odessa	8 0 $\frac{1}{4}$
New York	5 1	India—	
Argentine—		Karachi	14 4 $\frac{1}{2}$
Upper River Plate ...	9 10 $\frac{3}{4}$	Australia... ..	24 5 $\frac{1}{4}$
Lower River Plate ...	8 6		
Bahia Blanca	9 3 $\frac{1}{2}$		

This statement emphasises the necessity of adopting in Australia the most economical method of handling grain to compensate for the high cost of ocean transport as compared with the cost to other wheat-producing countries. The rates from all the ports shown above, except San Francisco on the Pacific Coast of the United States, are much lower than from Australia, and the cost of insurance is also less in proportion to the length of the sea journey.

Bulk Handling in Australia.

The question of introducing the bulk-handling system has been the subject of many inquiries and investigations in Australia, but up to the present no satisfactory plan has been arranged.

In 1909 a report was presented to the Parliament of South Australia by a Commission appointed to inquire into the marketing of wheat in that State. As regards bulk-handling, the Commissioners found a considerable diversity of opinion. The chief advantages claimed were—saving in use of bags; cheaper handling between farm and wharf; expeditious loading of boats and cheaper sea freights; expeditious use of railway rolling-stock; prevention of waste; higher prices through grading, and better cleaning. The principal objections against the adoption of this system were—its great initial cost; unsuitability of vessels used for carrying wheat; uncertainty as to whether grain can be carried satisfactorily in bulk from Australia; insufficient quantity exported to justify the installation of the system; hostile attitude of shippers; and the limited number of foreign ports possessing facilities for handling wheat in bulk.

After due consideration of the evidence placed before them, the Commissioners found that they would not be justified in recommending its immediate installation on account of the unfriendly attitude of the shippers, the fact that the securing of adequate shipping provision would take a considerable time, and the need for completely demonstrating that no substantial difficulty would arise with regard to insurance, conveyance on the ocean, condition of the grain, rates of sea freights, delivery at the other end, and the price obtainable for graded wheat. They recommended, however, that a small equipment be provided at the Outer Harbour, Port Adelaide, to facilitate the conduct of experimental shipments by the Government and by private exporters. This would enable the interested parties to become familiarised with the advantages of the system, and prepare the way for its gradual extension or complete adoption, as might seem advisable. The installation of these facilities is now proceeding, and the experiments will be watched with interest throughout the Commonwealth.

The matter of initial cost, or, more correctly, the uncertainty as to whether there would be a substantial saving after paying working expenses and interest on capital, has undoubtedly been the main factor acting against the introduction of bulk-handling. It is interesting to note, in connection with this phase of the question, that the South Australian Commission estimated that, apart from other advantages, the saving to the farmers in the use of bags alone would range from £40,000 to £60,000 on the basis of a harvest of 20 million bushels. It is contended, however, that the value of the bags is taken into consideration by the buyers, and that bagged wheat commands a higher price.

As regards the construction of terminal elevators, New South Wales possesses an advantage over South Australia by reason of the fact that all the wheat in this State is shipped at one port—Sydney—while in South Australia oversea vessels were loaded at as many as thirteen ports in the 1910 season. The cost of land for a terminal elevator and the requisite shunting area for the speedy manipulation of railway rolling-stock would be enormous in a city like Sydney; but in evidence before the Decentralisation Commission, in 1911, it was pointed out that if the system were installed in conjunction with the decentralisation of railway traffic, land could be acquired at a new centre at a comparatively low cost.

The provision of railway rolling-stock suitable for carrying bulk grain would be a large item in the initial cost. In Australia, wool and live stock constitute a very large proportion of the goods traffic; for these classes of goods grain cars would be useless, and the construction of separate cars for each industry would considerably augment the railway expenditure. It has been suggested, therefore, that for the first few years of the initiation of bulk handling, bags should be used on the farm and for the carriage of grain by rail.

In reference to the unsuitability of vessels, a noticeable feature of the wheat export trade, during the period which has elapsed since the South Australian report was made, has been the substitution of steamers for sailing vessels, which are not practicable for cargoes in bulk. The proportion of wheat now carried in sailing vessels is very small, and in the construction of a large number of steamers which have entered the Australian trade during the last few years shipowners have evinced a remarkable readiness to provide for special requirements. For these reasons this objection should not prove a serious obstacle to the installation of bulk-handling. Experiments have been conducted with the view of investigating the question as to whether grain can be carried satisfactorily in bulk to Europe, and a number of trial shipments by steamer from Sydney have arrived in England in excellent condition.

The Department of Agriculture of New South Wales is continuously collecting information regarding the various aspects of this important question; during 1910 inquiries were made regarding marine insurance of bulk shipments. Information obtained from the individual insurance companies in Sydney showed that the companies generally were reluctant to cover the risk of bulk cargoes per sailing ships, but there would be no difficulty in obtaining insurance against ordinary sea risk of grain shipped per steamer.

With regard to facilities for bulk-handling at ports to which our wheat is sent, information was obtained by the Agent-General for New South Wales in 1908, which showed that all the English ports to which wheat is shipped, receive it in bulk as well as in bags; and at nearly all the principal docks there are elevators, by which wheat arriving in bulk can be unloaded with greater rapidity and at less expense than grain in bags. On the other hand, the railway possessed no facilities for handling grain in bulk, and wheat requiring railway transport had to be bagged at the

port. The quantities of imported wheat handled by the railways, however, was comparatively small. Shipowners preferred wheat to be sent in bulk on account of the economy of space and the more rapid discharge, but the merchants preferred the system of shipping in bags. Their chief reason was, apparently, that wheat in bags is weighed in small lots of about 4 bushels, and on each occasion the merchant gets the benefit of the draft required to turn the scale; whereas bulk wheat is weighed in lots of 1 ton or more. However, no objection had been made by merchants handling Argentine wheat, which has somewhat similar characteristics to the Australian, and which is brought to England in bulk in large and increasing quantities. Wheat is also received in bulk from Russia, United States, and Canada. At several ports in Great Britain special railway waggons for bulk transportation have recently been built.

A Royal Commission was appointed in New South Wales in 1911 to inquire into the cost of living in relation to prices of the principal articles of food and in relation to production, transport, export trade, &c. Within the scope of this inquiry the subject of bulk-handling of grain has been included.

MAIZE.

Maize ranks second in importance amongst the crops of New South Wales; but its cultivation is small in contrast to that of wheat, although thirty-three years ago there was very little difference in the areas under each cereal. In 1881 the area under maize was half that under wheat; now it is one-tenth.

This cereal is cultivated chiefly in the valleys of the coastal rivers, where both soil and climate are peculiarly adapted for its growth. On the tableland also good results accrue, and as the land rises in elevation so the average yield per acre proportionately decreases; although, in compensation, the grain produced is of more enduring quality for export and storage. The following statement shows the distribution of the area under maize for grain during the year ended March, 1912, with the production and average yield in each district:—

Division.	Area under maize for grain.		Yield.	
	Total.	Proportion in each district.	Total.	Per acre.
Coastal—	acres.	per cent.	bushels.	bushels.
North	56,223	33·5	1,865,731	33·2
Hunter and Manning	39,237	23·4	1,325,081	33·8
Cumberland	3,488	2·1	124,632	35·7
South	12,223	7·3	452,896	37·1
	111,171	66·3	3,768,340	33·9
Tableland—				
Northern	13,718	8·2	180,724	13·2
Central	13,251	7·9	246,802	18·6
Southern	889	·5	13,655	15·4
	27,858	16·6	441,181	15·8
Western Slopes... ..	28,051	16·7	292,657	10·4
Western Plains, Riverina, and Western Division	701	·4	5,164	7·4
All Divisions... ..	167,781	100·0	4,507,342	26·9

The North Coast, the most important maize-growing district in the State, yielded in 1912 over 41 per cent. of the total production, the average yield being 33·2 bushels per acre. After the North Coast, the Hunter and Manning district shows the largest area under crop. The

highest average yield in any county was in Cook, in the Central Tableland, with 47·2 bushels per acre. On the North Coast, the best counties were Dudley and Clarence, which gave 42·6 and 34·4 bushels per acre respectively. In 1911-12 the average yield on the tableland was only 15·8 bushels per acre, and on the western slopes 10·4 bushels; many crops in these districts failed for want of rain. At an early period in the history of the North Coast maize displaced wheat as a product, but latterly dairying has been replacing maize-growing, and a larger proportion of the area under maize is cut for green food for dairy stock.

The next statement gives a comparative review of the maize crop since the year 1893:—

Year ended 30th June.	Area under maize for grain.	Production.		Year ended 30th June.	Area under maize for grain.	Production.	
		Total.	Average per acre.			Total.	Average per acre.
	acres.	bushels.	bushels.		acres.	bushels.	bushels.
1893	167,549	5,037,256	30·1	1906	189,353	5,539,750	29·3
1894	295,885	7,067,576	34·3	1907	174,115	5,763,000	33·1
1895	208,308	5,625,533	27·0	1908	160,989	4,527,852	28·1
1896	211,104	5,687,030	26·9	1909	180,812	5,216,038	28·8
1897	211,382	5,754,217	27·2	1910	212,797	7,098,255	33·4
1898	209,588	6,713,080	32·0	1911	213,217	7,594,130	35·6
1899	193,286	6,064,842	31·4	1912	167,781	4,507,342	26·9
1900	214,697	5,976,022	27·8				
1901	206,051	6,292,745	30·5				
1902	167,333	3,844,993	23·0				
1903	202,437	3,049,269	15·1	Average for 20 years ended 1912			28·89
1904	226,834	6,836,740	30·1	„ 10	„ 1902		29·10
1905	193,614	4,951,132	25·6	„ 10	„ 1912		28·66

During the last twenty years there have been several fluctuations in the area under cultivation. The largest area—226,834 acres—was cropped in 1904, but the largest yield was produced in 1911. The decrease during 1911-12 in the area is due to the fact that the dry weather prevented many maize-growers from cropping their land. The yield per acre is somewhat variable, ranging from 15·1 bushels in 1903 to 35·6 bushels in 1911, and generally the tendency has been for the average to decrease, owing to the reduction of the area in the coastal districts, where the average yield is highest. In the most favourable localities yields of 80 to 100 bushels per acre have been obtained, and probably few places are better suited for the growth of maize than the coastal districts of New South Wales. The yield in 1911-12 was considerably below the average, as a result of the scarcity of rain during December, January, and February.

Until 1890 the State produced more maize than could be consumed locally, and exported a small quantity to southern States, but in almost every year since there has been an excess of import. Practically nothing has been done to develop an oversea export trade, although the demand for maize is apparently increasing in the United Kingdom and Europe.

This indicates a disregard for the potentialities of the State, and is not easily explained. There is no doubt that the uncertainty as to the price that will be realised for maize—an uncertainty which is shared with all produce grown only for local consumption—has caused the cultivation of this cereal to decrease in favour on the coast and tableland, while on the other hand the profit to be obtained from dairying has led to its further neglect. Another possible reason for the decline is the small attention that has been paid to the cereal as regards scientific cultivation and experiment. During recent years wheat has received very close study as to the kinds suited to various localities and climatic conditions, and as to improvements in cultivation and harvesting, but maize has received little

consideration. The falling tendency of the average yield in recent years shows also that the soil has been depleted of its fertility through constant cropping, and emphasises the need for systematic attention to proper rotation, manuring, cultivation, the introduction of new varieties, and careful selection of seed.

OATS.

The cultivation of oats has been much neglected in New South Wales, though the return has been fairly satisfactory, and the deficiency between the production and the consumption is very considerable. The elevated districts of Monaro, Argyle, Bathurst, and New England contain large areas of land where the cultivation of oats could be maintained with good results.

This cereal is cultivated as a grain crop, principally in the wheat-growing districts; and as it is essentially a product of cold climates, it thrives best in those parts of the country which have a winter of some severity. The principal districts where oats are grown are the tableland, the South-western Slope and Riverina. The area under crop for grain in 1912 was 71,047 acres, which produced 1,155,226 bushels, being 16·3 bushels per acre. The northern tableland gave the best average, with 19·5 bushels per acre. In the whole tableland division 15,100 acres were under crop, and yielded 271,528 bushels, or 18·0 per acre; on the South-western slope, 23,573 acres gave 390,971 bushels, or 16·6 per acre, while in the Riverina the production was 335,840 bushels from 20,346 acres, or 16·5 bushels per acre. These three divisions accounted for about 86 per cent. of the total production. In the remainder of the State there were only 12,028 acres under cultivation, which yielded 156,887 bushels.

The following table illustrates the progress in the cultivation of oats for grain during the last twenty years:—

Year ended 31st March.	Acres under oats for grain.	Production.		Year ended 31st March.	Acres under oats for grain.	Production.	
		Bushels.	Bushels per acre.			Bushels.	Bushels per acre.
1893	20,890	466,603	22·3	1905	40,471	652,646	16·1
1894	34,148	701,803	20·6	1906	38,543	883,081	22·9
1895	30,636	562,725	18·4	1907	56,431	1,404,574	24·9
1896	23,750	374,196	15·8	1908	75,762	851,776	11·2
1897	39,530	834,633	21·1	1909	69,881	1,119,558	15·7
1898	28,605	543,946	19·0	1910	81,452	1,966,586	24·1
1899	19,874	278,007	14·0	1911	77,991	1,702,706	21·8
1900	29,125	627,904	21·6	1912	71,047	1,155,226	16·3
1901	29,383	593,548	20·2	Average for 20 years ended 1912			19·2
1902	32,245	687,179	21·3	„	10	„	19·0
1903	42,992	351,758	8·2				
1904	51,621	1,252,156	24·3				

The area under oats for grain, with slight fluctuations, remained practically stationary until the year ended March, 1894, when over 13,000 acres were added; the rate has since increased, with variations due to the seasons; and in 1910 the area reached 81,452 acres, but has since diminished to 71,047 acres. The average yield varies considerably, and in a fair season will exceed 20 bushels per acre, the average for the last ten years being 19 bushels. The lowest average yield was 8·2 bushels per acre in 1903, when the crop almost failed, owing to the unfavourable season; and the highest average yield was 24·9 bushels in 1907.

The market for oats is chiefly in the metropolitan district, and the demand depends mainly on the price of maize. The production is far from sufficient for the wants of the State, and large quantities are imported from Victoria, Tasmania, and New Zealand.

Much therefore remains to be done before the State can be independent of outside assistance; but there is strong reason to believe that as agricultural settlement is developed on the northern tableland this cereal will receive more attention.

BARLEY.

Barley is an important crop, but at present is produced on a moderate scale, although there are several districts where the necessary conditions as to soil and drainage present inducements for cultivation, and particularly with regard to the malting varieties. It is grown mostly in the Tamworth district, on the North-west Slope, the area in that part during 1911-12 being 3,552 acres, from which the bulk of the produce was for malting purposes. The areas under crop in other districts are small, and do not call for special notice. For the State as a whole the following table shows the area under barley for grain, together with the production in each year since 1893:—

Year ended 31st March.	Area under barley for grain.	Production.		Year ended 31st March.	Area under barley for grain.	Production.	
		Total.	Average per acre.			Total.	Average per acre.
	acres.	bushels.	bushels.		acres.	bushels.	bushels.
1893	4,618	91,701	19.9	1905	14,930	266,781	17.9
1894	6,113	114,272	18.7	1906	9,519	111,266	11.7
1895	10,396	179,348	17.3	1907	7,879	152,739	19.1
1896	7,590	96,119	12.7	1908	11,890	75,148	6.3
1897	6,453	110,340	17.1	1909	9,507	166,538	17.5
1898	5,151	99,509	19.3	1910	15,091	272,663	18.1
1899	4,459	64,094	14.4	1911	7,082	82,005	11.6
1900	7,154	132,476	18.5	1912	10,803	129,008	11.9
1901	9,435	114,228	12.1				
1902	6,023	103,361	17.2				
1903	4,557	18,233	4.0	Average for 20 years ended 1912...			15.1
1904	10,057	174,147	17.3	„ 10 „ 1912...			14.3

The record exhibits considerable fluctuations as to area and as to the average production per acre, thus indicating that farmers consider it more profitable to devote their attention to the other cereals, the immensely larger areas for which clearly point to their preference. From the table it appears that limited areas were cultivated, until in 1895 there were upwards of 10,000 acres. With great variations, down to 4,500 acres, it was not until nine years later that the area again reached the figures for 1895. A maximum year was experienced in 1910, when the total suddenly expanded to 15,091 acres, which produced 272,663 bushels.

The decrease in the year ended March, 1911, was due to the unfavourable season in the North-western Slope Division, where the greater part of the barley is produced.

As to yield, great variations are to be found, ranging from 4 bushels per acre in 1903, when the crop practically failed, to the excellent rate of 21.9 bushels obtained in 1887. The average crop during the last ten years has been 14.3 bushels per acre; but as there were two extremely adverse seasons in the period, this rate should not be regarded as characteristic; on the other hand, the returns for many seasons indicate that an average crop of 18 bushels per acre may be expected under normal conditions.

A remunerative price can be obtained from maltsters for suitable grain, and if the farmers were to consult with the users as to requirements in threshing, &c., and to treat the grain accordingly, no doubt a mutually advantageous trade could be developed, which would displace the importations at present necessary, and which are derived mainly from New Zealand growers.

RYE.

Rye is cultivated to a very limited extent, and is grown either in separate areas or in combination with leguminous crops, largely as green food for dairy cattle, the supply for grain being obtained mainly in the central part of the tablelands of the State. The total area under this cereal during 1911-12 was 2,320 acres; the average yield during the last ten years was 12·1 bushels per acre, the best year being 1904, with an average of 16·3 bushels. The average for 1912 was 11·0 bushels.

BROOM MILLET.

Broom millet is a small but valuable crop, the return from the fibre alone amounting to £27,090. In 1911-12 the area under broom millet was 2,647 acres, from which 22,579 cwt. of fibre and 13,665 bushels of grain were obtained, the average being 8·5 cwt. and 5·6 bushels respectively per acre. The average yield of fibre during the last ten years was 6·9 cwt. per acre. In 1904, and in the years 1910-12, the averages exceeded 8 cwt. per acre. The greater part of the crop is grown in the Hunter River Valley and in the valleys of the northern coastal rivers.

HAY.

A very considerable proportion of the areas under wheat, oats, barley, and lucerne are utilised for the production of hay for farm stock, and chaff for the markets. These are increasing, but the extent of the increase depends on the climatic conditions of the season, which determine the future of the crops for grain purposes.

The following statement shows the area under each crop for hay, the total production, and the average return per acre during the last six years:—

Type of Hay.	1907.	1908.	1909.	1910.	1911.	1912.
AREA.						
	acres.	acres.	acres.	acres.	acres.	acres.
Wheat	316,945	363,925	490,828	380,784	422,972	440,243
Oats	94,420	132,325	169,441	178,968	142,805	147,710
Barley	843	937	1,566	1,844	1,014	1,246
Lucerne	45,964	43,574	54,061	68,995	70,559	63,824
Rye ... ..	.....	.....	.....	73	1,227	1,126
Total	458,172	542,761	715,896	630,664	638,577	654,149
PRODUCTION.						
	tons.	tons.	tons.	tons.	tons.	tons.
Wheat	403,109	198,230	426,916	565,549	467,669	423,262
Oats	131,355	99,865	186,243	255,781	193,064	155,653
Barley	1,202	638	1,757	2,451	1,128	1,201
Lucerne	86,180	78,067	115,098	157,331	179,860	147,423
Rye ... ..	.....	.....	.....	89	1,359	935
Total	621,846	376,800	730,014	981,201	843,080	728,474
AVERAGE PRODUCTION PER ACRE.						
	tons.	tons.	tons.	tons.	tons.	tons.
Wheat	1·27	0·54	0·87	1·49	1·11	0·96
Oats	1·39	0·75	1·10	1·43	1·35	1·05
Barley	1·43	0·68	1·12	1·33	1·11	0·96
Lucerne	1·87	1·79	2·13	2·28	2·55	2·31
Rye ... ..	.....	.....	.....	1·22	1·17	0·83
All varieties ...	1·36	0·69	1·02	1·56	1·32	1·11

About 67 per cent. of the total area under cultivation for hay is taken up by the area under wheaten hay. Until 1894 the area for wheaten hay increased at a much greater rate than that for grain, but during subsequent years there has been a greater development in the cultivation for grain.

In general, oats are grown in parts of the State which, on account of the climate, are unsuitable for maturing the grain, and preference is given to cultivation for hay; moreover, the prices obtainable for the hay are usually so profitable as to prevent any material development of the grain harvest.

The area under barley for hay is inconsiderable. Lucerne hay is always in good demand, and consequently realises remunerative prices. It gives the best return of all hay crops, the average yield during the last ten years having been over 2 tons per acre for lucerne, slightly more than one ton each for barley and oaten, and nearly one ton for wheaten hay. In favourable districts, if it has received careful attention, lucerne grows so rapidly that a series of crops may be secured. As many as eight cuttings have been secured, with an average result of one ton per acre for each.

The growing of hay is evidently receiving additional attention every year; but there is still a considerable margin between the amount of hay required in the State and the local production.

GREEN FOOD AND SOWN GRASSES.

The great advance in the dairying industry, the details concerning which are treated elsewhere, has caused a corresponding increase during recent years in the cultivation of cereals, lucerne, and grasses, for green food. The sowing and improvement of artificial grasses have received great attention, particularly in the northern and southern coastal districts, the great centres of the dairy farming of the State. Considerable areas have been sown also in the centre of the tableland, and smaller cultivations have been undertaken in the northern and southern tablelands and in the Murray Valley. The following statement shows the increase in the area cultivated for green food and sown with artificial grasses since the year ended 31st March, 1886:—

Year ended 31st March.	Area cultivated for green food.	Area sown with grasses.	Year ended 31st March.	Area cultivated for green food.	Area sown with grasses.
	acres.	acres.		acres.	acres.
1886	26,318	130,392	1906	95,058	627,530
1891	37,473	388,715	1907	122,914	697,631
1896	66,833	300,862	1908	260,810	736,080
1901	78,144	422,741	1909	235,539	807,924
1902	113,060	467,839	1910	118,960	888,937
1903	109,287	477,629	1911	179,382	1,655,303
1904	77,130	552,501	1912	211,874	1,119,764
1905	87,718	607,997			

The great advance in cultivation indicated by the table shows the appreciation by the farmers of the necessity for enriching the deteriorated pastures, and for replacing the grasses which have disappeared.

Lucerne is grown in considerable quantities on the Hunter River flats, and the cultivation of this fodder is extending throughout the country, principally along the banks of the rivers on the western slope of the Dividing Range. In the far western pastoral districts attempts have been made to cultivate lucerne under irrigation, and have met with marked success. During 1911-12 there were 46,546 acres grown for green

food, and if these be added to the area previously shown as being under hay, viz., 63,824 acres, there were altogether 110,370 acres under this form of cultivation. In the United States and Argentine, where experiments have proved that it will succeed, lucerne is superseding the indigenous grasses.

ENSILAGE.

New South Wales is liable, at intervals, to long periods of dry weather, and in occasional years severe droughts occur; hence the necessity for conserving green foods in the form of ensilage must be readily admitted. Ensilage is also clearly an advantage in the dairying districts of the coast, where the conditions are unfavourable to the growth of winter fodder.

The quantity of ensilage made during the last five years is shown in the following table:—

Divisions.	Ensilage made.				
	1907.	1908.	1909.	1910.	1911.
	tons.	tons.	tons.	tons.	tons.
Coastal	5,621	12,427	11,133	18,125	16,191
Tableland	1,825	3,339	3,414	2,328	1,799
Western Slopes	3,681	6,374	10,632	2,654	4,001
Western Plains and Riverina...	1,529	5,168	9,334	6,409	13,445
Western Division	200	160	334	100	.. ..
Total	12,856	27,468	34,847	29,616	35,436

Comparatively little attention has been devoted to the construction of silos, and the storing of ensilage; but the necessities of the grazier, when the policy of closer settlement shall have reduced the large areas of land hitherto available for feeding stock, will compel him to make provision by preserving and storing the green food when opportunities occur in the growing season of the year.

It will be seen that the ensilage has steadily increased during the last quinquennium, the amount in 1911 being the highest recorded. The whole amount was made on 164 farms, and is valued at £35,436; but it is particularly noticeable in the above table that the quantities of ensilage made are almost negligible in the Western Division, where, it is probable, there is the greatest need of such provision.

In the dairying districts, particularly the South Coast, the making of silage is becoming general, the quantity made in the coastal division being larger than in any other, though there has been a marked increase in the Riverina.

POTATOES.

In the potato is another illustration of the great neglect in the cultivation of a staple article of food, although many parts of the State are eminently suitable for its growth. The bulk of the production is on the tableland, especially in the central portion, where, in 1912, there were 24,668 acres under cultivation. One county, Bathurst, had 18,535 acres, or over two-fifths of the whole area devoted to potatoes in the State. After the tableland, the coastal districts grow the largest crop. The

highest average—2·94 tons per acre—was returned by the North Coast division. The following statement shows the area under cultivation and the production at intervals since 1886:—

Year ended 30th June.	Area under crop	Production.		Year ended 30th June.	Area under crop.	Production.		
		Total.	Average per acre.			Total.	Average per acre.	
1886	acres. 15,166	tons. 38,695	tons. 2·55	1907	acres. 36,815	tons. 114,856	tons. 3·11	
1891	19,406	52,791	2·72	1908	31,917	55,882	1·75	
1896	24,722	56,179	2·27	1909	26,301	71,794	2·73	
1901	29,408	63,253	2·15	1910	35,725	160,143	2·80	
1902	26,158	59,146	1·50	1911	44,432	121,633	2·72	
1903	19,444	30,732	1·58	1912	43,148	75,166	1·74	
1904	20,851	56,743	2·72	Average for 10 years ended 1902...			2·43	
1905	23,855	48,754	2·04	„	10	„	1912...	2·35
1906	26,374	50,386	1·91					

There was a marked increase in cultivation in the year ended June, 1895, when 30,089 acres were planted; but the continuous fluctuation in the area from year to year since that time clearly shows that the possible advantages of this crop have been much neglected.

The average yield during the last ten years has been 2·35 tons per acre, and the highest 3·11 tons per acre, in 1907. At present New South Wales has to meet a considerable deficiency by importation from the other States, chiefly Victoria and Tasmania.

The average wholesale prices per ton of potatoes at Sydney during the year 1911–12 are shown below:—

Month.	Local.	Victorian.	Tasmanian.	Month.	Local.	Victorian.	Tasmanian.
1911.	£ s. d.	£ s. d.	£ s. d.	1912.	£ s. d.	£ s. d.	£ s. d.
July ...	6 12 0	6 8 9	7 19 3	January ...	7 2 6	8 5 0	8 0 6
August ...	7 5 6	6 5 0	7 18 0	February...	4 10 0	6 0 0	7 3 0
September...	5 15 9	5 18 0	7 6 0	March ...	5 3 3	6 12 6	8 3 3
October ...	5 3 0	5 3 9	6 5 0	April ...	4 11 0	8 19 3	9 19 3
November...	4 10 0	.....	.....	May ...	5 12 6	8 11 6	10 6 3
December ...	5 11 0	.....	6 10 0	June ...	7 15 0	8 17 6	10 19 0

The slow progress in the cultivation of potatoes is caused largely by the cost of carriage to market, as compared with the cheap water transport from Victoria and Tasmania. Some years ago the coast districts produced large quantities of potatoes; but the cultivation was abandoned, owing to the prevalence of pests, which continually devastated the crops, and for which, at the time, a remedy was not available.

During 1911 an officer was appointed by the Department of Agriculture to give instructions to potato-growers, and to deal generally with this crop, with the object of selecting and evolving varieties which will be disease-resistant.

MINOR ROOT CROPS.

The cultivation of root crops other than potatoes requires brief notice, as, in addition to those included in market gardens, only 884 acres were planted with onions, turnips, mangold-wurzel, carrots, sweet potatoes, and artichokes. The area under turnips was 263 acres, which yielded 907 tons, or 3·45 tons per acre. The probable reason for the small attention paid to the growth of onions, of which there were 172 acres, yielding 902 tons, is the uncertainty as to the price to be obtained for the produce, as there is no lack of soil suited to cultivation. Large importations are necessary to meet the local demand.

The area under sweet potatoes was 409 acres, and the yield 1,959 tons. Of mangold-wurzel there were only 26 acres under cultivation, which yielded 244 tons. In some of the more elevated dairying districts, mangold-wurzel is now being grown as winter fodder for cattle. Excellent results in the cultivation of arrowroot have been obtained at the Wollongbar experiment farm, near Lismore.

TOBACCO.

The growing of tobacco as an industry has been undertaken for many years, but with considerable fluctuation in the annual production. This may, perhaps, be attributed to the necessity for special knowledge and care in its cultivation and curing, and probably no material advancement will be made until trade pressure in other countries forces attention to new fields of production.

Originally the plant was cultivated chiefly in the agricultural districts of the county of Argyle and the Hunter River Valley, but these districts have now been abandoned, and the little that is grown is found in the northern and southern portions of the western slope and on the central tableland. The following statement shows the cultivation of tobacco during the last ten years:—

Year ended 31st March.	Area.	Production.		Year. ended 31st March.	Area.	Production.	
		Total.	Average per acre.			Total.	Average per acre.
	acres.	cwt.	cwt.		acres.	cwt.	cwt.
1903	251	2,604	10·4	1910	1,096	6,498	6·8
1904	407	5,320	13·1	1911	959	8,513	7·8
1905	752	5,015	6·7	1912	1,501	15,045	10·0
1906	809	7,327	9·1				
1907	601	5,371	8·9				
1908	533	3,438	6·5	Average for 10 years ended 1902			9·9
1909	618	3,838		„ 10 „ „ 1912			8·4

For seven or eight years prior to 1889 the area under cultivation grew steadily, until in that year it reached the highest figure it has ever attained, namely, 4,833 acres. As however, the local product did not compare favourably with the American leaf, it could not be exported profitably, so that a large proportion of the crop remained upon the farmers' hands, and as the quantity sold realised very unsatisfactory prices, due mainly to the failure to produce, by cultivation and curing, a first-grade article, many growers abandoned tobacco in favour of other crops. With the accumulation of stocks of leaf, and the fall in the price of the local product, the area under the plant and the resultant yield declined rapidly, until in 1895 the acreage was only 716. During the next two years there was a little more activity, and the area increased to 2,744 acres in 1897; it, however, fell away again after that year, and in 1902 amounted to only 182 acres. During the next four years the area increased, and in 1906 it was 809 acres; but in 1908 it had declined to 533 acres. Since that year the area has increased to 1,501 acres, owing to the increased attention paid to the curing of the leaf. Tobacco manufacturers have endeavoured to stimulate the industry by offering good prices for suitable leaf, and employing an expert to assist and instruct the growers.

In 1910 the services of an expert were secured to visit the centres of tobacco growing, for the purpose of advising and assisting growers in the operations of sowing, harvesting, and curing, and trial packets of seed were distributed in each district. As a result, the prospects of the tobacco industry have become more favourable.

The Commonwealth Government in 1907 provided for the payment of a bounty of 2d. per lb. up to £4,000 per annum for five years on Australian tobacco leaf, for the manufacture of cigars of a prescribed quality.

Since few countries are better favoured than this State with climate and soil necessary for successful cultivation, it is a matter for regret that the industry has not made more satisfactory progress. This has been due partly to the grower and partly to the market. With an improvement in the quality of the leaf, the local consumption could be rapidly overtaken and an export trade promoted. Tobacco of excellent quality has been produced, but much of it is now grown by Chinese, who consider weight rather than quality, and an inferior leaf is the consequence. There is, therefore, ample scope for improving the quality of the product sufficiently to satisfy the local consumer.

The impression that it is not possible to produce tobacco of high quality in New South Wales probably arose from experience of a product grown in unsuitable soil, and carelessly cultivated. During recent years excellent tobacco has been grown at Ashford, in the Inverell district generally, and near Tumut, under the guidance of a departmental expert, proving that it is possible to grow in the State a tobacco well suited to the most fastidious market, and if a regular supply were available, properly fermented and packed, a large trade might be developed.

SUGAR-CANE.

Sugar-cane was grown as far back as 1824, but it was not until 1865 that anything like systematic attention was given to the matter. In the latter year experiments were carried out on the Clarence, Hastings, Manning, and Macleay Rivers which on the whole proved successful, and were followed by more extensive planting. The Macleay may be regarded as the principal seat of the industry during its earlier stages; but it proved to be unsuitable to the growth of the cane, and the risk of failure from frosts compelled the planters to keep more to the north. In a few years the richest portions of the lower valleys of the Clarence, the Richmond, the Tweed, and the Brunswick, were occupied by planters. Mills were erected in the chief centres of cane-cultivation, and cane-growing and sugar-manufacturing became established industries in the north-eastern portions of the State. Although frosts are sometimes experienced in this region, the soil and climate of the valleys of the northern rivers are in most respects well adapted to successful cultivation, and it is confined principally to the valleys of the Richmond, Tweed, and Clarence Rivers, where, on account of the proximity to Queensland and the similarity to the conditions which rule the sugar production of the northern cane-fields, the producers of the raw material in this State may benefit by any experimental work. Continual efforts are being made to improve the quality of the cane product; varieties and seedlings are carefully tested, soils are closely analysed, the effects of irrigation and fertilising noted, and by due regard to these points the cane-yield has been greatly increased.

As the difference between the results of good cultivation as opposed to growing cane without the application of scientific principles may extend the yield to 34 tons per acre, it is evident careful methods will reap a reward in an enhanced production.

The yield of sugar from the cane crushed varies considerably, the variation approximating, between a maximum and minimum year, to 1 ton of cane in the quantity required to make 1 ton of sugar, according to the saccharine density of the cane. As compared with Queensland, where the average yield of cane per acre was 16.02 tons, the yield for this State may be regarded as satisfactory, but as compared with the

produce which could be gathered by the application of more scientific methods of culture, there is evidence that considerable improvement might easily be made.

The following table shows the progress of this industry since the year ended March, 1864, when only 2 acres were recorded as under cultivation. As sugar-cane is not productive within the season of planting, the area under cultivation has been divided, as far as practicable, into productive and non-productive, the former representing the number of acres upon which cane was cut during the season, and the latter the area over which it was unfit for the mill, or allowed to stand for another year. On the average the area cut for cane represents about one-half of the total area planted.

Year ended 31st March.	Area.			Production of cane.	
	Cut for crushing.	Not cut.	Total.*	Total.	Average per acre.
	acres.	acres.	acres.	tons.	tons.
1864	.....	.....	2	.....	.....
1865	.....	.....	22	.....	.....
1866	.....	.....	141	.....	.....
1871	1,475	2,607	4,082	.....	.....
1876	3,654	2,800	6,454	.....	.....
1881	4,465	6,506	10,971	121,616	27.22
1886	9,583	6,835	16,418	239,347	24.98
1891	8,344	12,102	20,446	277,252	33.23
1896	14,398	18,529	32,927	207,771	14.43
1901	10,472	11,642	22,114	199,118	19.01
1902	8,790	12,019	20,809	187,711	21.35
1903	8,734	11,492	20,226	183,105	20.97
1904	10,368	9,814	20,182	227,511	21.94
1905	9,772	11,753	21,525	199,640	20.43
1906	10,313	11,492	21,805	201,998	19.59
1907	10,378	10,202	20,580	221,560	21.34
1908	9,916	8,037	17,953	277,390	27.97
1909	6,951	10,030	16,981	144,760	20.83
1910	6,480	7,603	14,083	131,081	20.23
1911	5,596	8,167	13,763	160,311	28.65
1912	5,244	8,663	13,907	147,799	28.18

* Exclusive of areas cut for green food or plants since 1910.

From the small beginnings of 1864 there was but one single break (that of 1876) in the yearly increase of land put under cane until 1885. During succeeding years there was, however, a retrograde tendency, and the area cultivated in 1889 was less by 2,236 acres than that cultivated in 1885. The low price of the product and the disturbed state of the markets of the world during these years forced the sugar manufacturers to reduce the price offered for the cane, and so caused, for a time, the abandonment of this cultivation by the small farmers, who found in the growth of maize less variable results for their labour.

In 1890 there was an increase in the area under cane of 1,213 acres, with further increases in successive years until 1896, when the largest area on record, 32,927 acres, was planted. In 1896 alterations were made in the Customs tariff as regards sugar, and also about that time there were great developments in the dairying industry on the northern rivers, both of which diverted attention from sugar-planting. After 1896 the area under cane steadily declined for five years, until in 1901 there were only 22,114 acres under cultivation. From 1901 the area remained practically stationary for five years at a little over 20,000 acres; there has been a further diminution, and in 1912 there were only 13,907 acres under cultivation.

In 1897 the highest production of 320,276 tons of cane was obtained; but the average production per acre was only 17·60 tons—with the exception of that of 1896 and of 1885, the lowest on record. The cane-disease, prevalent principally on the Clarence, caused the low averages during the period 1895-97, and in 1896 the crop was further damaged by frost. The comparatively low yields of 1899-1901 were due to unfavourable seasons. The area of cane cut during 1911-12 was 5,244 acres, with a total yield of 147,799 tons, or an average of 28·18 tons per acre. During the last ten years the average has been 22·63 tons per acre.

The county of Rous is the principal centre of cultivation, containing 5,957 acres devoted to the production of sugar—an area equal to nearly half the total acreage in the State under cane crops. The yield obtained in 1912 from 2,608 acres of productive cane amounted to 72,336 tons, showing an average of 27·74 tons per acre. In the county of Clarence cane is grown on 5,394 acres. In this, as in the other sugar-growing counties, the majority of the farmers cultivate sugar-cane in addition to other crops, or in conjunction with dairying, and only a few estates are devoted entirely to its production. Some planters have areas of 25 to 100 acres in extent under cane; but their number is limited. The yield in the county of Clarence last season was 54,588 tons, or an average of 30·31 tons per acre, cut on an area of 1,801 acres. In the county of Richmond the area under sugar-cane was 2,556 acres, of which 835 acres were cut, giving a total yield of 20,875 tons of cane, or an average of 25 tons to the acre.

Sugar-cane is generally cut in the second year of its growth, the fields being replanted after they have given crops for three or four seasons; and as the cane has been planted at irregular intervals, the seasons of large production have sometimes been followed by small crops in the succeeding year. Sugar manufacturers invariably purchase the year's crop of cane standing, and cut it at their own cost. From plantations in full bearing the average weight of the cane cut varies from 25 to 32 tons, and the value received by the grower, exclusive of bounty on sugar grown by white labour, was, in 1911, about 10s. 4d. per ton of uncut cane. An additional 3s. 5d. per ton was paid for cutting, which, in most cases, was done by the growers. The field work on the sugar plantations of New South Wales has been performed generally by white labour, and even in 1901, when the Federal legislation in connection with the sugar industry was passed, the number of coloured labourers employed was not large.

The duty on imported cane sugar is £6 per ton, while the excise duty is fixed at £4 per ton; but from the beginning of the year 1907 a bounty of 6s. per ton of cane, calculated on cane giving 10 per cent. of sugar, was allowed on Australian sugar grown by white labour, the bounty being paid to the grower. The cost of growing may be assumed at 2s. 11d. to 3s. 5d. per ton of cane for white and black labour, respectively. The proportion of the total area which is cultivated by black labour has decreased from 10 per cent. in 1902-3 to 5 per cent. in 1911-12. The

following statement shows during the last ten years the area cultivated and the sugar produced by white and black labour, also the total amount of bounty paid each year in New South Wales :—

Year ended 31st March.	*Area cultivated by—			Sugar produced by—			Amount of Bounty.
	White labour.	Black labour.	Total.	White labour.	Black labour.	Total.	
	acres.	acres.	acres.	tons.	tons.	tons.	£
1903	21,591	2,466	24,057	19,434	1,526	20,960	36,333
1904	22,076	2,503	24,579	19,236	2,561	21,797	40,154
1905	19,114	2,411	21,525	17,812	1,838	19,650	36,107
1906	19,612	2,193	21,805	18,019	1,964	19,983	36,234
1907	18,645	1,956	20,601	21,805	1,613	23,418	42,790
1908	15,164	1,613	16,777	23,247	934	29,181	78,080
1909	15,545	1,436	16,981	14,351	964	15,315	40,687
1910	13,899	1,038	14,937	13,839	815	14,654	36,834
1911	13,756	654	14,410	17,936	892	18,828	45,730
1912	13,672	703	14,375	16,412	887	17,299	41,911

* Including areas cut for green food.

The figures in the above table are supplied by the Customs Department, and differ in some years as regards the area cultivated from those in the preceding table. The figures agree as to the area cut for cane, but differ as regards the balance. In the last three years the difference is partly accounted for by the exclusion, in the earlier table, of areas cut for green food, and in other years it is due probably to different methods and times of collecting the information.

The subjoined return of the number of sugar-cane farmers in New South Wales will be of interest :—

Year.	Employing White labour.	Employing Black labour.	Total Farmers.	Year.	Employing White labour.	Employing Black labour.	Total Farmers.
1906	1,405	122	1,527	1910	1,206	138	1,344
1907	1,337	192	1,579	1911	882	72	954
1908	1,378	164	1,542	1912	932	79	1,011
1909	1,397	156	1,553				

It will be noticed that farmers employing black labour in 1912 represented only 7·8 per cent. of the total.

In October, 1911, a Commission was appointed by the Commonwealth Government to inquire into and report upon the sugar industry in Australia, and more particularly in relation to (a) growers of sugar-cane and beet; (b) manufacturers of raw and refined sugar; (c) workers employed in the sugar industry; (d) purchasers and consumers of sugar; and (e) costs, profits, wages, and prices. The Report of the conclusions of the Commission is not yet available.

GRAPE VINES.

In almost every part of the State, with the exception of the sub-tropical portion and the higher parts of the mountain ranges, grape-vines thrive well, and bear large crops, equal in size, appearance, and flavour to the

products of France, the Rhinelands of Germany, and Spain. The principal vineyards are situated in the valleys of the Murray and Hunter Rivers, where considerable expense has been incurred to introduce skilled labour, and to provide manufacturing appliances. The vine-growing and wine-manufacturing industries are in their infancy, but with a growing local demand, and with the establishment of a market in England, where the wines of New South Wales have gained appreciation, the future of grape culture appears to be fairly assured. At present the production is comparatively insignificant, as shown in the following table:—

Year ended 30th June.	Total area under vines.	Area under vines for wine-making only.	Production.		Year ended 30th June.	Total area under vines.	Area under vines for wine-making only.	Production.	
			Total.	Average per acre.				Total.	Average per acre.
	acres.	acres.	galls.	galls.		acres.	acres.	galls.	galls.
1861	1,584	622	99,791	160	1905	8,840	5,298	928,160	175
1866	2,126	1,243	168,123	135	1906	8,754	5,279	831,700	157
1871	4,504	2,371	342,674	145	1907	8,521	4,951	1,140,000	230
1876	4,459	3,163	831,749	263	1908	8,483	4,644	778,500	168
1881	4,800	2,907	602,007	207	1909	8,251	4,472	736,262	165
1886	5,247	2,876	555,470	193	1910	8,330	4,561	808,870	177
1891	8,044	3,896	842,181	216	1911	8,321	4,354	805,600	185
1896	7,519	4,390	885,673	202	1912	8,231	4,260	850,210	200
1901	8,441	4,534	891,190	197	Average for 10 years ended 1902 185 " 10 " 1912 183				
1902	8,606	4,889	868,479	178					
1903	8,790	5,041	806,140	160					
1904	8,940	5,101	1,086,820	213					

The production has increased slowly during the period under review, the total area planted being now 8,231 acres, of which 4,260 acres yielded 850,210 gallons of wine. The total number of vineyards in 1912 was 1,541.

The average area of each vineyard was 5 acres, and the area planted with vines still in an unproductive state was 1,004 acres. Vignerons consider 250 gallons per acre a good yield; but the average yield for New South Wales reached this figure only in one year since the establishment of the industry, viz., in 1876, with 263 gallons. The average yield in 1912 was 200 gallons per acre, and during the last ten years 183 gallons. The best yield during the last twenty years was in 1907, when it was 230 gallons per acre. Wine produced in New South Wales during the year 1912 was valued at £63,760, and brandy distilled by vignerons for fortifying purposes at £2,830.

Notwithstanding the acknowledged excellence of the wines the export for the State has not yet reached an important figure. Among the causes which retard the acceptance of Australian wines in English markets may be mentioned the practice of shipping the product at too early an age, and the impossibility of obtaining from the shippers details respecting the vintage of any particular wine. Foreign experts also find fault with the method of casking; and there is no doubt that the success of New South Wales as a wine-exporting country will depend on the adoption of more advanced methods, and on the enterprise of vignerons in properly advertising the merits of their productions.

The desire of the Government to extend the application of the most scientific methods in connection with wine-making and the general cultivation of the vine, and to extirpate the phylloxera disease, has led to the appointment of an expert, under whose direction inspectors have been engaged vigorously dealing with infected vineyards, and Viticultural

Stations have been established at Howlong, near Albury, and at Raymond Terrace, in the Hunter Valley, for the propagation of resistant stocks, and for conducting various experiments in connection with wine-growing.

Phylloxera has not affected the Hunter Valley District, and the station at Raymond Terrace was established to supply the demands of the clean districts. The institution has been started in an extremely sandy soil, in which vines are absolutely immune from this disease.

Arrangements are being made by the Department of Agriculture to conduct a systematic examination of the wines of the State in order to determine the nature of the wines from different varieties of grapes and from different districts, and to compare them with those of other countries.

The culture of grapes is not restricted to the production of fruit for the purposes of wine manufacture only, as a considerable area is devoted to the cultivation of table-grapes, particularly in the neighbourhood of Sydney, and in Ryde, Parramatta, and other districts of Central Cumberland. The extent of country devoted to this branch of the industry in 1912 included 2,623 acres, with a production of 3,223 tons of grapes, with an average of 1.61 tons of fruit per acre.

Although there is a large local demand, and a possibility of an export trade for raisin fruits, no extensive effort has been made in that direction. In 1912 there were 344 acres cultivated for drying purposes, and the yield was 3,839 cwt. At the Wagga and Hawkesbury experiment vineyards, raisins and sultanas are dried every season and placed on the local market, where they are regarded as equal in every respect to the imported article.

The cultivation of vines is also conducted at the Yanco Irrigation Farm, which has been established for the education of settlers to be placed on the land within the operations of the Burrinjuck irrigation scheme.

ORCHARDS.

The cultivation of fruit does not receive the full attention it deserves, although the soil and climate of large areas throughout the State are well adapted to fruit-growing. With these areas and with climatic conditions so varied, ranging from comparative cold on the high lands to semi-tropical heat in the north coast district, a large variety of fruits can be cultivated. In the vicinity of Sydney, oranges, peaches, plums, and passion-fruit are most generally planted. On the tableland, apples, pears, apricots, and all fruits from cool and temperate climates thrive well; in the west and south-west, figs, almonds, and raisin-grapes can be cultivated; and in the north coast, pineapples, bananas, and other tropical fruits grow excellently.

Citrus Orchards.

The cultivation of citrus fruits has been undertaken largely in the districts adjacent to the metropolis. The first orange groves were planted near the town of Parramatta, and afterwards in the neighbouring districts of Ryde, Pennant Hills, Lane Cove, the whole of Central Cumberland, the valleys of the Hawkesbury and Nepean Rivers, and the slopes of the Kurrajong Mountains.

In the collection of statistics of citrus and other fruit orchards during the year 1909-10 a new system was adopted by which the area under each kind of fruit-trees, productive and non-productive, may be ascertained with accuracy. Under the system previously in vogue there is no doubt that, in mixed orchards, some of the area devoted to citrons was included with other fruits, and that a proportion of the unproductive area was returned as productive.

Statistics relating to citrus orchards since the year ended 31st March, 1891, are shown in the subjoined statement:—

Year ended 31st March.	Area under cultivation.			Production.	
	Productive.	Not yet bearing.	Total.	Total.	Average per acre.
	acres.	acres.	acres.	dozen.	dozen.
1891	8,737	2,551	11,288	11,562,000	1,058
1896	8,759	3,197	11,956	5,954,940	680
1901	11,013	3,952	14,965	6,486,276	589
1902	11,670	4,091	15,761	7,254,552	622
1903	12,550	3,657	16,207	5,092,392	406
1904	13,418	3,310	16,728	7,841,544	584
1905	14,486	2,918	17,404	7,918,380	547
1906	15,054	2,795	17,849	8,864,928	589
1907	15,173	2,582	17,755	7,837,488	516
1908	16,430	2,087	18,517	12,957,216	789
1909	16,570	2,040	18,610	7,847,580	474
1910	17,214	2,644	19,858	12,501,072	726
1911	17,465	2,643	20,108	14,783,064	847
1912	17,261	3,152	20,413	16,823,100	975

In 1897 the area under oranges and lemons was 4,287 acres; in 1912 this had increased to 20,413 acres, of which 17,261 were productive. The latest production was equal to 975 dozen per acre—during the last ten years the average yield being 660 dozen. It is estimated that over 3,000 dozen of fruit to the acre can be obtained during an average season from fair-sized trees in full bearing, and it is, therefore, probable that the figures returned by the growers include the production of a considerable number of young trees. The number of orangeries cultivated during the year 1912 was 4,735, and of these the average area was 4·3 acres.

The production of oranges has attained such proportions that the growers are obliged to seek markets abroad for the disposal of their crop, as the supply, both in New South Wales and in the adjacent States, in some seasons, exceeds the demand. The principal market outside Australia is in New Zealand. Efforts are being made to establish a trade with the United Kingdom and America, and in view of the success that has been attained in other countries in carrying these fruits long distances by sea, there is reason to hope that a profitable export trade in Australian fruits may be developed.

Other Orchards.

The following table shows the area under orchards and fruit-gardens, exclusive of orangeries, together with the total value of each year's yield, since 1891:—

Year ended 31st March.	Area of productive fruit-gardens and orchards.	Area of fruit- gardens and orchards not bearing.	Total area culti- vated for fruit- gardens and orchards.	Total value of the production of fruit-gardens and orchards.	Approximate average value per acre.
	acres.	acres.	acres.	£	£ s. d.
1891	16,081	6,274	22,355	213,934	13 6 0
1896	20,635	8,145	28,780	130,735	6 7 0
1901	25,766	5,503	31,269	270,081	10 10 0
1902	27,044	5,302	32,346	155,579	5 15 0
1903	27,161	4,216	31,377	173,535	6 8 0
1904	27,576	4,012	31,588	211,318	7 13 0
1905	26,196	3,740	29,936	162,670	6 4 0
1906	25,189	3,577	28,766	189,195	7 10 0
1907	24,708	3,714	28,422	230,135	9 6 0
1908	23,992	4,205	28,197	153,110	6 8 0
1909	23,170	4,100	27,270	231,370	10 0 0
1910	20,060	5,799	25,859	233,050	11 12 4
1911	20,498	6,748	27,246	272,290	13 5 8
1912	19,602	8,166	27,768	374,140	19 1 9

There has been no increase in the area under orchards and fruit-gardens of recent years. Since 1891 the increase has been 5,413 acres; but since 1897 there has been a decrease, due to the subdivision of orchards for residential and other purposes.

About two-fifths of the area devoted to fruit culture is in the county of Cumberland, the actual acreage in 1912 being citrus, 12,073 acres; other, 8,703 acres. For the ten years ended 1912, production was valued at £19 14s. per acre, having risen steadily from £6 per acre in 1905.

The fruit-production of New South Wales, with the exception of oranges, is far below average demands. The State is, therefore, obliged to import large quantities, the greater portion of which could be successfully grown within its own boundaries. Leaving out of consideration the large importations of tropical fruits from Fiji, the South Sea Islands, and Queensland, the introduction of fruit from abroad is still greatly in excess of the possibilities of local production.

The extent of cultivation of each kind of fruit may be seen in the following table. After citrus fruits, apple and peach trees are the most numerous, peaches being largely used for canning. Efforts have been made to establish an export trade principally in apples, but during the past few seasons the prices in the local markets have been so satisfactory that only small quantities have been exported.

Fruit.	1910-11.			1911-12.		
	Trees not yet Bearing.	Trees of Bearing Age.		Trees not yet Bearing.	Trees of Bearing Age.	
		Number.	Yield.		Number.	Yield.
	No.		bushels.	No.		bushels.
Oranges	179,739	893,448	825,388	192,949	863,466	946,196
Lemons	30,490	248,008	260,515	32,442	242,220	256,433
Mandarins	39,537	405,305	389,114	48,037	415,593	475,121
Other citrus	2,275	3,631	3,289	834	4,490	4,560
Apples	280,074	515,841	596,561	312,053	527,186	582,638
Peaches and Nectarines	128,212	571,695	483,769	161,709	538,609	530,249
Pears	49,753	116,003	135,405	73,426	120,293	136,627
Cherries	35,948	122,395	171,104*	58,106	118,379	210,895*
Apricots	15,286	83,359	76,584	14,679	87,021	98,800
Plums	36,525	125,251	123,411	39,747	122,523	143,540
Quinces	4,782	43,622	56,844	5,134	41,922	62,651
Persimmons	1,708	7,350	8,421	2,721	8,224	9,313
Passion Fruit ... ..	.....	.....	37,180	.....	.....	38,623
All other	7,015	16,848	18,295	6,798	16,482	14,773

* 12lb boxes.

The number of passion vines has not been collected; the vines are frequently planted among the trees of other fruits, especially in young citrus orchards. The passion vine is easily grown and cheaply maintained, and, on account of its early maturity, it forms a valuable means of providing returns until the trees become productive.

The cultivation of the passion fruit could, with advantage, be considerably extended, as the present supply is not sufficient to meet the local demand, and there is little doubt that by systematic advertisement, an enormous demand for the fruit could be created in the United Kingdom and America. A trial shipment sent to London met with only partial success, as buyers, not knowing its qualities, imagined the fruit worthless on account of its shrivelled appearance.

MARKET-GARDENS.

In 1912 there were in the State 3,368 holdings, comprising 9,498 acres, cultivated as market-gardens, the average size of each garden being 2·8 acres. The value of the production for the year was £357,230. More than one-third of the total area laid down for market-gardens is in the county of Cumberland. Until recent years the industry was almost entirely in the hands of the Chinese, but latterly it has received much attention from European farmers in the districts in the vicinity of the metropolis.

The subjoined statement gives the number and area of market-gardens, and the value of the produce since the year 1901 :—

Year ended 31st March.	Market-gardens.	Area.	Value of production.	
			Total.	Average per acre.
	No.	acres.	£	£ s. d.
1901	2,266	7,764	192,450	24 15 9
1902	2,215	7,834	213,462	27 5 0
1903	2,283	8,263	225,061	27 4 9
1904	2,559	8,754	219,040	25 0 5
1905	2,783	8,827	229,530	26 0 1
1906	2,842	9,119	248,678	27 5 5
1907	3,437	9,550	258,000	27 0 4
1908	3,324	10,052	262,786	26 2 10
1909	3,462	10,331	298,740	28 18 4
1910	3,808	10,254	311,580	30 7 9
1911	3,598	9,813	333,690	34 0 1
1912	3,368	9,498	357,230	37 12 3

One branch of gardening—tomato culture—has not received sufficient attention. As this cultivation entails light labour, and is particularly remunerative, the vegetable could be grown by persons unaccustomed to heavier labour on farms, and it is surprising that the industry should have been so long neglected. In 1912 there were 596 acres, outside market gardens, under cultivation for tomatoes, which yielded 140,155 half-cases, or 235 half-cases per acre.

MINOR CROPS.

In addition to the crops already specified, there are small areas under various kinds of products—as, for instance, pulse and gourd crops.

Pulse.—During the year 1912 there were 383 acres under crop for peas and beans, which gave a total yield of 19,383 bushels, being 50·6 bushels per acre.

These peas and beans were grown mainly as hard fodder for horses and pigs, and must not be confounded with the peas and beans cultivated in the kitchen and market gardens for table use as green vegetables.

Gourd Crops.—The area devoted to pumpkins and melons during the year 1912 was 3,681 tons, and the yield 11,229 tons, being 3·9 tons per acre. The principal places of cultivation are the maize districts and the metropolitan county.

Pumpkins are grown for table use as vegetables, but are also used extensively as fodder for cattle and pigs. The number of acres under gourd-vines mentioned above is somewhat below the true figures, as crops of pumpkins and melons are sometimes raised in orchards and vineyards amongst the fruit-trees and vines, and in market gardens, and particulars respecting the production are not returned.

Other branches of agriculture have hardly been considered, although, no doubt, as the rural population increases, their importance will gain recognition. Little has been attempted in the cultivation of any of the following, although experiment has proved that they can all be

raised in the State:—Olives, castor-oil plant, flax, ramie fibre, hops, silk, coffee, and cotton. The varieties of the soil and of climate are so diverse that almost any kind of produce can be raised, and there is every reason for hope for future extension.

The olive has been grown successfully in South Australia, and could be cultivated in districts with suitable temperature in New South Wales. A number of trees have recently been planted at the Yanco Experiment Farm in the Murrumbidgee Irrigation Area.

The castor-oil plant grows luxuriantly in the humid coastal districts.

A most valuable crop is flax, and more persistent efforts should be made to introduce it.

Hops have been cultivated to a slight extent in the neighbourhood of Orange; other suitable districts are Armidale, Goulburn, and Cooma.

MACHINERY AND LABOUR.

For the year 1911 particulars were collected of the various implements and machines used in each of the rural industries. A list is given below, in some detail, of those used in connection with agriculture in each division of the State. In some cases it is not possible to show separately for each industry the implements used on mixed holdings. For instance, the figures for carts and wagons represent those used on all classes of rural holdings.

Farming Machinery and Implements.	Coastal Division.	Table-land.	Western Slopes.	Western Plains and Riverina.	Western Division.	Total, New South Wales.
Tree and stump extractors, forest devils, &c.	No. 231	No. 214	No. 325	No. 147	No. 10	No. 930
Ploughs—						
Mouldboard	27,193	16,542	16,740	9,733	823	71,031
Disc	2,475	1,198	4,996	2,426	67	11,162
Hill-side	643	18	90	18	2	771
Stump-jump	38	158	1,590	1,299	50	3,135
Subsoil	36	45	66	46	2	195
Field rollers, clod crushers, &c. ...	7,858	2,586	1,630	1,152	79	13,305
Subsurface packers	7	14	14	5	...	40
Manure distributors	36	43	69	46	4	198
Seed Drills—						
With fertiliser attachment ...	198	941	3,770	3,656	69	8,634
Without " "	129	178	624	161	11	1,103
Seed sowers (broadcast)	557	556	1,238	839	43	3,233
Potato planters	50	36	18	28	2	134
Corn planters, hillers, &c.	2,874	485	251	11	2	3,623
Cultivators, scarifiers, scufflers, &c.	14,630	4,576	5,502	4,101	161	28,970
Harrows	29,500	10,527	12,280	6,120	354	58,781
Spraying machines, orchard	960	560	179	55	16	1,770
" " potato	47	30	53	1	...	131
Potato diggers	27	100	23	28	6	184
Hay mowers	1,900	212	370	36	46	1,964
Reapers and binders	218	2,896	4,886	3,951	174	12,125
Side-delivery reapers	1,003	1,032	948	341	61	3,385
Horse-power hay-rakes	2,176	1,573	1,562	561	141	6,013
Elevators and stackers	31	21	31	21	3	107
Cutters, cornstalk	253	21	15	3	...	292
" ensilage	313	73	33	27	5	451
" chaff	4,077	4,006	3,810	2,211	257	15,261
Corn—						
Binders	66	42	42	16	5	171
Crackers	4,450	708	528	160	16	5,862
Huskers and shredders	142	62	38	5	1	248
Huskers and shellers	558	219	178	6	...	961
Shellers	6,208	1,767	1,142	63	1	9,181

Farming Machinery and Implements— <i>continued.</i>	Coastal Division.	Table- land.	Western Slopes.	Western Plains and Riverina.	Western Division.	Total, New South Wales.
	No.	No.	No.	No.	No.	No.
Harvesters	38	540	6,022	4,541	18	11,159
Strippers	114	594	2,895	2,085	26	5,714
Threshing machines	135	132	229	101	4	601
Winnowers	159	699	2,765	1,693	29	5,345
Grain graders	7	39	402	358	1	807
Pulpers, graters, &c.	7	6	18	6	...	37
Pulpers and slicers	24	22	7	1	...	54
Mills, bone	127	19	18	13	3	180
„ corn... ..	151	26	22	26	2	227
„ other grain, grit, &c.	1	1	...	3	...	5
Thatch-making machines	10	7	14	19	1	51
Presses—Hay and Straw	554	161	174	33	3	925
Cider	8	2	2	.....	.....	12
Wine	101	14	28	24	.....	167
Wine Vats... ..	386	77	280	119	3	865
Incubators... ..	989	59	54	31	.....	1,133
Bark Cutters	5	2	4	7	.....	18
Bark Grinders	7	5	16	3	2	38
Windmills	1,651	570	2,683	2,703	681	8,288
Pumps	3,069	920	1,548	1,546	528	7,611
Fire-fighters	23	170	726	1,196	123	2,238
Carts and Wagons (all holdings)	48,223	13,019	14,923	11,714	1,759	89,638
Steam Boilers—Number... ..	134	95	78	84	46	437
Horse-power	929	688	876	736	421	3,650
Steam Engines—						
Fixed—Number	125	116	121	129	34	525
Horse-power	1,074	771	865	1,059	323	4,092
Portable—Number	55	228	274	312	52	921
Horse-power	371	1,498	1,937	2,514	406	6,726
Traction—Number	10	31	79	72	2	194
Horse-power	197	267	879	726	16	2,085
Oil Engines—Number	165	174	589	371	24	1,323
Horse-power	915	909	3,268	2,236	152	7,480
Oil Tractors—Number	14	10	34	11	1	70
Horse-power	43	56	377	173	4	653
Horse Gears	1,186	412	796	1,297	142	3,833
Suction Gas and Hot Air Engines	4	3	15	15	3	40

The introduction of improved machinery has materially reduced the cost and labour of producing the various crops. For harvesting grain-crops the reaper and binder, the stripper and the harvester are used, and there is a vast difference of opinion regarding the relative efficiency of the different implements. The reaper and binder is used almost exclusively in moist districts, and over the greatest portion of the wheat areas conditions are favourable for the use of the harvester. A modern type of harvester, particularly adapted for Australian conditions, produced and developed locally, has largely contributed to the expansion of wheat cultivation.

The estimated value of the agricultural machinery in use in 1911 was £4,859,037, or an average of £1 6s. 9d. per acre cultivated.

Division.	Area farmed.	Value of machinery.	Value, per acre.
	acres.	£	£
Coastal	280,788	720,979	2·57
Tableland	396,358	738,912	1·86
Western Slopes	1,662,656	1,880,956	1·13
Western Plains and Riverina	1,275,599	1,407,905	1·10
Western Division	13,769	110,285	8·01
Total	3,629,170	4,859,037	1·34

A comparison of the value of farming implements and machinery in use during each year since 1901 in each of the rural industries is shown in the following table.

Year.	Farming.	Dairying.	Pastoral.*	Total Value.
	£	£	£	£
1901	2,677,902	234,846	446,151	3,358,899
1902	2,236,850	254,678	660,447	3,151,975
1903	2,368,072	300,107	710,885	3,379,064
1904	2,459,346	345,208	779,244	3,583,798
1905	2,557,262	365,436	1,120,991	4,043,689
1906	2,645,980	417,006	1,082,043	4,145,029
1907	2,599,156	443,197	1,110,953	4,153,306
1908	2,551,974	458,720	1,256,857	4,567,551
1909	3,042,364	510,852	1,332,427	4,885,643
1910	3,414,621	534,745	1,483,081	5,432,447
1911	4,859,037	519,467	1,128,666	6,507,170

*The figures for years previous to 1911 include, in many cases, Agricultural Implements used on Pastoral Holdings.

The following statement gives a comparative view of the machinery used and the labour employed in agricultural pursuits during the last eight years. The apparent increase in the value of farming machinery in 1911 is partly due to a stricter classification which has been rendered possible by the collection of fuller particulars regarding the machinery used in each of the rural industries. Previous to 1911 the agricultural machinery used on pastoral holdings was, in many cases, included with the pastoral machinery:—

Year.	Area farmed.	Value of Machinery.	Persons Employed.			Machinery, per acre.	Persons employed per acre.
			Males.	Females.	Total.		
	acres.	£				£	No.
1904	2,672,973	2,459,346	63,111	5,742	68,853	·92	·022
1905	2,838,081	2,557,262	62,419	5,008	67,427	·90	·024
1906	2,824,211	2,645,980	63,448	5,715	69,163	·94	·021
1907	2,570,137	2,599,156	57,327	5,385	62,712	1·01	·024
1908	2,713,971	2,851,974	55,324	5,409	60,733	1·05	·022
1909	3,174,864	3,042,364	59,541	4,770	64,311	·96	·020
1910	3,381,921	3,414,621	59,091	5,228	64,319	1·01	·019
1911	3,629,170	4,859,037	56,476	3,496	59,972	1·34	·017

In stating the number of persons employed in agricultural pursuits it must be remarked that these figures are obtained from returns supplied by the farmers; but in cases where agriculture is carried on conjointly with other rural industries, it is difficult to differentiate, and persons may be returned as engaged in agriculture in one year and in other rural occupations in another year. The decrease shown in agricultural labour is probably explainable in this manner.

Of the females the majority are engaged only partly in agricultural work, portion of their time being spent in the discharge of domestic duties. At the census of 1911, 79,235 persons—77,599 males and 1,636 females—were returned as engaged in agricultural pursuits.

The labour employed in all rural industries is discussed in the chapter "Employment and Arbitration."

FERTILISERS USED ON LAND.

The most important method of maintaining the productive power of the soil—which is a fundamental principle of a permanent system of agriculture—is the application of fertilisers, to supplement the supply of plant food, and to improve the physical and biological condition of the soil.

The essential elements of plant production are ten in number—carbon and oxygen, obtained from the air; hydrogen, obtained from water; and

nitrogen, sulphur, phosphorus, potassium, iron, magnesium, and calcium, obtained from the soil. Of these, nitrogen, phosphorus, and potassium are the most likely to be deficient in normal soils, and must be supplied to enable a full crop to be grown; sometimes it is necessary to augment the supply of calcium and magnesium.

Apart from their value in supplying plant food, fertilisers are also beneficial in promoting fertility by neutralising organic toxic substances, improving the texture, and strengthening the moisture-retaining and capillary power of the soils, and by assisting the development of useful bacteria.

As soils show considerable variations in their composition the most important factor in the use of fertilisers is the determination of the requirements of each soil intended for cultivation. This question may be determined satisfactorily only by systematic local experiment.

In New South Wales superphosphates is the only artificial fertiliser used in any considerable quantity, the soils in the wheat areas being generally deficient in phosphorus. Tests of manure conducted during the last four years on the Farmers' Experiment Plots indicate that, as a general rule, the benefits derived from the application of superphosphates to wheat lands are most marked in the southern portion of the wheat belt, viz., the south-western slopes and Riverina; the beneficial results gradually diminish throughout the western districts which form the central portion of the wheat belt; and in the north-western districts no advantage is gained by the use of this fertiliser. The results may be affected by the fact that fallowing is more common in the south than in the west, and much more than in the north. The proportion of fallowed land in the experiment plots was roughly in accordance with the practice of the district.

The return shows the area of land and the quantity of manures which were used during the year 1911:—

Divisions.	Natural (Stable-yard, &c.).		Artificial (Superphosphates, Bone-dust, &c.).	
	Area.	Quantity used.	Area.	Quantity used.
Coastal—	acres.	loads.	acres.	cwts.
North Coast	20	104	245	696
Hunter and Manning	427	13,864	1,234	7,440
Metropolitan—County of Cumberland	3,893	125,309	14,416	105,823
South Coast	2,276	14,315	3,179	8,201
Total	6,616	153,592	19,074	122,160
Tableland—				
Northern	47	1,522	198	169
Central	610	10,464	20,964	15,466
Southern	175	2,351	5,744	3,395
Total	832	14,337	26,906	19,030
Western Slopes—				
North	28	720	200	85
Central	48	1,905	94,677	31,563
South	227	2,470	491,188	215,382
Total	303	5,095	586,065	247,030
Western Plains and Riverina—				
North	4	60	.....	.....
Central	61	1,682	33,426	11,553
Riverina	116	3,315	734,062	276,389
Total	181	5,057	767,488	287,942
Western—				
East of Darling	23	440	353	247
West of Darling	12	168	.....	.....
Total	35	608	353	247
Total, New South Wales...	7,967	178,689	1,399,886	676,409

The small proportion of manured land in relation to the total cultivation shows that the farming community do not fully appreciate the necessity and practical value of applying fertilisers to enrich poor soils, or to restore fertility depleted by successive croppings. The proportion of manured area in relation to the total cultivated in 1911 was only 38·8 per cent., but, as the following table shows, a steady increase in the use of fertilisers has taken place since 1907, when the proportion was only 16·5 per cent. This increase furnishes a reliable indication of improvement in methods of cultivation :—

Year.	Total Area cultivated.	Manures used—				Area Manured, per cent. of Total cultivated.
		Natural.		Artificial.		
		Area.	Quantity.	Area.	Quantity.	
	Acres.	Acres.	Loads.	Acres.	cwts.	
1907	2,570,137	14,419	144,021	409,259	276,120	16·5
1908	2,713,971	18,046	216,078	491,216	310,899	18·8
1909	3,174,864	13,635	189,008	812,562	433,187	26·0
1910	3,381,921	11,457	186,204	1,019,079	500,342	30·5
1911	3,629,170	7,967	178,689	1,399,886	676,409	38·8

The sale of artificial fertilisers is regulated by the Fertilisers Act of 1904; the vendor is required to furnish to the purchaser a statement as to the nature and chemical composition of such fertilisers.

BEE-KEEPING.

The bee-keeping industry is closely associated with agriculture, but at the present time is of very small importance; but there is ample inducement for further expansion.

The production of honey and of beeswax varies considerably from year to year, as will be apparent from the attached table, relating to the last ten years :—

Year ended 31st March—	Bee Hives.		Honey.	Average Yield of Honey per Hive.	Beeswax.
	Productive.	Un-productive.			
	No.	No.			
1903	37,980	8,263	1,815,480	47·8	37,207
1904	45,094	13,236	2,147,295	47·6	49,589
1905	53,043	11,687	3,023,468	57·0	58,610
1906	36,589	12,043	1,841,236	50·3	39,620
1907	37,306	11,964	1,907,744	51·1	34,690
1908	53,240	15,148	2,660,363	50·0	48,427
1909	53,612	16,347	3,064,526	57·2	58,697
1910	47,807	17,992	2,066,330	43·2	53,006
1911	55,958	14,308	2,765,618	49·4	72,617
1912	62,254	11,801	3,433,253	55·1	67,358

Owing to the unfavourable season, the yield was small during 1909-10, but there has been a decided improvement during the last two years.

The estimated value of the production of honey and beeswax in 1911-12 was £39,000, the production for each division being as follows:—

Division.	Honey.	Beeswax.
	lb.	lb.
Coastal	1,432,306	26,504
Tableland	1,347,964	24,109
Western Slopes	536,500	15,089
Western Plains and Riverina	108,513	1,583
Western	7,970	73
Total	3,433,253	67,358

IRRIGATION.

The provision of an adequate water supply for other than domestic purposes is essential to the well-being of all primary industries, and particularly in a country which is liable to dry seasons which affect extensive areas. Much of the area of the State receives an adequate and regular rainfall, but over a considerable extent of country all the factors exist which are requisite to success in agricultural pursuits, except a constant water supply. The recognition of the fact that the area suitable for cultivation might be largely extended by a comprehensive system of water conservation and irrigation has led the State to undertake various schemes in detached groups, which will constitute portion of the ultimate irrigation system necessary to serve the whole State.

Artesian Supply.

It is estimated that about 83,000 square miles in the North-western portion of New South Wales are within the artesian basin; and a number of bores have been sunk under the provisions of the Water and Drainage and other Acts. The majority of these bores are used for stock watering only, though there is no doubt that the water could be used on pastoral properties to ensure green food for lambs, and moderate the effect of drought; whilst in the country towns in these dry areas fresh supplies of fruit, vegetables, and dairy products could be obtained. The question of the permanency of the artesian supply must be considered before any great quantity of water can be spared for irrigation, as it is estimated that the flow which will provide water for stock over 70,000 acres of country would only irrigate 500 acres of the dry Western plain. Under present conditions, during the winter months there is usually a surplus, which could be used for irrigation; but during a dry summer, when an irrigated area would be most valuable, the supply is barely sufficient for the stock.

Experiments in the use of artesian water for cultivation have been conducted at the State Farms at Moree and Pera Bore, and have proved that the bore water can produce satisfactory crops for a considerable number of years. The alkali in artesian water, which, if applied continuously, has a deleterious effect on the fertility of the soil, can be neutralised, and even made into a valuable fertiliser, by the addition of nitric or sulphuric acid; and the question as to whether it would be profitable to do so will be demonstrated by the operations at Pera Bore. Artesian water will also be used in agricultural experiments at the Demonstration Farm opened in 1911 at Coonamble.

River Schemes.

The exploitation of the artesian supply by no means represents the extent of the efforts at water conservation. New South Wales possesses, outside the boundaries of the artesian supply, river basins eminently adapted for storage purposes. The most important work of this type is the scheme now being carried to completion to conserve and utilise the vast quantities of water which annually flow down the Murrumbidgee River.

Murrumbidgee Irrigation Area.

The main features of the work include a storage dam across the Murrumbidgee to retain the floodwaters, which will be released for use lower down the river during the dry summer months; a movable diversion weir, about 220 miles below the dam, to turn the required amount of water from the river into the main canal; a main canal, leaving the river near the weir; a main branch canal; and a series of subsidiary canals and distributing channels through the area to be irrigated.

The site of the storage dam is at Burrinjuck, 3 miles below the confluence of the Murrumbidgee and Goodradigbee Rivers. The dam-wall is being constructed of cyclopean masonry and concrete, and will be high enough to conserve a depth of 200 feet of water immediately above it. The wall is now nearing completion, in the meantime the riverflow is passed through a tunnel in the wall. The reservoir will have a capacity of 33,381 million cubic feet, the catchment area being about 5,000 square miles, drained by three principal streams—the Murrumbidgee, Goodradigbee, and Yass Rivers—up which the water will be backed, when the dam is full, to distances of 40 miles, 15 miles, and 24 miles respectively. Direct communication between Burrinjuck and the Main Southern railway has been provided by the construction of a 2-foot gauge line from Goondah, a distance of 26 miles.

The diversion weir being designed for irrigation purposes the supply is regulated, in the first place, from Burrinjuck dam, and then at the weir, by means of sluices. The weir is situated at Berembad, about 40 miles by river and 19 miles in a direct line above the town of Narrandera. It is founded on a solid granite bar extending across the river, and has a length over all of 270 feet between abutments, divided into a sluiceway 40 feet wide in the clear; a lock chamber, 40 feet wide, capable of taking barges up to 100 feet in length; and 55 movable wickets, manipulated from a punt moored up-stream. The weir and regulating works have been completed.

The main canal branches from the river just above the weir, and, after passing through Narrandera, will continue in a north-westerly direction, skirting the hills abutting on the plains, to a total length of about 132 miles. The course of the main branch canal runs for a length of 34 miles towards Hay, parallel with the Narrandera-Hay railway.

The scheme as described above, applies only to the land on the northern side of the Murrumbidgee River. It was originally intended to provide a canal to supply the land on the southern side, but subsequently it was decided to apply all the water available from the Burrinjuck dam to the northern areas, these lands being eminently suitable for irrigation. For this reason the main canal is to be enlarged, and when complete will be capable of supplying an area of about 250,000 acres, which, in the

opinion of the experts of the Department of Agriculture, may be profitably worked in small subdivisions devoted to mixed farming, dairying, and stock raising, or fruit-growing and drying.

The Murrumbidgee Irrigation Act, passed in December, 1910, constituted a trust for the administration of the scheme, and provided the necessary authority for the acquisition of land, construction of improvements, levying rates, and generally for administering the irrigation areas and work. This Act was repealed in December, 1912, and the whole scheme has been placed under the control of a Commissioner of Water Conservation and Irrigation.

The lands acquired for irrigation under the provisions of the Act included the North Yanco Estate, the Gogeldrie holding, and various holdings in the Brobenah and Mirrool Creek districts—the total area purchased or resumed to 30th June, 1912, being about 229,659 acres, at an estimated cost of £680,000.

The land for disposal has been subdivided into three classes of holdings—blocks for mixed farming containing 50 acres of irrigable land, to which may be added a portion of adjacent land not suitable for irrigation; horticultural blocks, containing 10 acres of selected irrigable land, in the vicinity of townships; and working men's blocks, containing 2 acres of irrigable land, in the vicinity of townships and villages.

The conditions for the disposal of these blocks are contained in the Crown Lands Amendment Act of 1912. Any person of or over the age of 16 years (other than a married woman not living apart from her husband under decree of judicial separation)—or two or more such persons jointly—may apply for a farm or block. The tenure is perpetual leasehold, rent being charged at the rate of $2\frac{1}{2}$ per cent. of the capital value.

In determining the capital values of the blocks consideration has been given to the following points:—Cost of acquisition and disposal of the land; its agricultural value and position in relation to population centres; expenditure required in the clearing; preparation and grading of the land for irrigation purposes; cost of subdivision surveys; capital cost of construction of minor distributing channels; cost of construction of main metalled avenues and minor roads giving access to each farm, and cost of the contour surveys, which enable each farmer to grade and prepare his farm. The acquisition of the land and the construction of the works mentioned have been carried out with loan money borrowed at $3\frac{3}{4}$ per cent. and 4 per cent. interest.

The interest on the cost of construction and maintenance of the Burrinjuck storage reservoir, the main canal, and the Berembed weir, will be provided by the water rates. The water charges have been fixed at the rate of 5s. per acre foot of water supplied to the farm holder; for the first year half rates only are charged, increasing proportionately each year until the full amount is payable in the fifth year. Rentals and water rates are charged as from the date of the first supply of water.

The improvement conditions attached to the farm holdings include fencing, planting of trees for wind-brakes, construction of dwellings, destruction of noxious plants, and the cultivation of a specified area in each year. Houses will be erected for settlers, and building materials supplied; repayments to extend over 10 years, with interest at the rate of 5 per cent. On similar terms the settlers may obtain a supply of fencing posts or material for a barn, and the ploughing and grading of 10

acres of land. Lucerne seed and horticultural stock may be purchased for cash at cost price, and implements may be hired at reasonable rentals. Each settler is supplied with a contour plan of his farm.

The Yanco lands are intersected with pastoral land unsuitable for irrigated agriculture, and will be used mainly for mixed farming; the lands in the Mirrool district, the whole of which are irrigable, will be devoted to intense cultivation of horticultural and lucerne crops. The first subdivision became available for application at Yanco on 29th May, 1912. Permissive occupancies had been granted earlier in the year to a number of intending settlers, who were thus enabled to prepare their areas for irrigation in anticipation of the water supply.

It was decided to supply water during the summer 1912-13 to an area of about 13,000 acres, one water-right being attached to each acre of irrigable land. This portion of the subdivision contained 225 farms of 50 acres and over, 82 farms of 10 acres, and 77 of 2 acres. Of these 25 farms were reserved for specially selected experienced irrigation settlers from oversea. At 30th June, 1912, 76 farms of 50 acres and over, 43 of the 10-acre farms and 27 of the 2-acre were occupied under permissive occupancies, the remainder being available for application. In addition there were in this subdivision 79 farms of 50 acres and over to which water will not be supplied till July, 1913. During the winter of 1913 water will also be supplied to further subdivisions in the Yanco division, containing 50 farms of 50 acres and over, and 50 of 10 and 20 acres, and to 200 farms of 50 acres and over in the Mirrool area.

Arrangements were made to settle on the reserved farms at Yanco, twenty-five irrigationists from America, including five from the colony of "Little Landers," in southern California, where the farmers carry on the most intense form of agriculture under irrigation. Special concessions were granted to these settlers in the form of contributions towards the cost of transport to Yanco, fencing, and clearing of farms free of cost, and remission of water-rates and rentals for the first twelve months. In return the settlers have agreed to supply to all inquirers full information regarding their methods, &c., and to permit inspections of their farms.

Townships have been established at two centres in the Yanco and Mirrool areas; the Commissioner is empowered to construct streets, and to provide water supply and other services. A butter factory has been erected, and bacon and fruit canning and other factories will be established with the irrigation area. Other establishments in course of erection include a pumping station, a storage reservoir, and an electric-light power station from which it is intended to supply light to the settlers' homes.

In March, 1913, about 25,000 acres had been selected with the irrigation area; crops of wheat, maize, sorghum, pumpkins, melons, and vegetables grown by the early selectors had in most instances yielded very satisfactory results.

A State irrigation farm has been established at Yanco, for experimental work and for the guidance of the settlers; the first irrigation was undertaken in October, 1908. During the year ended 31st March, 1912, there were 126 acres under cultivation, of which 56 acres were planted with cereals and hay, 63 acres were grapes and other fruits, and 7 acres with grasses.

Other River Schemes.

In addition to the Murrumbidgee scheme, preliminary work has been done in the way of surveys, observations, gauging, and exploration to discover the extent to which the waters of other rivers may be utilised, and investigations have been conducted on several storage sites and irrigable areas on the Murray, Lachlan, and Macquarie Rivers.

In regard to the Murray, which forms the boundary between New South Wales and Victoria, and flows through South Australia, no large irrigation schemes can be satisfactorily developed until an agreement is arranged between the States in reference to the division of the waters of this river.

On the Lachlan River an excellent site for a storage basin exists at Wyangala, a short distance below the junction of the Abercrombie River. The catchment area is 3,200 square miles, and a dam 155 feet high would impound 12,000,000,000 cubic feet of water.

Schemes for the utilization of the Macquarie waters include one to irrigate a large tract of land below Narromine, and another to conserve water in the river channel by a series of low weirs for irrigating the Bathurst Plains.

A proposed storage dam on the Warragamba River, to supplement the Sydney water supply, would supply water for irrigating about 40,000 acres in the county of Cumberland. The construction of this work has been recommended by the Parliamentary Works Committee.

Irrigation Settlements.

Other irrigation settlements have been established at Hay and at Wentworth, and were, in 1912, placed under the control of the Commissioner for Water Conservation and Irrigation. In Wentworth Irrigation area, embracing 10,600 acres, 1,377 acres have been subdivided into 111 blocks; 1,152 acres are held under lease; the balance is still available for lease. During 1911-12, 900 acres were under cultivation, the greater part being devoted to fruit trees, oranges, grapes, sultanas, and currants. In this area is instituted a dual scheme of irrigation and intense cultivation of small areas, and the results of the experiment will be regarded with interest, and of exceptional value from the educational standpoint. The pumping machinery consists of two suction-gas plants of 121 brake horsepower working two centrifugal pumps, with an average capacity of 5,000 gallons per minute. The length of the main channels is about $5\frac{3}{4}$ miles, and of subsidiary channels $3\frac{1}{4}$ miles; total length, 9 miles. The land is leased for thirty years, the rent varying from 1s. to 5s. per acre; the rate for water is 20s. per acre. This area was formerly controlled by the Minister for Agriculture.

The Hay irrigation area consists of about 4,000 acres, and previous to 1912 was controlled by a Trust, appointed in 1897. The area held and used for irrigation purposes is 935 acres by eighty holders, who lease the land for ninety-nine years at rentals varying from 6s. to 10s. per acre; the water rate is 20s. per acre. The pumping is by steam, and the total length of channels is about $11\frac{1}{2}$ miles.

Preliminary investigations have been completed in connection with the establishment of an irrigation settlement on the Murray River at Gol Gol, opposite Mildura, the Victorian settlement. By this scheme it is proposed to distribute water from Lake Benanee over an area of about 250,000 acres in the Balranald and Euston districts.

BOUNTIES ON AGRICULTURAL PRODUCTS.

In order to encourage the production in Australia of certain goods the Federal Government has provided for the payment of bounties to producers. The agricultural products included in the schedule of bounties payable under the Bounties Acts, 1907-1912, are shown hereunder. The bounty paid on sugar-cane has been dealt with on a previous page:—

Products.	Period from 1 Jul., 1907, during which bounty may be paid.	Rates of Bounty.	Maximum amounts payable in any one year.
	Years.		£
Cotton, Ginned	8	10% on market value...	6,000
Fibres—			
New Zealand Flax	10	" " " " "	3,000
Flax and Hemp	10	" " " " "	8,000
Jute	10	20% " " " " "	9,000
Sisal Hemp	10	10% " " " " "	3,000
Oil materials supplied to an oil factory for the manufacture of oil—			
Cotton Seed	8	" " " " "	1,000
Linseed (flax seed)	10	" " " " "	5,000
Rice, uncleaned	10	20s. per ton	1,000
Rubber	15	10% on market value...	2,000
Coffee, raw, as prescribed	8	1d. per lb.	1,500
Tobacco Leaf for manufacture of cigars, high grade	10	2d. per lb.	4,000
Fruits—			
Dates (dried)	15	1d. per lb.	1,000
Dried (except currants and raisins) or Candied, and exported	10	10% on market value...	6,000

DEPARTMENT OF AGRICULTURE.

The Department of Agriculture was created in 1890 to advance the interests of the farmers and fruit-growers of New South Wales. The Department deals with all matters essential to agriculture, and one of its chief aims is to collect information by scientific investigation and practical experiments, to be placed at the disposal of the farming community, regarding the causes of failure, improved methods of cultivation, means of combating pests, effects of fertilisers, drainage and irrigation, the introduction of new plants, uses of new implements, utilising surplus products, and facilitating the transport of produce to the best markets.

The Department of Agriculture, with Stock branch, and the Forestry Department, is administered by a Minister of the Crown. In 1908 it was separated from the Department of Mines, with which it had previously been united. The scientific staff has been thoroughly organised, and experts have been appointed to direct operations in the different branches, such as agricultural chemistry, viticulture, entomology, botany, irrigation, fruit-growing, veterinary science, dairying, sheep and wool, cold storage and export, and forestry; also there are a number of experimentalists, inspectors, and instructors. The Agricultural College and experiment farms are controlled by the Minister for Agriculture.

The officers of the Bureau of Microbiology co-operate with the agricultural experts in all investigations relating to animal pathology, plant pathology, and bacteriology of soils, milk, cheese, wines, and other products. A large number of bulletins for the guidance of various classes of rural workers are issued, and all publications of the Department are supplied free to persons engaged in rural industry in this State. In

addition to answering all inquiries for advice or assistance sent to the Department, the officers visit various parts of the country throughout the year to give demonstrations for the farmers, conduct experiments, and advise them regarding agricultural methods generally.

The *Agricultural Gazette* of New South Wales is the official organ of the Department. The primary aim of this publication, which is issued monthly, is to present to the farmers of the State the results of scientific researches and investigations of the official experts, to give practical advice on the economic results dictated by these investigations, and to supply seasonable notes on matters of scientific, practical, and industrial interest.

Arrangements were made in 1910 to supply for publication in the country newspapers weekly notes of the investigations and educational operations of the Department regarding the improved methods of agriculture, dairying, stock-raising, &c. During 1911-12 efforts were made by means of these notes to encourage fallowing in connection with wheat cultivation; rotation in cropping and the cultivation of maize were also specially treated.

The revenue and expenditure of the Department of Agriculture for the year ended 30th June, 1912, were as follows:—

<i>Revenue.</i>		£	<i>Expenditure.</i>		£
Agricultural College, Experiment Farms, &c.	22,511		Departmental	37,334	
Repayments for Seed-wheat	2,241		Subsidies and Grants	23,638	
Fees for fumigation, &c.	6,252		Miscellaneous	316	
Botanic Gardens, &c.	306		Agricultural College, Experiment Farms, &c.	88,958	
Irrigation Areas	1,227			150,246	
Miscellaneous	63		Less Refunds	4,942	
Stock Branch	4,950			145,304	
Forestry	95,231		Forestry	32,862	
			Stock and Brands, Pastures Protection	32,713	
	132,781		Botanic Gardens, &c.	22,314	
Less Refunds	118		Export and Cold Storage	729	
			Commercial Agents	2,922	
Total	£132,663		Total	£236,844	

EXPERIMENT FARMS.

In order to obtain a thorough knowledge of local conditions and to afford an education in agriculture on scientific bases, the Government has established agricultural colleges, experiment farms, and farmers' experiment plots; and has engaged agricultural lecturers and experts to guide and assist the farmers.

The Government agricultural and experiment farms consist of the Hawkesbury Agricultural College, nine experiment farms, three demonstration farms, two demonstration orchards, and two viticultural stations. Excluding the demonstration farms at Temora, 1,600 acres, and Con-dobolin, 1,350 acres, which were established during 1912, the total area of experiment farms was 20,781 acres, of which 4,061 acres were under cultivation, the areas for various crops being as follows:—

	acres.
Cereals and hay	2,116
Fruit-trees and vines	379
Green fodder	678
Sown grasses and forage plants	793
Root and other crops	95

Much of the remaining area allocated to these farms is cleared partially; portion of it is under fallow, and portion ready for ploughing.

The Hawkesbury Agricultural College provides accommodation for resident students, and gives theoretical and practical instruction in a three-years' course, which embraces every department of agriculture. Instruction is given also in dairying, pig-raising, and poultry-breeding. Experimental research work is conducted in connection with cereal and other crops, and with fertilisers, and soil culture, &c. All subsidiary branches of farm labour are taught, including blacksmithing, carpentering, sheep-killing, bee-keeping, and other farm occupations. An area of 116 acres has been leased on the banks of the Hawkesbury River, on which a complete system of irrigation is being instituted. The fees payable are £30 for the first year, £20 for the second, and £10 for the third. Special courses of instruction are also provided, notably at the Farmers' Winter School and Public School Teachers' Summer School. In July, 1912, there were 173 regular students in attendance, and 969 acres out of the total of 3,551 acres attached to the College were under cultivation.

The experiment farms have been established in various districts of the State, and the experiments and education vary with the particular climatic conditions. At Wagga farm the specialties are the growing of seed wheats, and fruits for drying, and the breeding of dairy cattle (notably Jerseys) and swine. The area under cultivation is 882 acres out of 3,228 acres. The course is for two years; a fee of £15 is charged for the first year, the second being free to students who make satisfactory progress. In July, 1912, there were fifty-eight students in attendance.

At Bathurst, particular attention has been devoted to the orchard, and to mixed farming and irrigation. A demonstration area of 180 acres has been selected, the object of which is to show the profit, on commercial lines, accruing from the results of past experiments. There were thirty-five students in July, 1912, the fees charged being similar to those at Wagga.

Practical dairy instruction is provided at two farms in the coastal division. Wollongbar Farm is utilised in dairy-farming suitable for the North Coast district; grasses and fodder plants are grown, the breeding of dairy cattle and pigs is conducted, and at the Duck Creek Farm sugar-cane is cultivated. High-class stock is bred at the Berry Experiment Farm, situated in the centre of the South Coast dairying district. This farm was previously conducted on a leasehold area, but in May, 1911, portion of the old farm and an additional adjoining area were acquired by the Government, and the farm is being remodelled.

At the Grafton Experiment Farm maize and potatoes are grown, and pigs are bred in conjunction with a dairy. Accommodation has been provided with the view of training students in mixed farming suitable for sub-tropical districts. Special attention is given to maize in establishing new varieties, and to experiments regarding methods of cultivation and fertilisation.

The Glen Innes Farm is utilised for mixed farming suitable for the Northern tablelands. Cowra is used as a wheat-breeding and experiment station; special courses of training are arranged for the scientific cadets and junior experimentalists of the Department of Agriculture. Apprentice Farm Schools have been opened at Glen Innes and Cowra.

At Pera Bore Irrigation Orchard, experiments have been made with bore water in agriculture, and with methods of neutralising the chemical constituents in artesian water.

At Howlong and at Raymond Terrace, viticultural stations are affording instruction and advice in regard to vine-growing. Phylloxera-resistant rootlings and cuttings are grown and supplied to vine-growers to replant vineyards destroyed on account of disease.

At Yanco experimental irrigation work is conducted for the benefit of settlers on the Murrumbidgee Irrigation Area, and a farm school for apprentices has been provided.

The Department of Agriculture has arranged for an officer to visit and inspect land, and to give advice as to its suitability for irrigation purposes, also in regard to the application of water.

At the Nyngan Demonstration Farm, established in 1909, are continued investigations into problems of dry-farming which had been conducted previously at Coolabah. The educational work will be directed towards combining wheat-farming in a rotation with sheep. The operations at Coolabah were abandoned on account of its distance from any railway.

The Dural Demonstration Orchard is used for conducting experiments in fruit-growing and in combating diseases, and for the education of fruit-growers in the county of Cumberland. Short courses of orchard and garden work are provided.

In March, 1911, an Experiment Farm was opened at Coonamble in connection with modern dry-farming methods, so that the wheat belt may be extended. Wheat and sheep will be combined on this Farm in conjunction with a proper system of rotation.

In July, 1912, the number of apprentices at the Apprentice Schools was 34, viz., Cowra, 12; Yanco, 9; Dural, 2; Glen Innes, 6; and Grafton, 5. The instruction at these schools is entirely practical; the fee is £5 for six months, and a second half-year's maintenance and training may be given in return for apprentices' labour.

The value of plant and machinery on all these farms during 1911-12 was estimated at £11,969, being £2 18s. 11d. per acre under crop; exclusive of instructors, 163 persons were employed in addition to the students in attendance. The value of the produce was assessed at £23,234, but as these farms are mainly for experimental and educational purposes, the estimated monetary value of the products does not by any means represent its whole value.

In order to secure the maximum advantage of experimental work and to co-ordinate the methods employed, a committee of experts supervise all scientific farming investigations.

Dairy Science Schools for the instruction of factory managers and assistants were held at Port Macquarie in July, 1911, and at Grafton in June, 1912. These schools are held periodically in dairying centres.

In a previous chapter, "Education," information relating to agricultural training in schools and University is given.

FARMERS' EXPERIMENT PLOTS.

A number of experimental plots, ranging from 1 to 20 acres, have been established throughout the State for the purpose of giving practical demonstrations to farmers regarding advanced methods of agriculture, improved varieties of seed, comparative values of manure, and new crops for the respective districts. The State has been divided into five divisions, and in each an inspector supervises the plots, gives lectures and demonstrations, and advises the farmers generally on agricultural matters.

At the establishment of the plots in 1908, they were conducted on the following terms:—The land was provided by the farmer, the seed and manure by the Department of Agriculture; the Department paid the farmer for the work of preparing the land, and sowing, cultivating, and harvesting the crops, the farmer taking two-thirds and the Department one-third of the resulting produce. More recently it has become a general rule that the farmers carry out the work without cost to the Department other than for seed, manure, and supervision.

These plots have proved valuable media of practical education for the farming community, special attention being directed towards the improvement of cultural methods for wheat and other cereals, potatoes, and grasses; and to the extension of the cultivation of leguminous plants, either in combination with cereals or alone, with the object of improving the feeding value of the green fodder, ensilage, and hay fed to the farmers' stock, and of increasing the fertility of their soils.

In 1911-12 plots were cultivated in eighty-three districts, a number of trials were made on a small scale, and parcels of seed were distributed amongst farmers for private trial.

FARRER SCHOLARSHIPS.

The Farrer Memorial Fund has been established by public subscription in honour of the late William J. Farrer, whose work in the production of new wheats has afforded great benefit to the industry. The money has been vested in Trustees, and the interest is to be used for the Farrer Research Scholarship, the specific object of which is the improvement of wheat cultivation. The scholarship, valued at £90 per annum, will be granted to a candidate selected by the Trustees from applicants possessing one of the following qualifications:—

- (a) A graduate in Science, to pursue studies with original research in Cambridge University Laboratory, or elsewhere outside the Statè. In such a case, the revenue for two years may be given for one year's research.
- (b) Graduate or undergraduate, to pursue study of plant-breeding in University laboratories under supervision of Science Faculty.
- (c) Student who has taken diploma from Hawkesbury Agricultural College, or similar institution, to pursue study of plant-breeding in field or in other approved way.
- (d) A young farmer, or other person, possessing necessary qualifications and aptitude for investigating this subject in the field under supervision of the Trustees.

The selected scholar will present his results at the close of the year in the form of a paper to be published by the Trustees. At the end of the year the holder of the Scholarship may be re-appointed or a new selection made.

The Government Farrer Scholarship is offered for competition amongst students wishing to enter the Hawkesbury Agricultural College with a special view to study wheat cultivation. The value of the Scholarship is £91; it will be awarded after competitive examination, and will provide for the full education of the recipient during the three years' course, for the purchase of books and apparatus, and the payment of sport, medical, and other fees. The Trustees of the Farrer Memorial Fund are specially authorised to give priority in the matter of the Farrer Research Scholarship to a Government Farrer scholar at the close of his College course, if he shows special aptitude for research work in connection with wheat cultivation.

The *Daily Telegraph* Farrer Scholarship consists of a grant of books, apparatus, &c., to the value of £10, given each year by the *Daily Telegraph* Newspaper Co., Ltd., to the best wheat student at the Bathurst or Wagga Experiment Farm.

AGRICULTURAL BUREAU.

An Agricultural Bureau has been established under the direction of the Department of Agriculture. Its objects are to collect and disseminate information respecting plants, animals, or products likely to prove of value to cultivators; to discover the best methods of cultivating suitable economic crops, breeding and feeding domestic animals, and preparing products for market; to settle for each district the best times for fallowing, sowing, and harvesting; to prevent the introduction and spread of insect and fungus pests; to encourage social intercourse; and generally to advance the interests of persons engaged in rural industries. Government assistance is granted in the form of subsidies payable to each branch at the rate of 10s. for every £ of membership fees; by lectures and demonstrations by the Departmental experts; and by the supply free of charge of the publications of the Department, including the *Agricultural Gazette* and *Farmers' Bulletins*.

The Bureau was established in 1911, and there were thirty-nine branches with 1,172 members at the end of June, 1912.

AGRICULTURAL SOCIETIES.

A number of Agricultural Societies have been formed throughout the State mainly for the purpose of holding shows and exhibitions of agricultural, horticultural, and pastoral products, of live-stock, machinery and implements, arts and manufactures, and for other purposes relating to rural industries. The exhibitions assist rural development by maintaining a high standard of products and other exhibits for successful competition for prizes, and by familiarising the people with modern methods and appliances. The subscriptions of members are augmented by Government subsidies, paid at the rate not exceeding 10s. in the £ on prizes awarded for *bonâ fide* agricultural and other approved exhibits and competitions. At 30th June, 1912, there were 156 Agricultural Societies registered for subsidy.

During the year ended 30th June, 1912, 140 societies received subsidies amounting to £17,475, and special grants, valued at £6,650, were paid to 86 societies; so that the total amount of financial assistance paid by the Government was £23,638. The membership of the subsidised societies was 31,529; the members' subscriptions amounted to £26,190; the total value of prize money was £52,467, of which £39,117 was subsidisable.

The Agricultural Societies have received statutory power to raise money for the improvement of their grounds upon the security of the show grounds.

A system of National Shows was initiated by which a special grant of £500 was payable to a show in each year to be held, as decided by the societies, in one of the eight districts into which the State was divided. The first National Show was held at Berry, in the South Coast district in 1908, the second at Glen Innes, in the Northern Tableland, and third at Lismore, in the North Coast in 1910. The system has since been abolished.

CO-OPERATION OF AGRICULTURISTS.

Endeavours are being made, through the agency of the Agricultural Bureau to encourage co-operative efforts amongst agriculturists. Notable examples of its success are found in this State in the dairy factories, and in South Australia, where a large proportion of the exportable wheat is handled by a co-operative union. In addition to the advantages of co-operation as a means of successful marketing of produce, the principle can be extended to the purchase of materials, manures, machinery, and seed. The farmers could combine for the joint-ownership of labour-saving machinery and stud-stock, for herd-testing, and for insurance, and, as a body, would be able to obtain concessions from manufacturers, agents, &c., and as regards freight which, as individuals, they could not procure.

The matter has been brought under the notice of the various branches of the Agricultural Bureau for general discussion, and in order that the most suitable method of applying it to local requirements may be decided.

STATE ADVANCES TO SETTLERS.

To meet the demand for capital, and impelled by the necessity for affording assistance to settlers whose prospects had been affected by the prevalent drought conditions, the Government inaugurated a system in 1899, by which advances are made to settlers on the basis of the French *Crédit Foncier*, at rates of interest and of repayment which are intended to be available for the benefit of every settler offering adequate security. The original Act of 1899 received several amendments, till finally, in 1906, the powers of the Advances to Settlers Board were transferred to the Commissioners of the Government Savings Bank of New South Wales, and the maximum and minimum advances fixed at £2,000 and £50 respectively.

On 31st December, 1911, 9,952 advances (total value, £1,948,886) had been made to settlers, equivalent to £196 per loan, of which 6,198, representing £874,527, were repaid, leaving 3,754 advances current at that date, the average balance of principal being £286 per loan.

The operations of the bank, relating to advances to settlers, for the last five years, have been as follows:—

Year.	No.	Total Amount.	Average.
<i>Advances made.</i>			
		£	£
1907	424	106,025	250
1908	822	273,292	332
1909	778	300,228	386
1910	658	254,339	387
1911	838	331,693	395
<i>Repayments.</i>			
1907	777	84,255	.....
1908	963	164,725	.....
1909	666	95,554	.....
1910	622	123,005	.....
1911	743	185,420	.....
<i>Balances Repayable.</i>			
1907	3,652	423,511	116
1908	3,511	592,078	169
1909	3,623	796,752	220
1910	3,659	928,086	254
1911	3,754	1,074,359	286

The Commissioners are empowered to make advances upon mortgages of land in fee-simple and of land held under conditional purchase or lease, settlement purchase or lease, homestead grant or selection. The advances are made for the purposes of repaying existing encumbrances, of purchasing land, or to effect improvements, utilise resources, or build homes.

The conditions under which loans are repayable vary according to the circumstances of the individual case; the maximum loan to any one person is £2,000; the rate of interest ranges between $4\frac{1}{2}$ and 5 per cent.; and the maximum period for repayment is thirty-one years.

It is clear that the system is intended to confer, and does afford, material assistance to men who contemplate settling on the land, as well as to those already engaged in agriculture; but necessarily this system was not initiated to meet every instance in which farmers might require credit in small amounts, and for a comparatively short period.

To effect this object it seems necessary that a comprehensive system should be established in New South Wales, on the lines of a co-operative bank, or borrowers' association, with the sole object of obtaining cheap credit for its members, with adequate protection of their security, on the plan of the co-operative loan organisations which have been introduced satisfactorily in Europe.

CO-OPERATIVE CREDIT SOCIETIES IN EUROPE.

The best example of co-operative loan organisations exists in the Raiffeisen Banks of Germany, which represent the latest stage in the evolution from the early *Crédit Foncier* system.

The history of this evolution ranges through Germany, France, Italy, Switzerland, and Austria-Hungary; the first stage is found in the German *Landschaften*, established in the middle eighteenth century, when, in 1769, Frederick the Great obliged all noblemen holding land in Silesia to unite to form a loan society, to cope with an enormous withdrawal of capital from agriculture. The whole property of the members was collectively liable for each loan made; and, passing the first stage, when the association merely brought intending borrowers in touch with possible lenders, later associations became true land banks, borrowing money by the issue of debentures secured by mortgages and by the joint liability of members, and issuing loans on mortgage to the landed proprietors composing the membership.

In the middle nineteenth century, after inquiry into the German institutions then existing, a law was passed in France, in 1852, by which the *Crédit Foncier de France* was established. This is on the principle of a joint-stock company, the funds being constituted partly from share capital, partly by the proceeds of debentures, and partly from moneys received on deposit. The money thus obtained is used for loans on real property, for the reduction of existing encumbrances, and for the general development of agriculture; but advances are also made to public bodies and departments. The loans are usually for long terms, with easy repayments and low interest rates, and shareholders benefit by any profits.

This system did not, however, fulfil all the needs of the community, and in 1861, *La Société du Crédit Agricole* was formed also on the lines of a joint-stock company, to provide cheap loans for the smaller class of agriculturists; the Government guaranteed a minimum interest of 4 per cent. for five years to shareholders. Debentures were issued, deposits received, and current accounts opened; but the society's business was mainly discounting, and partly lending. The endorsement of an agent of the

society or of a joint-stock company or local association working under its auspices was required on all negotiable instruments drawn by agriculturists; and, by the addition of the society's signature, the borrower could deal with the Bank of France. As a loan institution the society made advances on single signatures of the borrower, secured by material pledges. In 1876 it ceased operations, having failed to confine its business to agricultural requirements.

In 1884, Belgium established *Comptoirs Agricoles* for the purpose of dealing with loan proposals as agencies of the general savings banks, the deposits in which are used by the National Bank for the development of commerce. This system also has failed to obtain a full measure of success, because it could not reach easily its intended clients, nor could it secure satisfactory agents.

Following these attempts on joint stock lines came institutions established on a co-operative basis, classed after their founders, as *Schulze-Delitzsch* societies and *Raiffeisen* societies. The former societies were established with the primary objects of relieving borrowers from usurious interest rates, and of mitigating the tendency to ask for State aid. The first society was established in 1850, and within forty years the aggregate loans of existing *Schulze-Delitzsch* societies reached £100,000,000.

The first beneficiaries under this system were urban artisans, but its assistance was soon extended to agriculturists, who now form the bulk of its membership. Originally, the bases of the system were unlimited liability and a substantial share capital; but the condition of unlimited liability has now ceased to be essential. Seven members, male or female, with one share each, may form a society, of which the operations are, in practice, usually confined to a definite area. The articles of association are in accordance with law, and the society is controlled by an elected administrative directorate. The law requires a periodic audit. The funds are constituted partly by shares and partly by capital obtained from ordinary banks by discount or deposit; debentures are not issued. Advances are now made to members only, credit is personal, based on surety, and no control is exercised in regard to the uses to which loans are put. The advances are of three types, being (a) advances on bills drawn by members and guaranteed by other members; (b) cash credits or overdrafts on the borrower's bond, with collateral security; and (c) ordinary bills of exchange. The period of loan does not usually exceed the period for which deposits are made, but loans are renewable; repayment by instalments is not acceptable; interest rates are about 7 per cent.; dividends are allowed to members, assisting to encourage deposits. The system has achieved considerable success and an extensive influence, but as its business is not exclusively agricultural development, it does not represent a perfect rural bank.

In 1864 the first Credit Union was established by *Raiffeisen*. The basis was unlimited liability of members; the share principle was rejected as uselessly hampering rural development; but being made compulsory by law, the share values were made as low as possible, and only one share was allowed to each member. Operations are confined to a limited area, thus ensuring intimacy amongst the members. The specific objects include the supply of raw materials, the sale of products, purchase of commodities, implements, and machinery for members, and assistance towards land purchase. All adults may become members, all administrative services of the elected directorate are gratuitous. Funds are supplied by borrowed capital, the share capital being insignificant; interest is paid to lenders or depositors, ranging about $4\frac{1}{2}$ per cent.; loans are made to members, usually on personal security for any term, and sureties are required; mortgage and cash credits are granted, but in every case

the solvency of the borrower must be assured, and the loans are granted for useful and productive purposes. The loans are usually small; interest is generally 5 per cent., and a commission is charged which, in the aggregate, covers cost of administration. Financially, societies of this type have achieved marked success. Unlike the Schulze-Delitzsch societies, no dividends are paid, except trifling rates on shares. Net profits form a reserve fund, which, when large, may be drawn upon for some object of general utility.

The societies are grouped in unions under a central union for all Germany, which also promotes life assurance and insurance against loss; central banks have been established to regulate the finances of the unions, and in recent years the State has made advances of Government money available to the central banks of both the Schulze-Delitzsch and the Raiffeisen systems.

Other banks have been established which unite the characteristics of both these systems, of which an example is found in the Austrian Raiffeisen Union, and in the Luzzatti Popular Banks, and Wollemborg Agricultural Banks in Italy; thence the principles of co-operative agriculture have spread to other quarters of the world.

In Germany, reports received in 1909 from 12,614 credit societies belonging to unions affiliated to the Imperial Unions showed a membership of 1,163,186, the assets amounted to £97,127,000, and the liabilities to £96,776,000, and the reserve funds to £2,549,000. The total loans to members in 1909 were—for periods fixed, £14,739,000, and on current account, £30,682,000. The cost of administration was £387,884, *i.e.*, at the rate of £31 per annum per society. Some idea of the development of the system in Germany may be gathered from the fact that the total transactions—receipts and expenditure—in 1909 amounted to nearly £223,000,000. The number of credit societies at 30th June, 1910, was 15,517.

In Finland co-operative credit societies are conducted on general lines, in accordance with the principles of the Raiffeisen Banks, and their business is almost exclusively the supply of small sums to small farmers. In 1909 there were 384 of these funds, with 15,000 members, to whom loans were granted, amounting to £161,000, or about £10 15s. per member.

The local credit societies are affiliated to a central bank, which controls them and supplies them with capital. This central institute was formed in 1902, and carries on its operations by means of a loan of £160,000, and an annual subsidy of £800 granted by the State. In 1909, 340 co-operative societies joined the central institute, receiving £160,000 in loans.

In the United Kingdom agricultural co-operation has not yet been established to any large extent. A considerable proportion of the landholders are assisted by joint-stock and private banks, which afford great facilities to the farmers as regards credit operations. An endeavour has been made to establish co-operative credit societies on the Raiffeisen model to meet the needs of small farmers, but the effort has not yet been attended with great success. The Government is now, however, taking active steps to encourage the extension of the co-operative credit system, and the movement shows signs of more rapid development. In the United Kingdom, at the end of 1910, there were 222 such societies with an aggregate membership of 18,750, and a total capital of £65,393. Loans advanced during the year amounted to £60,345. A central bank has been formed in England for the purpose of financing village societies and of assisting their extension.

LAND LEGISLATION AND SETTLEMENT

AREA OF NEW SOUTH WALES.

The area of New South Wales, as stated in Part I of this Year Book, is estimated at 310,367 square miles, or 198,634,880 acres, being a little over two and a half times that of Great Britain and Ireland. Excluding the surface covered by rivers and lakes, the area within the boundaries of the State is 195,669,000 acres, or about 305,733 square miles, of which the greater portion has been alienated under various forms of tenure, classified as freehold or leasehold. The formal transference on 1st January, 1911, of 576,000 acres at Yass-Canberra to the Commonwealth Government as Federal Capital territory, reduced the land surface of the State to 195,093,000 acres.

RECENT LEGISLATION.

The following is a list of the various important enactments passed since the consolidation of the Statutes in 1896, relating to land settlement:—

Advances to Settlers	...	...	...	...	1899, 1902 (2)
Balranald Irrigation	...	...	...	...	1902
Barren Jack Dam and Murrumbidgee Canals Construction	...	...	...	...	1906
Blockholders	...	...	...	...	1901
Church and School Lands	...	...	...	...	1897, 1900
Closer Settlement	...	...	1902, 1904, 1906, 1907, 1909, 1912	...	
Closer Settlement Promotion	...	...	...	...	1910
Crown Lands	...	...	1898, 1899, 1903, 1905, 1908, 1910, 1912	...	
Crown Lands Improvement Purchase	...	...	...	...	1909
Department of Agriculture	...	...	...	...	1907
Dividing Fences...	...	...	...	...	1902
Drainage Promotion	...	...	...	...	1901, 1902
Hay Irrigation	...	...	...	...	1902
Improvement Leases Cancellation	...	...	...	1906, 1908 (2), 1909	
Inclosed Lands Protection	...	...	...	...	1901
Irrigation	...	...	...	...	1912
Labour Settlements	...	...	...	...	1902
Murrumbidgee Irrigation	...	...	...	...	1902 (2)
Prickly-pear Destruction	...	...	...	...	1901
Western Lands	...	...	...	...	1901, 1905, 1908, 1909

EARLY ALIENATION.

From the early days of settlement until the year 1861 the Crown disposed of land, under prescribed conditions, by grants and by sales, so alienating, by the end of 1861, an aggregate area of 7,146,579 acres, viz. :—

	acres.
1. By grants, and sales by private tender to close of 1831	3,906,327
2. " " in virtue of promises of early Governors made prior to 1831, from 1832-40 inclusive	171,071
3. " sales at auction, at 5s., 7s. 6d., and 10s. per acre, from 1832-38 inclusive	1,450,508
4. " " " " 12s. and upwards per acre, at Governor's discretion, from 1839-41 inclusive	371,447
5. " " " " 20s. per acre, from 1842-46 inclusive	20,250
6. " " " and in respect of pre-emptive rights, from 1847-61 inclusive	1,219,375
7. " grants for public purposes, grants in virtue of promise of Governor made prior to the year 1831, and grants in exchange for lands resumed from 1841-61 inclusive	7,601

Total alienated on 31st December, 1861 7,146,579

Certain grants were made under special enactments, and instructions from the Imperial authorities to Sir Thomas Brisbane, then Governor, directed him to reserve one-seventh of the Crown lands in each county for Church and School purposes.

The aggregate area of such reserves up to the year 1832, stated at 443,486 acres, was, by subsequent surveys, shown to be actually 454,050 acres, and did not aggregate the proportional area specified in the instructions. These lands were administered by the Clergy and School Land Corporation until its abolition by Order of Council on the 4th February, 1833, when the lands reverted to the Crown, and an agent was appointed to determine the claims of purchasers, to whom deeds of grant were made, and confirmed by a subsequent Act of Council, dated the 5th August, 1834.

Of the reserves mentioned above, 171,746 acres were alienated up to the year 1880, when, by the Church and School Lands Dedication Act of that year, the balance of 282,304 acres came under the control of the State Legislature to be administered for the purpose of Public Instruction. Subsequently the Church and School Lands Act, 1897, re-vested all these lands in the Crown, free from any trust or condition, but subject to the provisions of the Crown Lands Act of 1884 and its subsequent amending Acts, thus determining the land as Crown land. Until a notification classifying any area of Church and School Lands has been published in accordance with the Crown Lands Act, 1895, such area may be dealt with only by reservation, dedication, license, or held under special or annual lease.

The aggregate area of Church and School Lands held under lease at 30th June, 1912, in the Eastern Division was 9,720 acres, at a rental of £501 per annum, the subdivisions being as follows:—

	No.	Area. acres.	Rent. £
Pastoral	12	9,575	128
Agricultural	23	123	33
Ninety-nine Year	38	10	329
Miscellaneous Mining	4	12	11
Total	77	9,720	501

In addition to the above, there were 18 miles of water races.

The Australian Agricultural Company, incorporated by Act of the Imperial Parliament, dated 21st June, 1824, was, in 1825, granted an area of 1,000,000 acres. An area containing 1,048,960 acres was selected in the country surrounding Port Stephens, but in 1832 the Company was authorised to exchange a portion of this grant, containing 600,000 acres, for two areas situated on the Peel River and on the Liverpool Plains, respectively, the three grants aggregating as follows:—

	acres.
Port Stephens Estate, County of Gloucester	464,640
Peel River Estate, County of Parry	249,600
Warrah Estate, Liverpool Plains, County of Buckland... ..	313,298
Total	1,027,538

In addition to this land, the Company obtained from the Crown the promise of a lease of the coal-fields at Port Hunter (Newcastle) for thirty-one years, which lease, however, was exchanged for a grant of 500 acres, increased in 1828 to 2,000 acres of coal land, upon which the Company's collieries are now situated.

RESERVES.

The total area of reserved lands in the State as at 30th June, 1912, was 26,340,466 acres. A classification of reserves according to the purpose for which used is shown below:—

Class of Reserves.	Area. acres.
Travelling Stock	6,261,127
Water	2,940,278
Mining	1,227,384
Forest	6,488,520
Temporary Commons	561,082
Railway	351,833
Recreation and Parks	218,716
Pending Classification and Survey	3,636,835
From Conditional Purchase, within Gold-fields	600,978
Miscellaneous	4,053,713
Total	26,340,466

The extent of land set apart for timber conservation amounts to 6,488,520 acres; for routes and camping-places for travelling stock 6,261,127 acres have been reserved, 3,714,789 acres being in the Western Division; water reserves totalled 2,940,278 acres.

A revision of the reserved lands is being made in each Land District with the object of withdrawing from reserves any area the continued reservation of which is not required in the public interest.

OCCUPATION OF PASTORAL LANDS—LIMITED TENURE.

The pastoral lands of New South Wales have been occupied under various systems of tenure. In the early days land was held for grazing by virtue of tickets of occupation, the issue of which was stopped in 1827, when holders of such lands were required to pay a quit-rent of 20s. per 100 acres per annum, and to vacate the land at six months' notice. The necessity for depasturing increasing stocks induced settlers to extend their occupation to Crown lands without any right except that of first discovery, until the Legislature, in 1833, passed an Act protecting Crown lands from intrusion and trespass, Commissioners being appointed to safeguard the interests of the State.

The discovery of new country soon attracted pioneer squatters beyond the limits of settlement as proclaimed on 14th October, 1829; and regulations, involving liability to severe penalties, were issued on 29th July, 1836, with the view of restraining unauthorised occupation. In 1839 the regulations were reinforced by the passing of an Act levying upon stock a yearly assessment at the following rates:— $\frac{1}{2}$ d. for every sheep; $1\frac{1}{2}$ d. per head of cattle; and 3d. for every horse.

Under an Act passed in 1847 a new system was introduced relating to pastoral lands of which previously the tenure had been annual, the fee being based on the area of land occupied by the squatter. Under the new plan, fixity of tenure of lease was substituted, the license fee being calculated upon the stock-carrying capacity of the run; but the term of the pastoral leases varied, being fixed, in the unsettled districts, at fourteen years; in the intermediate division, at eight years; while in the settled districts the yearly tenure was retained. The licensing fee under the altered conditions was charged at the rate of £10 for 4,000 sheep, or a proportional number of cattle—which was the minimum at which the stock-carrying capacity of a run could be assessed—and £2 10s. for every additional 1,000 sheep, or proportionate number of cattle. In settled districts lands were let for pastoral purposes only, in sections of not less than

1 square mile in area, the annual rental for each section being fixed at 10s. The holders of alienated lands were permitted to depasture their stock upon Crown lands adjoining their holdings, free of charge; this permission, however, constituted only a commonage right.

The Occupation Act of 1861 created a new system, limiting the tenure of pastoral leases to five years in unsettled, and intermediate or second-class settled districts, and leaving the whole of the pastoral leases open to the operations of the free selectors. The evils resulting from this system led Parliament to adopt, in 1884, 1889, 1895, and at intervals since 1903, the measures at present in force, the provisions of which are described below.

CROWN LANDS ACT OF 1861.

The conditions of colonisation altered greatly under the powerful attraction of the gold-fields; and, to meet the wants of a class of immigrants of a different type from those contemplated by former enactments, the question of land settlement had to be discussed in an entirely new spirit, the result being the passing of the Crown Lands Act of 1861, introduced by Sir John Robertson. The conditions of settlement had rendered it difficult previously for men of small means to establish themselves with a fair chance of success, and the new measure aimed at facilitating the settlement of an industrial agricultural population side by side with the pastoral tenants, by introducing a principle entirely new to the land legislation of the State, namely, that of free selection, in limited areas, *before survey*. The Act provided for the conditional purchase of areas from 40 to 320 acres in extent at £1 per acre—25 per cent. of the purchase money to be deposited with the application. At the expiration of three years the purchaser was required to pay the balance, and to furnish a certificate showing that he had resided on the land, and made the necessary improvements. Provision was made to defer payment of the balance of the purchase money on receipt of 5 per cent. interest.

The Amending Act of 1875, under which annual instalments were payable, gave to any conditional purchaser of land the option of availing himself of the change in the method of payment. The system of unconditional sales was, however, continued under the Act of 1861; and during the twenty-three years the Act was in operation 23,470,140 acres were sold conditionally, and 15,572,001 acres by auction, by improvement purchase, by virtue of pre-emptive right, or otherwise without conditions, the total area alienated being 39,042,141 acres. In many cases the land selected, or purchased, reverted to the State; so that the absolute area alienated or in process of sale when the Act of 1884 came into force amounted to only 32,819,023 acres, besides 7,146,579 acres alienated prior to 1861.

THE CROWN LANDS ACTS OF 1884 AND 1889.

After many amendments the Act of 1861 was superseded by that of 1884, with the supplementary enactment of 1889, which measures maintained the principle of free selection before survey, but with one essential difference. Under the original Act the whole area of the Crown lands was thrown open to free selection, including the lands held under pastoral lease. The Acts of 1884 and 1889 were devised to give fixity of tenure to the pastoral lessee and to obtain a larger rental from the public lands, at the same time restricting the area sold unconditionally.

Existing holders of pastoral leases under the earlier Act were required to surrender one-half of their leases, which were resumed by the Crown for subsequent alienation, leasehold, or reserve; the other half in each case was leased to the pastoralist under fixity of tenure for a term of years. On 31st December, 1884, when this division was made, there

were 4,313 leased runs, yielding an annual rental of £268,500, and forming about 1,600 "stations," estimated to contain the bulk of the unalienated public estate, after allowing for reserves, &c. An increase in the revenue from pastoral occupation, one of the principal objects of the Act of 1884, has been realised, as evidenced by the total revenue received from the pastoral occupation of Crown lands, which increased from £329,356 in the year 1884 to £526,725 in the financial year 1911-12.

THE CROWN LANDS ACTS OF 1895 AND 1903 TO 1912.

The Act of 1861 failed conspicuously in encouraging *bonâ-fide* settlement; and the legislation of 1884 and 1889 also was ineffective, since the accumulation of land in large estates continued, while settlement proceeded very slowly. Expert opinion pointed strongly to the necessity of introducing entirely new principles, and this was done in the Crown Lands Acts of 1895 and 1903, which, while placing land within easy reach of all, supply the means of securing permanent settlers through the new system of tenure—homestead selections and settlement leases.

The State is divided into three territorial divisions, Eastern, Central, and Western, the boundary lines running approximately north and south. Control of the lands within the Western Division is vested in the Western Land Board, consisting of three Commissioners. The Eastern and Central divisions are subdivided into Land Districts, in each of which is stationed a Crown Land Agent, whose duty is to receive applications and furnish information regarding land. Groups of these districts are arranged in larger areas, under the control of Land Boards, whose decisions are subject to review by the Land Appeal Court, which is composed of a President and two Commissioners, whose awards in matters of administration have the force of judgments of the Supreme Court. Whenever questions of law arise, a case may be submitted to the Supreme Court, either on the written request of the parties interested, or by the Land Appeal Court. The conditions of alienation and pastoral occupation of Crown lands differ in each of the three divisions of the State.

The Eastern Division has an area of 61,260,326 acres, and includes a broad belt of land between the sea-coast and a line nearly parallel to it, starting from a point midway between the small settlements at Bonshaw and Bengalla on the Dumaresq River, and terminating at Howlong, on the River Murray, thus embracing the coastal districts of the State, as well as the northern and southern tablelands. In this division is excellent agricultural land, and all the original centres of settlement, which are readily accessible to the markets of the State. For these reasons, the conditions governing the purchase and occupation of the Crown lands in the Eastern Division are more stringent than is the case in the Central and Western Divisions.

The Central Division embraces an area of 57,055,846 acres, extending from north to south between the western limit of the Eastern Division and a line starting from a point on the Macintyre River, where it is crossed by the 149th meridian of east longitude, and following this river and the Darling to the junction of Marra Creek; thence along that creek to the Bogan River, and across to the River Lachlan, between the townships of Euabalong and Condobolin, along the Lachlan to Balranald, and thence to the junction of the Edward River with the Murray. The area thus defined contains the upper basin of the Darling River in the northern part of the State, and in the south portions of the basins of the Lachlan, the Murrumbidgee, and other affluents of the Murray. The land in this division has been devoted mainly to pastoral pursuits; but experience having proved that it is suitable for agriculture, the cultivated area is increasing steadily.

The Western Division is situated between the western limit of the Central Division and the South Australian border. It contains an area of 80,318,708 acres, watered by the Darling River and its tributaries, and is devoted to pastoral pursuits. Water conservation and irrigation are the factors which ultimately will counteract climatic conditions and irregular rainfall, and make agriculture possible over this large area, of which the soil is adapted to the growth of most crops; but legislation in regard to the occupation of the lands of the district is based upon the assumption that for many years to come there will be little inducement for agricultural settlement.

METHODS OF ACQUISITION AND OCCUPATION.

Under the Acts at present in force, land in the different divisions of the State may be acquired by the following methods:—

- (1) Conditional and additional conditional purchase with residence;
- (2) Conditional purchase without residence;
- (3) Classified conditional purchase;
- (4) Preferent right of purchase attached to conditional leases;
- (5) Improvement purchases on gold-fields;
- (6) Auction sales;
- (7) After-auction sales;
- (8) Special sales without competition;
- (9) Exchange;
- (10) Volunteer land orders;
- (11) Homestead selection;
- (12) Settlement purchase, under Closer Settlement Acts;
- (13) Homestead farms;
- (14) Suburban holdings;
- (15) Irrigation farms.

Crown lands may be occupied under the following systems of lease, viz.:—

- (1) Annual;
- (2) Conditional purchase;
- (3) Conditional;
- (4) Inferior lands;
- (5) Occupation license;
- (6) Pastoral;
- (7) Scrub;
- (8) Special;
- (9) Residential on gold and mineral fields;
- (10) Improvement;
- (11) Settlement;
- (12) Snow-lands;
- (13) Working men's blocks;
- (14) Crown.

The maximum area which may be purchased conditionally differs in the Eastern and Central Divisions according to the method of acquisition shown in the statement above. In the Western Division land may be alienated by auction or occupied under lease.

ACQUISITION.

Conditional Purchase.

Unreserved Crown lands in the Eastern and Central Divisions not held under pastoral or other lease are available for conditional purchase, and lands held under annual lease or occupation license may also be acquired in this way. Land under conditional lease in any division may be purchased conditionally by the leaseholder only. Lands within suburban boundaries

or within population areas may be proclaimed as special areas, and are open to conditional purchase under the special conditions prescribed. The value of any improvements on a conditional purchase must be paid by the applicant.

Residential conditional purchase may be taken up by persons over age 16, except married women who are living apart from their husbands and have not obtained orders of judicial separation; for a non-residential conditional purchase the minimum age limit is 21 years. Every conditional purchase must be made solely in the interest of the applicant. Minors who become conditional purchasers have the rights and liberties of persons of full age in connection with their land.

The minimum and maximum areas allowed for each class of conditional purchase are as follow :—

Class.			Division.			Minimum Area.	Maximum Area.
						acres.	acres.
Residential	...	...	Eastern	...	...	40	640
"	...	...	Central	...	...	40	2,560
Non-residential	...	...	Eastern	...	...	40	320
"	...	...	Central	...	...	40	320
Special area	...	...	Eastern	...	...	.....	320
"	...	...	Central	...	...	.....	640

In the Eastern Division a maximum area of 1,280 acres may be obtained by converting a conditional lease into an additional conditional purchase.

With regard to special areas, both the minimum and maximum areas are subject to proclamation in the *Government Gazette*, and, are, therefore, liable to limitation. Any conditional purchaser may take up the maximum area at once, or by a series of purchases at convenient intervals. With the exception of non-residential purchases, provision is made in the Crown Lands Amendment Act, 1908, that the specified maximum areas may be exceeded by means of additional holdings, the area of which, together with all other lands held, other than on annual tenure, must not exceed a home maintenance area, meaning thereby an area which, used for the purpose for which it is reasonably fitted, would be sufficient for the maintenance in average seasons and circumstances of an average family. Additional holdings need not necessarily adjoin the original holdings, but must be situated within a reasonable working distance.

Under the Crown Lands Amendment Act of 1905 areas may be set apart for original holdings, or for additional holdings; but no area may be selected under both classes of holdings. Original holdings include (a) original conditional purchases and (b) original conditional purchases and conditional leases taken up in respect of, and at the same time as, the original conditional purchase within the area. Additional holdings include (a) additional conditional purchases and (b) conditional leases other than those previously mentioned. Values and rentals are specified in the official notices under the Act. Lands may be classified and set apart, by notification, at specified prices.

Applications for conditional purchase, or for additional conditional purchase, must be lodged with the Crown Lands Agent of the district in which the land is situated, and a deposit and survey fee paid at the same time. The deposit on residential purchases is at the rate of 5 per cent. of the price of the land, and 4s. per acre on non-residential purchases of ordinary land; but on special areas, and on lands within classified areas, it varies

according to the prices fixed for the land. Under ordinary conditions the balance of purchase money, with interest at 4 per cent. per annum, is cleared off by thirty annual payments of 1s. per acre. The first instalment is due on the expiration of three years from the date of the contract.

In the case of holdings brought under the Conditional Purchasers' Relief Act of 1896, the instalments may be reduced to 9d. per acre, and in some instances to 6d. per acre, thereby extending the total period of repayment to sixty-six years, provided the holders of the conditional purchases remain in residence. By the Crown Lands Act Amendment Act of 1903, the rate of interest on the balance of purchase money was reduced to $2\frac{1}{2}$ per cent. per annum, being retrospective only in special circumstances.

Upon receipt of an application for a conditional purchase the Land Board may cause the land to be surveyed and a report to be supplied by the surveyor; and may either confirm or disallow the application. In case of confirmation a certificate is issued to the applicant.

The original conditional purchase must be occupied continuously by the selector for a period of ten years, and residence must be commenced within three months after the application has been confirmed by the Land Board, who may grant leave of absence under special circumstances. Each additional conditional purchase or conditional lease is subject to the condition of residence indicated, but the place of residence may be on any block of the series, and the term may be reduced by the applicant's previous residence on the series, up to, but not exceeding, five years.

The selector must enclose his land, within three years after confirmation, with such a fence as the Land Board may prescribe; but he may substitute improvements in lieu of fencing. In such a case, permanent improvements, of the value of 6s. per acre, but not exceeding £384, are required within three years, and these improvements must be brought up to the value of 10s. per acre, but not exceeding an aggregate value of £640, within five years from the date of confirmation. In the case of non-residential purchases, the land must be fenced within one year after date of confirmation, and within five years other improvements to the value of £1 per acre must be effected.

Under the Crown Lands Amendment Act, 1908, an original non-residential conditional purchase, with any non-residential conditional purchase made in virtue of it, may be converted into an original conditional purchase, provided that the ten years residence commences from the date of application for such conversion. This term of residence is subject to reduction, and all moneys previously paid are credited towards payment of the converted conditional purchase.

A proviso of the Crown Lands Amendment Act, 1910, permits of limitation of value of improvements to be effected, *i.e.*, 30 per cent. of price of the subject land within 3 years, or 50 per cent. within 15 years—this limitation applying to conditional purchases or leases, except purchases under section 47 of the Act of 1884.

Preferential Rights of Conversion.

Conditional purchases, or conditional leases of the same series, may be converted into a homestead selection, if the holder has been in *bona fide* residence for at least six months, in which case all moneys paid as interest or rent are deemed to have been paid for the use of the land, and all moneys paid off the purchase money are credited towards future rent of the selection. Under similar conditions, these tenures may also be converted into homestead farms.

Improvement Purchases.

Holders of miners' rights or of business licenses on a gold-field, being in authorised occupation of land containing improvements, may purchase such land without competition. Improvements must include a residence or place of business, and be of the value of £8 per acre on town land, and £2 10s. on any other land.

Auction Sales and After-auction Purchases.

Crown lands are submitted to auction sale under two systems. Under the ordinary system the balance of purchase money is payable, without interest, within three months of the day of sale, while, under the deferred payment system, the balance is payable by instalments, with 5 per cent. interest, distributed over a period not exceeding five years; in either case, 25 per cent. of the purchase money must be deposited at the time of sale.

Auction sales are permitted to the extent of 200,000 acres in any one year. Town lands may not be sold in blocks exceeding half an acre, nor at a lower upset price than £8 per acre; and suburban lands must not exceed 20 acres in one block, the minimum upset price being £2 10s. per acre. Country lands may be submitted in areas not exceeding 640 acres, the upset price being not less than 15s. per acre. The value of improvements on the land may be added to the upset price.

Special Non-competitive Sales.

Any unnecessary road which bounds or intersects freehold land, may be closed and sold to the freeholder at a price determined by the Land Board, and any unnecessary road which passes through land held under conditional purchase may be closed and added to the area.

In many Crown grants of land having water frontage, reservations are maintained, being usually 100 feet from high-water mark, but the Crown may rescind the reservation, and convey the land to the holder of the adjoining land, at a price to be determined by the Land Board.

The owner in fee-simple of land having frontage to the sea, or to any tidal water or lake, who desires to reclaim and purchase any adjoining land lying below high-water mark, may apply to the Minister for Lands to do so, except in the case of Port Jackson, the control of which is vested in the Sydney Harbour Trust. Reclamations are not authorised which might interrupt or interfere with navigation.

Land encroached upon by buildings erected on granted land, or land situated between granted land and a street or road, which forms, or should form, the way of approach to the granted land, or land to which no way of access is attainable, or land which is insufficient in area for conditional purchase, may be purchased by the owner in fee-simple of the adjoining land, at a price determined by the Board.

Exchange.

Before the granting of fixity of tenure in connection with pastoral leases, the lessees had made it a practice to secure portions of their runs by conditional purchases and purchases in fee-simple. The practice was disadvantageous to the public estate, since Crown lands were left in detached blocks severed by lessees' freehold properties, and the lessees realised that it would be convenient to them to gather their freeholds together in one or more consolidated blocks by surrender of the private lands in exchange for Crown lands elsewhere.

Volunteer Land Orders.

Holders of certificates issued to volunteers who have served under the provisions of the Volunteer Force Regulation Act of 1867, are entitled to a free grant of 50 acres of land. These certificates entitle the holder to 50 acres of such land as may be open to conditional purchase, other than lands within a proclaimed special area. Claims to these grants lapsed unless lodged within three years after the commencement of the Crown Lands (Amendment) Act, 1908; which period terminated on 31st January, 1912.

Homestead Selection and Homestead Grant.

The appropriation of areas for homestead selection is a prominent feature of the Act of 1895, the land chosen for subdivision being good agricultural land. Where suitable lands are situated within easy access of towns, small blocks are set apart, the lands being available after particulars relating to area, capital value, &c., have been published in the *Gazette*. The maximum area that may be selected is 1,280 acres, but the selector is limited to a block as granted.

Any person eligible to take up a conditional purchase may apply for a homestead selection; the selector is required to deposit one-half year's rent and one-tenth of the survey fee with his application, and to pay for any improvements already on the land. The applicant must commence to reside on the selection within three months, and to erect a dwelling of a minimum value of £20 within eighteen months, after the confirmation of his application. The rent, until the issue of a grant, is $1\frac{1}{4}$ per cent. of the capital value of the block. The condition of residence may be fulfilled by deputy prior to the issue of the grant, but the applicant is required, during this period, to pay rent at the rate of $3\frac{1}{2}$ per cent. of the capital value, and to effect greater improvements. An appraisalment of the capital value of the land may be obtained under certain conditions.

Additional land may be acquired to make up an area which, with all other lands held by the applicant other than under annual tenure, would not be more than sufficient for the maintenance of the applicant's home in average seasons and circumstances. The additional holding need not adjoin the original holding, but must be situated within a reasonable working distance.

At the expiration of five years after the confirmation of the application a grant of the holding, called a homestead grant, is issued, the tenure being subject to perpetual residence and perpetual rent. After issue of the grant the rent is $2\frac{1}{2}$ per cent. on the improved capital value of the land, which is appraised every fifteen years, and residence may be restricted to seven months in each year. The land may not be transferred during the first five years, and each successive transferee is required to live on the land while he holds it. Tenant-right in improvements is allowed, and the holding is so protected that it cannot, by any legal procedure, except by levy or sale for taxes, be taken from the owner while he resides on it.

Under the Crown Lands (Amendment) Acts, 1908 and 1912, a homestead selection or grant may be converted into a homestead farm, or a conditional purchase lease, a conditional purchase, or a conditional purchase and conditional lease, provided the area contained in such lease does not exceed three times the area in the conditional purchase. Holders of conditional purchases may convert their holdings into homestead selections.

Homestead Farms.

The new tenures created by the Crown Lands Amendment Act of 1912 were homestead farms, suburban holdings, Crown leases, and irrigation farms. Crown lands set apart for disposal as homestead farms are subdivided into home maintenance areas, but the land may be made available before survey. Any person—including an alien—of a minimum age of 16 years, if a male, or 21 years, if a female, may apply for a homestead farm, provided that the applicant does not hold under any tenure—except lease which has less than five years to run, and does not confer right to purchase the freehold—an area of land which added to the area of the homestead farm would substantially exceed a home maintenance area. An alien becoming the holder of an homestead farm, suburban holding, Crown lease, or irrigation farm, is required to become naturalised within three years.

The title of a homestead farm is a lease in perpetuity, the annual rent is charged at the rate of $2\frac{1}{2}$ per cent. of the capital, but for the first five years the holder, in lieu of payment of rent, may expend an equal amount on improvement of a permanent character. The capital value is subject to re-appraisal after the first twenty-five years and for each subsequent period of twenty years.

A condition of perpetual residence is attached to every homestead farm, but in special cases residence in the nearest town or village, or anywhere within reasonable working distance, may be allowed.

The perpetual lease grant shall be issued after the expiration of five years from confirmation of the application if the holder has complied with all required conditions. The holder of a conditional purchase, or conditional purchase and conditional lease, or homestead selection, or homestead grant, or conditional purchase lease, or settlement purchase under the Closer Settlement Acts, other than a settlement purchase acquired under the Closer Settlement Promotion Act, 1910, may under certain conditions convert such holding into a homestead farm.

Suburban Holdings.

The conditions of perpetual rent and perpetual residence are attached to suburban holdings. The area of a suburban holding is determined by the Minister for Lands; the rent—minimum £1 per annum—is calculated at the rate of $2\frac{1}{2}$ per cent. of the capital value, to be appraised for each period of twenty years; males under 16 years, females under 21 years, and married women not living apart from husbands under judicial decree, are disqualified from applying.

Any suburban Crown lands, or Crown land within population boundaries, or within the Newcastle pasturage reserve, or any other Crown land, may be set apart for disposal by way of suburban holding.

Irrigation Farms.

The disposal of lands within duly constituted irrigation areas is regulated by the Crown Lands Amendment Act, 1912, and the Irrigation Act, 1912. A special land board, with the powers and duties of a local land board, may be appointed to administer the Crown Land Acts within an irrigation area; the lands are classified as town, irrigable, and dry or non-irrigable lands. Any person (except a married woman not separated from her husband by judicial decree) aged 16 years or over, or two or more such persons, may apply for an irrigation farm or block. The title is perpetual lease, subject to perpetual payment of rent and performance of residence. The rent is at

the rate of $2\frac{1}{2}$ per cent. of the capital value—minimum for town land blocks £1 per annum. At the expiration of five years after confirmation of the application a grant of the farm or block shall be issued to the holder provided that the required conditions have been complied with.

In respect of town land blocks, the conditions of residence may be waived or suspended by the Commissioner for Water Conservation and Irrigation; no person may hold more than three adjoining blocks for residence, or four adjoining blocks for business purposes.

OCCUPATION.

Annual Leases.

Unoccupied lands not reserved from lease may be obtained for pastoral purposes as annual leases, on application, or they may be offered by auction or tender. No conditions of residence or improvement are attached to annual leases, which convey no security of tenure, the land being alienable by conditional purchase, auction sale, &c. The area in any one lease is restricted to 1,920 acres.

Conditional Purchase Leases.

Areas set apart for disposal by way of conditional purchase lease are subdivided as the Minister for Lands may determine. The lease is for forty years, at a rental of $2\frac{1}{2}$ per cent. per annum on the capital value. The value of existing improvements is appraised by the Land Board, and special conditions may be imposed regarding improvements, cultivation, preservation, or planting of timber, &c.

Any male above the age of 18 years, and any female above 21 years, who is not disqualified under the provisions of the Land Act, may apply for a conditional purchase lease. A female applicant must be unmarried, or widowed, or living apart from her husband under a decree of judicial separation.

Residence on the lease must be continuous for ten years, and must commence within twelve months from the date of confirmation, but the commencement of residence may be deferred for five years. At any time after the confirmation of an application, the holder may convert the area into a conditional purchase by payment of a deposit of 5 per cent. on the capital value of the land, provided that the proper conditions have been observed, and subject to all the unperformed conditions of the lease, except payment of rent. The balance of purchase money is payable by equal annual instalments at the rate of 5 per cent. of the price, consisting of principal, and interest at the rate of $2\frac{1}{2}$ per cent. on the unpaid balance, the first instalment becoming due twelve months after the date of application for conversion. In accordance with the provisions of the Crown Lands Amendment Act, 1912, conditional purchase leases may be converted also into homestead farms.

Under the Crown Lands Act, 1908, land may be set apart for disposal as special conditional purchase lease, provided that for six months the land has been available for some class of residential holding. The areas must be not less than 20, nor more than 320 acres. There are no conditions of residence, but substantial improvements of value not less than 10s. per acre must be completed within three years.

Any holder of a conditional purchase lease may acquire additional conditional purchase leases, but in no case may the total area of the lands held by him under any tenure, except annual, exceed a home maintenance area.

Conditional Leases.

A conditional lease may be obtained by any holder of a conditional purchase (other than non-residential), or a conditional purchase within a special area in the Eastern Division. Lands available for conditional purchase are also available for conditional lease, with the exception of lands in the Western Division, or within a special area or a reserve.

Applications must be accompanied by a provisional rent of 2d. per acre and a survey fee. The area which an applicant may obtain as conditional purchases and conditional leases is restricted to 1,280 acres in the Eastern Division, and 2,560 acres in the Central Division; but the Land Board may specifically permit larger areas. The lease is for a period of forty years, at a rent determined by the Land Board, payable yearly in advance. The conditions of fencing, or substitution of improvements in lieu of fencing, which attach to a residential conditional purchase, apply equally to a conditional lease, and residence is required as in the case of an additional conditional purchase.

After confirmation, a conditional lease may be converted, either wholly or in part not less than 40 acres, into a conditional purchase.

Leases of Scrub and Inferior Lands.

Scrub leases may be obtained on application, or by auction or tender, but inferior-lands leases may be acquired only by auction or tender. There is no limitation as to area, and in the case of a lease obtained by application the rent is appraised by the Local Land Board. The initial rent of an inferior-lands lease prevails throughout the whole term; but the terms of a scrub lease may be divided into periods, the rent for each period being determined by reappraisal. The term of each class of lease may not exceed twenty-eight years. The holder of a scrub lease must take such steps as the Land Board may direct for the purpose of destroying the scrub, and keep the land clear afterwards. During the last year of any of the leases application may be made for a homestead grant of 640 acres.

Occupation Licenses.

Occupation licenses may be (a) preferential occupation licenses, consisting of the area within the expired pastoral leases, and (b) ordinary occupation licenses, which relate to the parts of the holdings formerly known as resumed areas. Occupation licenses extend from January to December, being renewable annually at a rent determined by the Land Board.

Pastoral Leases.

Under the Crown Lands Amendment Act of 1903, the registered holder of any pastoral lease, preferential occupation license, or occupation license, may apply for a lease, for not more than twenty-eight years, of an area not exceeding one-third of the total area of the land comprised within the lease or license, subject to such rent, conditions of improvement, and withdrawal for settlement as may be determined.

Special Leases.

Special leases are issued chiefly to meet cases where land is required for some industrial or business purpose, and may be obtained by auction or otherwise, the term of the lease not to exceed twenty-eight years. The conditions attached are suitable to the circumstances of each case, being, like the rent, determined by the Land Board. The Crown Land Act, 1908, provides for the conversion of special leases, and of church and school lands leases, into original or additional conditional purchase leases; or original or additional conditional purchases; or original or additional homestead selections; or original or additional settlement leases; or conditional leases.

Residential Leases.

The holder of a "miner's right" or "mineral license" within a gold or mineral field may obtain a residential lease. A provisional rent of 1s. per acre is charged, the maximum area 20 acres, and the longest term of the lease twenty-eight years; the annual rent is appraised by the Land Board. The principal conditions of the lease are residence during its currency, and the erection within twelve months of necessary buildings and fences. Tenant-right in improvements is conferred upon the lessee. The holder of any residential lease may apply after the first five years of his lease to purchase the land.

Improvement Leases.

Improvement leases may consist of any scrub or inferior land not suitable for settlement in the Eastern or Central Divisions, and are obtained only by auction or tender. The rent is payable annually, and the lease is for a period of twenty-eight years, with an area not exceeding 20,480 acres. Upon the expiration of the lease the last holder will have tenant-right in improvements. During the last year of the lease the lessee may apply for a homestead grant of 640 acres, including the area on which his dwelling-house is erected. Should the Advisory Board, constituted under the Closer Settlement Act, 1907, report that land comprised in an improvement lease or scrub lease is suitable for closer settlement, the Minister may require the surrender of the lease to the Crown, the lessee being compensated.

Settlement Leases.

Under this tenure, farms gazetted as available for settlement lease are obtainable on application, accompanied by a deposit consisting of six months' rent and the full amount of survey fee. The maximum area of agricultural land which may be taken up is 1,280 acres; but where the settler must combine agriculture with grazing, the farms may contain any area not exceeding 10,240 acres. These areas, however, may be exceeded by means of additional holdings, which need not adjoin the original holding, but must be situated within a reasonable working distance thereof.

The lease is issued for a term of forty years, divided into four periods. The annual rent for the first period is that notified before the land is made available for lease; but the lessee may require that the rent be determined by the Land Board, and the annual rent for each succeeding period may be separately determined in like manner. Residence is compulsory throughout the whole term; and the land must be fenced within the first five years, and noxious weeds and animals on the land destroyed within eleven years. The lessee may apply at any time after the first five years of the lease for an area not exceeding 1,280 acres, on which his house is situated, as a homestead grant.

Under the Crown Lands Act, 1908, the holder of a settlement lease may convert such lease into a conditional purchase, or into a conditional purchase and conditional lease under certain provisions, but in no case may the unimproved value of the land to be converted exceed £3,000.

Snow Leases.

Vacant Crown lands which for a portion of each year are usually covered with snow, and are thereby unfit for continuous use or occupation, may be leased as snow leases. Not more than two snow leases may be held by the same person. The minimum area is 1,280 acres, and the maximum 10,240 acres. The term of the lease is seven years, but may be extended by three years.

Working Men's Blocks.

This tenure has been created by the Blockholders' Act of 1901, under which workmen may secure a lease of a block, not exceeding 10 acres, for a period of ninety-nine years. An applicant must be not less than 18 years of age, and gain his livelihood by his own labour; the rent may not exceed 5 per cent. on the capital value of the land. The lessee and his family must reside on the land for at least nine months in every year, pay the rent annually, and all rates, taxes, and value of improvements, and must fence the land within two years. A blockholder may have his block protected from seizure for debt except for rates and taxes.

Crown Leases.

Crown leases were constituted under the Crown Lands Amendment Act, 1912. The term of lease is forty-five years, and the annual rent $1\frac{1}{2}$ per cent. of the capital value, as determined every fifteen years. The rent payable for the first year may be remitted if an equal sum be spent by the lessee in improving the land. The lessee is required to reside on the land during the whole term of lease, and during the last five years may convert into a homestead farm so much of the land as will not exceed a home maintenance area. Any person qualified to apply for a homestead farm may apply for a Crown lease.

WESTERN DIVISION.

The administration of the Western Division under the Western Lands Act, 1901, is vested in three Commissioners, constituting "The Western Land Board of New South Wales," who, sitting in open Court, exercise all the powers conferred upon Local Land Boards by the Crown Lands Acts.

Subject to existing rights and extension of tenure granted under certain conditions, all forms of alienation (other than by auction and lease) prescribed by the Crown Lands Acts, ceased to operate within the Western Land Division from the 1st January, 1902.

The Commissioners recommend the areas, boundaries, and the rent chargeable, and determine the value of any improvements, prior to the opening of lands for lease.

The registered holder of a pastoral, homestead, improvement, scrub, or inferior lease or occupation license, of land in the Western Division, could apply before the 30th June, 1902, to bring his lease or license under the provisions of the "Western Lands Act of 1901;" in cases where application has not been made, such lease or license is treated as if the Act had not been passed.

All leases issued or brought under the provisions of the "Western Lands Act of 1901" expire on the 30th June, 1943, except in cases where a withdrawal is made for the purpose of sale by auction or to provide small holdings, when, as compensation, the lease of the remainder may be extended for a term not exceeding six years.

The rent on all leases current at the commencement of the Act is determined by the Commissioners for the unexpired portion. The minimum rent or license fee is 2s. 6d. per square mile or part thereof, the maximum is 7d. per sheep on the carrying capacity determined by the Commissioners.

Holdings under the Western Lands Act as at 30th June, 1912, were classified as follows:—

Class of Holding.	Leases issued.	Area.	Annual Rentals.
	No.	acres.	£
Pastoral Leases	300	40,511,784	51,981
Homestead Leases	1,119	10,301,771	22,600
Improvement Leases	116	1,950,275	1,078
Scrub Leases	3	17,431	9
Inferior Leases	4	209,950	48
Settlement Leases	8	40,050	130
Artesian Well Leases	29	296,631	404
New Special Leases	245	1,017,561	2,220
Special (Conversion) Leases	62	9,448	317
Residential Leases... ..	1	10	1
Occupation Licenses	116	8,635,038	2,684
Homestead Selections	12	7,768	48
,, Grants... ..	22	18,207	103
Section 32, Western Lands Act Leases	284	2,938,081	2,130
Part VII, ,, ,,	315	8,001,287	7,248
Permissive Occupancies	37	883,356	386
	2,673	74,838,648	91,387

REAPPRAISEMENT.

Under the Crown Lands Amendment Act, 1910, the capital value of a homestead selection after it has been granted, or the rental of a settlement, or a conditional lease is determinable, on reassessment, at intervals of fifteen years.

ANNULMENT OF APPLICATIONS.

Applications for conversion to mineral conditional purchase may, under the 1910 Act, be annulled or withdrawn, and all moneys, less authorised deductions for cost, refunded with the application.

LABOUR SETTLEMENTS.

In the Labour Settlements Act, 1902, provision is made for land to be set apart for lease as a labour settlement, under the control of a Board, which is empowered to enrol approved persons; to make regulations concerning the work to be done; to apportion the work among the members; and to distribute equitably wages, profits, and emoluments, after providing for the cost of maintenance of members; to establish any trade or industry, and apportion the profits among the enrolled members. The land is leased to the Board, in trust for the members of the settlement, for a period of twenty-eight years, with right of renewal for a further term of twenty-eight years.

With a sufficient enrolment of members a Board may apply for monetary assistance on behalf of the members of the settlement, to a maximum amount of £25 for each enrolled member who is the head of a dependent family; £20 for each married person without a family; and £15 for each unmarried person. On the expiration of four years from the commencement of the lease, and at the end of each year following, 8 per cent. of the total sum paid to the Board becomes a charge on its revenue, until the total amount advanced, with interest at the rate of 4 per cent. per annum, has been repaid.

On 30th June, 1912, the only settlements in existence were those at Bega and Wilberforce. At Bega an area of 1,360 acres is attached to the settlement, and on the date specified there were 25 men enrolled, the total population being 145. A sum of £2,420 has been advanced by the Government and the value of improvements, exclusive of crops, is £3,110. At Wilberforce, an area of 435 acres has been granted for settlement. On 30th June, 1912, there were 10 men enrolled, the total population being 41. Loans from the Government amount to £2,479, the value of improvements, exclusive of crops, being £1,450.

CLOSER SETTLEMENT.

Under the Closer Settlement Act, 1901, provision was made for the acquisition of private lands, or of lands leased from the Crown, for purposes of closer settlement, lands so acquired to be divided into farms and leased for a term of ninety-nine years, at an annual rental not exceeding 5 per cent. of the capital value of the land. No power of compulsory resumption was conferred, and, consequently, the Act was practically inoperative.

Under the Closer Settlement Act, 1904, which repealed the 1901 enactment, provision was made for compulsory resumption, for purposes of closer settlement, of private land, when the value exceeds £20,000, exclusive of improvements. Owners may offer to surrender private lands in consideration of a price to be specifically set out, such offer to be binding on the owner for a period of nine months.

The Closer Settlement Amendment Act, 1907, constituted three Advisory Boards to report upon lands of a minimum value of £10,000, exclusive of improvements, suitable for closer settlement, the land being purchased by agreement with the owner; or acquired by resumption when the value, without improvements, exceeds £20,000. Within six months after the passing of an Act sanctioning the construction of a line of railway, the Governor may purchase or resume for purposes of closer settlement land, the property of one owner and exceeding £10,000 in value, on either side of the proposed railway.

Land comprised in an improvement or scrub lease, or lease to outgoing pastoral lessee, situated within 15 miles of an existing or duly sanctioned railway, may also be resumed for closer settlement upon the recommendation of an Advisory Board constituted under the Act of 1907.

Before land acquired is available for settlement, a plan of the designed subdivision, showing areas and values per acre of the proposed settlement purchases, must be approved by the Minister. The design plan includes not only land acquired under the Act but also any adjacent Crown lands set apart for the purpose. Settlement areas are notified for disposal in three classes, viz., agricultural lands, grazing lands, and township settlement allotments.

In the Closer Settlement Amendment Act, 1909, provision is made that at any time after a proclamation of intended acquisition of an estate, if an agreement be made that the land shall be subdivided for closer settlement by the owner, the power of resumption may be suspended for a term not exceeding two years. Any sale or lease made under such agreement must be submitted to the Minister, and if it be found that the owner has failed to fulfil the conditions, the suspension of the power of resumption shall cease.

Men above the age of 18 years, and women over 21 years, and not having the protection and support of a husband, may apply for land under the Act, if they are not holders, except under annual tenure, of land which, with the area sought, will substantially exceed a home maintenance area; but if any person divests himself of land, in order to apply for a settlement purchase, his application will be disallowed.

Applications, accompanied by a deposit of 5 per cent. of the notified capital value of the settlement purchase sought, are lodged with the Crown Lands Agent. The purchase money, including interest at 4 per cent., is paid in thirty-eight annual instalments at the rate of 5 per cent. of the capital value of the land. These rates of deposit, instalment, and interest were fixed as minimum rates under the provisions of the Closer Settlement Amendment Act, 1912, which came into operation on 1st January, 1913. After that date the rates shall be such as shall have been prescribed by regulations in force at the commencement of the title of a settlement purchase.

Residence for a period of ten years is required, and commences at any time within twelve months after the decision of the Land Board allowing the purchase; but the term may be extended to any date within five years of the allowance of purchase; and on such terms and conditions, as to improvements and cultivation, as may be arranged between the applicant and the Land Board. Residence implies continuous and *bona fide* living upon the area allotted. Subject to the approval of the Land Board, the condition as to residence may be observed in any adjacent town or village; or, by permission, may be suspended.

On unimproved land, the purchaser is required to effect substantial and permanent improvements to the extent of 10 per cent. of the capital value within two years from the date of application, with an additional 5 per cent. within five years, and a further 10 per cent. within ten years from the same date. Existing improvements on the land are regarded as the equivalent of this condition. Every purchaser is subject to conditions as to mining, cultivation, destruction of vermin and noxious weeds, &c.

Pending selection as settlement purchase, the land may be leased in areas not exceeding 320 acres. Leases so granted are subject to the following conditions:—Improvements are not to be effected without the written consent of the Minister or Chairman of the Land Board; leases expire on 31st December, but may be renewed on payment of yearly rent in advance not later than 10th December; the rent is to be appraised by the Land Board, and the granting of a lease does not exempt the land from settlement purchase; the Minister may at any time cancel the lease after three months' notice.

Under the provisions of the Crown Lands Amendment Act, 1912, the holder of a settlement purchase under the Closer Settlement Acts, other than those acquired under the Closer Settlement Promotion Act, 1910, may under certain conditions convert such holding into a homestead farm.

The three Advisory Boards constituted under the Closer Settlement Act to inspect and report upon suitable estates for closer settlement were replaced in January, 1911, by one central Board to deal with closer settlement for the whole State; an additional Board has since been appointed.

The following table contains information regarding areas administered under the Acts as at 30th June, 1912:—

Name of Settlement Purchase Area.	Lands comprised in Settlement Areas.			Price paid for Acquired land.	
	Acquired land.	Adjoining Crown land.	Total.	Total.	Per Acre.
	acres.	acres.	acres.	£	£ s. d.
Myall Creek, Inverell	53,929	19,373	73,302	138,866	2 11 6
Gobbagombalin, Wagga	61,866	4,622	66,488	207,560	3 7 1
Marrar, Wagga	26,608	781	27,389	68,777	2 11 8
Walla Walla, Albury	50,156	1,580	51,736	250,687	5 0 0
Sunny Ridge, Cowra	12,031	416	12,447	49,038	4 1 8
Boree Creek, Urana	17,002	242	17,244	61,385	3 12 3
Peel River, Tamworth	99,618	114	99,732	405,416	4 1 5
Mungery, Parkes	55,159	47,371	102,530	115,878	2 2 0
Coreen and Back Paddock, Corowa	37,862	1,492	39,354	140,000	3 14 1
Brookong, Urana	12,006	156	12,162	42,170	3 10 3
Piallaway and Walhallow, Tamworth	12,447	348	12,795	61,980	5 0 0
Everton, Dubbo	6,477	6,049	12,526	19,426	3 0 0
Pine Ridge, Mudgee	7,845	197	8,042	28,790	3 13 5
Richlands, Goulburn	8,719	302	9,021	34,885	4 0 1
Larras Lake, Molong	11,535	42	11,580	53,830	4 13 4
Crowther, Young	10,563	325	10,888	52,137	4 18 10
North Logan, Cowra	11,441	243	11,684	54,461	4 15 3
Hardwicke, Yass	6,141	112	6,253	26,050	4 5 0
Tuppai, Corowa	49,178	1,073	50,251	221,224	4 10 0
Nangus, Gundagai	7,517	212	7,729	29,819	4 0 0
Gunningbland, Parkes	12,404	109	12,513	37,212	3 0 0
Tibbereenah, Narrabri	12,357	528	12,885	49,022	3 19 8
Wandary, Forbes	8,993	439	9,437	36,963	4 2 6
Cole Park, Malton, and Rossville, Goulburn	3,140	769	3,909	14,090	4 10 0
Bibbenluke, Bombala	16,174	419	16,584	60,792	3 15 0
Maharatta, Bombala	20,256	454	20,710	72,384	3 12 0
Warrah, Murrurundi	45,006	.....	45,006	180,080	4 5 8
Total	676,438	87,759	764,197	2,512,922	3 14 3

Of the total area of Closer Settlement lands, 26,146 acres have been reserved for roads and other purposes, and 738,051 acres have been divided into 1,615 farms, the average area per farm being 1,517 acres.

Particulars of the subdivisions are shown in the following statement :—

Name of Settlement Purchase Area.	Farms.	Capital value of Areas contained in Farms.			Farms allotted to 30th June, 1912.	Area allotted	Capital value of Farms selected.
		Acquired Lands.	Crown Lands.	Total.			
	No.	£	£	£	No.	Acres.	£
Myall Creek	134	138,589	24,653	163,242	134	66,916	163,452
Gobbagombalin	141	225,663	10,541	236,204	141	64,020	236,204
Marrar	46	75,133	2,040	77,173	46	27,048	77,173
Walla Walla	125	255,283	2,810	258,102	125	50,314	258,092
Sunny Ridge	24	50,292	1,236	51,528	24	12,266	51,528
Borse Creek	30	68,737	539	69,276	30	17,034	69,276
Peel River	289	438,373	126	438,499	589	97,474	488,775
Mungery	62	117,701	81,957	199,458	62	95,111	199,458
Coreen Creek & Back Paddock	63	149,908	3,740	153,748	63	38,353	153,741
Brookong	20	43,170	370	43,490	20	12,006	43,490
Pistolway and Walhallow	38	63,483	1,770	64,856	38	12,632	64,856
Everton	18	19,391	11,574	31,462	18	12,309	31,457
Pine Ridge	16	29,757	65	30,182	16	7,946	30,181
Richlands	37	37,033	932	38,965	37	8,918	36,964
Larras Lake	30	57,147	4	57,151	30	11,486	55,775
Crowther	22	54,703	604	54,397	22	10,680	54,397
North Logan	58	57,974	676	58,650	24	11,184	57,604
Hardwicke	24	26,827	277	27,104	21	5,390	25,275
Tuppall	117	232,105	2,964	234,463	117	49,605	234,470
Nangus	17	31,015	485	31,570	17	7,649	31,552
Gunningbland	19	38,792	118	38,910	19	12,289	38,910
Tibbereenh	77	51,280	868	52,148	75	12,394	51,846
Wandary	18	37,985	642	38,627	18	9,075	38,628
Cole Park, Malton, & Rossiville	27	14,744	5,318	20,462	18	3,482	18,273
Bibbenluka	31	62,106	1,289	63,395	24	12,482	48,381
Maharatta	48	81,321	993	82,314	38	15,290	64,443
Warrah	84	209,999	..	209,999	59	32,271	152,271
Total	1,615	2,666,514	156,797	2,823,311	1,535	717,121	2,726,433

At 30th June, 1912, 1,535 farms, containing 717,121 acres, had been allotted, the average cost to the settler was £3 16s. 0d., per acre and £1,776 per farm. The farms which have not yet been selected are let under permissive occupancy, and remain available for settlement purchase application.

Closer Settlement Promotion Act, 1910.

The Closer Settlement Promotion Act, 1910, enables three or more persons qualified to hold settlement purchases, to negotiate with an owner of private lands in their particular district, and to apply to have such lands brought under the Act. Upon approval by the Minister, the vendor surrenders the land to the Crown, and the purchaser acquires it as a settlement purchase, obtaining an advance, secured by mortgage on the land, from the Commissioners of the Government Savings Bank, who may make advances up to 95 per cent. of the Crown valuation of the farm, with a maximum of £2,500; the total advances by the Bank under this Act in any financial year may not exceed £1,000,000. Each farm is worked independently, the co-operation of the applicants ceasing with the allotment of an area, for which each has to lodge a deposit of £5 and costs of surveys, &c., with 5 per cent. of the Crown valuation of the farm on allotment. Repayments of advances from the Government Savings Bank were at the rate of 5 per cent. per annum, being 4 per cent. interest and 1 per cent. sinking fund, the whole indebtedness being discharged in thirty-eight years. From the beginning of the year 1913 these rates of deposit instalments and interest were subject to the provisions of the Closer Settlement Amendment Act, 1912, as noted above.

Slight variations in the dates of payment may be sanctioned in special circumstances, and subsequently holders of farms may obtain advances on account of improvements effected.

From the commencement of the Act in September, 1910, till 30th June, 1912, 524 farms of a total area of 201,829 acres, were applied for, the

amount involved being £1,067,434. Of this number 234 farms, embracing an area of 95,305 acres, at a cost of £476,561, were finally dealt with at 30th June, 1912 :—

Estate.	Applications approved and finally dealt with.		Estate.	Applications approved and finally dealt with.	
	Farms.	Area.		Farms.	Area.
	No.	Acres.		No.	Acres.
Avoca, Grenfell	7	2,598	Ooma, Forbes	9	4,463
Balabla, Young	13	6,803	Stratheden, Yerong Creek... ..	3	1,640
Barellan, Barellan	7	4,583	Springfield, Burrowa	4	979
Brookong, Lockhart	5	1,920	Strathmore, Junee... ..	5	1,976
Combaning, Temora	6	2,571	Swan's, Taralga	12	4,492
Coolangatta, Berry	6	1,046	Teesdale, Carcoar	3	771
Coronation Vale, Grenfell	6	3,183	Teven Junction, Ballina	3	253
Furracabad, Glen Innes	4	837	The Priory, Wagga	4	1,616
Goobang, Parkes	15	6,478	Tonki, Casino	15	2,207
Hillson's, Tocumwal	3	640	Wallandool, Henty	9	3,566
Horse Ridges, Casino	3	674	Walbundrie, Culcairn	6	1,715
Kelvin, Henty	3	600	Wallarobie, Beckom and		
Kerewong, Taree	2	248	Temora	15	7,547
Milong, Young	3	1,779	Wargandry, Dunedoo	10	5,251
Mucra, Urana	17	8,668	Warrah Lea, Temora	9	4,755
Murrulehale, Coolamon	9	3,919	Wellingrove, Glen Innes	6	3,353
New Coreen, Corowa	7	2,384	Woodland, Denman	5	1,789
			Total	234	95,305
			Value		£476,561

The following statement gives particulars of 290 farms for which applications were in course of action on 30th June, 1912 :—

Estate.	Applications in course of action.		Estate.	Applications in course of action.	
	Farms.	Area.		Farms.	Area.
	No.	acres.		No.	acres.
Back Creek, Wyalong	4	2,059	Muller's, Lismore	3	572
Beeville, Casino	3	488	Murrumbong, Wellington... ..	4	1,862
Berry Jerry, Lockhart	16	6,399	Pinedene, Narromine	10	5,135
Book Book, Wagga	6	3,806	Pinnacle, Forbes	15	6,363
Boureong, Gunning... ..	7	3,572	Pooa Boon, Swan Hill	4	1,123
Brooman, Milton	3	1,280	Robina, Inverell	3	1,136
Bundidgarie, Narrandera	4	1,501	Rock Lynne, Molong	3	1,570
*Coolangatta, Berry	18	3,413	Stratheden, Kyogle and		
Dinton Vale, Inverell	4	1,288	Casino	17	3,053
Dungarubba, Lismore	3	712	*Swan's, Taralga	3	902
Emu Plains, Mucra... ..	5	2,352	*Tonki, Casino	14	2,289
Glenara, Dubbo	11	5,105	Tregalano, Forbes	5	2,575
Glen Eden, Casino	3	490	Tuckombil, Coraki... ..	3	932
Glen Elgin, Inverell	3	703	Tulcumbah, Gunnedah	3	1,657
Glen Legh, Glen Innes	4	771	Waldeck, Henty	4	872
Harrington Vale, Ariah Park	8	4,722	*Wallarobie, Temora	7	3,270
Hartwood, Narromine	4	2,761	Waverley Park, Henty	3	960
Havilah, Mudgee	3	825	W. McMahon's, Southgate	3	262
Highfield, Kyogle	3	368	Woorooloolgen, Casino	3	549
Hutchings, Henty	3	1,282	Wyongerie, Kyogle	12	2,710
Jingerangle, Barmiedman	7	3,824	Yanterilla, Young... ..	3	1,200
Keringa Park, Ganmain	4	1,921	Yarranbah, Temora	3	1,245
Lake Midgeon, Narrandera... ..	8	4,095			
Lesterfield, Ganmain	6	2,204	Total	290	106,524
Mimosa, Temora	25	10,547	Value £590,873		

* See also previous table.

In addition to the land acquired by the State for closer settlement a number of estates have been subdivided for that purpose by private owners.

LAND RESUMPTIONS.

Land required by the State may be obtained by resumption, purchase, exchange, surrender, or gift. Resumptions are those made under the Public Works and Lands for Public Purposes Acquisition Acts, and are treated by the Government Land Valuer, except those made for purposes of Public Instruction or of Railways.

The following statement shows such resumptions and purchases made during the past five years :—

Year ended 30th June.	Area of Resumptions, &c.						Total.		
	Purchases.			Gifts.					
	a.	r.	p.	a.	r.	p.	a.	r.	p.
1908	5,974	0	20	67	0	17	6,041	0	37
1909	2,779	1	33	240	1	34	3,019	3	27
1910	3,815	1	40	62	3	2	3,878	1	2
1911	13,159	0	4	6	2	10	13,165	2	14
1912	148,332	1	26	4	0	24	148,336	2	10

Resumptions and purchases made during 1911-1912, principally in connection with irrigation, were :—

		Area.					Area.		
		a.	r.	p.			a.	r.	p.
Burrinjuck	Storage				River improvements	...	11	0	0
Reservoir	...	9,254	3	8	Sewerage	...	0	3	25
Bores	...	26	3	17	State Children's Home,	...			
Cook's River	improve-				Mittagong	...	3	3	37
ments	...	58	1	14	„ Metal Quarry,	...			
Court-Houses	...	0	3	0	„ Kiama	...	22	1	8
Defence	...	93	0	8	„ Quarry, Port Kem-	...			
Drainage	...	2	0	36	bla (Extension)	...	15	1	21
Experiment Farm	...	121	0	0	„ Sand-Line Brick-	...			
Federal Capital Territory	...	5,360	0	0	works, Botany	...	7	1	17
Hospital Site	...	2	0	0	Timber Dépôt, Uhr's Pt.	...	9	3	0
Irrigation	...	128,379	0	5	Water supply	...	3,480	3	26
Police Station	...	8	2	18	Weirs	...	4	1	28
Post Offices	...	4	0	2					
Public School Sites	...	224	0	19	Total	...	148,336	2	10
Public watering-places	...	2	0	24					
Railways and Tramways	...	1,243	2	17					

PROGRESS OF ALIENATION.

The figures relating to land alienation under the legislation of 1861, and to its subsequent amendments, show that up to the 30th June, 1912, there were 14,908,782 acres sold by auction, and other forms of sale.

As regards conditional purchases, the following applications have been made under the various Acts :—

	Applications.	
	No.	acres.
Under the Crown Lands Act of 1861—		
To May 24, 1880	136,389	14,982,120
Under the Crown Lands Act of 1880	55,084	8,488,020
Total to 31st December, 1884	191,473	23,470,140
Under the Crown Lands Acts of 1884, 1889, 1895, and amending Acts	91,439	16,623,618
Grand total to 30th June, 1909	282,912	40,093,758

The number of selections—viz., 282,912, containing 40,093,758 acres—has been reduced since 1909 by forfeitures, cancellations, conversions into home-stead selections, &c., and increased by conversions from other tenures under the Crown Lands Amendment Act, 1908, so that the land wholly alienated,

or in process of alienation by conditional purchase, on the 30th June, 1912, amounted to 31,761,363 acres contained in 208,354 purchases. Deeds have now been issued upon 116,146 completed purchases, covering 15,232,355 acres, and the balance represents the number of purchases still in force, but upon which the conditions have not been fulfilled, viz., 92,208, covering an area of 16,529,008 acres.

Applications for homestead selections numbering 9,955 were received to 30th June, 1912, the aggregate area of such being 3,799,567 acres. Of the applications lodged, 7,819, covering 2,727,097 acres, were confirmed. Homestead grants to the number of 4,028, with an area of 1,628,176 acres, were issued to 30th June, 1910; during the following year 287 homestead grants, covering 123,086 acres, were prepared, and in 1911-12, 196 grants for 88,517 acres were prepared. The area held under homestead selection and grants on 30th June, 1912, was 1,528,703 acres.

The total area alienated by volunteer land orders to 30th June, 1911, amounted to 170,650 acres, and this area, which was increased only by 848 acres as at 30th June, 1912, represents probably the maximum area so alienable, as the right to a free grant of land in virtue of a volunteer land order lapsed on 31st January, 1912.

From 1862 to 30th June, 1912, the Crown has dedicated 232,823 acres for public and religious purposes, the dedications during the last year covering 1,915 acres. Homestead farms and suburban holdings were new forms of tenure created by the Crown Lands (Amendment) Act of 1912. The first areas for homestead farms were made available on 13th May, 1912; up to 30th June, 1912, 145 applications embracing 93,254 acres were lodged; 46 applications covering 27,815 acres were confirmed.

At the same date 48 applications for suburban holdings of a total area of 1,964 acres were received; 21 applications were confirmed for an area of 1,085 acres.

The operations of the various Orders, Regulations, and Acts of Council and of Parliament for the disposal of the public lands, since the foundation of New South Wales, have produced the following results:—

Area granted and sold by private tender and public auction at prices ranging from 5s. to 20s. per acre, prior to the year 1862	acres.	7,146,579
Area sold by auction and other forms of sale, 1862 to 30th June, 1912, inclusive		14,908,782
Area sold under system of conditional purchase for which deeds issued, 1862 to 30th June, 1912, inclusive		15,232,355
Area granted under Volunteer Land Regulations of 1867		171,498
Area dedicated for public and religious purposes, less resumptons, 1862 to 30th June, 1912...		232,823
Homestead selections and grants existing on 30th June, 1912		1,528,703
Homestead farms		27,815
Suburban holdings		1,085
Total, 30th June, 1912...		39,249,640
Less alienated lands within Federal Capital Territory		173,451
Total area alienated, 30th June, 1912		39,076,189
Area in process of alienation under system of conditional purchase standing good on 30th June, 1912 (exclusive of Federal Capital Territory)		16,529,008
Area alienated and in process of alienation on 30th June, 1912, exclusive of lands dealt with under Closer Settlement Act, and Federal Capital Territory		55,605,197
Area acquired for Closer Settlement to 30th June, 1912 (including 95,305 acres under Closer Settlement Promotion Act, 1910)		771,743
		54,833,454
Lands (acquired and Crown) alienated for closer settlement to 30th June, 1912 (including 95,305 acres disposed of under Closer Settlement Promotion Act)		812,426
Total area alienated, and in process of alienation on 30th June, 1912 (exclusive of Federal Capital Territory)		55,645,880

It has been found impracticable to separate the area alienated by grant from that sold by private tender, as the records of early years are incomplete upon this point.

CONVERSION OF TENURES.

In reference to the various methods of acquisition and occupation, details have been given of provisions of the Crown Lands Amendment Acts of 1908 and 1912, which confer on certain holders of Crown lands the right of conversion into more desirable tenures.

The following statement shows the applications for conversion made, and those confirmed, during the last three years:—

Class of Holding.	Applications made.					
	1909-10.		1910-11.		1911-12.	
	No.	Area.	No.	Area.	No.	Area.
		acres.		acres.		acres.
Conditional Leases	1,610	640,019	2,194	1,110,037	1,464	555,972
Conditional Purchase Leases ...	22	8,357	147	43,934	122	39,296
Homestead Selections or Grants ...	220	84,335	1,476	753,018	426	186,796
Settlement Leases	75	171,998	646	1,853,435	218	587,269
Non-residential Conditional Purchases	10	1,318	12	1,132	2	254
Special Leases	322	47,272	557	84,675	397	59,871
Church and School Lands Leases ...	12	6,406	11	1,945	14	8,098
Improvement Leases ... ..	...	.....	...	.....	1	500
Totals { Eastern Division	1,635	506,949	2,867	1,104,491	1,653	512,917
{ Central Division	636	452,756	2,176	2,743,685	991	925,139
Total for the State	2,271	959,705	5,043	3,848,176	2,644	1,438,056

Class of Holding.	Applications confirmed.					
	1909-10.		1910-11.		1911-12.	
	No.	Area.	No.	Area.	No.	Area.
		acres.		acres.		acres.
Conditional Leases	1,471	575,785	2,016	829,272	1,503	580,220
Conditional Purchase Leases ...	17	6,823	109	33,207	137	44,579
Homestead Selections or Grants ...	178	62,979	1,190	603,351	649	295,288
Settlement Leases	30	64,934	264	650,986	404	1,287,583
Non-residential Conditional Purchases	9	778	8	820	5	716
Special Leases	178	30,217	275	39,657	392	54,500
Church and School Lands Leases ..	9	3,777	7	1,579	6	1,766
Improvement Leases ... ..	...	.....	...	.....	1	595
Totals { Eastern Division	1,368	404,428	2,422	812,264	1,784	736,398
{ Central Division	524	340,865	1,447	1,346,608	1,313	1,528,849
Total for the State	1,892	745,293	3,869	2,158,872	3,097	2,265,247

REVENUE FROM PUBLIC LANDS, 1909-12.

The following statement shows the Revenue received from Public Lands during the years ended 30th June, 1909 to 1912, and also the Revenue per capita :—

Head of Revenue.	1909.	1910.	1911.	1912.
ALIENATION—				
Auction and Special Sales—				
Auction Sales...	£ 79,576	£ 77,055	£ 83,058	£ 83,764
Improved Purchases...	2,876	2,951	3,825	1,225
Newcastle Pasturage Reserve Sales	1,034	676	1,061	996
Miscellaneous Purchases	9,167	7,636	11,049	13,631
Total	£ 92,653	88,318	98,993	99,616
Conditional Purchases—				
Deposits and Improvements (Acts, 1884 and 1889)	93,060	64,236	135,392	70,930
Instalments and Interest (Acts of 1875, 1884, and 1889)	551,141	538,175	537,226	595,805
Interest (Act of 1861)	25,194	22,200	21,614	18,894
Balances (Acts, 1861, 1875, 1884, and 1889)	183,861	174,495	186,592	146,593
Homestead Selections (Improvements and Rent)	72,856	71,624	62,917	48,577
Total	£ 926,112	870,730	943,741	880,799
OCCUPATION—				
Pastoral Leases—				
Pastoral	829	756	749	706
Conditional	207,918	204,965	199,214	201,450
Conditional Purchase	13,475	19,708	21,544	22,692
Occupation Licenses	35,080	31,533	29,871	26,952
Homestead	2,226	1,555	1,688	1,771
Annual and Snow	42,982	38,152	34,297	33,547
Scrub and Inferior	10,272	10,389	9,896	9,853
Settlement	109,076	115,561	106,736	85,331
Improvement	51,997	50,712	49,501	49,644
Artesian Well	512	230	198	198
Church and School Land	868	7,751	632	471
Western Land Division	74,758	79,517	82,265	83,364
Blockholders Act of 1901	42	23	15	7
Leases under 18th Section, Land Act, 1903	11,953	11,538	11,451	9,645
Crown Leases	...	...	...	1,017
Suburban Holdings	...	...	...	77
Total	£ 561,988	572,395	548,057	526,725
Mining—				
Mineral Leases	17,347	20,706	17,490	17,739
Mineral Licenses	10	.....	.....	.....
Leases of Auriferous Lands	1,680	2,310	2,544	1,892
Deposits—Gold and Mineral Dredging Act, 1899	1,040	1,236	987	945
Miners' Rights	3,259	3,184	2,913	2,777
Business Licenses	988	888	784	764
Residential Leases	1,709	1,713	1,661	1,679
Royalty on Minerals	66,542	59,373	77,613	89,423
Fees—Warden's Courts and Department of Mines	1,994	2,063	1,889	1,689
Other Receipts	3,754	4,789	4,698	3,552
Total	£ 98,323	96,262	110,579	120,460

Head of Revenue.	1909.	1910.	1911.	1912.
OCCUPATION (continued)—				
Miscellaneous Land Receipts—	£	£	£	£
Timber Licenses, &c.	55,041	60,508	84,460	94,560
Rents, Special Objects	36,265	40,485	43,490	43,064
Fees on Preparation and Enrolment of				
Title-deeds	9,123	7,457	7,355	6,823
Survey Fees	45,177	28,883	30,823	24,297
Fees on Transfer of Leases	1,764	2,047	2,415	2,919
Quit Rents and Other Receipts	26,545	25,505	26,194	22,471
Total	£ 173,915	164,885	194,737	194,134
Gross Revenue	£ 1,852,991	1,792,590	1,896,107	1,821,734
Refunds	£ 74,989	62,850	57,190	56,275
Net Revenue	£ 1,778,002	1,729,740	1,838,917	1,765,459
REVENUE PER CAPITA.				
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Auction and Special Sales	0 1 2	0 1 1	0 1 2	0 1 2
Conditional Purchases	0 11 9	0 10 10	0 11 6	0 10 5
Pastoral Occupation	0 7 1	0 7 2	0 6 8	0 6 3
Mining Occupation	0 1 3	0 1 2	0 1 4	0 1 5
Miscellaneous Land Receipts	0 2 2	0 2 0	0 2 5	0 2 4
Gross Revenue	£ 1 3 5	1 2 3	1 3 1	1 1 7
Refunds	£ 0 0 11	0 0 9	0 0 8	0 0 8
Net Revenue	£ 1 2 6	1 1 6	1 2 5	1 0 11

AREA LEASED AT 30TH JUNE, 1912.

The area leased to pastoral tenants and others at the end of June, 1912, amounted to 126,024,074 acres (including leases to miners under the Mining Act), and was subdivided as follows:—

Type of Lease.	Area, acres.	Type of Lease.	Area, acres.
Pastoral	1,137,095	Snow Land	60,104
To outgoing Pastoral Lessees	1,098,981	Special	596,179
Occupation Licenses	8,599,404	Inferior Land	129,651
Conditional	16,160,827	Artesian Well... ..	71,680
Conditional Purchase... ..	634,515	Western Lands	74,838,648
Homestead	489,788	Under the Mining Act	223,794
Annual	4,262,930	Permissive Occupancies	949,942
Settlement	7,829,712	Other	81,049
Improvement	6,418,260	Total	126,024,074
Scrub	2,273,123		
Crown... ..	168,392		

The total available area of the State, exclusive of 576,000 acres ceded to the Commonwealth Government as Federal Capital Territory, is 198,058,880 acres. Deducting the area alienated, and in process of alienation, 55,645,880 acres, and the area leased, 126,024,074 acres, making a total of 181,669,954 acres, there remained a balance of 16,388,926 acres, representing the area of country neither alienated nor leased, and including roads, unoccupied reserves, land unsuitable for settlement, and water.

AREA AVAILABLE FOR SETTLEMENT.

In 1895 attention was directed to the question of land legislation, as it was contended that the Lands Acts of 1884 and 1889 had failed to prevent the accumulation of extensive landed estates in the hands of a very limited number of proprietors.

Although it may be said, in defence of the policy pursued by this class of landowners, that in many cases it was forced upon them by the defective nature of legislation which failed to discriminate between the very different interests of the pastoralists and of the agricultural settlers, it must nevertheless have been patent to everybody that these immense alienations of the public estate were not conducive to healthy settlement. The Acts mentioned have, however, been superseded by the Crown Lands Act of 1895. Many radical changes in land legislation have been effected by this Act; but immediate remedial action can be taken only in connection with Crown lands which have not been alienated or leased to Crown tenants for a definite period of years. Leases granted under certain conditions, such as these attached to conditional leases, which carry with them the right of purchase at any time during their currency, may be considered as a form of alienation, because only a comparatively small portion of these areas is ever likely to return to the public estate. Lands under homestead leases in the Western Division not brought under the Western Lands Act, scrub lands, snow-covered areas, inferior lands, settlement leases, improvement leases, leases to outgoing pastoral lessees, leases for long periods of fixed tenure, and under the Western Lands Act for long terms, form another category of lands concerning which past legislation prevents immediate action.

The lands which can be affected beneficially by the Act of 1895 are, therefore, limited to the area which is unalienated, or for which contracts have not been made, and is further reduced by reserves for public purposes, for gold-fields and other forms of mining enterprise, and for railway and other purposes. At the end of June, 1912, there were 39,076,189 acres absolutely alienated, excluding lands (173,451 acres) alienated within the Federal Capital Territory; 16,529,008 acres conditionally sold, the conditions of purchase not being complete; and 25,244,590 acres leased with the right to convert into freehold. These areas amounted to 80,849,787 acres; but taking into consideration the lands dealt with under the Closer Settlement Acts—771,743 acres acquired and 812,426 acres disposed of—there are 80,890,470 acres which have been placed practically beyond State control.

The following statement shows the tenure under which the areas leased with right to convert into freehold, under the Crown Lands (Amendment) Act of 1908, are held:—

	acres.
Conditional Leases	16,160,827
Conditional Purchase Leases	634,515
Settlement Leases	7,829,712
Special Leases	596,179
Residential Leases on Mineral Fields... ..	13,637
Church and School Land Leases	9,720
Total	25,244,590

The areas under long contracts of lease, in some cases with right of renewal, which no legislation can affect until the expiration of the fixed period of the tenure, are given below:—

	acres.
Crown Leases	168,392
Pastoral Leases	1,137,095
Leases to Outgoing Pastoral Lessees... ..	1,098,981
Homestead Leases	489,788
Scrub Leases and Inferior Land Leases	2,402,774
Artesian Well Leases	71,680
Snow-land Leases	60,104
Improvement Leases	6,418,260
Leases under Western Lands Act	65,320,254
Other Leases	281,486
Total	77,448,814

Adding together 80,890,470 acres practically beyond State control, and 77,448,814 acres of land leased on long contracts, a total of 158,339,284 acres shows the extent of territory which can now be more closely settled and intensely cultivated, only by voluntary action of the holders, or by more systematic and probably costly resumptions. Of the balance, after allowance has been made for useless land, it will be found that at 30th June, 1912, the State probably had about 33,000,000 acres available for occupation under various tenures. There is, however, a difficulty attending any calculation of the area included in land under long leases, which might be made available for settlement. This is apparent when the conditions under which the leases are now held are taken into consideration. Except where right to renewal on expiration of the lease exists, certain areas are continually reverting to the Crown by effluxion of time, and again in respect of certain leases provisions have been made whereby the Minister may at his discretion withdraw a part, and in some cases the whole, of a leased area, for the purposes of settlement.

The progress of alienation and of conditional settlement by purchase and lease at various periods from 1861 to 1912, is shown in the following table :—

At end of year.	Area Alienated for which deeds have issued.	Area Conditionally Purchased, standing good at end of year.	Area Conditionally Leased at end of year.	Area under Homestead Selection, exclusive of Homestead Grants.	Area under Homestead Grant.
	acres.	acres.	acres.	acres.	acres.
1861	7,146,579	.....	.....	.....	.....
1871	8,630,604	2,280,000	.....	.....	.....
1881	22,406,746	12,886,879	.....	.....	.....
1891	23,775,410	19,793,321	11,234,131	.....	.....
1901	26,408,169	20,044,703	13,980,942	1,491,073	35,385
1906†	32,486,086	16,499,823	15,807,249	984,426	1,087,065
1911†	38,569,028	15,614,036	16,978,816	679,554	1,049,600
1912†	39,076,189	16,529,008	16,795,342	1,528,703	

† Year ended 30th June.

As already stated, land held under conditional lease is virtually alienated, since the holder has the right of converting his lease into a freehold at any time during its currency.

AREAS FOR SETTLEMENT, 1911-12.

With a view to classifying and bringing forward those areas which are suitable for settlement, systematic inspections of Crown lands are made in each district. To meet the demand for land, 1,527,114 acres were made available during the year 1911-12, for the classes of holdings specified below :—

	acres.
For Homestead Selection	113,801
Settlement Lease	230,678
Crown Lease	709,639
Homestead Farms	118,681
Suburban Holdings	9,258
Additional Holdings	345,057
Total... ..	1,527,114

EFFECTS OF LAND LEGISLATION.

In the agitation which culminated in the framing of the Crown Lands Act of 1861, the contention was raised that Orders-in-Council then in force favoured occupation of the country lands by the wealthier classes; and

the principles of free selection before survey and of deferred payments were introduced in the new legislation, with the object of facilitating settlement of an agricultural population side by side with the great pastoral tenants of the Crown. Statistical records for the year 1861 show that at the close of that year, and just before the new legislation had come into force, there were 21,175 holders of rural lands, of whom 17,654 were in the old settled districts, in twenty counties, grouped around three principal centres—the metropolis and the county of Cumberland, the Hunter River Valley, and that portion of the central tableland of which Goulburn, Bathurst, and Mudgee were the first towns; while the remaining 3,521 settlers were scattered over the pastoral districts. The figures showing the area held by these settlers do not discriminate between the land alienated and that occupied under lease from the Crown; but they show that in the old settled districts there were 254,347 acres under cultivation—or an average of 14 acres per holding—and 8,522,420 acres used for stock; whilst in the pastoral districts 43,228 acres were cultivated, and 54,716,463 acres were occupied for grazing; so that, at that time, 63,536,458 acres, representing about one-third of the territory of the State, were in the occupation of the settlers.

In addition to the clauses inserted in the Act of 1861, in the interests of men of small means, certain provisions were retained which secured the accrued interests of the pastoralists under former legislation, of which they availed themselves to the utmost. By means of auction sales of country lands at the upset price of 20s. per acre, of unconditional selections of lots not sold at auction, of purchases made in virtue of improvements, and of pre-emptive right to certain lands under the old Acts of Council, the accumulation of immense estates was greatly facilitated. Sales of lands subject to conditions of residence and improvements, though made ostensibly to foster the settlement of a numerous class of small farmers, were also utilised in the interests of station owners, to whom the purchases were transferred in great numbers immediately upon completion of the conditions of residence and improvement required under the Act.

The evils resulting from the antagonistic interests of these two classes of settlers were partly checked by the amended law of 1884, which stopped the wholesale alienation of land by auction, unconditional selection after auction, and sales in respect of pre-emptive rights. The clause relating to improvement purchases was also modified, and made applicable only to small areas in gold-fields which might be purchased by resident miners in view of certain improvements; and the area to be offered at auction sales was restricted to a maximum of 200,000 acres yearly; but conditional settlement was favoured by largely increasing the maximum area allowable to free selectors; by raising the term of residence from three to five years; and by means of more stringent conditions as to fencing and improvements.

This policy, however, did not fulfil the expectation of the legislators, as the figures relating to transfers of conditional purchases prove that, when other means of increasing the area of individual estates failed, the traffic in transfers of conditionally purchased lands, with increased areas, supplied the deficiency. The radical change introduced by the Land Act of 1895, necessitating continuous residence for a period of ten years in respect of original conditional purchases, and a further term of not less than five years in connection with additional purchases, had the effect of considerably reducing the number of applications lodged, but during the last ten years the number has steadily increased. In addition to the applications for the year 1911–12, as shown below, there were 2,320 applications, covering an area of 849,906 acres, for conversion into conditional purchase from other forms of tenure; the apparent decrease for the year is due to this cause. —The

following table shows the transactions under each class of conditional purchase during the last seven years :—

Year ended 30 June.	Original Conditional Purchases.		Additional Conditional Purchases.		Non-residential Conditional Purchases.		Conditional Purchase Leases—application to convert into C.P. received.		Total.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
		acres.		acres.		acres.		acres.		acres.
1906	1,438	212,744	1,647	280,386	38	3,651	...	...	3,123	496,781
1907	1,535	200,852	2,122	476,345	52	5,956	14	2,642	3,723	685,795
1908	1,618	229,044	2,108	486,491	113	16,370	11	2,220	3,850	734,125
1909	1,641	285,616	2,767	797,666	121	18,791	12	3,234	4,541	1,105,307
1910	1,296	184,097	1,001	150,074	57	8,196	22	8,357	2,286	350,724
1911	801	116,177	752	98,813	49	6,547	147	43,934	1,749	265,471
1912	581	99,604	626	84,597	18	6,768	122	39,296	1,380	230,265

The experience of the past ten years indicates that the new features introduced by the Land Act of 1895 are much appreciated by those desirous of acquiring a holding for themselves, although the residence involved is continuous and for a lengthy period. The following table indicates the applications received for homestead selections and settlement leases in the last seven years :—

Year ended 30th June.	Homestead Selections.		Settlement Leases.	
	No.	Area.	No.	Area.
		acres.		acres.
1906	383	158,739	271	967,838
1907	291	89,426	215	680,187
1908	408	103,412	170	613,934
1909	445	137,292	278	823,208
1910	268	79,787	207	525,807
1911	359	98,155	138	419,840
1912	537	119,278	126	384,505

The principal element which contributed to the aggregation of great landed estates was that of auction sales of country lands, which, upon the application of the run-holders, were measured in vast areas and bought generally at the upset price—at first a minimum of £1 per acre, raised in 1878 to £1 5s. per acre.

Particulars of the auction sales of country lands from the year 1862 to 30th June, 1912, inclusive, are given hereunder :—

Year.	Lots.	Total Area.	Amount realised.	Average Price per Acre.
	No.	acres.	£	£ s. d.
1862-1872	9,228	582,479	616,399	1 1 2
1873-1883	43,465	7,963,093	8,640,098	1 1 8
1884-1894	8,631	645,770	1,222,271	1 17 10
1895-1904	5,553	397,386	675,178	1 14 0
1905*	269	20,152	28,829	1 8 7
1906†	496	18,119	32,877	1 16 3
1907†	464	20,094	32,009	1 11 10
1908†	416	9,000	19,368	2 3 0
1909†	527	8,045	20,018	2 9 9
1910†	480	4,574	22,595	4 18 9
1911†	336	3,494	21,263	6 1 9
1912†	385	2,466	10,859	4 8 1
Total ...	70,220	9,674,672	11,341,764	1 3 5

* Half year ended 30th June.

† Year ended 30th June.

These figures show that the struggle between selector and squatter did not begin in earnest until about the year 1873, when the effects of the legislation of 1861 were felt in an acute form; but during the succeeding ten years this process of defence was applied in a wholesale manner by the pastoral tenants to save their possessions from encroachment through the operations of the selectors. The system was modified by the legislation of 1884, the object of auction sales of country lands now being to obtain revenue by the sale of select parcels of land at a high average price, and in small average areas. Since the year mentioned, this system of alienation has ceased to be of use in consolidating large pastoral estates.

Among other means offered for the unconditional purchase of Crown lands, that of indiscriminate selection at the upset price of lots not sold at auction also disappeared with the passing of the Act of 1884. During the period 1862 to 1883 when this system of purchase was in operation, 15,750 lots of a total area of 1,716,976 acres were selected.

The Crown Lands Act of 1861, in exempting from sale certain leased lands, provided that a lessee should be permitted to exercise a pre-emptive right of purchase over one portion of 640 acres out of each block of 25 square miles.

The lands claimed in virtue of pre-emptive right, a form of alienation which also was abolished by the Crown Lands Act of 1884, added 2,114 lots, representing 560,825 acres, to the areas bought in the interests of the pastoralists.

The consolidation of pastoral estates did not suffer a serious check when the clauses of the Act of 1861, above cited, ceased to operate, as the transfer of conditional purchases supplied fresh means by the gradual absorption of a very large number of selections, principally in the Central and Western Divisions. Some of these transfers were made by way of mortgage, and therefore it is not possible to ascertain the area absolutely transferred by the original selectors; but the fact that 20,185,845 acres out of the total area alienated should be contained in 708 holdings, giving to each one an average domain of 28,511 acres, certainly does not indicate satisfactory settlement. The number of holdings, however, does not represent the number of owners interested, as, in some cases, these large estates are held in partnership by three or four persons, or by companies and financial corporations.

RURAL SETTLEMENT.

RURAL HOLDINGS AND TENURES.

RURAL holdings may consist of alienated or Crown lands, or of both, and are classifiable in five distinct groups, according to the tenures under which they are held, viz. : (1) Freehold lands occupied by the owner, (2) rented freeholds, (3) combined freehold and rented lands, (4) alienated lands, rented or freehold, with attached Crown lands, and (5) Crown lands only.

The following statement shows the number of occupiers, as at 31st March, 1912, under the various tenures in the different defined divisions of New South Wales :—

Division.	Number of Occupiers of—					Total.
	Freehold.	Private Rented.	Freehold and Private Rented.	Holdings of Alienated and attached Crown Lands.	Separate Crown Lands Holdings.	
Coastal	28,804	9,597	2,926	3,815	977	46,119
Tableland	9,696	2,115	1,015	6,388	984	20,198
Western Slopes	10,118	1,228	507	3,883	1,316	17,052
Western Plains and Riverina	5,610	408	251	2,688	1,912	10,869
Western	638	65	15	466	922	2,106
New South Wales	54,866	13,413	4,714	17,240	6,111	96,344

The majority of holders own the land they occupy; the total number of occupiers of alienated lands with or without attached Crown lands was 90,233, of whom 54,866, or 60·8 per cent., occupy their own freeholds; and of 17,240 holdings which are partly Crown leases, 15,740 are made up of freeholds owned by the occupiers and worked in conjunction with the Crown leases.

A comprehensive view of the extent to which the land contained within the boundaries of the State is being used is given by the following figures which show the area taken up in holdings of one acre and over, in each division of New South Wales, according to the class of tenure :—

Division.	Total Area of Division.	Area Alienated in Holdings.			Crown Lands—		Total Area in Holdings.
		Freehold.	Rented.	Total.	Attached to Alienated Holdings.	In Separate Holdings.	
	acres.	acres.	acres.	acres.	acres.	acres.	acres.
Coastal.. ..	22,355,401	6,948,963	1,566,719	8,515,682	4,098,945	512,941	13,127,568
Tableland	*25,831,246	9,888,471	909,027	10,797,498	9,156,010	839,013	20,792,521
Western Slopes	24,251,881	12,280,081	534,766	12,814,847	6,283,433	1,934,387	21,032,607
Western Plains and Riverina.	45,827,854	19,004,951	616,269	19,621,220	15,976,789	6,056,065	41,654,074
Western	80,368,498	1,598,865	58,832	1,657,697	59,905,987	15,782,482	77,346,166
New South Wales..	198,634,880	40,721,331	3,685,558	53,406,884	95,421,164	25,124,888	173,952,936

* Including 576,000 acres, the approximate area of the Federal Territory.

Of the total area occupied, 30·7 per cent. is freehold, and 69·3 per cent. leased from the Crown. Nearly two-thirds of the Crown lands leased are in the Western Division and are used mainly for depasturing stock; in the Western Plains and Riverina 47 per cent. of the land occupied is freehold.

Tenancy, as understood in older settled communities, has made comparatively little progress in this State, 93 per cent. of the alienated land being in the occupancy of the proprietors but, in some districts, the system of working on shares is in vogue—the owner providing the land and capital to work the farms, and the farmer supplying the labour and tools.

AVERAGE AREAS.

The following figures show the averages of alienated land only, and also of the total area occupied, as at 31st March, 1912, of alienated and attached Crown lands and also of holdings under all forms of tenure in the various divisions of New South Wales :—

Division.	Average size of Holding.		
	Alienated Area only.	Alienated and attached Crown Lands.	All Tenures.
	acres.	acres.	acres.
Coastal	189	279	285
Tableland	562	1,038	1,029
Western Slopes	814	1,214	1,233
Western Plains and Riverina	2,191	3,974	3,832
Western	1,400	51,996	36,727
New South Wales	592	1,649	1,806

The number of holdings has increased since 1880 at the rate of 126·0 per cent., while the area alienated increased by 135·0 per cent., and the average size of holding varied from 569 acres in 1880 to a maximum of 787 acres in 1890, then falling to 592 acres in 1912.

The following table shows the average size of holdings of alienated lands at intervals since 1880, the figures being inserted for each year since 1900 in order to show the persistence and steadiness of the fall :—

Year ended 31st March.	Average size of Holding.	Year ended 31st March.	Average size of Holding.
	acres.		acres.
1880	569	1905	635
1885	762	1906	632
1890	787	1907	625
1895	707	1908	611
1900	662	1909	608
1901	663	1910	602
1902	658	1911	596
1903	654	1912	592
1904	641		

EXTENT OF ALIENATION.

In connection with the progress of land settlement, it has been shown that the total area of lands sold and otherwise alienated was 55,645,880 acres; the leased areas amounted to 126,024,074 acres, making 181,669,954 acres more or less removed from settlement, and, exclusive of the Federal Capital Territory, leaving a balance of only 16,388,926 acres, including roads, unoccupied reserves, lands unsuitable for settlement, and water surface.

The proportions of the several Divisions of the State which have been alienated in holdings are shown in the following rates derived from the figures already quoted:—

Division.	Percentage of Total Area contained in—			
	Alienated Lands.	Crown Lands.		Total Area in Holdings.
		Attached.	Separate.	
Coastal	38·09	18·34	2·29	58·72
Tableland	41·80	35·44	3·25	80·49
Western Slopes	52·84	25·91	7·98	86·73
Western Plains and Riverina	42·82	34·86	13·21	90·89
Western	2·06	74·54	19·64	96·24
New South Wales	26·89	48·04	12·65	87·58

Thus rather less than 88 per cent. of the total area contained within the boundaries of the State has been alienated in holdings of 1 acre and upwards. The highest proportion of absolute alienation, 52·84 per cent. of the area of the Division, has taken place in the Western Slopes; and the lowest, 2·06 per cent., in the Western Division; but taking the total area of holdings, the Western Division shows the maximum proportion of its area—96·24 per cent.—removed from immediate further settlement; the high proportions of 90·89 per cent. for the Western Plains and Riverina, and 86·73 for the Western Slopes show plainly that there is but little land now available in these Western Districts for some form of alienation.

PROGRESS OF ALIENATION.

Excluding from consideration land held simply under lease from the Crown, there were in the State of New South Wales at the end of March, 1912, 90,233 holdings of 1 acre and upwards in extent, comprising land acquired from the Crown by grant or purchase, with, in some cases, areas of Crown lands attached.

The number of these holdings, as returned by occupiers, and the alienated area in quinquennial periods since 1880 are given below, with the figures for 1912 in comparison:—

Year ended 31st March.	Alienated Holdings.		Year ended 31st March.	Alienated Holdings.	
	Number.	Area.		Number.	Area.
		acres.			acres.
1880	39,918	22,721,603	1900	68,098	45,086,209
1885	43,079	32,843,317	1905	75,672	48,081,314
1890	47,620	37,497,889	1910	85,178	51,256,563
1895	59,020	41,736,073	1912	90,233	53,406,884

The biggest absolute increases in the number of holdings occurred in the intervals 1890–5 (11,400) and 1905–10 (9,506), while the biggest absolute increase in the area alienated—over 10 million acres—occurred between 1880–5.

The percentage increases in the intervals quoted, calculating from 1880 as basis, were as follows:—

Period.	Rate of Increase per cent. in—		Period.	Rate of Increase per cent. in—	
	Number of Holdings.	Area Alienated.		Number of Holdings.	Area Alienated.
1880-1885	7·9	44·5	1900-1905	11·1	6·6
1885-1890	10·5	14·2	1905-1910	12·6	6·6
1890-1895	23·9	11·3	1910-1911	2·7	1·8
1895-1900	15·4	8·0	1911-1912	3·0	2·3

The subjoined table shows the number of alienated holdings as at 31st March, at quinquennial intervals since 1895. In the classification of holdings according to size, as shown in this and all but one of the subsequent tables, the area of Crown land attached to alienated holdings has not been taken into consideration; and the size of a holding, therefore, represents the extent of alienated land alone which it contains:—

Size of Holding.	1895.	1900.	1905.	1910.	1912.
acres.					
1 — 50 ...	21,587	27,356	31,734	36,288	38,247
51 — 100 ...	7,977	8,935	9,108	9,173	9,057
101 — 500 ...	18,593	20,160	21,989	24,672	26,056
501 — 1,000 ...	5,719	6,063	6,607	7,632	8,362
1,001 — 1,500 ...	1,506	1,835	2,234	2,752	3,144
1,501 — 3,000 ...	1,701	1,801	1,910	2,327	2,752
3,001 — 5,000 ...	685	687	784	912	1,079
5,001 — 10,000 ...	506	567	584	711	828
Over 10,000 ...	656	694	722	711	708
Total ...	59,020	68,098	75,672	85,178	90,233

The holdings in the first area-group are, for the greater part, in the vicinity of towns, and, apart from those used for residential purposes only, consist mainly of gardens or orchards; the large increase in their number, representing 77 per cent. since 1895, is naturally to be expected from the steadily extending demand made by an increasing urban population for market-garden produce. In 1895, the holdings having an area of 51 to 1,500 acres numbered 33,885, while in 1912 they numbered 46,619, showing an advance of 38 per cent., which is considerably lower than the rate of increase, 51 per cent., in the holdings of 1,501 acres and upwards, which numbered 3,548 in 1895 and 5,367 in 1912.

The area of the alienated holdings, as returned by occupiers, in quinquennial periods since 1895 is given below:—

Size of Holding.	1895.	1900.	1905.	1910.	1912.
acres.	acres.	acres.	acres.	acres.	acres.
1 — 50 ...	395,209	462,212	486,203	501,589	503,648
51 — 100 ...	635,160	708,394	720,243	724,909	716,638
101 — 500 ...	4,594,270	4,953,889	5,428,153	6,175,692	6,601,711
501 — 1,000 ...	3,965,071	4,222,946	4,622,272	5,331,666	5,847,314
1,001 — 1,500 ...	1,990,433	2,280,673	2,744,051	3,378,235	3,850,725
1,501 — 3,000 ...	3,611,487	3,822,440	4,030,908	4,932,698	5,815,061
3,001 — 5,000 ...	2,654,673	2,667,894	3,047,469	3,490,908	4,139,719
5,001 — 10,000 ...	3,578,787	3,988,538	4,171,754	4,928,884	5,737,223
Over 10,000 ...	20,310,983	21,979,223	22,830,261	21,791,982	20,185,845
Total ...	41,736,073	45,086,209	48,081,314	51,256,563	53,406,884

ENCLOSED LANDS.

The greater portion of the alienated rural lands of the State has been enclosed; the following figures for quinquennial years since 1892, show the rate at which the enclosure has proceeded, and the small proportion of alienated holdings which yet remains to be enclosed :—

Year ended 31st March.	Area Enclosed.	Area Unenclosed.	Total Area of Holdings.	Unenclosed per cent. of Total Area of Holdings.
1892	Acres. 37,347,172	Acres. 2,713,114	Acres. 40,060,286	6·8
1897	41,803,983	1,663,229	43,467,212	3·8
1902	45,027,795	1,590,030	46,617,825	3·4
1907	48,121,774	1,294,109	49,415,883	2·6
1912	52,473,021	933,863	53,406,884	1·7

For 1912 the unenclosed alienated lands represented less than 2 per cent of the area alienated in holdings, and it is apparent that if the rates shown above are maintained the whole area of the holdings will be enclosed within a very short time.

PURPOSES FOR WHICH HOLDINGS ARE USED.

Analysis of the main purposes for which rural holdings of 1 acre and upwards are used, shows that of 96,344 holdings, inclusive of 6,111 which consist of Crown Lands only, rather less than one-third are single purpose holdings, being devoted to one or other of the three main branches of rural industry, viz., agriculture, dairying, or grazing; of the remainder, nearly 54 per cent. are devoted to agriculture in conjunction with dairying or grazing, or both. The following statement shows, according to the divisions of the State, the numbers of such rural holdings and their principal method of utilisation as at 31st March, 1912, and in comparison the totals under each head for the years ended 31st March, 1908-1910 :—

Division.	Single-purpose Holdings.				Dual-purpose Holdings.			Residential, Mining, &c.
	Agriculture.	Dairying.	Grazing.	Total.	Agriculture, with Dairying, and with Grazing.	Other.	Total.	
Coastal	4,247	2,842	7,822	14,911	12,971	1,834	14,865	16,343
Tableland	1,297	193	6,219	7,709	7,375	485	7,860	4,629
Western Slopes ..	804	74	3,227	4,105	8,378	433	9,311	3,636
Western Plains and Riverina	340	44	3,698	4,082	5,242	150	5,392	1,395
Western	126	4	1,045	1,175	123	16	139	792
Total, 1912 ..	6,814	3,157	22,011	31,982	34,589	2,978	37,567	26,795
Year 1908 ..	7,722	2,922	21,527	32,171	30,507	2,597	33,104	21,328
„ 1909 ..	7,244	3,575	21,874	32,693	30,422	2,347	32,769	22,871
„ 1910 ..	7,034	3,482	21,612	32,128	32,703	2,233	34,936	23,882
„ 1911 ..	6,677	3,493	21,770	31,940	33,382	2,757	36,139	25,690
„ 1912 ..	6,814	3,157	22,011	31,982	34,589	2,978	37,567	26,795

In the five years 1908-1912, the increase in the total number of rural holdings as recorded above was $11\frac{1}{4}$ per cent., but in that interval the number of holdings returned as dual-purpose holdings has increased by nearly $13\frac{1}{2}$ per cent., while the single-purpose holdings have decreased by slightly more than one-half per cent., due to the decrease in the number of holdings devoted to agriculture only.

EXTENT OF CULTIVATION.

The total area under crops for 1912 season, in all classes of holdings, was 3,629,170 acres, made up as follows:—

Division.	Area under crops.					Balance used for pasturage, grazing.	Proportion of cropped area to total area of Holdings.
	Alienated lands.		Crown lands.		Total.		
	Freehold.	Private Rented.	Attached to Holdings.	Separate.			
	acres.	acres.	acres.	acres.	acres.	acres.	per cent.
Coastal	196,873	80,774	1,418	1,723	280,788	12,846,780	2.1
Tableland	333,809	58,269	2,333	1,947	396,358	20,396,163	1.9
Western Slopes ...	1,455,031	69,681	93,702	44,242	1,662,656	19,369,951	7.9
Western Plains and Riverina ...	1,087,237	48,101	63,175	77,086	1,275,599	40,378,475	3.1
Western	5,617	97	4,434	3,621	13,769	77,332,397	0.2
New South Wales	3,078,567	256,922	165,062	128,619	3,629,170	170,323,766	2.1

The area under crops on freehold lands represented 84.8 per cent. of the total area of rural holdings under crop, or 6.2 per cent. of the holdings of alienated lands; the area of leasehold lands under crop as compared with the total leasehold area was 7.0 per cent., but the areas under crops on holdings of Crown lands is insignificant when compared with the total extent of rural holdings.

The next table shows the variation in cultivation in each series since 1905. The figures include the cropped area of Crown held in conjunction with alienated lands, and, therefore, differ from those shown in an earlier table which relates to alienated land only.

Size of Holding.	Area cultivated.			
	Total.		Percentage in each series.	
	1905.	1912.	1905.	1912.
acres.	acres.	acres.		
1 — 50 ...	113,543	92,588	4.36	2.65
51 — 100 ...	126,692	101,573	4.86	2.90
101 — 500 ...	773,728	835,088	29.68	23.86
501 — 1,000 ...	545,943	830,478	20.94	23.72
1,001 — 1,500 ...	224,271	423,598	8.60	12.10
1,501 — 3,000 ...	267,793	523,436	10.27	14.95
3,001 — 5,000 ...	129,074	227,569	4.95	6.50
5,001 — 10,000 ...	124,713	205,949	4.78	5.88
Over 10,000 ...	301,208	260,272	11.56	7.44
Total ...	2,606,965	3,500,551	100.00	100.00

In proportion to the total cultivation, it is apparent that the extension of agriculture has taken place mainly on estates from 501 to 5,000 acres, the increase being most noticeable in the groups 501 to 1,000 and 1,001 to 1,500 acres. The proportionate decrease in the cultivation of the small holdings is due mainly to the preference now given to dairy farming in the coastal division, where the majority of these holdings are situated.

DOUBLE CROPPING.

Records available since 1899 show that there has been considerable fluctuation in the area double cropped, but on the whole there is a persistent upward tendency. The following statement shows in comparison the areas under crop and the area double-cropped at intervals since 1899 :—

Year ended March.	Area double cropped.	Actual area under crop on—	
		Alienated lands.	Crown lands.
	acres.	acres.	acres.
1899	2,000	2,137,306	67,194
1902	1,842	2,162,666	113,862
1907	2,446	2,604,812	219,399
1912	2,852	3,335,489	293,681

Particulars in regard to the production from cultivated lands are given in part "Agriculture" of this Year Book.

GRASSED LANDS.

A considerable area of alienated enclosed land is under sown grasses ; on Crown lands also the area grassed is appreciable. The following figures show the extension of the area under sown grasses since 1897 :—

Year ended March.	Area under Sown Grasses on—		Total.
	Alienated land.	Crown lands.	
	acres.	acres.	acres.
1897	333,229	50,787	384,016
1902	452,201	15,638	467,839
1907	669,173	28,458	697,631
1912	1,059,956	59,808	1,119,764

The area of alienated holdings ringbarked, partially cleared, and under native grasses at 31st March, 1912, was approximately 35½ million acres, and on Crown lands 28 million acres.

HOLDINGS IN AREA SERIES.

Below will be found the number of holdings of various sizes throughout New South Wales, composed of alienated and attached Crown Lands :—

Size of Holding.	Freehold.	Private Rented.	Combined Freehold and Private Rented.	Combined Alienated and Crown Lands.	Total.
acres.					
1— 50	27,631	7,509	1,502	1,605	38,247
51— 100	5,040	1,920	517	1,580	9,057
101— 500	13,804	3,334	1,702	7,166	26,056
501— 1,000	4,481	394	500	2,987	8,362
1,001— 1,500	1,696	95	182	1,171	3,144
1,501— 3,000	1,305	67	155	1,225	2,752
3,001— 5,000	423	21	75	560	1,079
5,001—10,000	332	12	49	435	828
10,001—15,000	69	6	17	161	253
15,001—20,000	34	2	5	79	120
20,001—30,000	27	3	6	125	161
30,001—40,000	11	...	2	44	57
40,001—50,000	4	...	1	28	33
Over 50,000	9	...	1	74	84
Total	54,866	13,413	4,714	17,240	90,233

The total number of occupiers of freeholds only is 54,866, the proportion to the total number of occupiers being fairly constant in each size of holdings. Tenants of private lands, who number 13,413, are far more numerous in the smaller classes of holdings, and rapidly diminish both in number and in proportion as the estates become larger. The same is the case with regard to holders of freehold and private rented land, who number only 4,714. The persons who occupy alienated areas with Crown lands attached number 17,240, and 50·9 per cent. of the holdings over 1,500 acres in extent are in this category.

Comparison of the relation of the various classes to the total number of holdings for the last two years shows a slight increase in the proportion of freeholds, corresponding practically to a decrease in the proportion of private-rented holdings, but on the whole the variations are slight, viz.:—

Class.	1911.		1912.	
	Holdings.	Percentage of Total.	Holdings.	Percentage of Total.
Freehold	51,743	59·1	54,866	60·8
Private-rented	13,847	15·8	13,413	14·9
Combined freehold and private-rented ...	4,506	5·2	4,714	5·2
Combined alienated and Crown land ...	17,407	19·9	17,240	19·1
Total	87,503	100·0	90,233	100·0

AREA OF HOLDINGS.

The area of the alienated holdings referred to in the table given previously, whether freehold, private rented, or with attached Crown lands, is indicated in the figures subjoined, which also show the percentage of the total area occupied in holdings of each size:—

Size of Holding.	Area Occupied.				Percentage of Total Occupied.			
	Freehold.	Private Rented.	Crown Lands attached to Alienated.	Total.	Freehold.	Private Rented.	Crown Lands attached to Alienated	Total.
acres.	acres.	acres.	acres.	acres.				
1— 50	391,553	112,095	1,684,036	2,187,684	·26	·08	1·13	1·47
51— 100	540,747	175,891	1,366,446	2,083,084	·36	·12	·92	1·40
101— 500	5,598,303	1,003,408	13,592,017	20,193,728	3·76	·68	9·13	13·57
501— 1,000	5,334,919	512,395	16,240,725	22,088,039	3·59	·34	10·91	14·84
1,001— 1,500	3,584,649	275,076	9,916,708	13,776,433	2·41	·18	6·66	9·25
1,501— 3,000	5,387,462	427,599	13,887,335	19,702,396	3·62	·29	9·33	13·24
3,001— 5,000	3,845,204	294,515	11,853,122	15,992,841	2·58	·20	7·97	10·75
5,001— 10,000	5,406,098	331,125	11,339,159	17,076,382	3·63	·22	7·62	11·47
10,001— 15,000	2,932,232	174,291	4,376,553	7,483,076	1·97	·12	2·94	5·03
15,001— 20,000	2,004,072	99,094	2,800,703	4,903,869	1·35	·06	1·83	3·29
20,001— 30,000	3,692,302	218,051	3,319,496	7,229,849	2·48	·15	2·23	4·86
30,001— 40,000	1,990,015	11,936	1,076,901	3,078,852	1·34	·01	·72	2·07
40,001— 50,000	1,444,659	7,848	1,700,909	3,153,416	·97	·01	1·14	2·12
Over 50,000 ...	7,569,116	42,229	2,267,054	9,878,399	5·09	·03	1·52	6·64
Total ...	49,721,331	3,685,553	95,421,164	148,828,048	33·41	2·49	64·10	100·00

The following table shows the alienated area and the Crown Lands attached thereto, classified according to the size of the privately-owned land :—

Size of Holding. acres.	Holdings.		Area Alienated.		Crown Lands attached to Alienated lands.	
	Number.	Percentage of total Holdings.	Acres.	Percentage of total Alienated Area.	Acres.	Percentage of total Crown lands attached to Alienated.
1— 15 ...	27,071	30·00	126,343	·23	331,023	·35
16— 50 ...	11,176	12·39	377,305	·71	1,353,013	1·42
51— 100 ...	9,057	10·04	716,638	1·34	1,366,446	1·43
101— 500 ...	26,056	28·88	6,601,711	12·36	13,592,017	14·24
501— 1,000 ...	8,362	9·27	5,847,314	10·95	16,240,725	17·02
1,001— 1,500 ...	3,144	3·48	3,859,725	7·23	9,916,708	10·39
1,501— 2,000 ...	1,340	1·49	2,336,951	4·33	4,515,858	4·73
2,001— 3,000 ...	1,412	1·56	3,478,110	6·51	9,371,477	9·82
3,001— 4,000 ...	680	·75	2,350,486	4·40	7,707,156	8·08
4,001— 5,000 ...	399	·44	1,789,233	3·35	4,145,966	4·34
5,001— 7,500 ...	533	·59	3,203,248	6·00	8,119,966	8·51
7,501— 10,000 ...	295	·33	2,533,975	4·74	3,219,193	3·37
10,001— 15,000 ...	253	·28	3,106,523	5·82	4,376,553	4·59
15,001— 20,000 ...	120	·13	2,103,166	3·94	2,800,703	2·94
20,001— 30,000 ...	161	·18	3,910,353	7·32	3,319,496	3·48
30,001— 40,000 ...	57	·06	2,001,951	3·75	1,076,901	1·13
40,001— 50,000 ...	33	·04	1,452,507	2·72	1,700,909	1·78
Over 50,000 ...	84	·09	7,611,345	14·25	2,267,054	2·38
Total ...	90,233	100·00	53,406,884	100·00	95,421,164	100·00

It is one of the features of the table, that whilst the holders of estates exceeding 1,000 acres constitute but 9·42 per cent. of the total number of occupiers, the land held represents 74·71 per cent. of the total alienated area. This is still more accentuated in the case of 84 holdings of 50,001 acres and upwards, which represent only 0·09 per cent. of the total number of holdings, but embrace 14·25 per cent. of the area alienated.

CROWN LANDS.

Crown Lands are held, as has been explained, either in conjunction with alienated land or as separate holdings. The total area held in conjunction with alienated lands at 31st March, 1912, was 95,421,164 acres, attached to 17,240 holdings, and particulars as to the distribution, cultivation, &c., of this area are given in connection with the alienated lands. Holdings, consisting of Crown lands only, numbered 6,111, representing 25,124,888 acres, of which nearly 63 per cent, was in the Western Division. The following figures show the distribution of these holdings in the different divisions of the State :—

Division.	Holdings.	Area held.	Area cultivated.
	Number.	Acres.	Acres.
Coastal	977	512,941	1,723
Tableland	984	839,013	1,947
Western Slopes	1,316	1,934,387	44,242
Western Plains and Riverina	1,912	6,056,065	77,086
Western	922	15,782,482	3,621
New South Wales	6,111	25,124,888	128,619

SETTLEMENT IN LAND DIVISIONS.

The divisions into which the country may be classified for land purposes are five, viz., Coast, Tableland, Western Slopes of the Great Dividing Range, Western Plains and Riverina, and the Western Division. Each division, having its own special character, offers different natural resources according to its climatic conditions. From Sydney as centre, settlement extended first along the coast, then to the central and more readily accessible parts of the tableland, following afterwards the course of the great inland rivers towards the southern and western parts of the State; thence to the great plains of the west, and across the river Darling.

Geographical features and climate have been the primary factors in determining the trend of settlement, and other considerations, such as soil fertility, distribution of rainfall, density of timber growth, and consequent cost and difficulty of clearing, &c., naturally regulate the character of rural settlement in a given locality and the purposes to which lands are applied.

But of more vital importance than considerations of soil fertility and climate is the question of communication between the sparsely settled and the populous centres, and accessibility to a good market which will assure to the settler some certainty of disposing of his products, and permit an effort to regulate such products according to the demands of the market. In this connection it is interesting to notice how agricultural settlement has clung to the closer and more accessible coastal lands; thus, of 6,814 purely agricultural holdings in 1912, 4,247 were in the Coastal Division, and 1,297 in the Tableland.

The returns which follow show the holdings of alienated land classified according to size, the Crown lands attached to such holdings, and the area devoted to agriculture or used for pastoral purposes. As in previous tables, the figures for each Division are exclusive of holdings made up of Crown leases only.

COASTAL DIVISION.

From the county of Cumberland settlement advanced westward, and after the alluvial lands of the Hawkesbury and Nepean valleys had been occupied, the lower portion of the valley of the river Hunter, abounding with natural resources, agricultural as well as mineral, soon attracted settlers; and at the present time more population is concentrated in this district than in any other part of New South Wales outside the metropolitan area. Settlement gradually extended to the whole of the watershed of the Hunter and Manning Rivers.

The North Coast district, which is occupied by a farming population, exhibits the most satisfactory results as regards settlement, which, during recent years, has extended very rapidly along the banks of the rivers.

In the early nineteenth century settlement took a southerly direction from the metropolis, and extended rapidly along the lower valleys of the rivers of the South Coast, where the best lands were alienated in grants of large areas to a few families. Later on, however, the nature of the country and a more intelligent conception of the principles which should guide settlement brought about the subdivision of these large estates into numerous small holdings.

The figures in the following table show the settlement of the Coastal Division in holdings of 1 acre and over made up of alienated lands or

alienated lands in conjunction with Crown lands, and are exclusive of holdings within the boundaries of Sydney and suburbs :—

Size of Holding.	Number of Holdings.	Area occupied.			Area under—	
		Alienated.	Crown Lands attached to alienated holdings.	Total.	Crops.	Grazing, &c.
acres.		acres.	acres.	acres.	acres.	acres.
1— 50 ...	24,002	310,093	121,268	431,361	52,618	378,743
51— 100 ...	5,585	439,631	143,886	583,517	45,762	537,755
101— 500 ...	12,531	2,864,784	1,071,201	3,935,985	124,754	3,811,231
501— 1,000 ...	1,877	1,297,690	646,550	1,944,240	27,517	1,916,723
1,001— 1,500 ...	504	612,695	267,284	879,979	7,856	872,123
1,501— 3,000 ...	380	806,120	381,046	1,187,166	8,470	1,178,696
3,001— 5,000 ...	131	497,940	365,185	863,125	3,981	859,144
5,001—10,000 ...	87	609,136	370,209	979,345	3,352	975,993
Over 10,000 ...	45	1,077,593	732,316	1,809,909	4,755	1,805,154
Coastal Division...	45,142	8,515,682	4,098,945	12,614,627	279,065	12,335,562

The total area of this Division is 22,355,401 acres, of which 8,515,682 acres have been alienated, and 4,098,945 acres of Crown lands are held in conjunction with the alienated, making a total of 12,614,627 acres.

Holdings under 51 acres represent 53·2 per cent. of the total number, and are generally market gardens and orchards in the vicinity of towns. The moderate-sized holdings consist mainly of dairy-farms; the area under crop was 279,065 acres, being 25,948 acres less than for the previous year, due mainly to a period of dry weather which prevented many maize-growers from cropping their lands.

Rural settlement in the valleys of the northern coastal rivers, and in the country extending from the sea to the first slopes of the Great Dividing Range, has proceeded in a way very different from that of the tableland, which extends from north to south, and divides the rich agricultural valleys of the coastal rivers and their broken mountainous watershed from the immense plains of the western district.

TABLELAND DIVISION.

After crossing the ranges which form the western boundary of the coastal strip, settlement proceeded in the central tableland, thence south and north, and later westwards, at first following the courses of the great rivers.

In the northern tableland the disproportion between freeholders and tenants is strongly marked, the latter forming a very small minority of the occupiers of alienated land.

The following statement shows the actual state of rural settlement in the Tableland Division :—

Size of Holding.	Number of Holdings.	Area Occupied.			Area under—	
		Alienated.	Crown Lands Attached to Alienated Holdings.	Total.	Crops.	Grazing, &c.
acres.		acres.	acres.	acres.	acres.	acres.
1— 50 ...	6,760	101,865	286,441	388,306	18,486	369,820
51— 100 ...	2,007	159,915	213,485	373,400	21,902	351,498
101— 500 ...	6,649	1,722,445	2,787,574	4,510,019	158,638	4,351,381
501— 1,000 ...	1,860	1,306,791	1,214,772	2,521,563	67,443	2,454,120
1,001— 1,500 ...	704	866,456	658,320	1,524,776	31,483	1,493,293
1,501— 3,000 ...	613	1,285,877	1,205,232	2,491,109	36,498	2,454,611
3,001— 5,000 ...	261	1,002,381	752,216	1,754,597	19,660	1,734,937
5,001—10,000 ...	208	1,444,279	908,111	2,352,390	16,324	2,336,066
Over 10,000 ...	152	2,907,489	1,129,859	4,037,348	23,977	4,013,371
Tableland Division ...	19,214	10,797,498	9,156,010	19,953,508	394,411	19,559,097

WESTERN SLOPES.

The districts situated on the Western Slope of the Great Dividing Range mark the transition between the agricultural settlements of the coast and the tableland, and the purely pastoral settlements of the Great Western plains. The extent of arable land in the Western Slopes is very large; and, although the proportion devoted to cultivation is greater than in any other Division, in comparison with the total area it is inconsiderable. Distance from a market has been the principal obstacle to a rapid extension of agriculture; but, with expansion of the railways during the last ten years, improvement in methods of wheat-growing, and extension of share farming, a considerable impetus has been given to agriculture.

In the South-western Slope, which is traversed by the principal permanent rivers of western New South Wales, the land has been alienated to a large extent, and immense areas of freehold land are in the hands of a small number of landholders. The state of settlement in the Western Slopes may be gathered from the following table:—

Size of Holding.	Number of Holdings.	Area Occupied.			Area under—	
		Alienated.	Crown Lands attached to alienated Holdings.	Total.	Crops.	Grazing, &c.
acres.		acres.	acres.	acres.	acres.	acres.
1— 50 ...	5,140	66,678	66,042	132,720	17,197	115,523
51— 100 ...	1,062	84,548	52,695	137,243	28,304	108,939
101— 500 ...	4,779	1,365,706	1,191,050	2,559,756	373,348	2,186,408
501— 1,000 ...	2,339	1,637,389	1,246,716	2,884,105	387,009	2,497,096
1,001— 1,500 ...	886	1,089,641	542,415	1,632,056	198,507	1,433,549
1,501— 3,000 ...	819	1,748,678	966,560	2,715,238	269,920	2,445,318
3,001— 5,000 ...	293	1,133,154	613,294	1,746,448	109,907	1,636,541
5,001—10,000 ...	241	1,684,788	644,311	2,329,099	114,169	2,214,930
Over 10,000 ...	177	4,004,205	957,350	4,961,555	120,053	4,841,502
Western Slopes...	15,736	12,814,787	6,283,433	19,098,220	1,618,414	17,479,806

WESTERN PLAINS AND RIVERINA.

The portion of the Central Land Division of New South Wales which lies beyond the Western Slopes of the Great Dividing Range constitutes the Division known as the Western Plains and Riverina. The Riverina is the southern portion, and may be considered as the most important agricultural Division of the State, not only on account of the total area alienated, but also from the fact that it contains a considerably larger area under cultivation than any other Division, except the Western Slopes; at the same time the average size of the holdings is extremely large.

Following are the figures showing the development of settlement and cultivation in the Western Plains and Riverina:—

Size of Holding.	Number of Holdings.	Area Occupied.			Area under—	
		Alienated.	Crown Lands attached to Alienated Holdings.	Total.	Crops.	Grazing, &c.
acres.		acres.	acres.	acres.	acres.	acres.
1— 50 ...	1,748	19,026	237,369	256,395	3,687	252,708
51— 100 ...	333	26,617	99,176	125,793	5,154	120,639
101— 500 ...	1,927	604,244	856,576	1,460,820	177,116	1,283,704
501— 1,000 ...	2,159	1,518,427	2,039,655	3,558,082	347,022	3,211,060
1,001— 1,500 ...	992	1,218,220	1,886,919	3,105,139	184,972	2,920,167
1,501— 3,000 ...	887	1,864,017	2,077,428	3,941,445	207,322	3,734,123
3,001— 5,000 ...	353	1,346,082	1,606,198	2,952,280	91,935	2,860,345
5,001— 10,000 ...	258	1,762,474	1,900,212	3,662,686	71,473	3,591,213
Over 10,000 ...	300	11,262,113	5,273,256	16,535,369	109,832	16,425,537
Western Plains and Riverina ...	8,957	19,621,220	15,976,789	35,598,009	1,198,513	34,399,496

THE WESTERN DIVISION.

In the extreme west of the State settlement progresses slowly. The great mining centre of Broken Hill, situated close to the boundary line between New South Wales and South Australia, has attracted a large population, but excluding this closely settled area the whole Western Division of New South Wales is given up to the depasturing of stock.

The present state of rural settlement in the Western Division is illustrated by the figures given below:—

Size of Holding.	Number of Holdings.	Area occupied.			Area under—	
		Alienated.	Crown Lands attached to alienated Holdings.	Total.	Crops.	Grazing, &c.
acres.		acres.	acres.	acres.	acres.	acres.
1— 50 ...	597	5,986	972,916	978,902	600	978,302
51— 100 ...	70	5,927	857,204	863,131	451	862,680
101— 500 ...	170	44,532	7,682,616	7,727,148	1,232	7,725,916
501— 1,000 ...	127	87,017	11,093,032	11,180,049	1,487	11,178,562
1,001— 1,500 ...	58	72,713	6,561,770	6,634,483	780	6,633,703
1,501— 3,000 ...	53	110,369	9,257,069	9,367,438	1,226	9,366,212
3,001— 5,000 ...	41	160,162	8,516,229	8,676,391	2,086	8,674,305
5,001— 10,000 ...	34	236,546	7,516,316	7,752,862	631	7,752,231
Over 10,000 ...	34	934,445	7,448,835	8,383,280	1,655	8,381,625
Western Division ...	1,184	1,657,697	59,905,987	61,563,684	10,148	61,553,536

The proportion of land alienated is little more than 2 per cent. of the total area, being an aggregate of 1,657,697 acres out of 80,368,498 acres which the division is estimated to contain. The land in the Western Division can only be alienated by auction or held under lease from the Crown. The area of Crown lands held is therefore very large, 59,905,987 acres being attached to alienated holdings. The general character of the country militates against agricultural production and the successful rearing of cattle; sheep-breeding is practically the only industry, except in the vicinity of townships, where market-gardens and fruit orchards are found.

For the years ended March, 1911 and 1912, particulars are available respecting the number and total area of holdings of various sizes, irrespective of the conditions governing the tenure of the land. The results shown in the following table are inclusive of all holdings of an acre and upwards, the actual land held—whether alienated only, alienated with Crown lands attached, or Crown land only—being taken as the basis for each area group:—

Size of Holding.	Number of Holdings.		Total Area.		Percentage in each series.			
	1911.	1912.	1911.	1912.	Holdings.		Area.	
					1911.	1912.	1911.	1912.
acres.			acres.	acres.				
1— 50	37,754	38,850	491,312	494,091	40·26	40·33	·28	·28
51— 100	8,033	7,966	644,470	627,402	8·57	8·26	·37	·36
101— 500	23,371	23,969	5,960,566	6,147,882	24·92	24·88	3·12	3·53
501— 1,000	8,899	9,299	6,354,285	6,618,331	9·49	9·65	3·64	3·81
1,001— 3,000	9,454	9,858	16,337,590	17,004,449	10·08	10·23	9·39	9·78
3,001— 5,000	2,289	2,397	8,854,884	9,220,473	2·44	2·49	5·07	5·30
5,001— 10,000	1,814	1,881	12,328,304	12,816,405	1·94	1·95	7·06	7·37
10,001— 20,000	928	918	12,507,699	12,452,619	·99	·95	7·17	7·16
20,001— 50,000	695	717	20,637,323	21,436,719	·74	·74	11·83	12·32
50,001— 100,000	259	232	18,066,432	16,139,784	·28	·24	10·35	9·28
Over 100,000 ...	273	267	72,270,869	70,994,781	·29	·28	41·42	40·81
Total ...	93,769	96,344	174,503,764	173,952,936	100·00	100·00	100·00	100·00

The decrease in the number of holdings from 51 to 100 acres, noticeable in a preceding table dealing with the alienated land only, is apparent here as well, whilst in holdings from 10,001 to 20,000 acres there is also a slight falling-off. With these two exceptions the general tendency of the holdings up to 50,000 acres is to increase, both absolutely and proportionately. In the higher groups the actual reduction of area during the last year was 3,202,736 acres, but by far the greatest number of the largest holdings are in the Western Division and consist chiefly of Crown lands only. It is significant that the number and area of holdings in the first and last groups are practically in inverse ratio to each other.

THE CLOSER SETTLEMENT MOVEMENT.

In discussing Land Legislation and Settlement an account is given of the progress of the movement for the extension of rural settlement on relatively small areas, which was inaugurated with the Closer Settlement Act of 1901 and adapted by subsequent Acts to prevailing conditions. Below are given figures which indicate to some extent the effect of the operation of the Acts upon the holdings of the State.

The acreage of alienated land in holdings in each series is given, also the area cultivated, and a percentage column is added, showing the ratio of the latter to the former :—

Size of Holding.	Alienated Area in Holdings.		Percentage of Cultivated Area to total alienated area in Holdings.
	Total.	Cultivated.	
acres.	acres.	acres.	
1— 50... ..	503,648	87,728	17·42
51— 100	716,638	95,305	13·30
101— 500... ..	6,601,711	789,175	11·95
501— 1,000... ..	5,847,314	778,346	13·31
1,001— 1,500... ..	3,859,725	406,490	10·53
1,501— 3,000	5,815,061	496,854	8·54
3,001— 5,000... ..	4,139,719	220,155	5·32
5,001— 10,000... ..	5,737,223	202,821	3·54
Over 10,000	20,185,845	258,615	1·28
Total	53,406,884	3,335,489	6·25

The area under crop invariably decreases in ratio per cent. as the size of the holding increases, and for the whole State the cropped area is about $6\frac{1}{4}$ per cent. of the total area alienated in rural holdings of one acre and over. Taking this proportion as indicative of the average extent to which agriculture may be undertaken profitably it is arguable that any land devoted to agriculture to a greater extent, as indicated by a higher area percentage, is especially suited under present conditions for that purpose; and also that the largest average area of land thus utilised represents the area necessary for settlement of that description.

Reference to the table shows that the series 1,501—3,000 acres contains the largest average areas wherein more than the average 6 per cent. of crop area is in evidence; consequently it may be conceded that a reasonable limit for an effective agricultural area is to be found within this series. Taking a moderate view of the matter, it has been assumed that the lowest area of this series, 1,501 acres, is the area limit.

A comparative statement of the number and area of holdings of alienated lands in area groups as at March, 1905, when the closer settlement policy was commencing to operate actively, and 1912, is given below, also the proportions in each series:—

Size of Holding.	Number of Holdings.		Alienated Area.		Percentage in each series.			
	1905.	1912.	1905.	1912.	Holdings.		Area.	
					1905.	1912.	1905.	1912.
acres.			acres.	acres.				
1— 50...	31,734	38,247	486,203	503,648	41·94	42·39	1·01	·94
51— 100...	9,108	9,057	720,243	716,638	12·04	10·04	1·50	1·34
101— 500...	21,989	26,056	5,428,153	6,601,711	29·06	28·88	11·29	12·36
501— 1,000...	6,607	8,362	4,622,272	5,847,314	8·73	9·27	9·61	10·95
1,001— 1,500...	2,234	3,144	2,744,051	3,859,725	2·95	3·48	5·71	7·23
1,501— 3,000...	1,910	2,752	4,030,908	5,815,061	2·52	3·05	8·38	10·89
3,001— 5,000...	784	1,079	3,047,469	4,139,719	1·04	1·19	6·34	7·75
5,001— 10,000...	584	828	4,171,754	5,737,223	·77	·92	8·68	10·74
Over 10,000 ..	722	708	22,830,261	20,185,845	·95	·78	47·48	37·80
Total ...	75,672	90,233	48,081,314	53,406,884	100·00	100·00	100·00	100·00

The number of holdings has increased in the seven years from 75,672 to 90,233, or by 19·2 per cent., and the area from 48,081,314 acres to 53,406,884 acres, or by 11·2 per cent. There have been increases in the number and acreage of all the area series, except for the groups, 51–100 acres, and over 10,000 acres. In the smaller series, the number and area of the holdings have decreased proportionately, the average area of holdings in this class remaining stationary. In the area group over 10,000 acres, the reduction of the very large holdings has been concurrent with a percentage increase in all but one of the smaller groups.

If account be taken of the Crown lands held by a number of occupiers in addition to the alienated areas the proportionate weighting of the various groups is considerably altered. A comparative statement is therefore given, showing the acreage in occupation, inclusive of the Crown lands attached to estates in each area series. The estates have been classified, as in previous tables, according to the extent of private land only:—

Size of Holding.	Area occupied, including Crown Lands attached to alienated holdings.		Percentage area in each series.	
	1905.	1912.	1905.	1912.
acres.	acres.	acres.		
1— 50 ...	2,050,314	2,187,684	1·38	1·47
51— 100 ...	1,713,464	2,083,084	1·16	1·40
101— 500 ...	17,261,607	20,193,728	11·66	13·57
501— 1,000 ...	19,105,229	22,088,039	12·91	14·84
1,001— 1,500 ...	11,394,537	13,776,433	7·70	9·26
1,501— 3,000 ...	19,994,336	19,702,396	13·50	13·24
3,001— 5,000 ...	16,166,642	15,992,841	10·92	10·75
5,001— 10,000 ...	15,384,516	17,076,382	10·39	11·47
Over 10,000 ...	44,973,165	33,727,461	30·38	24·00
Total ...	148,043,810	148,828,048	100·00	100·00

PUBLIC FINANCE.

SYSTEM OF REVENUE AND EXPENDITURE ACCOUNTS.

A COMPLETE revolution in the system of keeping the public accounts of New South Wales was effected in the year 1895, when the Audit Act Amendment Act of 1895 was passed. This Act declares that all appropriations from the Consolidated Revenue Fund must lapse at the close of the financial year to which they refer, and from the 1st day of July, 1895, the cash receipts within the financial year must be considered as the actual income, and the cash payments during the same period the actual outlay. This introduced what is usually termed the "cash basis," which was further qualified in the Consolidation and Amending Act of 1902 by fixing the balance of the Consolidated Revenue Fund as on the 1st July, 1902.

Prior to the adoption of the cash basis system, the expenditure for the services of a year and the actual expenditure during that year could be shown only by two different methods of accounts. When a specific appropriation was made for any service, the expenditure incurred under such authorisation would be charged against the year for which the vote was taken, irrespective of the date when the payments were made; and, therefore, the public accounts for any year could not be closed until all appropriations lapsed, or were written off, or exhausted. The consequence was that when the expenditure exceeded the income, there were frequent differences of opinion between the incoming and outgoing Treasurers as to the propriety of charging items, sometimes of large amount, to particular years, with the result that conflicting statements were made, to the confusion of the inexpert and to the detriment of the public credit.

Even under the present circumstances, some trouble may be experienced in comprehending a most carefully prepared statement of the finances of the State, as the term "expenditure" in the official statements does not possess always the same meaning, owing to the inclusion of advances, &c., which cannot be classed as "Expenditure proper."

During the years 1905-1912 the expenditure of the State was £108,317,724, while the actual revenue obtained was £108,754,297, the total excess of revenue during the eight years being £436,573. The actual excess of expenditure in some years, however, was considerable, as will be seen from the statement below. The figures are exclusive of advances made and repaid; but for the last six years the statements of expenditure include transfers in aid of the Public Works Fund, and during the years 1907-10 transfers in aid of Closer Settlement Fund:—

Year ended 30th June.	Revenue.	Expenditure.	Excess of Revenue over Expenditure.	Excess of Expenditure over Revenue.
	£	£	£	£
1905	11,336,918	11,195,075	141,843	.....
1906	12,283,082	11,386,864	896,218	.....
1907	13,392,435	12,799,797	592,638	.....
1908	13,960,763	13,700,072	260,691	.....
1909	13,625,071	14,692,168	.....	1,067,097
1910	14,540,073	14,184,327	355,746	.....
1911	13,839,139	14,443,691	.....	604,552
1912	15,776,816	15,915,730	.....	138,914

The total expenditure for the year ended 30th June, 1912, includes £638,729 transferred to the Public Works Fund. It is obvious that if this amount were not included in the expenditure, there would be an excess of revenue.

GENERAL BANKING ACCOUNT.

The following table indicates each of the main accounts under which the Government conducts its financial business, the subsidiary accounts being included under one or other of the headings enumerated. The Audit Act of 1902 and Amending Acts provide that the Treasurer may agree with any bank or banks for the transaction of the general business of the State. The accounts are kept under seven headings, viz., Consolidated Revenue Account, General Loan Account, Special Accounts (Colonial Treasurer's Supreme Court moneys), Special Deposits Account, Closer Settlement Account, Public Works Account, and Railways Loan Account. All moneys paid into any of the accounts mentioned are deemed to be "public moneys," and for interest purposes the several accounts are treated as one account. The Special Accounts, which consist of "Supreme Court Moneys," are not controlled by the Audit Act, as they are operated on directly by the officers in charge of the departments interested. The position of the main divisions of the General Banking Account on 30th June, 1912, will be found in the following statement:—

Head of Account.	Ledger Balances on 30th June, 1912.		
	Invested in Securities.	Credit Cash Balances.	Total.
Special Deposits Account—	£	£	£
Commonwealth Government Fixed Deposit Account ..	.....	1,750,000	1,750,000
Government Savings Bank Deposits Account .. ..	.....	2,075,292	2,075,292
" " Advances Deposit Account .. ..	.....	300,000	300,000
State Debt Commissioners' Trust Account .. ..	.....	106,884	106,884
" Deposit Account .. ..	.....	217,064	217,064
Other	34,068	837,547	871,615
Consolidated Revenue Account .. .. .	.....	61,363	61,363
Railways Loan Account .. .. .	.....	489,487	489,487
Colonial Treasurer's Supreme Court Moneys Accounts .. ..	.....	226,886	226,886
Closer Settlement Account .. .. .	.....	43,981	43,981
Public Works Account .. .. .	.....	260,679	260,679
	£	6,369,183	6,403,251
Less Debit Balance—			
General Loan Account .. .. .	.....	1,533,603	1,533,603
London Remittance Account .. .. .	.....	2,303,741	2,303,741
	£	3,837,344	3,837,344
Total Credit Balance in Sydney	£	34,068	2,531,839
Add—London Bank Account	£	1,030	2,302,711
Total	£	35,098	4,834,550
			4,869,618

The distribution of the cash balance on 30th June, 1912, is set forth in the following table, the London accounts being shown to the latest date available before the closing of the Public Accounts for the financial year :—

Sydney Balance—30th June, 1912—	£	£	£
Special Deposits Account—Bank of New South Wales ..	2,259,221		
" " " Commercial Banking Company of Sydney (Ltd.)	3,027,226		
" " " Cash in hands of Receiver ..	340		
Consolidated Revenue Account—Bank of New South Wales <i>Dr.</i>	75,746	5,286,787	
" " " Commercial Banking Company of Sydney (Ltd.) <i>Dr.</i>	91,200		
" " " Cash in Treasury .. <i>Cr.</i>	228,399		61,363
Closer Settlement Account—Commercial Banking Com- pany of Sydney (Ltd.) ..	.....		43,981
Public Works Account—Bank of New South Wales ..	258,154		
" " " Cash in hands of Receiver ..	2,525		
		280,679	
Special Accounts—Bank of New South Wales .. ..	.....		226,886
Railways Loan Account—Bank of New South Wales ..	212,491		
" " " Commercial Banking Company of Sydney (Ltd.)	276,996		
		489,487	
		6,369,183	
<i>Less Debit Balances—</i>			
General Loan Account—Bank of New South Wales ..	807,925		
" " " Commercial Banking Company of Sydney (Ltd.)	757,573		
" " " Cash in hands of Receiver.. <i>Cr.</i>	31,895		1,533,603
London Remittance Account—Bank of New South Wales..	916,908		
" " " Commercial Banking Com- pany of Sydney (Ltd.) ..	1,836,833		
		2,303,741	
Total Cash in Sydney .. .. £	.....	.....	2,531,839
Total Cash in London .. .. £	.....	.....	2,302,711
Total .. .. .. £	.....	.....	4,834,550

Prior to 1906 the Public Accounts included all the invested assets of the Government Savings Bank. Upon the passing of the Government Savings Bank Act, 1906, these assets were vested in the Commissioners appointed under that Act, and are no longer included in the statements relating to the Public Accounts.

CONSOLIDATED REVENUE FUND.

It was difficult to obtain more than a general idea of the state of the finances during the existence of the old system of account-keeping which came to an end in 1895. Now that the system of keeping accounts on a cash basis is properly in operation, it is still necessary, in estimating the financial position of the State, to consider the Old Deficiency Account and the New Account under the Audit Act Amendment Act, which form the Consolidated Revenue Account, as well as the Loans Account and the various Trust Accounts not forming part of the Consolidated Revenue

Account. The Old Deficiency Account proper began in 1885; but it was only in 1897, when the last obligation under the old system of account-keeping was met, that the position of this account for each year could be accurately stated. Until all obligations had been met, only an approximation could be made, the accuracy of which rested on the correctness of the Treasurer's estimate of the liabilities outstanding for previous years.

The confusion which formerly attended the presentation of the public accounts of the State no longer exists, as operations on the Old Deficiency Accounts have been closed. The following table shows the Accumulated Deficiency on the Consolidated Revenue Account for each of the years since 1901. The Treasury Bills issued have been included in the statement, as they became part of the Consolidated Revenue Account proper:—

Year ended 30th June.	At the end of each Year.				
	Deficiency Bills Current.	Cash.		Debit Balance of Suspense Accounts.	Actual Accumulated Deficiency. †
		Credit.	Overdraft.		
	£	£	£	£	£
1901	1,872,447	.....	152,187	755,179	2,779,813
1902	2,477,626	.....	236,781	.....	2,714,407
1903	2,227,626	.....	484,356	.....	2,711,982
1904	1,977,626	.....	524,064	.....	2,501,690
1905	1,727,626	.....	336,891	.....	2,064,517
1906	1,814,516	896,124	.....	.....	918,392
1907	1,561,632	1,471,344	.....	.....	90,288
1908	1,214,516	1,676,924	.....	.....	*462,408
1909	914,516	637,678	.....	.....	276,838
1910	659,337	989,707	.....	.....	*330,370
1911	414,516	401,505	.....	.....	13,011
1912	114,516	61,363	.....	.....	53,153

* Surplus. † Includes cash balances not actually used in reduction.

Treasury Bills to the amount of £114,516 were current on 30th June, 1912, and the credit balance of the Consolidated Revenue Fund was £61,363, leaving a deficiency of £53,153. The liability on account of these bills is being reduced by annual instalments of not less than £350,000. Should this arrangement be followed, and no other issues take place in the meantime, the debt will be extinguished during 1912-13.

The "Treasury Bills Deficiency Act, 1905," by which authority was given for the issue of Treasury Bills to liquidate the overdraft on the Consolidated Revenue, provides that, in the event of a surplus on the year's transactions of the Consolidated Revenue, the Treasurer shall pay to the State Debts Commissioners the sum of £50,000, with a view to extinguishing the liability of the Bills. This amount is in addition to that of £250,000 already made a charge on the revenue, for a similar purpose, by prior enactments.

REVENUE AND EXPENDITURE.

The gross and net revenue proper, as well as the net expenditure since 1904, were as follows:—

Year ended 30th June.	Gross Revenue (exclusive of Advances).	Refunds.	Net Revenue proper.		Net Expenditure, exclusive of Advances.	
			Total.	Per Inhabitant.	Total.	Per Inhabitant.
	£	£	£	£ s. d.	£	£ s. d.
1904	11,453,745	205,417	11,248,328	7 17 10	11,319,888	7 18 11
1905	11,514,324	177,406	11,336,918	7 16 1	11,195,075	7 14 2
1906	12,471,473	188,391	12,283,082	8 5 6	11,386,864	7 13 5
1907	13,570,380	177,945	13,392,435	8 16 7	12,799,797	8 8 10
1908	14,195,357	234,594	13,960,763	8 19 9	13,700,072	8 16 5
1909	13,844,642	219,571	13,625,071	8 12 6	14,692,168	9 6 1
1910	14,689,973	149,900	14,540,073	9 0 11	14,184,327	8 16 6
1911	13,977,777	138,638	13,839,139	8 8 9	14,443,691	8 16 2
1912	15,920,758	143,942	15,776,816	9 6 4	15,915,730	9 7 11

Under the provisions of the Commonwealth of Australia Constitution Act, the control of Customs and Excise and the administration of the Post and Telegraph and Defence Departments were transferred to the Federal Government, the first-named on 1st January, 1901, and the others on 1st March, 1901. The Patents Office, was transferred on 1st June, 1904. The revenue derived from those sources, since the transfer, has been included only to the extent of the balance paid over to the State after deducting the expenditure incurred in connection with transferred services, and the proportion of other or new expenditure for which the State was liable.

The figures relating to revenue, both above and in subsequent tables, are exclusive of "Advances repaid"; and in dealing with expenditure, "Advances made" have been excluded from consideration, as transactions under these heads do not affect the ordinary revenue and the expenditure therefrom. The terms "net revenue" and "net expenditure," used both here and in subsequent pages, are to be taken as meaning revenue and expenditure freed from the transactions just mentioned as well as from refunds.

The apparently large increase in expenditure during the last five years is due to the transfers from the Consolidated Revenue Fund of large sums to the Public Works Fund and the Closer Settlement Fund. As the moneys so transferred are applied principally to public works previously charged to the General Loan Account, the practice means that smaller loans for these services will be required, and the State will escape the interest and flotation charges. The advantages of the new system are obvious, and will be specially apparent when the current liability on Treasury Bills shall have been liquidated.

HEADS OF REVENUE AND EXPENDITURE.

With a view of obtaining a proper conception of the sources from which the revenue is derived, and the objects upon which expenditure is made, the subjoined table has been prepared for the last four financial years.

In the table a separation has been effected between receipts and expenditure for purely Government purposes and for the business undertakings of the State. The figures are exclusive of advances made and repaid:—

	1909.	1910.	1911.	1912.
REVENUE.				
<i>Governmental.</i>				
Revenue returned by Commonwealth	£ 3,356,158	£ 3,347,616	£ 1,942,245	£ 2,046,993
Taxation—				
Stamp Duties	566,703	872,922	625,841	1,104,490
Land Tax	80,794	9,060	7,488	6,479
Income Tax	202,369	2,997	269,142	644,571
Licenses	117,383	121,556	123,098	130,113
Total Taxation	£ 907,249	£ 1,223,521	£ 1,027,519	£ 1,885,653
Land Revenue—				
Alienation	998,532	944,162	1,028,531	962,198
Occupation	628,385	640,638	633,916	625,143
Miscellaneous	151,137	145,540	176,470	178,118
Total	£ 1,778,002	£ 1,729,740	£ 1,838,917	£ 1,765,459
Services rendered (other than Business Undertakings)	310,382	313,381	333,039	331,981
General Miscellaneous	274,600	358,550	318,971	553,000
Industrial Undertakings .. .. .	.....	.....	.....	20,281
Total Governmental	£ 6,626,891	£ 6,972,808	£ 5,460,691	£ 6,653,367
<i>Business Undertakings of the State.</i>				
Receipts, Corporate Bodies—				
Railways and Tramways	6,132,918	6,664,236	7,412,127	8,067,597
Sydney Harbour Trust	334,694	337,454	374,280	412,410
Metropolitan Board of Water Supply and Sewerage	486,393	512,615	537,355	584,654
Hunter District Board of Water Supply and Sewerage	44,175	52,960	51,686	58,788
Total Business Undertakings	£ 6,998,180	£ 7,567,265	£ 8,378,448	£ 9,123,449
Grand Total	£ 13,625,071	£ 14,540,073	£ 13,839,139	£ 15,776,816
EXPENDITURE.				
<i>Governmental.</i>				
Interest on Public Debt and on Trust Funds (excluding proportion chargeable to the four corporate bodies)	755,058	807,929	801,754	882,354
Old-age and Invalidity and Accident Pensions and Administration	627,213	140,228	49,570	.....
Other Pensions and Retiring Allowances	189,442	191,896	191,628	200,552
Elections Act Expenses (including Electoral Office)	4,648	*16,183	*85,504	*24,267
Parliamentary Allowances and Postage	31,236	31,337	30,102	33,232
Local Government—				
Endowments to Municipalities	7,637	7,763	8,872	6,956
Endowments to Shires	198,136	274,052	236,842	334,269
Administration, &c.	3,715	11,125	11,914	11,675
Agricultural, Pastoral, and Horticultural Societies	18,096	19,611	21,889	23,688
Hospitals and Charities	343,961	353,331	373,470	390,908
Lunacy (including Master-in-Lunacy)	156,559	164,990	177,486	187,163
Public Instruction (including Reformatories and Grants to Educational and Scientific Institutions)	1,088,328	1,145,038	1,206,942	1,395,114
Industrial Undertakings .. .. .	.....	.....	.....	23,242
All other Services of the State	2,473,405	2,509,098	2,558,954	2,906,829
Total Governmental	£ 5,897,434	£ 5,662,581	£ 5,754,922	£ 6,416,179
<i>Business Undertakings of the State.</i>				
Working Expenses—				
Railways and Tramways	3,872,865	4,292,070	4,808,991	5,428,685
Sydney Harbour Trust	104,208	108,192	119,531	114,684
Metropolitan Board of Water Supply and Sewerage	152,846	162,288	181,270	194,153
Hunter District Board of Water Supply and Sewerage	15,464	17,902	20,951	24,500
Total	£ 4,145,383	£ 4,580,432	£ 5,130,743	£ 5,761,431
Interest on Capital—				
Railways and Tramways	1,825,936	1,839,584	1,950,951	2,073,139
Sydney Harbour Trust	179,119	178,020	187,722	199,459
Metropolitan Board of Water Supply and Sewerage	336,880	336,364	351,513	365,103
Hunter District Board of Water Supply and Sewerage	19,064	20,135	22,338	24,769
Total	£ 2,360,999	£ 2,374,103	£ 2,512,524	£ 2,662,470
Total Business Undertakings	£ 6,506,382	£ 6,954,535	£ 7,643,267	£ 8,423,901
Sinking Funds Instalments—Total	478,791	421,034	409,349	436,921
Public Works Fund—Transfers in Aid	809,561	911,177	636,153	633,729
Closer Settlement Fund—Transfers in Aid	1,000,000	235,000	.....	.....
Grand Total	£ 14,692,168	£ 14,184,327	£ 14,443,691	£ 15,915,780

*Electoral Office included in other services of the State.

†Excluding salaries which are incorporated with the Public Works Establishment.

The headings of Revenue and Expenditure shown on the previous page for the years ended 30th June, 1909, to 1912, are hereon repeated, and against each is given the rate per head of population :—

Heading.	Per Inhabitant.			
	1909.	1910.	1911.	1912.
REVENUE.				
<i>Governmental.</i>				
Revenue returned by Commonwealth	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Taxation—	2 2 6	2 1 8	1 3 8	1 4 2
Stamp Duties	0 6 5	0 10 11	0 7 8	0 13 1
Land Tax	0 1 0	0 0 1	0 0 1	0 0 1
Income Tax	0 2 7	0 2 9	0 3 3	0 7 7
Licenses	0 1 6	0 1 6	0 1 6	0 1 6
Total Taxation	0 11 6	0 15 3	0 12 6	1 2 3
Land Revenue—				
Alienation	0 12 8	0 11 9	0 12 6	0 11 5
Occupation	0 7 11	0 8 0	0 7 9	0 7 5
Miscellaneous	0 1 11	0 1 9	0 2 2	0 2 1
Total	1 2 6	1 1 6	1 2 5	1 0 11
Services rendered (other than Business Undertakings) ..	0 3 11	0 3 10	0 4 1	0 4 6
General Miscellaneous	0 3 6	0 4 6	0 3 11	0 6 6
Industrial Undertakings .. .. .	.....	.....	.....	0 0 3
Total Governmental	4 3 11	4 6 9	3 6 7	3 18 7
<i>Business Undertakings of the State.</i>				
Receipts, Corporate Bodies—				
Railways and Tramways	3 17 10	4 2 11	4 10 5	4 15 4
Sydney Harbour Trust	0 4 2	0 4 2	0 4 7	0 4 10
Metropolitan Board of Water Supply and Sewerage ..	0 6 1	0 6 5	0 6 6	0 6 11
Hunter District Board of Water Supply and Sewerage ..	0 0 6	0 0 8	0 0 8	0 0 8
Total Business Undertakings	4 8 7	4 14 2	5 2 2	5 7 9
Grand Total	8 12 6	9 0 11	8 8 9	9 6 4
EXPENDITURE.				
<i>Governmental.</i>				
Interest on Public Debt and on Trust Funds (excluding proportion chargeable to the four corporate bodies) ..	0 9 7	0 10 1	0 9 9	0 10 6
Old-age and Invalidity and Accident Pensions and Administration	0 7 11	0 1 9	0 0 7	.....
Other Pensions and Retiring Allowances	0 2 5	0 2 5	0 2 4	0 2 5
Elections Act Expenses (including Electoral Office) ..	0 0 1	0 0 2*	0 0 5*	0 0 3*
Parliamentary Allowances and Postage	0 0 5	0 0 5	0 0 4	0 0 5
Local Government—				
Endowments to Municipalities	0 0 1	0 0 1	0 0 1	0 0 1
Endowments to Shires	0 2 6	0 3 5	0 3 6	0 3 11
Administration, &c. .. .. .	.....	.....	0 0 2	.....
Agricultural, Pastoral, and Horticultural Societies ..	0 0 3	0 0 3	0 0 3	0 0 4
Hospitals and Charities	0 4 4	0 4 5	0 4 7	0 4 7
Lunacy (including Master-in-Lunacy)	0 2 0	0 2 0	0 2 2	0 2 2
Public Instruction (including Reformatories and Grants to Educational and Scientific Institutions)	0 13 9	0 14 3	0 14 9	0 16 6
Industrial Undertakings .. .. .	.....	.....	.....	0 0 3
All other Services of the State	1 11 4	1 11 3	1 11 3	1 14 4
Total Governmental	3 14 8	3 10 6	3 10 2	3 15 9
<i>Business Undertakings of the State.</i>				
Working Expenses—				
Railways and Tramways	2 9 1	2 13 5	2 18 8	3 4 1
Sydney Harbour Trust	0 1 4	0 1 4	0 1 5	0 1 4
Metropolitan Board of Water Supply and Sewerage ..	0 1 11	0 2 0	0 2 3	0 2 4
Hunter District Board of Water Supply and Sewerage ..	0 0 2	0 0 3	0 0 3	0 0 3
Total	2 12 6	2 17 0	3 2 7	3 8 0
Interest on Capital—				
Railways and Tramways	1 3 2	1 2 11	1 3 10	1 4 6
Sydney Harbour Trust	0 2 3	0 2 2	0 2 3	0 2 4
Metropolitan Board of Water Supply and Sewerage ..	0 4 3	0 4 2	0 4 4	0 4 5
Hunter District Board of Water Supply and Sewerage ..	0 0 3	0 0 3	0 0 3	0 0 3
Total	1 9 11	1 9 6	1 10 8	1 11 6
Total Business Undertakings	4 2 5	4 6 6	4 13 3	4 19 6
Sinking Fund Instalments—Total	0 6 1	0 5 3	0 5 0	0 5 2
Public Works Fund—Transfers in Aid	0 10 3	0 11 4	0 7 9	0 7 6
Closer Settlement Fund—Transfers in Aid	0 12 8	0 2 11	.....	.....
Grand Total	9 6 1	8 16 6	8 16 2	9 7 11

*Electoral Office included in other services of the State.

CLOSER SETTLEMENT FUND.

The Closer Settlement Fund was established under Act No. 9 of 1906. Most of the contributions have been received from the surplus moneys of the Consolidated Revenue Fund, and from Loans, and the balance at credit of the Assurance Fund Real Property Act, which was transferred at the inauguration of the Fund.

No transfers from Revenue or Loans were made during the financial year 1911-12.

The subjoined statement shows the receipts and expenditure for the financial year 1911-12:—

Receipts—	£	£	Expenditure—	£	£
Transfer from revenue...	Nil		Purchase of estates ...	519,381	
,, loans ...	Nil		Interest on loans ...	20,279	
Assurance fees, real property, &c. ...	13,364		Under Real Property Act ...	444	
Repayment by settlers...	55,879				540,104
		69,243			
Balance brought forward from previous year ...	514,842		Balance, 30th June, 1912 ...	43,981	
		£584,085			£584,085

The net receipts and expenditure from the inauguration of the fund, in September, 1906, to 30th June, 1912, were as follows:—

Receipts—	£	£	Expenditure—	£
Transfers from Revenue Account ...	1,635,000		In purchase of estates ...	2,478,214
,, Loan Account ...	350,000		Interest on loan moneys ...	48,025
Fees, &c., under Real Property Act ...	318,737		Under Real Property Act ...	4,115
Repayment and interest by Settlers ...	271,410		Miscellaneous ...	2,442
Miscellaneous ...	1,630			2,532,796
		£2,576,777	Balance, 30th June, 1912 ...	43,981
				£2,576,777

PUBLIC WORKS FUND.

The Public Works Fund, which was opened in the year 1906, under the authority of the same statute which provided for the Closer Settlement Fund, is entitled to 53½ per cent. of the net proceeds of sales of Crown lands as credited to the Consolidated Revenue Fund, and the proceeds of land sales under the Public Instruction Act. Grants in aid are also

obtainable yearly from the revenue, and the transactions for the year ended 30th June, 1912, are shown below:—

Receipts.	Amount.	Net Expenditure.	Amount.
Receipts—	£	Net Expenditure—	£
Repayments to credit of Votes ..	14,145	Railways and Tramways	10,849
Proportion of proceeds from sales of Crown lands	348,664	Public Buildings and other Services ..	390,379
Grants in aid	490,065	Water Supply and Sewerage	37,725
Sales of land, Public Instruction Act ..	1,527	Public Instruction	177,702
		Roads and Bridges	43,105
		Grants to Shires and Municipalities ..	18,229
		Harbours, Rivers, Docks, Dredges, &c.	198,357
		Sydney Harbour Trust	13,542
	854,401	Total Works, Services, &c.	890,489
Balance from previous year	496,767	Advances repaid	200,000
		Balance carried forward to 1913	260,679
Total	£ 1,351,168		1,351,168

The following statement shows for the Public Works Fund the aggregate of the operations for the six years ended 30th June, 1912:—

Receipts.	Amount.	Net Expenditure.	Amount.
	£		£
Proportion of proceeds from sales of Crown lands	2,553,086	Railways and Tramways	281,952
Grants in aid	2,275,000	Public Buildings and other Services ..	2,381,328
Public Schools Property Fund	714	Water Supply and Sewerage	389,246
Sales of land, Public Instruction Act ..	9,145	Conservation of Water, Artesian Boring, &c.	280,084
Advance from Consolidated Revenue Fund	290,065	Roads and Bridges	371,201
		Grants to Shires and Municipalities ..	211,884
		Industrial Undertakings	147,324
		Harbours and Rivers	640,361
		Observatory Hill Resumed Area	91,789
		Sydney Harbour Trust	72,162
		Balance carried forward	4,867,331
	£ 5,128,010		260,679
			£ 5,128,010

TAXATION.

License Fees, Land and Income Taxes, and Stamp Duties represent the various forms of taxation in the State. The subjoined statement shows the gross revenue derived from each source during the period 1910-1912:—

Head of Revenue.	1910.	1911.	1912.
<i>Indirect Taxation—</i>			
Licenses:—	£	£	£
To retail fermented and spirituous liquors ..	85,494	85,355	85,839
Other	36,621	40,382	44,680
Total, Licenses	122,115	125,737	130,519
<i>Direct Taxation—</i>			
Income Tax	226,928	276,305	650,923
Land Tax	9,865	7,553	6,489
Total, Land and Income Tax	236,793	283,858	657,412
Stamp Duties:—			
Impressed and adhesive stamps	174,846	224,067	232,941
Probate, Settlement, and Companies' Death Duties	650,202	357,750	849,405
Bank-note composition	33,900	38,982	16,563
Other	17,238	12,682	15,816
Total, Stamp Duties	876,186	633,481	1,114,725
Gross Revenue from Taxation	1,235,094	1,043,076	1,902,656
Refunds	11,573	15,557	17,003
Net Revenue from Taxation	1,223,521	1,027,519	1,885,653

The control of Customs and Excise having passed to the Commonwealth Government on 1st January, 1901, the foregoing statement does not include any figures relating to the taxation thereunder. In a publication of this character, however, it is desirable that the actual amount to which the people of the State are subjected by way of taxation, whether direct or indirect, should be clearly set forth. In the following statement is shown in detail the net revenue derivable from each source of taxation for the eleven years ended 30th June, 1912, after deducting refunds, but not allowing for cost of collection :—

Year ended 30th June.	Indirect Taxation.			Direct Taxation.			Total Taxation.
	Customs.	Excise.	Licenses.	Income Tax.	Land Tax.	Stamp Duties.	
	£	£	£	£	£	£	£
1902	2,323,999	488,732	124,438	190,315	301,981	492,036	3,921,501
1903	2,861,710	617,032	122,409	199,159	314,104	473,109	4,587,523
1904	2,604,048	625,738	122,137	193,240	322,246	462,570	4,329,979
1905	2,390,735	642,882	122,606	195,252	323,267	473,283	4,148,025
1906	2,563,552	670,370	121,387	266,233	329,998	580,158	4,531,698
1907	2,845,786	727,527	118,819	283,422	345,497	633,567	4,954,618
1908	3,672,072	842,590	118,120	215,283	178,889	565,242	5,592,196
1909	3,465,950	797,756	117,383	202,369	80,794	506,703	5,170,955
1910	3,789,467	706,035	121,556	219,977	9,066	872,922	5,719,023
1911	*	*	125,098	269,142	+7,438	625,841	*
1912	*	*	130,113	644,571	+6,479	1,104,490	*

* Information not available, as the Commonwealth Government does not now record the collections in each State. † Exclusive of Federal land tax.

A marked increase in the aggregate amount of taxation is disclosed in the foregoing table, ranging from £3,921,501 in the year 1902 to £5,719,023 in the year 1910. The imposition of uniform customs and excise duties by the Commonwealth Parliament from the 9th October, 1901, largely contributed to this increase, and in the three years, 1908-10, there was a further increase in customs collections, due to the introduction of an amended tariff, as from 8th August, 1907, by which duties in most instances were increased largely as compared with the tariff of 1901.

There was a noticeable decrease, however, in the revenue derived from Income, Land, and Stamp Duty Taxation between the years 1907 and 1909. This was due to amending legislation under Acts Nos. 7 and 8 of 1907, so far as Income Tax and Stamp Duties are concerned, whereby, from the 1st January, 1908, any income won by personal exertion, up to £1,000 a year, was exempt from direct taxation, but owing to new legislation, imposing a tax on incomes exceeding £300 per annum, the income tax shows a large increase in 1912. Stamp receipts declined from 1907 to 1909 owing to the repeal of duties on bills of exchange, promissory notes, drafts, receipts, &c., but the death duties were not altered, and as several large estates were entered for probate, the revenue from this source was increased from 1909 to 1912.

The decline in revenue from land tax is attributable to the operation of the Taxation Amending Acts of 1905 and 1906, and the Sydney Corporation (Amendment) Act of 1908, which provide for the allotment to Shires and Municipalities of land taxation collected within their area. These taxation Amending Acts are a necessary corollary to the Local Government Extension Act of 1906. As shown below, a land tax was levied by the Federal Government as from 1st July, 1910; but the particulars are not available, and therefore have not been included.

TAXATION PER INHABITANT.

The above figures would be incomplete without corresponding information respecting the taxation per head of population, which is set forth hereunder:—

Year ended 30th June.	Indirect Taxation.			Direct Taxation.			Total Taxation.
	Customs.	Excise.	Licenses.	Income Tax.	Land Tax.	Stamp Duties.	
	£ s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	£ s. d.
1904	1 16 7	8 9	1 9	2 8	4 6	6 6	3 0 9
1905	1 12 11	8 10	1 8	2 8	4 5	6 6	2 17 0
1906	1 14 7	9 0	1 7	3 7	4 5	7 10	3 1 0
1907	1 17 7	9 6	1 7	3 9	4 7	8 4	3 5 4
1908	2 7 4	10 10	1 6	2 9	2 4	7 3	3 12 0
1909	2 3 11	10 1	1 6	2 7	1 0	6 5	3 5 6
1910	2 7 2	8 9	1 6	2 9	0 1	10 11	3 11 2
1911	2 7 6*	11 3*	1 6	3 3	6 3†	7 8	3 17 5
1912	2 12 10*	11 7*	1 6	7 7	6 1†	13 1	4 12 8

*The Commonwealth Government does not now record the collections from Customs and Excise in each State. The figures quoted, therefore, represent the average for the whole Commonwealth, it being assumed that the same average prevails in New South Wales. † Inclusive of Federal land tax, it being assumed that the average in New South Wales is the same as the average in the whole Commonwealth.

REVENUE FROM LICENSES.

The receipts from licenses show very little fluctuation from year to year, although those from licenses to retail fermented and spirituous liquors, &c., have declined during the last five years, the result, apparently, of the recent liquor legislation. The amount received during the year ended 30th June, 1912, under the different heads, was as follows:—

Licenses.	Amount.	Licenses.	Amount.
	£		£
Wholesale spirit dealers	5,568	Motor Traffic Act	7,561
To retail fermented and spirituous liquors, including wine, cider, and perry	85,839	Gaming and Betting Act	1,187
Billiard and bagatelle	8,515	Theatres and Public Halls Act	2,102
Auctioneers	7,265	Other	1,080
Hawkers, pedlars, and pawnbrokers	3,193		130,519
Explosives Act of 1905	1,233	Refunds	406
Sale of tobacco and cigars	3,544		
Metropolitan Traffic Act	3,432	Total net Receipts	£ 130,113

Land occupation licenses and licenses in regard to mining occupation, also licenses issued under the Fisheries and Forestry Acts, are not included in the table.

LAND AND INCOME TAXATION.

The land tax of the State is levied on the unimproved value at the rate of 1d. in the £. A sum of £240 is allowed by way of exemption, and where the unimproved value is in excess of that sum a reduction equal to the exemption is made; but where several blocks of land within the State are held by a person or company, only one amount of £240 may be deducted from the aggregate unimproved value. In cases where land is mortgaged, the mortgagor is permitted to deduct from the tax payable a sum equal to the income-tax paid by the mortgagee on the interest derived from the mortgage of the whole property, including improvements. The lands exempt from taxation comprise Crown lands not subject to the right of purchase, or held under special or conditional lease, or as home-

stead selections; other lands vested in the Crown; lands vested in the Railway Commissioners; lands belonging to or vested in local authorities; public roads, reserves, parks, cemeteries, and commons; lands occupied as public pounds, or used exclusively for or in connection with public hospitals, benevolent institutions, and other public charities, churches, and chapels; the University and its affiliated colleges, the Sydney Grammar School, and mechanics' institutes and schools of art; and lands dedicated to and vested in trustees and used for zoological, agricultural, pastoral, or horticultural show purposes, or for other public or scientific purposes.

Under the Local Government Act, 1906, when the Council of a shire or municipality makes and levies a general rate, not less than 1d. in the £ on the unimproved value of land within its area, land tax ceases to be collected by the State therein. A similar provision now extends to the City of Sydney under the operation of the Sydney Corporation (Amendment) Act, 1908.

Up to the year 1911, when new legislation was passed, an income-tax of 6d. in the £ was imposed upon so much of every income as was in excess of £1,000, if the income was derived by personal exertion, otherwise the exemption was only £200. Incomes were altogether exempt which were derived from the ownership or use or cultivation of land upon which land-tax was payable. The exemptions included the revenues of local authorities, the income of life assurance societies, and of other societies and companies not carrying on business for purposes of profit or gain, and not being income derived from mortgages; the dividends and profits of the Savings Bank of New South Wales and the Government Savings Bank; the funds and income of registered friendly societies and trades unions; the incomes and revenues of all ecclesiastical, charitable, and educational institutions of a public character; and income accruing to foreign investors from Government Stock. The regulations provided that, in the case of every company, its income should be taken as the income of the company in New South Wales and from investments in the State. Public companies were not allowed the exemption of £200.

The variations in regard to the number and amount of incomes which were liable to taxation are shown in the following table, which relates to the last thirteen years:—

Year.	Number of Incomes.	Net Income.	Year.	Number of Incomes.	Net Income.
		£			£
1899	19,775	11,123,343	1906	23,832	14,937,906
1900	20,051	12,140,569	1907	24,091	16,410,484
1901	19,991	12,065,842	1908	5,933	8,851,026
1902	20,299	12,127,129	1909	5,442	7,753,851
1903	22,234	13,415,760	1910	5,810	9,566,920
1904	22,299	12,482,094	1911	5,846	11,095,863
1905	22,814	13,769,828			

The number of incomes taxed in the last four years is very much reduced, for the reason given above, and the figures quoted for these years in the statement are exclusive of incomes from personal exertion under £1,000, which, under an Act passed in 1907, were exempt from taxation.

A distribution of the incomes subject to taxation according to the amounts taxable is set forth in the following statement. The particulars are based on the experience of the nine years ended 30th June, 1907, the subsequent years being excluded, as the source of taxation was restricted considerably. These, however, represent only a portion of the incomes

derived from New South Wales, as incomes derived from land, or the use and occupancy of land, are not taxable. The net earnings are given in the table:—

Categories.	Average of Nine Years.		Proportion in each category.		
	Number of Incomes.	Amount of Incomes.	Of Number of Incomes.	Of Amount of Incomes.	
£200 and under	£250...	6,371	£ 1,430,269	per cent. 29·60	per cent. 11·00
250 "	300...	4,074	1,109,310	18·93	8·54
300 "	400...	4,140	1,416,527	19·23	10·90
400 "	500...	2,028	904,974	9·42	6·96
500 "	700...	1,949	1,126,764	9·06	8·67
700 "	1,000...	1,200	984,712	5·57	7·58
1,000 "	1,200...	392	426,930	1·82	3·29
1,200 "	2,000...	708	1,068,940	3·29	8·23
2,000 "	5,000...	462	1,354,765	2·15	10·43
5,000 "	10,000...	122	819,303	0·57	6·31
10,000 "	20,000...	47	643,381	0·22	4·95
20,000 and upwards	...	31	1,707,889	0·14	13·14
Total	...	21,524	12,993,764	100·00	100·00

A comparison of the incomes assessed for the years 1908 and 1911 is afforded in the subjoined statement, in which the amounts are given in various grades:—

Grade.	1908.		1911.	
	Number.	Net Income.	Number.	Net Income.
£1 to £1,000	...	£ 4,723	4,261	£ 1,118,623
1,001 "	1,200	139	173	190,698
1,201 "	2,000	364	462	718,943
2,001 "	5,000	378	542	1,660,591
5,001 "	10,000	180	213	1,474,850
10,001 "	20,000	89	114	1,613,656
20,001 and upwards	...	60	81	4,318,502
Total	...	5,933	5,846	11,095,863

INCOME TAX ACT, 1911.

The Act relating to income-tax was amended in 1911 by the enactment of the Income Tax Act, 1911. Under its provisions a tax is payable by all persons other than companies on incomes, exceeding £300 per annum, derived from all sources within New South Wales. In the case of companies, the total incomes are taxable. A taxpayer is allowed a deduction of £50 in respect of each child under 18 years of age wholly maintained by him, and insurance premiums up to £50 are exempt.

The tax payable by any company is 1s. 2d. in the £, and the rates per £ for persons other than companies are as follows:—

So much of income chargeable—

As does not exceed £700	...	...	...	6d.
As exceeds £700 and does not exceed £1,700	...	...	...	7d.
" £1,700	"	£2,700	...	8d.
" £2,700	"	£4,700	...	9d.
" £4,700	"	£6,700	...	10d.
" £6,700	"	£9,700	...	11d.
" £9,700	...	...	...	12d.

In each case an addition of one-third of tax is made to tax where person liable is an absentee, and of one-third on such income as is not derived from personal exertion.

The following incomes are exempt from income-tax, viz. :—

- (a) The revenues of municipal corporations or other local authority.
- (b) The incomes of mutual life assurance societies and of other companies or societies not carrying on business for purposes of profit or gain, except income from mortgages.
- (c) The funds and incomes of societies registered under the Friendly Societies Act or under any Act relating to trade unions.
- (d) The incomes and revenues of all ecclesiastical, charitable, and educational institutions of a public character, whether supported wholly or partly by grants from the Consolidated Revenue Fund or not.
- (e) Income arising or accruing to any person not resident in New South Wales from Government debentures, inscribed stock, and Treasury bills.

These exemptions do not extend to the salaries and wages of persons employed by any such corporation, company, society, or institution, although the same be paid wholly or in part out of the income, revenues, or funds thereof.

REVENUE FROM LAND AND INCOME TAXES.

The revenue from land and income taxes since 1896, the year in which they were first imposed, is shown hereunder. The amounts exclude refunds rendered necessary through correction of errors by the taxpayer or adjustments by the Department, but include refunds brought about through the income of the year of assessment falling short of the amount of income of the preceding year on which the assessment was made; a provision which was repealed by the "Land and Income Tax Amendment Act, 1904" :—

Year.	Land Tax.	Income Tax.	Year.	Land Tax.	Income Tax.
	£	£		£	£
1896	.....	27,658	1905	323,267	195,252
1897	139,079	295,537	1906	329,998	266,233
1898	364,131	166,395	1907	345,497	283,422
1899	253,901	178,032	1908	178,889	215,283
1900	286,227	183,460	1909	80,794	202,369
1901	288,369	215,893	1910	9,066	219,977
1902	301,981	203,625	1911	7,438*	269,142
1903	314,104	214,686	1912	6,479*	644,571
1904	322,246	193,240			

* Exclusive of Federal land tax.

The fluctuations shown in the first three years are due to the difficulties inseparable from the introduction of a system of direct taxation; the returns for 1899 and subsequent years, however, are under normal conditions, which have been varied recently, as already shown, by the increased exemption for the majority of taxpayers, in the case of the income tax, and by the transfer to shires and municipalities of the land tax.

FEDERAL LAND TAX.

The Federal Government have levied a graduated tax on the unimproved value of the lands of the Commonwealth, as from the 1st July, 1910. In the case of owners who are not absentees, an amount of £5,000 is exempt, and the rate of tax ranges from 1d. for £1 of value in excess of that amount, and increases uniformly with every £1 of value to 6d. in the £ on estates having a taxable value of £75,000 and over. Absentee owners are required to pay 1d. in the £ up to £5,000, ranging to a maximum of 7d. on estates valued at £80,000 and upwards. Lands owned by a state, municipality, or other public authority, by savings banks, friendly societies, trades unions, or used solely for religious, charitable, or educational purposes, &c., are not taxable.

The following statement shows the assessments for the State of New South Wales for the year 1910-11:—

Particulars.	Resident Owners.	Absentee Owners.	Total.
Returns assessed	4,514	548	5,062
	£	£	£
Unimproved value	79,189,000	2,073,000	81,262,000
Deductions allowed	25,427,000	10,000	25,437,000
Taxable value	53,762,000	2,063,000	55,825,000
Assessed amount of Tax—			
Urban	194,038	12,418	206,456
Rural	495,004	11,780	506,784
Total	£ 689,042	24,198	713,240

The area of land in New South Wales subject to payment of the tax was 42,397,020 acres, or 58·4 per cent. of the taxable land in the Commonwealth. The assessed amount of tax was equal to an average of 4·04d. per acre of taxable land, or 2·11d. per £ of assessed unimproved value, or 3·07d. per £ of tax value.

The number of resident and absentee taxpayers is shown below, for each State of the Commonwealth, classified according to the unimproved value of their properties. The taxpayers who own land in more than one State are shown under the heading "Central" :—

Unimproved Taxable Value.	Central.		N.S.W.		Victoria.		Q'land.		S. Aust.		W. Aust.		Tas.		Total.
	R	A	R	A	R	A	R	A	R	A	R	A	R	A	
£ 1-1,000	116	47	693	192	889	387	151	121	382	184	46	97	75	65	3,445
1,001-2,000	92	31	463	73	609	124	95	26	254	48	52	18	56	26	1,962
2,001-3,000	88	17	393	45	407	46	59	12	155	24	33	13	53	8	1,353
3,001-4,000	57	14	294	33	294	40	61	9	123	20	35	10	28	5	1,023
4,001-5,000	64	8	247	16	216	22	36	6	83	11	23	5	22	5	764
5,001-6,000	35	10	177	14	156	12	35	8	66	1	17	5	15	3	554
6,001-7,000	37	5	147	10	112	12	32	1	41	9	12	3	10	1	432
7,001-8,000	41	8	119	30	93	7	22	2	32	6	10	1	16	1	388
8,001-9,000	32	5	111	10	88	7	15	1	34	1	20	1	12	..	337
9,001-10,000	29	3	81	1	78	5	15	..	25	1	14	..	13	5	270
10,001-15,000	100	5	312	14	246	11	45	3	62	6	33	5	38	1	881
15,001-20,000	77	3	190	10	106	8	23	5	28	2	27	3	16	3	496
20,001-30,000	81	..	202	12	120	6	39	..	38	..	19	1	14	2	534
30,001-40,000	51	4	112	10	62	4	21	1	17	..	9	1	11	..	303
40,001-50,000	38	2	54	2	45	4	9	2	10	3	6	1	1	..	177
50,001-60,000	26	..	45	1	21	2	6	..	6	..	4	..	1	..	112
60,001-70,000	26	1	31	1	15	..	4	..	4	2	3	..	1	..	88
70,001-80,000	13	3	24	2	15	..	3	..	3	..	1	..	2	..	66
80,001-90,000	7	2	12	..	7	..	2	..	2	2	1	..	1	..	36
90,001-100,000	6	..	6	..	6	..	..	..	2	..	..	..	..	..	20
100,001-110,000	5	..	5	1	4	..	1	..	3	..	..	..	..	..	19
110,001-120,000	4	..	5	..	3	..	1	..	1	..	1	..	1	..	16
120,001-130,000	4	..	6	..	7	1	..	..	1	..	..	..	..	..	19
130,001-140,000	1	..	3	..	3	..	..	..	2	..	..	..	..	..	9
140,001-150,000	4	..	1	..	1	..	..	..	..	..	..	..	..	..	6
150,001-160,000	2	..	2	..	1	1	..	..	2	1	..	..	..	..	9
160,001-170,000	2	..	1	..	..	..	..	..	..	1	..	..	..	..	4
170,001-180,000	3	..	2	..	1	..	1	..	..	..	..	..	..	..	7
180,001-190,000	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2
190,001-200,000	7	..	2	..	1	..	..	..	1	..	..	..	..	..	11
200,001-210,000	..	..	2	..	..	..	1	..	..	..	..	..	..	..	3
220,001-230,000	3	..	1	..	1	..	..	..	..	..	..	..	..	..	5
230,001-240,000	5	..	1	..	..	..	..	..	..	..	..	..	..	..	6
240,001-250,000	..	2	..	..	..	..	1	..	..	..	..	..	..	..	3
250,001-260,000	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2
260,001-270,000	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
280,001-290,000	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
290,001-300,000	1	..	..	..	..	..	..	..	..	..	1	..	..	..	2
300,001-310,000	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
310,001-320,000	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
330,001-360,000	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
360,001-370,000	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
380,001-390,000	3	..	..	..	1	..	..	..	..	..	..	..	..	..	4
390,001-400,000	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
400,001-500,000	4	..	..	..	..	..	..	..	..	..	..	..	..	..	4
500,001-600,000	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2
600,001-700,000	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2
700,001-800,000	1	..	..	..	..	..	..	..	1	..	..	..	..	..	1
800,001-900,000	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
1,000,001 & over	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Total	1,077	170	3,748	477	3,608	699	678	197	1,273	317	367	164	387	125	13,387

Note.—"R" indicates Resident, and "A" indicates Absentee.

The Federal Land Tax was designed for the dual purpose of producing revenue and of promoting the subdivision of large estates. The sales and purchases of land by payers of the tax during the period from 1st October, 1910, to 30th June, 1911, are shown below; the sales numbered 18,288 and unimproved value of land sold amounted to £18,188,293, while the purchases numbered 3,874, unimproved value £9,266,506:—

State.	Sales.		Purchases.	
	Number.	Unimproved Value.	Number.	Unimproved Value.
		£		£
*Central Office and Victoria ..	7,032	7,684,221	1,601	3,798,275
New South Wales... ..	7,134	6,931,090	1,151	3,496,973
Queensland	1,109	1,027,206	166	511,328
South Australia	2,059	1,798,545	744	1,135,069
Western Australia... ..	656	391,555	107	121,022
Tasmania	298	355,676	105	203,839
Total	18,288	18,188,293	3,874	9,266,506

* Central Office deals with estates that include properties in more than one State.

LAND REVENUE.

The receipts from the sale and occupation of Crown land are treated as public income. While the proceeds from occupation, being rent, can be reasonably regarded as an item of revenue, the inclusion of the proceeds of auction, conditional purchase, and other classes of sale in the ordinary revenue is open to serious objection. It has been urged in justification of the course that the sums so obtained have enabled the Government either to construct works, which enhance the value of the remaining public lands and facilitate settlement, or to endow municipalities, and thus enable them to carry out local works. Under the Act passed in 1906, instituting the Public Works Fund previously mentioned, two-thirds of the net proceeds of the sale of Crown Lands, less 20 per cent., equivalent to a clear 53½ per cent., are paid to that fund.

The revenue derived from lands may be grouped under three main heads—(a) auction sales and other forms of unconditional sale; (b) conditional sales under the system of deferred payments; (c) rents from pastoral, mining, and other classes of occupation. The first two sources have been amalgamated under the head of Alienation; while the last is classed as Occupation.

More than half the annual receipts from land are obtained from alienation, as will be seen from the following table, which gives in detail the revenue from 1909 to 1912:—

Head of Revenue.	1909.	1910.	1911.	1912.
<i>Alienation—</i>				
	£	£	£	£
Sales, etc. :—				
Auction sales	79,576	77,055	83,058	83,764
Other	13,077	11,263	15,935	15,852
Total... ..	92,653	88,318	98,993	99,616
Conditional Purchases :—				
Deposits and improvements	93,060	64,236	135,392	70,930
Instalments and interest	551,141	538,175	537,226	595,805
Interest (under Act of 1861)	25,194	22,200	21,614	18,894
Balances	183,861	174,495	186,592	146,593
Homestead Selections	72,856	71,624	62,917	48,577
Total... ..	926,112	870,730	943,741	880,799
Total, Alienation	1,018,765	959,048	1,042,734	980,415
<i>Occupation—</i>				
<i>Pastoral :—</i>				
Pastoral leases	829	756	749	706
Conditional leases	207,918	204,965	199,214	201,450
Occupation licenses	35,080	31,533	29,871	26,952
Homestead leases	2,226	1,555	1,688	1,771
Annual and Snow leases	42,982	38,152	34,297	33,547
Settlement leases	109,076	115,561	106,736	85,331
Improvement leases	51,997	50,712	49,501	49,644
Western Land Division leases	74,758	79,517	82,265	83,364
Other leases	37,122	49,644	43,736	43,960
Total... ..	561,988	572,395	548,057	526,725
<i>Mining :—</i>				
Mineral leases	17,347	20,706	17,490	17,739
Leases of auriferous lands	1,680	2,310	2,544	1,892
Miners' rights	3,259	3,184	2,913	2,777
Royalty on minerals	66,542	59,373	77,613	89,423
Other	9,495	10,689	10,019	8,629
Total... ..	98,323	96,262	110,579	120,460
Total, Occupation	660,311	668,657	658,636	647,185
<i>Miscellaneous Land Receipts—</i>				
Survey fees	45,177	28,883	30,823	24,297
Rents, special objects	36,265	40,485	43,490	43,064
Timber licenses, royalty, etc.... ..	55,041	60,508	84,460	94,560
Quit rents and other receipts	37,432	35,009	35,964	32,213
Total... ..	173,915	164,885	194,737	194,134
Gross Revenue from Lands	1,852,991	1,792,590	1,896,107	1,821,734
Refunds	74,989	62,850	57,190	56,275
Net Revenue from Lands	1,778,002	1,729,740	1,838,917	1,765,459

The gross revenue derived from alienation and occupation, and the gross and net revenue from 1903 to 1912, were as follows:—

Year ended 30th June	Alienation.		Occupation.		Gross Revenue from Lands.	Refunds.	Net Revenue from Lands
	Sales, etc.	Conditional Purchases and Homestead Selections. *	Pastoral. †	Mining, etc. ‡			
	£	£	£	£	£	£	£
1903	119,770	1,008,998	658,696	83,227	1,870,691	65,464	1,805,227
1904	117,518	1,058,345	661,904	98,194	1,935,961	75,391	1,860,570
1905	102,316	1,005,839	636,057	101,255	1,845,467	84,440	1,761,027
1906	95,582	1,049,796	546,904	128,318	1,820,600	87,526	1,733,074
1907	104,780	1,098,716	600,885	154,990	1,959,371	75,315	1,884,056
1908	101,034	965,949	632,652	161,073	1,860,708	76,314	1,784,394
1909	92,653	971,289	635,685	153,364	1,852,991	74,989	1,778,002
1910	88,318	899,613	647,889	156,770	1,792,590	62,850	1,729,740
1911	98,993	974,564	627,511	195,039	1,896,107	57,190	1,838,917
1912	99,616	905,096	602,002	215,020	1,821,734	56,275	1,765,459

* Includes Survey Fees. † Includes all Miscellaneous Receipts except Survey Fees and Timber Licenses.
‡ Includes Timber Licenses.

The land policy of the State, though largely connected with public finance, has been more fully discussed in the part of this work dealing with Land Settlement.

The reappraisal of the leases in the Western Division, under the provisions of the Western Lands Act of 1901 caused a considerable shrinkage in revenue. Radical reductions in rent were necessary to prevent the abandonment of enormous tracts of country, which would thereby become worse than non-productive, inasmuch as they would form breeding-grounds for rabbits and other noxious animals. The loss of revenue, however, will be counterbalanced by the benefit resulting from the occupation of this large territory, under conditions which will encourage enterprise and the expenditure of capital in the proper development of the country.

As a result of the reappraisal of conditional purchases and conditional leases, made under the Crown Lands (Amendment) Act of 1899, the revenue from these lands also has been considerably reduced.

RECEIPTS FROM BUSINESS UNDERTAKINGS OF THE STATE.

The receipts from the Railways and Tramways, Water Supply and Sewerage, and Sydney Harbour Trust comprise the greater part of the revenue received from services, the balance under this heading being made up chiefly of dues and fees of various kinds.

After making provision for working expenses and interest on loan capital, the Railways and Tramways, during the financial year 1911-1912, produced a surplus of £363,483; the Sydney Harbour Trust had a surplus of £68,545; while the operations of the Metropolitan Board of Water Supply and Sewerage and the Hunter District Water Supply and Sewerage Board showed a deficiency of £10,997 and a surplus of £7,134 respectively, giving a total surplus revenue on all the business undertakings of the State of £428,165 during the last financial year. This total is exclusive of the operations in connection with the Observatory Hill Resumed Area and Industrial undertakings, which are discussed subsequently.

The following statement shows the results of working since the year 1907 of the business undertakings of the State, consisting of the Railways and Tramways, Sydney Harbour Trust, Metropolitan Board of Water Supply and Sewerage, and the Hunter District Board of Water Supply and Sewerage:—

Year ended 30th June.	Receipts.	Expenditure. (Cost of Working and Interest Paid on Loan Capital.)	Excess Receipts.
	£	£	£
1907	6,433,476	5,673,952	759,524
1908	6,853,315	6,067,874	785,441
1909	6,998,150	6,506,382	491,798
1910	7,567,265	6,954,535	612,730
1911	8,378,448	7,649,800	728,648
1912	9,123,449	8,695,284	428,165
	Total, Excess Receipts...	...	£ 3,806,306

The income derived by the Government from business undertakings has been steadily increasing, with little interruption; this, however, is only what would naturally be expected in a growing community. On a previous page will be found the rates per inhabitant for the last four years, which show that the revenue per head in 1911-12 was £5 7s. 9d., as compared with £4 8s. 7d. in 1908-9. The increase in the return from services is undoubtedly largely due to the construction of railways and tramways, from which over 88 per cent. of such revenue was derived during 1911-12. Compared with the population, the income derived from the services of the State is enormous.

With the exception of 141½ miles of private railways, 4 miles of private tramways, and a number of short lines, in extent 135½ miles, in mining districts connecting the mines with the main lines, all railways and tramways within the State belong to, and are controlled by, the Government.

Receipts from Industrial Undertakings.

During the year 1911-12 several works were established by the Government, viz.:—Brickworks, Blue-metal Quarries, and Lime Quarries. Other

industries have been undertaken, such as a Dockyard, Joinery Works, and Cement Works, but there were no transactions in connection with them during 1911-12.

The following table shows the operations for the year ended 30th June, 1912. As the figures relate to the first year's working, the initial expenses are necessarily heavy:—

Industrial Undertaking.	Receipts.	Expenditure (Cost of Working and Interest on Capital.)	Excess Receipts.
	£	£	£
Brickworks	1,998	8,824	(—) 6,826
Metal Quarries (including Steamer) ...	18,283	16,343	1,940
Lime Quarries ... ..	.....	19	(—) 19

(—) Denotes Excess of Expenditure.

RECEIPTS FOR SERVICES RENDERED.

Information in detail for the year 1911-12, as to the amount collected for services rendered by the State, other than for business undertakings, is shown in the following statement:—

Heading.	Gross Revenue.	Refunds.	Net Revenue.
Fees and charges—	£	£	£
Agricultural Colleges and Farms	6,521	118	6,403
Pilotage, Harbour Dues, and Fees—	£		
Pilotage	48,738		
Harbour and Light Rates	45,768		
Harbour Dues	7,810		
Navigation Department—Fees, &c. ...	4,087		
	106,403	371	106,032
Mint Receipts	10,405	.....	10,405
Fees for Escort and Conveyance of Gold ...	209	.....	209
Registration of Brands	1,884		
Fees of Office —			
Registrar-General	86,811		
Courts of Petty Sessions	22,873		
District Courts	1,422	646	168,093
Supreme Court	25,471		
Shipping Masters	6,351		
Fees for Registration of Dogs	16,269		
Other Fees	7,551		
Rent for Public Watering-places, Tanks, &c. ...	6,614		
For the support of Patients in Hospitals for Insane ...	34,960		
Store Rent and carriage of Explosives	8,947		
For Work performed by Prisoners in Gaol	612		
Collections by Government Printer	7,504	270	90,839
For the support of Children in the Industrial Schools, and Inmates of Benevolent Asylums, Hospitals, &c.	10,367		
Fumigation and Inspection Fees	6,360		
Other Receipts	15,852		
Total Receipts for Services Rendered ...	£ 383,386	1,405	381,981

Up to 30th June, 1906, public school fees amounted annually to about £80,000. In October, 1906, fees in primary and superior public schools were abolished under the Free Education Act; and from January, 1911, the tuition in High Schools has also been free.

GENERAL MISCELLANEOUS RECEIPTS.

All items which cannot be placed rightly under one of the great classes (Taxation, Land Revenue, Business Undertakings, Industrial Undertakings, and Receipts for Services rendered) are grouped under the heading of "General Miscellaneous Receipts." The gross amount received under each head of revenue during the financial year 1911-12, as also the balance of revenue collected within New South Wales by the Commonwealth Government and returned, is shown in the subjoined statement:—

Head of Revenue.	Gross Revenue.	Refunds.	Net Revenue.
Rents, &c. (exclusive of Land)—	£	£	£
Wharfage and Tonnage Rates, &c. (Outports)...	5,799	} 123	22,657
Government Buildings and Premises	12,607		
Rent and Way-leave Port Kembla Jetty	4,374		
Darling Harbour Resumed Area... ..	50,484		
Public Service Superannuation Act, No. 8 of 1903 ...	14,106	193	50,291
Interest on Public Moneys—		14,106
Interest on Advances under Country Towns Water Supply and Sewerage Act	34,839	34,839
Interest on Bank Deposits and other Temporary Investments of Public Moneys	50,677	50,677
Interest on Water and Drainage Works, &c.	6,877	6,877
„ Sale of Wire-netting... ..	3,063	3,063
„ Value of properties Transferred to Commonwealth (2 years)	220,296	220,296
„ Other	2,478	2,478
Fines and Forfeitures—			
Sheriff	617	} 326	28,628
Courts of Petty Sessions	26,501		
Confiscated and Unclaimed Property	30		
Industrial Arbitration Court	1,443		
Other Fines	363		
Repayments—			
Repayment to Credit of Votes—Previous years ...	18,928	} 7,197	119,088
Value of Materials issued by Government Stores Department	1,856		
Seed Wheat—Previous years	1,760		
Annandale Garbage Destructor—Repayment	233		
Balance not required	8,458		
Exchange on Cheques	867		
Sale of Government Property	10,845		
Receipts under Fisheries Act	8,118		
Pastures Protection Act—Contributions towards administering	2,184		
Sydney Abattoirs—Surplus Revenue	8,000		
Costs Recovered in Various Actions	2,353		
Sydney Corporation Amendment Act, No. 27 of 1908—			
Pymont Bridge and Approaches—Control, maintenance, and interest	7,300		
Regulation of City Traffic	7,500		
Salaries of Medical Officer and Sanitary Inspector	2,400		
Centennial Park Land Sales	6,800		
Wentworth Irrigation Area—Rent, Water Rates, &c. ...	1,012		
Murrumbidgee Irrigation Trust	861		
Purchase of Training Ship "Sobraon" by Commonwealth Government	15,000		
Discount on Drafts purchased in London	8,750		
Unclaimed Moneys	2,428		
Balances—Curator of Intestate Estates	7,922		
Other Unclassified Receipts... ..	2,735		
Total General Miscellaneous Receipts	560,839	7,839	553,000
Balance of Revenue collected within the State by the Commonwealth Government and returned	£ 2,046,993	2,046,993

EXPENSES OF GENERAL GOVERNMENT.

In the figures already given regarding the revenue of New South Wales, the amount received on account of the business undertakings of the State—that is, the earnings of the railways, the tramways, the Boards of water supply and sewerage, and the Sydney Harbour Trust—are included in the general revenue. In consequence of this system the annual cost of maintaining the services referred to is also included in the expenditure.

The following statement shows the progress of expenditure as classified under two headings—ordinary expenditure of general government, including interest on capital liability of services connected therewith; and expenditure on services practically outside the administration of general government, such as railways, tramways, water supply and sewerage, and the Sydney Harbour Trust, and the interest on capital liability of the services enumerated. The figures for the seven years ended 30th June, 1912, and the rates per inhabitant, are as follow:—

Year ended 30th June.	Total Net Expenditure.							
	Governmental.				Business Undertakings.			
	Public Instruction.	Interest and Redemptions.	Other Services.	Total.	Railways and Tramways.	Water Supply and Sewerage.	Sydney Harbour Trust.	Total.
	£	£	£	£	£	£	£	£
1906	938,640	938,398	4,188,350	6,065,388	4,616,305	443,916	261,255	5,321,476
1907	946,044	907,026	5,272,776	7,125,846	4,938,523	471,133	264,295	5,673,951
1908	1,038,620	730,043	5,863,535	7,632,198	5,285,058	504,073	278,743	6,067,874
1909	1,088,328	755,058	6,342,400	8,185,786	5,698,801	524,254	283,327	6,506,382
1910	1,145,038	807,929	5,276,825	7,229,792	6,131,654	536,669	286,212	6,954,535
1911	1,206,942	801,754	4,791,728	6,800,424	6,759,942	576,072	307,253	7,643,267
1912	1,395,114	888,354	5,208,361	7,491,829	7,501,224	608,534	314,143	8,423,901

Net Expenditure per Inhabitant.												
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
1906	0	12	8	0	12	8	2	16	5	4	1	9
1907	0	12	6	0	12	0	3	9	6	4	14	0
1908	0	13	5	0	9	5	3	15	5	4	18	3
1909	0	13	9	0	9	7	4	0	4	5	3	8
1910	0	14	3	0	10	1	3	5	8	4	10	0
1911	0	14	9	0	9	9	2	18	5	4	2	11
1912	0	16	6	0	10	6	3	1	5	4	8	7

Under the heading of the expenses of general government are included civil and legal expenditure, and the cost of education and such public works as are constructed out of the ordinary revenue, as also the interest payable where the proceeds of loans have been used to defray the cost of their construction, together with the sinking fund instalments. The expenditure per head of population on account of some of these services, viz., educational and others of less importance, had either been stationary or declining until the year 1906-7, when there was a considerable increase in the cost of public instruction. The increase in other services during the last five years, as previously explained, is due to the transfers from the Consolidated Revenue in aid of the Public Works and Closer Settlement Funds.

TRUST FUNDS AND SPECIAL DEPOSITS.

The Trust Funds and Special Deposits form a very important division of the public finances, not only from the nature of the transactions and the volume of accumulated funds, but also by reason of the manner in which the accounts are operated upon in conjunction with the general finances of the State. To show the importance of the Account, the following table has been compiled:—

Year ended 30th June.	Amount.	Year ended 30th June.	Amount.	Year ended 30th June.	Amount.
	£		£		£
*1871	213,340	1901	10,823,128	1908	1,867,442
*1876	854,571	1902	11,720,889	1909	2,575,757
*1881	1,671,183	1903	10,564,026	1910	2,743,156
*1886	2,702,486	1904	10,191,160	1911	4,522,915
*1891	4,997,055	1905	10,562,513	1912	5,547,741
1896	7,657,741	1906	10,007,626		
1900	10,103,940	1907	2,359,665		

* Year ended 31st December.

The decreased amounts shown from 1906 are due to the removal of the securities belonging to the Government Savings Bank to the control of the Savings Bank Commissioners. As these securities are no longer vested in the State Treasurer they are excluded from the Public Accounts.

The Trust Funds under the supervision of the State Treasurer are divided into two classes, viz.:—Special Deposits Account and Special Accounts. The first class includes the Commonwealth Government Fixed Deposits, the Government Savings Bank Deposit and Advance Accounts, the State Debt Commissioners' Trust Account, the Sydney Municipal Council Sinking Fund, Housing Fund, Railways and Public Works Store Advance Account, Fixed Deposit Account, and various smaller items. The Special Accounts consist wholly of the Colonial Treasurer's Supreme Court Accounts, and are under the control of the officers of the Court.

The total of all moneys under these headings on 30th June, 1912, was £5,547,741—£5,320,855 as Special Deposits Account and £226,886 as Special Accounts. Of the Special Deposits Account, the largest items were:—Commonwealth Government Fixed Deposit Account, £1,750,000; Government Savings Bank Deposit Account, £2,075,292; Government Savings Bank Advances Account, £300,000; State Debt Commissioners' Deposit Account, £217,064; State Debt Commissioners' Trust Accounts, £106,883; Public Works and Railway Construction Store Advance Account, £40,846; Fixed Deposit Account, £250,215; Railway Store Account, £20,774; Sundry Deposits Account, £235,293; Municipal Council of Sydney Sinking Funds, £97,534; Government Railways Superannuation Account, £42,172; and Housing Fund, £75,000. The balance of £109,782 consists of items which are each under £20,000 in amount. The Special Accounts were Supreme Court moneys, which amounted to £226,886.

The existence of a large account upon which the Treasury is free to operate is of great assistance to the Consolidated Revenue, the Trust Funds and Special Deposits forming a strong reserve on which the

Government may draw in time of need. The great bulk of the funds bore interest, whether invested or not; but the power to use those funds enables the Government to effect a large saving of the interest, which would have been charged for accommodation from the banks.

Of the total sum of £5,547,741 at the credit of the Trust Funds on 30th June, 1912, £34,068 were invested in securities; £5,015,646 were uninvested, but used in Advances and on Public Account at interest; while the remainder, £498,027, was similarly used, but without interest charge.

With the exception of the sum deposited in the Treasury by the Savings Bank of New South Wales, which was invested at $3\frac{1}{2}$, $3\frac{3}{4}$, and 4 per cent., a general rate of 4 per cent. was allowed to 31st December, 1894, on all funds entitled to interest. On 1st January, 1895, the rate was reduced to 3 per cent. on all accounts except those on which the old rates could not be altered till the terms of the existing arrangements had expired. The rate of interest paid on 30th June, 1912, was 3 per cent., with the following exceptions:—Crown Lessees Security Deposit Account, $3\frac{1}{2}$ to $3\frac{3}{4}$ per cent.; Government Savings Bank Deposit Account, $3\frac{1}{2}$ to 4 per cent.; Government Savings Bank Advances Account, $3\frac{1}{2}$ to $3\frac{3}{4}$ per cent.; Commonwealth Government Fixed Deposit Account, $2\frac{1}{2}$ to $3\frac{1}{2}$ per cent.; Fixed Deposits, 1 to $3\frac{3}{4}$ per cent.; the Sinking Funds of the Municipal Council of Sydney (50 Vic., No. 13), 4 per cent.; the State Commissioners' Deposit Account, 1 per cent.; the Master in Equity and Master in Lunacy Accounts, 1 per cent.; Curator of Intestate Estates and Registrar of Probates Accounts, 2 per cent. From 1st July, 1912, however, the interest allowed on the two accounts last mentioned was increased to 3 per cent.

On 30th June, 1912, the Trust Funds in the custody of the State Treasurer were held thus:—

	£
In Banks at current account	5,513,333
In hands of Receiver	340
In New South Wales Funded Stock	14,500
In miscellaneous securities	19,568
Total	£5,547,741

The total amount of interest received by the Treasury during the year ended June, 1912, on bank deposits and other temporary investments, was £50,677, of which part was earned by moneys belonging to the Trust Account.

All Trust Funds under the Audit Act remaining unclaimed for a period of two years, and balances of intestate and probate estates unclaimed after a lapse of six years, are transferred and surrendered to the Consolidated Revenue, and no person may legally claim moneys so vested; nevertheless, the Treasury invariably recognises and pays in all cases where an otherwise valid claim can be shown.

Under the provisions of the State Debt and Sinking Fund Act, 1904, a Board called the "State Debt Commissioners," was constituted, consisting of the State Treasurer, the Chief Justice, the Speaker of the Legislative Assembly, and the Under Secretary to the Treasury, to administer, from 1st July, 1905, various Trust Accounts and balances at credit of certain Special Accounts. The Sinking Funds created by the Loan Acts of 1894 (No. 2), 1895, 1896, 1897, 1898, and 1899 were also transferred to, and are administered by, the Commissioners.

LOAN APPROPRIATIONS.

All items of expenditure to be met by loan are authorised under an Appropriation Act, in the same manner as the ordinary expenditure chargeable to the general revenue, and under the Inscribed Stock Act of 1883 (46 Vic. No. 12), the passing of the Loan Estimates confers the power of raising the money required without the necessity of a special Loan Act. There is a further restriction to the expenditure of money, whether from loans or revenue, in the operation of the Public Works Act of 1888. Under the provisions of this Act, the question of the propriety of constructing all works estimated to cost more than £20,000, except those connected with the maintenance of Railways, is referred by resolution of the Legislative Assembly to the Parliamentary Standing Committee appointed during the first Session of each Parliament. The Committee investigates and reports to Parliament, and the Assembly declares whether it is expedient to carry out the proposed work. If the declaration be favourable, a Bill based thereon must be passed before the authorisation is absolute.

The principle of redemption from revenue was applied, under the Loan Acts of 1894 to 1899, to expenditure on works whose value will disappear by the time the loan, out of the proceeds of which they were constructed, falls due.

The Loan Appropriations, in quinquennial periods since 1875, are given in the subjoined table, the amounts proposed to be expended on Public Works being distinguished from those required for redemption of previous loans:—

Year.	Amount authorised—		
	For Public Works and Services.	For Redemption of Loans.	Total.
	£	£	£
1875-9	10,708,768	.....	10,708,768
1880-4	26,457,803	.....	26,457,803
1885-9	11,123,394	2,113,800	13,237,194
1890-4	15,927,993	2,910,800	18,838,793
1895-9	13,661,046	2,275,200	15,936,246
1900-4	17,690,893	2,841,612	20,532,505
1905	968,430	.....	968,430
1906	1,130,800	550,000	1,680,800
1907	2,470,981	1,500,000	3,970,981
1908	2,690,167	2,566,354	5,256,521
1909	3,249,212	2,863,700	6,112,912
1910	4,883,000	.....	4,883,000
1911	3,868,970	.....	3,868,970
1912	6,375,170	2,549,350	8,924,520

Loan Appropriations are invariably in excess of the amount actually required for expenditure; and it has frequently happened that, beyond obtaining Parliamentary sanction, no further action has been taken in regard to loans authorised.

RAILWAYS LOAN ACCOUNT.

The Railways Loan Account was opened on 1st September, 1910, under the authority of the Loan (Railways) Act. The maximum amount which can be borrowed under the Act is £2,000,000, the whole amount of which must be applied to meet the cost of duplicating portions of the main trunk lines of railways and other works in that connection.

The proceeds of the Funded Stock credited to the Railways Loan Account during 1911-12 amounted to £200,000, the whole of which was obtained in Sydney. The expenditure during the same period on railway works amounted to £610,615. The following is the return for the year 1911-12:—

Receipts—		£	Expenditure—		£
Balance brought forward from			Northern Line Duplication	...	192,952
1910-11	...	900,103	Western Line	„	214,268
Proceeds of Sales—			Southern Line	„	45,095
Funded Stock, Sydney	...	200,000	South Coast Line	„	158,320
					610,615
			Balance carried forward to		
			1912-13	...	489,488
					£1,100,103
		£1,100,103			

LOAN ACCOUNTS.

The following figures show the amount of loans raised from the commencement of the Loan Account, in 1853, to 30th June, 1912, and the proceeds available for expenditure, including the moneys credited to the Railways Loan Account:—

Treasury Bills, Debentures, Inscribed and Funded Stock sold to 30th June, 1912	...	...	...	...	£143,662,006
Discount, interest bonus, and charges	...	...	...	...	4,251,954
Net amount realised	...	...	...	...	£139,410,052
Add net amount transferred from Consolidated Revenue to make good amount short-raised	...	...	...	...	176,767
					£139,586,819
Less Treasury Bills in aid of Revenue not placed to Loan Account					4,769,653
Less proceeds of old loans not included in Loan Accounts	...	...	...	...	724,733
Less Municipal Debentures taken over and still outstanding	...	...	...	...	30,000
Less amounts over-raised and not placed to Loan Account	...	...	...	...	48,760
					5,573,146
Net amount available for works, &c.	...	...	...	...	£134,013,673

As the above statement shows, a sum of £143,662,006 has been raised by loan to 30th June, 1912, in connection with which the discount, interest, bonus, and other charges amounted to £4,251,954, leaving £139,410,052 available for expenditure. The effective value of this latter amount was reduced by the sum of £5,573,146 (utilised as shown above), so that taking into account £176,767 transferred from Consolidated Revenue, the net amount available for works, &c., was £134,013,673.

At 30th June, 1912, £43,609,371 had been redeemed, £8,775,887 being a charge on the Consolidated Revenue, leaving £100,052,635 outstanding at the close of the last financial year. The aggregate amount of interest paid by the State on its loans to 30th June, 1912, was £78,194,343, of which the charge during the last financial year was £3,430,096.

The uses to which the available sum of £134,013,673 was applied are shown in the following table. The sum of £34,833,484 for redemption of loans is included in the total; this amount was not, of course, an item of expenditure, but its inclusion is necessary to fully account for the total of £135,316,305, in which the original loans, as well as the redemption loans, were included:—

Expended on—	£	£
Reproductive Works:—		
Railways... ..	55,830,016	
Tramways	6,181,213	
Water Supply	7,639,314	
Sewerage... ..	5,844,859	
Sydney Harbour Trust	5,751,063	
Darling Harbour Wharves Resumptions	1,176,719	
Industrial Undertakings	77,893	
	<hr/>	82,492,077
Partly Productive Works:—		
Conservation of Water, Artesian Boring, &c.	2,378,080	
Harbours and Rivers—Navigation	4,716,372	
Roads and Bridges	1,785,813	
Housing Fund	75,000	
	<hr/>	8,955,265
Public Works and Buildings	4,985,046	
Immigration	*569,930	
Public Works in Queensland prior to separation	49,856	
	<hr/>	5,604,832
Commonwealth Services:—		
Construction of Telegraph and Telephone Lines	1,297,583	
Post and Telegraph Offices	464,262	
Fortifications and Defence Works	1,457,533	
Lighthouses	144,288	
Customs Buildings	48,879	
Quarantine Buildings	18,099	
	<hr/>	3,430,647
		<hr/>
		£100,482,821
Redemptions:—		
Loans repaid under various Acts	18,190,584	
Treasury Bills for Loan Services repaid	16,642,900	
	<hr/>	34,833,484
		<hr/>
		£135,316,305
Add Credit Balance of Railways Loan Account on 30th June, 1912	...	489,487
		<hr/>
		135,805,792
Less Debit Balance of General Loan Account on 30th June, 1912	...	1,533,603
		<hr/>
Total	...	£134,272,189

* Exclusive of £724,733 expended prior to the inauguration of Loans Account, which, with the amount already stated (£569,930), gives a total expenditure on Immigration to 30th June, 1912, of £1,294,663.

The sum actually expended from loans on public services was, therefore, £100,482,821, the balance to make up the total of £135,316,305 being represented by redemptions. The difference above the sum available for expenditure is accounted for by taking into consideration the amount of credit balance of the Railways Loan Account and of the debit balance of the General Loan Account at 30th June, 1912, and other adjustments.

Analysing the above amounts, the following shows the allocation of the items of expenditure:—

Reproductive Works	82 per cent.
Partly productive Works	9 „
Other	6 „
Commonwealth Services	3 „
	100

The loan expenditure on account of the various services during the last four years has been as follows:—

Head of Service.	1909.	1910.	1911.	1912.
	£	£	£	£
Railways	1,709,658	2,064,026	2,127,412	2,850,791
Tramways	417,975	407,259	420,260	597,355
Water Supply and Sewerage—				
Water Supply	419,557	200,229	232,285	371,824
Sewerage	200,602	173,378	225,621	403,919
Water Conservation and Irrigation		204,503	272,913	568,492
Harbours and Rivers Navigation	125,197	159,913	235,275	415,579
Public Works, Buildings, &c.	1,418	9,248	21	28,119
Public Abattoirs, Homebush	30,000	11,973	65,825	120,284
Closer Settlement			350,000	
Jenolan Caves	3,798			
Loans to Pastures Protection Boards for wire netting	13,609	23,246		210
State Brickworks				43,808
„ Metal Quarries, including steamer				23,904
„ Lime Quarries				4,982
Housing Fund				75,000
Total Expenditure on Public Works, &c. £	2,921,814	3,253,775	3,929,612	5,504,247
Less Excess Repayments to Credit of Votes over Expenditure	15,307	7,135	7,854	13,144
	£ 2,906,507	£ 3,246,640	£ 3,921,758	£ 5,491,103
Loans repaid by New Loans (including Treasury Bills)	3,240,800	3,499,744	3,088,462	35,925
Total	£ 6,147,307	£ 6,746,384	£ 7,010,220	£ 5,527,028

Most of the foregoing items were for services likely to be permanently revenue-producing, or deemed necessary for the proper development of the State.

When every allowance has been made for any unwise or improvident expenditure, it will be found that the bulk of the proceeds of loans has been well utilised; since, apart from the certainty that the works constructed will be self-supporting, they have already materially assisted in developing the country's resources, and have largely enhanced the value of the public estate.

The loan expenditure, exclusive of payments on account of redemptions, since 1842 is shown below:—

Year.	During each period.		At the end of each period.	
	Amount.	Per Inhabitant.	Amount.	Per Inhabitant.
	£	£ s. d.	£	£ s. d.
1842-1890			43,955,551	39 3 7
1891-1895	11,683,598	9 18 10	55,639,149	43 17 6
1896-1900	8,832,106	6 15 0	64,471,255	47 7 4
1901-1905	16,297,655	11 12 11	80,768,910	54 12 9
1906	1,367,022	0 18 5	82,135,932	55 6 11
1907	1,094,238	0 14 5	83,230,170	54 17 8
1908	1,965,329	1 5 4	85,195,499	54 17 2
1909	2,906,507	1 16 10	88,102,006	55 15 9
1910	3,246,640	2 0 5	91,347,723	56 16 9
1911	3,921,758	2 7 10	95,269,537	58 2 0
1912	5,491,103	3 4 10	100,482,821	59 6 9

While the public debt of the State on 30th June, 1912, was £100,052,635, there has been an expenditure of £100,482,821 on public services, the balance, £430,186, being the difference between the face value of the stock and the net amount received, and the amount of Treasury Deficiency Bills outstanding. The revenue and expenditure in connection with the business undertakings or trading concerns of the State, viz., Railways and Tramways, Metropolitan and Hunter District Water and Sewerage Boards, Sydney Harbour Trust, and Observatory Hill Resumed Area, &c., for the seven years ended 30th June, 1912, are shown below; the figures for 1912 include the transactions in connection with State Brickworks, Metal Quarries, and Lime Quarries:—

Year ended 30th June.	Capital Expenditure. (Loans, Public Works Fund, and Consolidated Revenue).	Revenue.	Expenditure.			Net Revenue.	Proportion of Net Revenue to Capital Expenditure.
			Working Expenses.	Interest.	Total.		
	£	£	£	£	£	£	per cent.
1906	65,562,896	5,904,620	3,202,337	2,175,247	5,377,584	527,036	0·81
1907	66,529,101	6,479,703	3,460,945	2,268,701	5,729,646	750,057	1·14
1908	63,304,869	6,900,472	3,704,646	2,357,679	6,122,325	778,147	1·15
1909	70,638,419	7,046,585	4,160,641	2,401,566	6,562,207	484,378	0·70
1910	73,611,671	7,615,024	4,595,710	2,413,263	7,008,973	606,051	0·84
1911	76,633,228	8,428,818	5,153,728	2,551,760	7,705,488	723,330	0·96
1912	81,092,424	9,194,758	5,800,117	2,974,066	8,774,183	420,575	0·53

The amount shown for interest in 1912 includes the proportion payable to the Sinking Funds, which was not taken into account in previous years.

It will thus be seen that during the last seven years there has been a substantial surplus, after meeting the interest, on the capital cost of the above-mentioned undertakings.

EXPENDITURE ON IMMIGRATION.—1832 TO 1912.

In view of the interest taken in the matter of expenditure on account of immigration, the following statement has been prepared to show the amount spent since the year 1832:—

Year.	Amount.	Year.	Amount.	Year.	Amount.
	£		£		£
1832 to 1850	1,192,193	1872	8,006	Dec., 1894	2,109
1851	95,816	1873	3,759	June, 1895	695
1852	149,107	1874	18,190	(half-year).	
1853	146,574	1875	14,962	June, 1896	547
1854	242,656	1876	27,010	1897	486
1855	165,783	1877	75,008	1898	186
1856	120,649	1878	95,585	1899	147
1857	139,604	1879	103,766	1900	27
1858	90,460	1880	45,602	1901	.....
1859	81,605	1881	45,966	1902	245
1860	29,001	1882	46,301	1903	.....
1861	20,034	1883	112,319	1904	.....
1862	63,357	1884	132,176	1905	.....
1863	83,487	1885	107,596	1906	1,226
1864	25,987	1886	35,397	1907	8,079
1865	34,150	1887	32,251	1908	13,184
1866	23,225	1888	7,854	1909	22,436
1867	14,037	1889	8,073	1910	26,815
1868	11,203	1890	5,916	1911	32,786
1869	2,396	1891	4,564	1912	59,186
1870	1,104	1892	2,333		
1871	3,648	1893	3,106		

It should be noted that the amounts expended from revenue and loans cannot be stated separately, as in the earlier years the proceeds of loans were credited to Consolidated Revenue, and part of the immigration expenses were defrayed from "Territorial Revenue," which was a distinct account.

THE PUBLIC DEBT.

The public debt outstanding at each quinquennial period is given in the subjoined table:—

Year.	Amount.	Year.	Amount.	Year.	Amount.
	£		£		£
1842	49,500	1870	9,681,130	1900	65,332,993
1845	97,900	1875	11,470,637	1905	82,321,998
1850	132,500	1880	14,903,919	1910	92,525,095
1855	1,000,800	1885	35,564,259	1911	95,523,926
1860	3,830,230	1890	48,383,333	1912	100,052,635
1865	5,749,630	1895	58,220,933		

The following table, which contains the more important particulars of the Public Loan Accounts, shows the growth of the Public Debt during the last ten years. The amount of bonds or stock sold has been placed against the year in which the sales were effected, and not against the year in which they were brought to account:—

Year ended 30th June.	Treasury Bills, Debentures, and Stock at close of each year—						
	Authorised.	Sold.	Redeemed.			Public Debt.	
			From Consolidated Revenue.	By New Loans.	Total.	Total.	Per Inhabitant.
£	£	£	£	£	£	£ s. d.	
1903	120,200,858	97,201,004	4,975,987	14,532,030	19,508,017	77,692,987	54 18 10
1904	123,047,542	100,793,398	5,750,987	15,008,830	20,759,817	80,033,581	55 12 11
1905	125,615,192	105,455,015	6,000,987	17,132,030	23,133,017	82,321,998	56 1 7
1906	128,660,513	110,860,251	6,250,987	18,967,530	25,218,517	85,641,734	57 1 2
1907	130,341,313	113,686,633	6,728,771	21,350,030	28,078,801	85,607,832	55 13 5
1908	139,512,294	120,029,343	7,425,887	24,967,630	32,393,517	87,635,826	55 18 6
1909	140,192,315	126,241,736	7,725,887	28,208,430	35,934,317	90,307,419	56 14 6
1910	146,305,227	132,465,258	8,231,066	31,709,097	39,940,163	92,525,095	57 0 9
1911	153,188,227	138,797,372	8,475,887	34,797,559	43,273,446	95,523,926	57 11 0
1912	159,512,197	143,662,006	8,775,887	34,833,484	43,609,371	100,052,635	57 16 10

In former years the State Government depended largely upon the London market for its loans, but recently the requirements have been met to a much greater extent locally, as will be seen from the following table, which shows the Public Debt on each register:—

Year ended 30th June.	Registered in London.		Registered in Sydney.		Total Public Debt.
	Amount.	Proportion to Total Debt.	Amount.	Proportion to Total Debt.	
	£	per cent.	£	per cent.	£
1903	62,452,850	80.38	15,240,137	19.62	77,692,987
1904	63,649,350	79.53	16,384,231	20.47	80,033,581
1905	64,007,550	77.75	18,314,448	22.25	82,321,998
1906	65,914,850	76.97	19,726,884	23.03	85,641,734
1907	63,914,150	74.66	21,693,682	25.34	85,607,832
1908	64,600,860	73.71	23,034,966	26.29	87,635,826
1909	67,073,905	74.27	23,233,514	25.73	90,307,419
1910	67,154,805	72.58	25,370,290	27.42	92,525,095
1911	65,555,605	68.63	29,968,321	31.37	95,523,926
1912	67,525,305	67.49	32,527,330	32.51	100,052,635

From the above figures it will be noted that the amount of liabilities held locally at the close of the financial year 1911-12 amounts to about one-third of the total indebtedness, which must be regarded as very satisfactory.

The next table shows the annual payments under each head for interest and expenses of the Public Debt since 1903:—

Year ended 30th June.	Interest.	Redemptions.	Expenses con- nected with management of Inscribed Stock.	Commission paid to Financial Agents in England and New South Wales.	Annual Interest and Charges.	
					Total.	Per Inhabitant.
	£	£	£	£	£	£ s. d.
1903	2,619,766	369,413	20,211	2,876	3,012,266	2 2 11
1904	2,745,348	369,412	20,637	2,479	3,137,876	2 4
1905	2,856,872	319,413	20,640	1,766	3,198,691	2 4 1
1906	2,941,059	360,016	20,643	3,137	3,324,855	2 4 10
1907	3,047,618	405,090	21,143	1,645	3,475,496	2 5 10
1908	2,986,844	406,145	21,143	5,641	3,419,773	2 4 0
1909	3,039,539	478,791	20,501	3,046	3,541,877	2 4 10
1910	3,117,472	421,034	18,894	4,621	3,562,021	2 4 4
1911	3,227,315	409,349	19,095	4,159	3,659,918	2 4 8
1912	3,430,096	436,921	19,088	2,918	3,889,023	2 5 11

The average rate of interest on the whole debt at the end of the financial year 1912 as 3·54 per cent.

At present the net revenue from the public works of New South Wales is derived from Railways, Tramways, Water Supply and Sewerage, and the Sydney Harbour Trust, Brickworks, Metal Quarries, and Lime Quarries. Other industrial undertakings have been provided for, viz.:—Government Dockyards, State Joinery Works, State Cement Works, &c., which will probably return a profit after paying working expenses and interest. The Water and Sewerage works of the Metropolitan area are not yet completed, and are now self-supporting—that is, the revenue is sufficient to meet the amount required to be expended on account of maintenance, management, depreciation, and interest on capital liability. The same remarks apply to the works under the control of the Hunter District Board. In connection with these works it must, however, be borne in mind that, in the absence of a complete and compulsory reticulation, there must be a large outlay of capital expenditure on which no return is received.

The public debt is partly funded and partly unfunded, the funded debt comprising debentures, inscribed and funded stocks, and Treasury bills constituting the unfunded portion. The two classes are defined by the difference in currency, the funded debt being long-dated loans, and the unfunded, short-dated loans. Originally the term "funded" was applied only to interminable stocks, the amount of which, £530,189, is, as compared with the total debt, unimportant; but it is now the practice to

apply this term also to redeemable debts. The amounts outstanding on 30th June, 1912, under each class, and the total debt, were as follows:—

Description of Stock.	Amount outstanding, 30th June, 1912.	Annual Interest payable.
Funded Debt—		
Debentures—		
	£	£
Matured, which have ceased to bear interest	2,650	.....
Still bearing interest	7,772,800	310,939
N. S. Wales 4 per cents. (Interminable) ...	530,189	21,208
„ 1924 Stock... ..	198,065	5,942
„ 1925 „	222,255	6,668
Inscribed and Funded Stock	89,212,160	3,113,151
Total, Funded Debt... ..	£97,938,119	£3,457,908
Unfunded Debt—		
Treasury Bills—		
For Public Works	*2,000,000	.....
Deficiency of Revenue	114,516	3,620
Total, Unfunded Debt	£2,114,516	3,620
Total, Public Debt	£100,052,635	£3,461,528

* Discounted for twelve months at 3½ per cent.

The following table shows the total amount of stock under each rate of interest; there were, however, overdue debentures to the amount of £2,650 outstanding on 30th June, 1912:—

Interest—Per cent.	Amount of Stock.	Annual Interest payable.
	£	£
5	*4,050	135
4	†16,316,597	632,612
3½	13,514,098	506,778
3¼	53,093,192	1,788,262
3	17,124,698	513,741
Total	£100,052,635	£3,461,528

* Includes £1,350 matured debentures. † Includes £1,300 matured debentures.

The 3 per cents. comprise Inscribed Stock floated in London, Funded Stock raised locally, and Treasury Bills representing Trust Funds in the hands of the Government, and invested. The whole of the Treasury Bills bore interest at the rate of 4 per cent. to 31st December, 1894, but the rate on a large proportion was reduced to 3 per cent. from 1st January, 1895.

DATES OF MATURITY.

The dates of repayment extend from 1912 to 1950; the sums repayable in the different years vary considerably in amount. With regard to the large amount maturing in 1912, it should be noted that it has been raised in the local market, and the conditions as to redemption are not so rigid as those attached to the London issues, as the Government has the option to redeem during 1912 or at any period thereafter. But in 1918 nearly £12,800,000 of stock will have to be redeemed in London. It does not follow, however, that large parcels of stock falling due in any one year will cause embarrassment in repayments, as it is well within the range of possibility that at an early date consideration will be given to a scheme of loan consolidation, and conditions such as those arising in 1918 would apparently facilitate such a project.

The following table shows the due dates and the amount repayable in each year :—

Class of Security.	Interest Rate.	Amount raised in—		Total Out-standing.	Year when Due.
		London.	Sydney.		
Debentures	5	£ 1,250	£ 100	£ 1,350	Overdue.
"	4	500	....	500	Overdue.
"	4	800	....	800	Overdue.
"	4	30,000	....	30,000	1912.
Inscribed and Funded Stock	3½	....	1,500,000	....	....
"	3½	....	1,768,456	7,275,158	1912.
"	3	....	4,006,702	....	....
"	4	....	2,549,350	2,549,350	1913.
"	4	....	1,000,000	....	....
"	3½	....	499,951	....	....
Debentures	4	....	131,100	3,881,081	1915.
"	4	2,000,000	....	....	....
Inscribed and Funded Stock	3½	....	250,000	388,357	1917.
"	4	....	388,357	388,357	1918.
"	3½	12,826,200	....	12,826,200	1918.
"	3½	....	388,357	....	....
"	3½	....	11,063,945	11,203,995	1919.
"	3	....	120,050	....	....
Inscribed and Funded Stock	3½	....	2,999,758	4,872,843	1921.
" Stock	3½	....	1,873,085	....	....
"	3½	....	1,924,015	....	....
"	3½	....	1,094,960	8,018,975	1923.
"	3½	16,500,000	....	16,698,065	1924.
N.S.W. 1924 Stock	3	....	198,065	....	....
" 1925	3	....	222,255	222,255	1925.
Inscribed Stock	4	9,686,300	....	9,686,300	1933.
"	3	12,500,000	....	12,500,000	1935.
"	3½	12,250,000	....	12,250,000	1950.
Funded Stock	4	....	530,190	530,190	Interminable.
Permanent	5	....	2,700	2,700	Permanent.
Funded Debt	£	65,795,050	32,143,069	97,938,119	....
Treasury Bills—					
Deficiency of Revenue	3	....	77,626	77,626	£150,000 re- deemed annually. Redeemed up to £50,000 annually from surpluses. 1913.‡
"	3½	....	36,390	36,390	
Public Works	3½	2,000,000	....	2,000,000	
Unfunded Debt	£	2,000,000	114,516	2,114,516	....
Total Public Debt on 30th June, 1911..	£	67,795,050	32,257,585	100,052,635	....

‡ Discounted for one year from 12th May, 1912.

As already mentioned, New South Wales is indebted to the London market for about two-thirds of the money raised under loan. This dependence on the English market was due originally to the lack of local capital; but of late years, when such capital has been fairly abundant, the Government has still turned to London, where the rate of interest at which it could borrow was lower than would have been demanded by the local capitalists. The local and English rates are now much nearer than at any period in the history of Australia, and it is probable that the Government could place small loans as advantageously in Sydney as in London.

COST OF RAISING LOANS.

The charges incidental to the floating of an inscribed stock loan in England are heavy, the chief expenses being the underwriting charge of 1¼ per cent., and the composition duty of 12s. 6d. per cent. to the British Government. The other charges are:—Bank commission, ¼ per cent.; brokerage, ¼ per cent.; and minor expenses, which amount to about 1s. per cent.

The expenses incurred for the inscription and management of stock by the Bank of England are £350 per million, and for similar services by the London County and Westminster Bank £150 per million.

The subjoined statement gives the charges of negotiation of the last two debenture loans, and of the inscribed and funded stock loans floated during the period from 1895 to 1912:—

Year when Floated.	Amount of Principal.	Gross Proceeds.	Charges.					Expenses per £100 of Stock issued.
			Stamp Duty.	Bank Commission.	Paid to Investors—Interest Bonus and Discount Bonus.	Brokers' Commission, Postage, and Petty Expenses.	Total.	
	£	£	£	£	£	£	£	£ s. d.
Issued (in London) as Debentures.								
1904-5	1,000,000	1,990,000	2,500	5,000	737	*30,272	38,509	1 18
1904-5	1,030,000							
Issued (in Sydney) as Debentures.								
1904-5	131,100	131,100	nil.	nil.	nil.	nil.	nil.	nil.
Issued (in Sydney) as Funded Stock.								
1905-6	1,328,346	1,328,346	.....	.....	.....	2,735	2,735	0 4 1
1906-7	2,826,382	2,826,382	.....	.....	.....	5,283	5,283	0 3 9
1907-8	3,342,710	3,342,710	.....	.....	.....	7,372	7,372	0 4 5
1908-9	462,393	462,393	.....	.....	.....	666	666	0 2 10
1909-10	3,473,523	3,473,523	.....	.....	.....	4,927	4,927	0 2 10
1910-11	6,332,113	6,332,113	.....	.....	.....	6,811	6,811	0 2 2
1911-12	2,864,634	2,864,634	.....	.....	.....	2,327	2,327	0 1 8
Issued (in London) as Inscribed Stock.								
1895	4,000,000	3,876,605	25,000	20,000	16,311	10,720	72,031	1 16 0
1898	1,500,000	1,506,239	9,375	7,500	5,207	4,441	26,523	1 15 4
1901	4,000,000	3,760,000	25,000	20,000	9,735	*60,347	115,082	2 17 6
1902	3,000,000	2,835,000	18,750	15,000	28,451	*45,608	107,809	3 11 10
1905-6	2,000,000	1,990,000	12,500	5,000	19,102	30,491	67,093	3 7 1
1907-8	3,000,000	3,000,000	18,750	7,500	40,143	*45,858	112,251	3 14 10
1908-9	1,500,000	1,462,500	9,375	3,750	12,230	*23,302	48,657	3 4 11
	3,000,000	2,955,000	18,750	7,500	29,691	*45,398	101,339	3 7 7
1909-10	2,750,000	2,667,500	17,187	6,875	22,154	*42,131	88,347	3 4 3

* Includes underwriting commission of 1½ per cent.

REDEMPTIONS AND SINKING FUNDS.

At maturity, loans are either redeemed or renewed, the latter being the more usual operation. The State Debt and Sinking Fund Act was brought into operation on 1st July, 1905. Under the provisions of this Act a general sinking fund was created, and an annual appropriation of £350,000 is made to the credit of the fund, and such further amount as Parliament may provide, while under the Treasury Bills Deficiency Act, 1905, an additional £50,000 must be transferred to the fund whenever the operations of a financial year leave a sufficiently large surplus to enable this to be done. The Commissioners are directed from time to time to apply the amount at credit of the fund in purchasing, redeeming, or paying-off Government stock, debentures, or Treasury bills; and they are empowered to invest the moneys under the Act.

The whole amount of £400,000, however, is not available for general purposes, inasmuch as a sum of £300,000 is required yearly to retire matured Revenue Deficiency Bills in accordance with the terms of the Acts under which they were issued. The residue (£100,000), together

with credits, interest on stocks, fixed deposits in banks of issue, and any balance brought forward from the previous period constitutes the amount available for application to redemptions in any one year. It will be seen in the statement hereunder relating to the year ended June, 1912, that Deficiency Bills to the amount of £300,000 only were redeemed, the reason being that bills under Act 59 Vic. No. 22 still outstanding do not mature till the month of September in each year. The transactions under the Act for the financial year ended 30th June, 1912, were as follows:—

		<i>Dr.</i>		£	£
To Balance, 30th June, 1911—					
Cash...	...	...	...	313,087	
In Securities	...	...	...	191,834	
				—————	504,921
Country Towns Water Supply—Repayments	...	...	...		2,233
Country Towns Sewerage—Repayments	...	...	...		356
Bogan Scrub Act, 1905	...	...	...		7,199
Sydney Harbour Trust Loan Sinking Fund	...	...	...		29,722
Annual Contribution from Consolidated Revenue Fund	...	...	...		350,000
Contribution under Treasury Bills Deficiency Act, 1905	...	...	...		50,000
Interest on Investments, &c.	...	...	...		9,550
					—————
	Total	...	...		£953,981
		<i>Cr.</i>		£	£
By Redemptions—					
Treasury Bills Deficiency Act, 1905	...	...	...	50,000	
Treasury Deficiency Bills Act, 59 Vic. No. 22	...	...	...	250,000	
				—————	300,000
By Balance at credit of Commissioners—					
Invested in N.S.W. Funded Stock	...	...	...	191,834	
On Deposit with Colonial Treasurer	...	...	...	217,064	
On Bank Fixed Deposit	...	...	...	245,000	
On Account Current	...	...	...	83	
				—————	653,981
	Total	...	...		£953,981

Under the provisions of the "State Debt and Sinking Fund Act, 1904," various balances at credit of Special Accounts established by the Treasury Bills Deficiency Act, 1889, were transferred to and administered by the State Debt Commissioners from 1st July, 1905. The Special Accounts were as follows:—The Treasury Bills Deficiency Act of 1895; the Treasury Bills Deficiency Act, 1900; the Treasury Bills Deficiency (Amendment) Act, 1901; the Railway Loan Redemption Act of 1889; and the Sinking Funds constituted by the Loan Acts of 1894 (No. 2), 1895, 1896, 1897, 1898, and 1899.

CHARACTER OF STOCK ISSUED.

As previously stated, loans have been raised by Treasury bills, debentures, and stock.

The Treasury bills are of a temporary character, and will in the course of a few years disappear from the statement of the public debt, either by substitution of ordinary stock when the temporary purpose for which

they were issued has been served, or by redemption on maturity. The practice of issuing Treasury bills, either in anticipation of, or to make good, deficiencies in revenue, is of long standing; but, as will be seen later on, they have been made to serve another purpose, and money has been raised by their sale to meet certain obligations for public works and redemptions. This is an innovation which could not be well avoided in the disturbed markets of late years. The Treasury bills are like the British Treasury bills in name only; but they have some points in common with the British Exchequer bills. The amount current on 30th June, 1912, was £2,114,516, of which sum £114,516 represents bills in aid of revenue and £2,000,000 for Public Works discounted in London for one year from 12th May, 1912, at $3\frac{1}{2}$ per cent.

From 1842 to 1883 the practice followed was to raise loans by debenture bonds. In the latter year the Inscribed Stock Act was passed, in conformity with the provisions of the Imperial "Colonial Stock Act of 1877," and the system of raising loans by debentures terminated for the time being. During the financial year ended 30th June, 1905, however, debentures to the amount of £131,100 were raised locally under Act 64 Vic. No. 60, and under that Act and Act 1 Edw. VII No. 62, debentures to the amount of £2,000,000 were raised in London, both amounts maturing in 1915, and bearing interest at the rate of 4 per cent. per annum.

The issue of funded stock, which may be more appropriately termed registered stock, is regulated by four Acts passed in the years 1873, 1892, 1894, and 1895. Stock issued under the Act of 1873 is interminable, but that issued under the more recent Acts may be redeemed at the option of the Government, at the expiration of twenty years from the dates on which the Acts were passed, on the Treasurer giving twelve months' notice of his intention to redeem.

SECURITY FOR THE PUBLIC DEBT.

In the foregoing pages much has been said of the indebtedness of the State. It is, therefore, only fair to say something of the resources on which the State's creditors may rely as security for repayment; but before examining the nature of these resources it may be well to recapitulate the liabilities outstanding. On 30th June, 1912, these were as follow:—

Public Debt, including Treasury Bills for loan services...	£99,938,119
Treasury Bills in aid of Revenue	114,516
	<hr/>
Total... ..	£100,052,635

The total amount of Public Debt might reasonably be lessened by the sum of £1,209,366 shown below, representing the amount spent on services, which is to be repaid in annual instalments of principal and interest by the parties benefited by the expenditure:—

Country Towns Water Supply	£864,153
Country Towns Sewerage	141,165
Water and Drainage Trusts	190,008
Other Advances	14,040
	<hr/>
Total	£1,209,366

The principal assets of the State are its business and trading undertakings (railways, water supply, &c.), which in the financial year ended 30th June, 1912, yielded a net return, after paying working expenses, of £3,394,641, or almost enough to pay the interest on the whole of the debt; and the public lands, of which 126,024,074 acres are leased for pastoral or mining purposes, and 16,529,008 acres sold on deferred payments. The annual rent from the former is £672,000, and the balance due in respect of the latter amounts to £9,700,000.

The following statement shows how the public debt has been expended, and gives an approximate valuation of the resources on which the State may rely as security for the public creditors. The debt has been incurred principally on works of a reproductive character—82 per cent. being on reproductive works, 9 per cent. on indirectly productive works for the facilitation of traffic, and 9 per cent. on unproductive works.

The value of the securities has been calculated by taking, first, the actual average net return of the business undertakings for the three years ended 30th June, 1912, and capitalising it at $3\frac{1}{2}$ per cent. The value of the public lands has been estimated on the basis only of the annual revenue, capitalised at $3\frac{1}{2}$ per cent., and the amount still outstanding on land alienated (conditional purchases). The 16 million acres neither alienated nor leased have not been taken into account, as no valuation has been made by the Lands Department; and the trading concerns (brickworks, quarries, &c.) have also been excluded. There is, therefore, little doubt that the value quoted is greatly under-estimated. Finally, the actual amount of the Sinking Fund and the cash in hand and on deposit on 30th June, 1912, have been included:—

Public Debt.		Estimated Value of Securities.	
Reproductive Works—	£	Business Undertakings—	£
Railways and Tramways	62,011,229	Railways and Tramways	72,465,000
Water and Sewerage	13,475,173	Water and Sewerage	11,422,000
Sydney Harbour Trust	5,751,063	Sydney Harbour Trust	7,440,000
Darling Harbour Resumptions ..	1,176,719	Darling Harbour Resumptions ..	972,000
Industrial Undertakings — ..	77,893		
	£82,492,077		£92,306,000
Indirectly Productive Works—		Public Lands—	
Conservation of Water, &c.	2,378,080	Leased	14,083,000
Roads and Bridges	1,785,813	Amount outstanding on C.P.'s ..	9,700,000
Harbours and Rivers	4,716,372		£23,783,000
Housing Fund	75,000		
	£8,955,265		
Unproductive Works—		Cash in hand and on deposit — —	4,834,000
Public Buildings and Other Works	5,174,646	Sinking Fund	654,000
Handed over to Commonwealth ..	3,430,647		
	£8,605,293		£5,488,000
Total Debt —	£100,052,635	Total Estimated Value of Securities	£121,577,000

Thus the value of the securities exceeds the debt by 21½ millions sterling. State properties can hardly be valued on the basis of private business undertakings, as they are not expected to earn as a maximum a much higher net return than is necessary to meet the interest on the capital expended. When the results are much in excess of the interest due, public opinion at once demands that reductions be made in the rates and charges.

It should also be borne in mind that, in valuing the securities, account has not been taken of works not directly producing revenue, such as harbour works, roads, bridges, and others, although these works have been of great service in developing the country. Latent power of taxation forms a further and inestimable security.

FINANCIAL RELATIONS BETWEEN STATES AND COMMONWEALTH.

One of the most difficult problems to be solved in formulating a constitution for the Commonwealth of Australia was met in the determination of the relative shares of the Commonwealth and States respectively in the proceeds of taxation from Customs and Excise. Each of the two governing powers was invested with authority to levy direct taxation, consequently no difficulty arose in this respect, but the power to impose tariffs through Customs and Excise duties was vested in the Commonwealth Parliament. Hence it became necessary to decide some proportion of the revenue derivable from these sources of indirect taxation which should constitute by legal right the share of the States *quo States* in these imposts.

By the Act under which the Commonwealth Constitution was founded it was decided by section 87, popularly known as the "Braddon" section, that during the first ten years of the existence of the newly-created Australian Commonwealth there should be returned to the States three-fourths of the net revenue from Customs and Excise; also, that such proportion should continue to be returnable after the ten-year period until the Commonwealth Parliament should decide what other disposition of these revenues should be made.

It was perceived prior to the foundation of the Commonwealth that this conventional arrangement, assigning one-fourth of the Customs and Excise duties to the Commonwealth and three-fourths to the States, would prove not only cumbersome in practical working, but would create most difficult conditions in the Federal financial arrangements, so that it would be necessary, in levying indirect taxation at any future period, to raise in reality £4 whenever £1 might be required, thus taking from the citizens £3 on each occasion, which might in general be unnecessary.

After the inception of the Commonwealth, it also became clear, by practical experience, first, from the Commonwealth standpoint, that of the total revenue, which the public policy of the Commonwealth declared to be the limit of indirect taxation which it was desirable to place on the people, the amount represented by one-quarter of the impost was insufficient for performing the functions of the Federal Government.

Secondly, from the State standpoint, it was found that for the State Treasurers a very disturbing factor constantly existed, inasmuch as it was impossible to forecast within reasonable time for their annual financial arrangements the estimate of the money-value of their three-quarter share of the Federal taxation. The Federal and State systems of finance were so intertwined and interdependent as to provide a ready and practically certain means of friction between two powers each with

clearly distinct functions, which in all other respects it should be possible to control and perform without interference or disputation the one with the other.

During the early years of the experience of the Commonwealth the question of the policy to be pursued at the expiry of the period of ten years named in the Braddon section was not immediately pressing, because (1) the needs of the Federation had not become sufficiently urgent to cause a necessity for appropriating the full quarter allocated for Commonwealth requirements, and (2) the fact that a term of years had yet to ensue before a fresh arrangement could be made under the Constitution tended to the postponement of the determination of a question which was fully recognised to be intricate and difficult of solution.

The following statement will serve to show the degree in which one-fourth of the Customs and Excise taxation served to fulfil the Commonwealth requirements, and how, with the progression of time, and the development of national needs, the amount available became insufficient for such purposes:--

Year ended 30th June.	Net Revenue, Customs and Excise. (1)	One-fourth of net Customs and Excise revenue. (2)	Portion of one-fourth of net Revenue needed for Commonwealth Expenditure. (3)	Balance of the one-fourth not used by Commonwealth, and returned to States. (4)=(2)-(3)	Three-fourths due to States under Constitution. (5)	Total returned to States. (6)=(4)+(5)
	£	£	£	£	£	£
1902	8,633,996	2,158,499	1,269,757	888,742	6,475,497	7,364,239
1903	9,412,442	2,353,110	1,207,876	1,145,234	7,059,332	8,204,566
1904	8,844,195	2,211,049	1,465,716	745,333	6,633,146	7,378,479
1905	8,543,310	2,135,827	1,400,541	735,286	6,407,483	7,142,769
1906	8,739,298	2,184,825	1,354,915	829,910	6,554,473	7,384,383
1907	9,386,097	2,346,524	1,540,523	806,001	7,039,573	7,845,574
1908	11,368,220	2,842,055	2,511,315	330,740	8,526,165	8,856,905
1909	10,573,860	2,643,465	2,643,465	Nil.	7,930,395	7,930,395
1910	11,323,207	2,830,801	2,830,801	Nil.	8,492,406	8,492,406
Total	86,824,625	21,706,155	16,224,909	5,481,246	65,118,470	70,599,716

From the above table it is apparent that during the first seven years the Commonwealth was entitled to receive as its share more than sufficient for its declared needs, and that since 1908 there have been commitments devolving on the Federal authorities exceeding the moneys at their disposal. Consequently, it had become seriously evident towards the close of the ten-year period that more revenue would be required in the future than has been available in the past to enable the Federal Government to fulfil its assigned functions.

During the period of negotiation amongst the States antecedent to the creation of the Commonwealth, attempts were made to devise an acceptable plan relating to the allocation of the Customs and Excise revenue, and the compromise known as the Braddon section was adopted tentatively to avoid the risk of failure in the formative stages of the Federation. During the succeeding years a number of conferences were held by the Premiers of the several States to endeavour to secure finality, but until the year 1909 no definite agreement was reached. In that year a Conference of Premiers met at Melbourne in conjunction with the Prime Minister of the Commonwealth, and after prolonged discussion an agreement was signed by all the parties to the following effect:—

“ In the public interests of the people of Australia, to secure economy and efficiency in the raising and the spending of their revenues, and to permit their Governments to exercise unfettered control of their receipts and expenditure, it is imperative that the financial relations of the Federal and State Governments—which, under the Constitution, were determined only in part, and for a term of years—should be placed upon a sound and permanent basis.

“ It is therefore agreed by the Ministers of State of the Commonwealth and the Ministers of the component States in conference assembled, to advise:—

- “ 1. That to fulfil the intention of the Constitution by providing for the consolidation and transfer of State debts, and in order to ensure the most profitable management of future loans by the establishment of one Australian stock, a complete investigation of this most important subject shall be undertaken forthwith by the Governments of the Commonwealth and the States. This investigation shall include the question of the actual cost to the States of transferred properties as defrayed out of loan or revenue moneys.
- “ 2. That in order to give freedom to the Commonwealth in levying duties of Customs and Excise, and to assure to the States a certain annual income, the Commonwealth shall, after the first day of July, one thousand nine hundred and ten, pay monthly to the States a sum calculated at the rate of one pound five shillings per annum per head of population according to the latest statistics of the Commonwealth.
- “ 3. That in recognition of the heavy obligations incurred in the payment of Old-Age Pensions, the Commonwealth may, during the current financial year, withhold from the moneys returnable to the States such sum (not exceeding six hundred thousand pounds) as will provide for the actual shortage in the revenue at the end of the said year. If such shortage amounts to six hundred thousand pounds the basis of contribution by the States shall be three shillings per head of population in the Pension States (*viz.*, New South Wales, Victoria, and Queensland), and two shillings per head of population in the Non-Pension States (*viz.*, South Australia, Western Australia, and Tasmania). If such shortage be less than six hundred thousand pounds the contributions shall be reduced proportionately per head of population as between the Pension and Non-Pension States.

- "4. That in view of the large contribution to the Customs revenue *per capita* made by the State of Western Australia, the Commonwealth shall (in addition to the payment provided for in paragraph No. 2) make to such State special annual payments, commencing at two hundred and fifty thousand pounds in the financial year one thousand nine hundred and ten and one thousand nine hundred and eleven, and diminishing at the rate of ten thousand pounds per annum. The Commonwealth shall in each year deduct on a *per capita* basis from the moneys payable to the States of the Commonwealth an amount equal to one-half of the sum so payable to the State of Western Australia.
- "5. That the Government of the Commonwealth bring before the Parliament during this session the necessary measure to enable an alteration of the Constitution (giving effect to the preceding paragraphs, Nos. 2, 3, and 4) to be submitted to the electors."

The necessary steps were taken by the Prime Minister of the Commonwealth to give effect to the agreement, which was done by the passage in the Commonwealth Parliament of the "Constitution Alteration (Finance) Act." This measure was passed by the Federal Parliament in December, 1909, but was rejected by the electors at a referendum taken during the Federal General Election in April, 1910.

This alteration of the Constitution was negatived in three States, New South Wales, Victoria, and South Australia, as well as in the Commonwealth as a whole. It therefore devolved on the Federal Parliament to determine the amount of revenue to be returned to each State, and the Surplus Revenue Act of 1910 was passed. In accordance with this Act, the Commonwealth will, during a period of ten years, commencing on the 1st July, 1910, and thereafter until Parliament otherwise provides, pay to each State, or apply to the payment of interest on debts of the State taken over by the Commonwealth, an annual sum of 25s. per head of the number of the people of the State. The State of Western Australia is to receive an additional sum, amounting in the first year to £250,000, and diminishing in each succeeding year by £10,000—one half of these payments to be deducted proportionately from the amounts payable to all the States. The Treasurer must also pay to the several States all surplus revenue in hand at the end of each financial year. The Act provided that during the six months January to June, 1911, the Commonwealth might deduct from the amount payable the sum of £450,000, the estimated shortage in the Commonwealth revenue for the year 1910-11. The following statement shows the amounts to be deducted from each State, as set forth in the Schedule of the Act:—

	£
New South Wales	178,973
Victoria	143,092
Queensland	63,788
South Australia	30,529
Western Australia	20,113
Tasmania	13,505
Total	£450,000

During the first six months of the financial year, 1911, the Commonwealth was required to return to the States three-fourths of the Customs and Excise revenue; but the Surplus Revenue Act provided that if the

amounts paid during this period exceed 12s. 6d. *per capita*, the amounts during the next six months should be correspondingly reduced, so that the payments during the whole year should not exceed 25s. *per capita*, less the sum of £450,000 mentioned above.

The following statement shows the amounts paid to each State during the year ended 30th June, 1912, in accordance with the present agreement:—

State.	Amounts payable to States at 25s. per head of population as at 31st December, 1911.	Deduct Proportion of moiety of special payment to Western Australia	Amounts paid to States.
	£	£	£
New South Wales ...	2,090,979	43,986	2,046,993
Victoria	1,703,493	35,836	1,667,657
Queensland	777,661	16,359	761,302
South Australia ...	522,715	10,996	511,719
Western Australia ...	607,726*	7,735	599,991
Tasmania	241,849	5,088	236,761
Total	5,944,423	120,000	5,824,423

* Including £240,000, special payment to Western Australia.

At the Federal General Election in 1910 a referendum was also taken in connection with the transfer of State debts to the Commonwealth. In accordance with the Constitution, the Commonwealth was empowered to take over only such debts as had been incurred prior to Federation. An alteration was proposed, and ratified by the electors, to enable the Commonwealth to take over all debts incurred by the States. A majority in favour of the resolution was recorded in all the States except New South Wales.

SOCIAL CONDITION.

SOCIAL WELFARE.

ACTIVE effort by the State of New South Wales to promote the well-being of the people, through the prevention or relief of sickness and destitution, as distinct from the maintenance of order and good government and the extension of educational facilities, is restricted mainly to the protection of infant life, the removal of children from unsuitable environments, and the housing and care of mental defectives, and of the aged and infirm. Although the Coast Hospital treating general diseases and the Waterfall Hospital for Consumptives are controlled entirely by the State, and there are hospitals at the State Asylums for the Infirm, its intervention in the care of the sick consists chiefly in subsidising established institutions, in recognition of specific and well-directed effort to alleviate distress, whether attributable to improvidence, to sickness, or to pressure of economic conditions, over which the individual as an isolated force can exert no controlling influence. In addition to such State or State-aided agencies for social betterment, there exist numerous private charities which do not receive direct monetary assistance from the State in performance of the tasks they have undertaken. But though the cure and care of sickness and destitution are thus left to a considerable extent to private initiative, the State is an active agent in safeguarding public health from the loss likely to accrue through otherwise preventable disease. The more universal preventive work, as of quarantine, and the making of laws with respect to trade and commerce and immigration, are functions of the Commonwealth Government; but matters pertaining to public health other than of quarantine, to the maintenance of high standards in regard to food, to the supervision of sources of supply and distribution, and to the enforcement of sanitary and hygienic conditions locally, are functions of the State Government.

In New South Wales a Department of Public Health is maintained which undertakes the general medical work of the Government, safeguards public health, and advises Local Government bodies. Acts relating to public health, pure food, private hospitals, supervision of dairies and dairy cattle, noxious trades, cattle slaughtering and diseased animals and meat, and Sydney abattoirs, the various State hospitals and asylums, are administered by the Department and are under its control. It also exercises supervision over public and private hospitals.

The Board of Health consists of ten members, nominated by the Government, with the President, who is Director-General of Public Health, and Chief Medical Officer to the Government.

STATE EXPENDITURE ON HOSPITALS AND CHARITABLE RELIEF.

The amounts paid by the State towards the maintenance of Hospitals and Charitable institutions, including institutions for protection of State children and the care of the insane are approximately £600,000 per annum. The State expenditure includes the cost of maintenance of State institutions and departments administering relief, and subsidies to other institutions—granted on condition that an equal amount be raised by private annual

contributions, and that the Government through approved officers have the right of recommending the admission of patients. In addition to these payments made from Consolidated Revenue, there is usually each year a fairly heavy expenditure from Public Works Account for buildings, &c. Following is a statement showing the growth of such expenditure in the last five years, viz. :—

Payments from—	Year ended 30th June.				
	1908.	1909.	1910.	1911.	1912.
	£	£	£	£	£
Consolidated Revenue	469,537	495,999	531,363	553,264	593,030
Public Works Account	71,660	89,343	68,764	85,614	48,755
Loan Account	7,755	1,418	.....	.....	.....
Total	£ 548,952	586,760	600,127	638,878	641,785

There has been a steady increase in the Government expenditure on hospitals and charities throughout the period reviewed, the total amount expended for the year ended 30th June, 1912, exceeding that for the year 1907-8 by £92,833.

Grouping the items of expenditure from the Consolidated Revenue Fund under various appropriate headings, a comparison of the respective items for the last two years is shown below :—

	1910-11.	1911-12.
	£	£
General Hospitals and Benevolent Institutions	129,928	128,922
Mental Hospitals and Institutions	204,970	212,616
Children's Relief	89,128	106,557
Benevolent Asylums—Government	72,860	87,708
Destitute and Deserted, Sick and other	31,031	32,281
Aborigines Protection	16,039	16,475
Benevolent Societies	5,771	4,624
Leper Lazaret	1,373	1,446
Miscellaneous	2,164	2,401
Total	553,264	593,030

Analysis of the detailed statement for 1911-12 reveals an increase of 7·2 per cent. in the expenditure from Consolidated Revenue, the increases being greatest in connection with children's relief and Government asylums.

To the figures shown are to be added the cost shown subsequently of State subventions to Friendly Societies, the maintenance of the Department of Public Health, and similar agencies for the public benefit.

PROTECTION OF THE ABORIGINES.

For the protection and training of the aboriginal natives in New South Wales, a Central Board was appointed in June, 1910, under the Aborigines Protection Act, 1909, and replaced the previously existing local boards in the various districts of the State. All officers in the Police force of the State are *ex officio* guardians of the aborigines, and local committees co-operate with them in the protective work. The Central Board, consisting of the Inspector-General of Police, and a maximum of ten other members appointed by the Governor, controls the disbursement of moneys available for the education, maintenance, and relief of the aborigines.

In 1912, there were under control 7,034 aborigines, viz., 1,917 full-bloods, and 5,117 half-castes. The following statement shows the classification as recorded in 1912 :—

	Adults.		Children.	Total.
	Males.	Females.		
Full-bloods	831	540	546	1,917
Half-castes	1,234	1,039	2,844	5,117
Total	2,065	1,579	3,390	7,034

At the census taken on 2nd April, 1911, there were 2,022 full-blooded aborigines in New South Wales, viz., 1,157 males, and 865 females.

During 1912 the average number of aborigines assisted by the Board was 2,736, viz., 1,095 adults, and 1,641 children. The expenditure amounted to £28,444, including £17,568 for general maintenance, £5,604 for the purchase of blankets, clothing, &c., £4,216 for educational purposes, £1,007 for medical attention, and £49 for other services.

The reserves controlled by the Board aggregated 24,725 acres at the end of December, 1912, the area set apart during the year being 397 acres. At the various stations and camps, dwellings, and in some cases dormitories, have been erected, and additional training homes are projected. In the schools of the State there were 973 aboriginal children in attendance, viz., 837 at public schools, and 136 at private schools. During 1912 new schools intended exclusively for the use of aborigines were established at Euraba, near Boomi, at Terry-hie-hie, and Cootamundra; every aboriginal child under 14 years of age is required to attend the nearest available school.

Aboriginal children between the ages of 14 and 21 years may be apprenticed by the Board, and to this end the education of the children is conducted so as to render them efficient members of society.

A home for orphan and neglected aboriginal children has been established at Cootamundra for the purpose of caring for and training children for domestic service. Judging from results to date it will prove a success.

A home-finder has been appointed for the purpose of obtaining situations and apprenticing out aboriginal children. A number have already been placed in suitable homes and appear happy and contented.

In connection with a preliminary scientific expedition to the Northern Territory, where aboriginal natives are more numerous than elsewhere in Australia, and, except in the vicinity of the older settlements, have been least in contact with conditions which are quite foreign to them, the natives were found to be of great service on the cattle stations, invaluable to travellers, and essential in the police force as trackers. Regarding the civilisation of the natives, investigation proved the truth of the view held by the New South Wales Aborigines Protection Board that attention should be devoted to the children, rather than to the adult aboriginals, and that if the children be taught some legitimate means of earning a livelihood, they must gradually lose their instinct and capacity for a roaming life. On the mission stations the practice is followed of giving, to adult natives, food only in return for work done, and in the establishment of other stations, arrangements will be made for training the natives as agriculturists.

As regards the protection of aboriginal life on the lines of the New South Wales legislation, an Association for the Protection of Native Races exists, which aims at co-ordination of methods in treating all the native races in the Western Pacific and in Australia.

THE PROTECTION OF INFANT AND CHILD LIFE.

The care and protection of child-life devolves upon the State Children's Relief Board, as the administrative agency directly concerned in the effort to rectify some of the disabilities attaching to the otherwise defenceless years of childhood.

The Board administers the following Acts :—State Children's Relief, 1901 ; Children's Protection, 1902 ; Infant Protection, 1904 ; Neglected Children and Juvenile Offenders, 1905.

The Infant Protection Act, 1904, designed for the protection, maintenance, education, and care of infants and children up to 7 years of age, provides for the inspection, control, and licensing of places established or used for the reception and care of two or more infants under 7 years of age, apart from their mothers, whether for payment or not.

Licensed homes are classified in two groups—those for the reception of five or less children, being frequently private homes, and those for six children or more, being mainly institutions of a charitable nature for the care of infants.

The number of licensed places during the last five years is shown below :—

Year.	Private Dwellings Registered.	Institutions.	
		Number.	Inmates under 7 years.
1907	97	13	189
1908	124	14	170
1909	145	15	251
1910	137	15	238
1911	144	17	263

With the exception of the Infants' Home, Ashfield, subsidised by the Government, the institutions are supported entirely by voluntary contributions.

The Sydney Benevolent Asylum and the Randwick Asylum, operating under special Acts, are exempted from the provisions of the Infant Protection Act.

Ages of Children in Institutions.

The seventeen institutions licensed during 1911, provided accommodation for 384 children, and the ages of those admitted ranged from infancy up to 12 years, but the provisions of the Act apply only to those under age 7 ; the following statement shows the number under supervision, in each age group :—

Age group.	Number.	Age group.	Number.
Under 1 year	37	5-6 years	52
1-2 years	22	6-7 years	39
2-3 years	32		
3-4 years	42	Total	263
4-5 years	39		

Homes for Sick Infants.

In connection with the State Children's Relief Department, homes for Sick Infants are maintained at Paddington, at Thirlmere, and at Croydon, being essentially hospitals for dealing with the most serious diseases of childhood. The homes at Paddington and Thirlmere were established in 1907, that at Croydon, in November, 1909, and its work is complementary to that of the two other homes. During 1911, 82 infants under 2 years of age were admitted to the Paddington Home, 59 were discharged, and 23 died, 28 babies remaining in the institution in April, 1912. At Thirlmere there were 34 children under treatment in April, 1912, 56 having been admitted, and 27 discharged during the year, the deaths numbering 22. Where practicable the mothers are admitted with the babies, the majority of whom are suffering from neglect, ill-treatment, or disease. From the opening of the Croydon Home to April, 1912, 69 babies were admitted, of whom 6 died, and 46 were discharged.

Infantile Mortality.

The importance of the subject of infantile mortality has compelled the introduction of measures for saving a larger proportion of infant life than has hitherto been possible for lack of facilities for treating children suffering with diseases of a high grade of infectivity, and has also led to an investigation during 1911 by the Statistician, as to the death-rates experienced during preceding years, within various institutions receiving infants, with a view to comparing their experience with that of infants under the protection of the State Children's Relief Board.

From the experience investigated for the period 1902-1910 in regard to infants under 1 year of age, the following averages were deduced :—

Control.	Average Duration in Days.			Death rate per cent. of Exposed.
	Of all Cases.	Of Survivors.	Of Deceased.	
Infants' Home, Ashfield	124·8	133·9	72·6	32·39
*Nurse Frost's Home, Paddington... ..	73·9	110·6	48·7	82·78
Waitara Home	89·4	130·7	48·3	73·78
*Thirlmere Home	120·8	156·7	58·6	57·35
Benevolent Asylum—				
Born in the Institution	22·5	22·9	14·6	47·65
Admitted... ..	36·9	37·0	36·3	59·75
State Children's Relief	151·7	168·4	52·1	26·68
,, Protection..	183·1	209·9	66·1	28·49

* Established in 1907.

A similar investigation made as to the extent of mortality of children under 3 years of age yielded the following averages :—

Control.	Average Duration in Days.			Death rate per cent. of Exposed.
	Of all Cases.	Of Survivors.	Of Deceased.	
Infants' Home, Ashfield	171·6	185·8	76·5	22·57
*Nurse Frost's Home, Paddington... ..	96·7	140·7	56·7	74·07
Waitara Home	151·2	259·5	59·4	62·41
*Thirlmere Home	187·7	259·0	79·0	48·05
Benevolent Asylum—				
Born in the Institution... ..	23·1	23·5	13·2	47·29
Admitted... ..	38·2	38·0	40·5	51·93
State Children's Relief	413·5	447·0	71·2	7·42
,, Protection	392·6	456·5	71·8	13·75

* Established in 1907.

The majority of deaths are due to gastro-enteritis, and the State Children's Relief Department emphasises the need which exists for a proper hospital to deal with this disease. As a tentative measure arrangements have been made for the care of children suffering with gastro-enteritis by foster parents in private homes, not more than one child may be placed in a home when so suffering; a special payment at the rate of 12s. per week is provided.

From an earlier investigation, covering the period 1898-1902, the death-rates deduced were as follows:—

Centro	Death-rates per cent. of Children of ages under—	
	One year.	Three years.
Infants' Home, Ashfield	38·91	26·93
Waitara Home	83·31	78·06
Benevolent Asylum—		
Born in the Institution	58·46	58·46
Admitted	78·23	66·56
State Children's Relief	43·49	8·96
,, Protection	35·27	23·60

Children's Protection Act.

The Children's Protection Act, 1902, requires the careful supervision of children under 3 years of age who are boarded-out privately apart from their mothers, and provides for the registration of nursing homes. A Boarding-out Officer is vested with the necessary powers of supervision, and any person who receives for payment a child under 3 years of age, must notify the officer, and where two or more children under 3 years are received, the foster-home must be registered. There are provisions for the over-sight of children engaged in public performances, and for the registration of all births (including still-births) which occur in maternity homes.

The transactions under this Act during the last six years may be seen in the following statement:—

Particulars.	1906.	1907.	1908.	1909.	1910.	1911.
Registrations from Lying-in Homes ...	2,839	2,882	2,774	2,683	4,203	3,796
Foster Homes registered... ..	75	112	96	91	114	71
Children registered	1,436	1,584	1,557	1,235	1,138	1,188
,, died	102	101	85	76	51	62
,, discharged from supervision... ..	681	616	851	636	511	567
,, under supervision at 31st Dec.	653	867	621	523	576	559
Theatre Licenses for Children	183	179	201	257	188	216

Within the Metropolitan area medical attention is enforced for all infants up to 12 months old, who come under the provisions of the Act, and those placed with foster-mothers must be taken fortnightly by their custodians to a Children's Hospital, where they are weighed, and if ill, treated, and their custodians are advised as to methods of further treatment. The total number of children under supervision during 1911 was 1,188, of whom 62 died, the principal cause of death being gastro-enteritis 27, marasmus 8, gastritis 8, pneumonia 6, convulsions 5.

Two inspectors are charged with the supervision of the conditions of infant life in Sydney and suburbs, and honorary lady visitors and the inspec-torial staff attached to the Department made nearly 30,000 visits to State children during the year.

DEPENDENT AND NEGLECTED CHILDREN.

To the State Children's Relief Board are entrusted the supervision and guardianship of dependent and neglected children, and of juveniles committed from the Children's Courts. Under the provisions of the State Children's Relief Act, 1901, embodying the original Act of 1881, under which the department was constituted, dependent children are boarded-out with approved guardians or with their own mothers, when the latter are widows or deserted wives with children under 12 years of age.

During the thirty-one years' operation of the Board, 19,661 children have been removed for boarding-out, from State and other institutions, from asylums, and from hospitals. Of this total, 14,984 children had been discharged to their parents or otherwise removed from the control of the Board, so that there were 4,677 remaining under its charge on 5th April, 1912, of whom 2,727 were boys and 1,950 were girls. In addition to these children under direct control, the Board was paying allowances towards the support of 4,453 children under 12 years of age, living with their mothers, who are widows or deserted wives; the Board thus having the supervision of 9,130 children. Of these children, 2,768 (1,578 boys and 1,190 girls) were boarded out to persons deemed to be eligible after strict inquiry by the Board, the rate of payment being usually 5s. per week, but in special circumstances ranging up to 10s. per week, the highest rates being paid for infants under 1 year, who require more than ordinary care. Strict supervision is exercised by the officers of the Board to prevent ill-treatment or neglect, and visiting ladies voluntarily assist in the various districts, keeping a constant watch upon the children, and the conditions under which they live.

A comparison of the number of children under care of the State's direct or delegated control and in private institutions at the end of each of the last ten years is as follows:—

Year.	Supported by Government.		Not supported by Government.			Total.
	Wholly.	Partly.	State Apprentices.	State children adopted without payment.	Inmates of private institutions.	
	State children boarded out or in homes, depôt, or hospitals.	Children living with their mothers.				
1902	2,345	3,386	1,283	177	1,523	8,714
1903	2,401	3,435	1,194	184	1,541	8,755
1904	2,419	3,317	1,156	225	1,600	8,717
1905	2,390	3,146	1,246	254	1,591	8,627
1906	2,536	3,025	1,201	287	1,388	8,437
1907	2,707	3,633	1,285	210	1,485	9,320
1908	2,779	3,980	1,270	198	1,565	9,792
1909	2,938	4,097	1,256	196	1,747	10,234
1910	2,976	4,182	1,281	241	1,632	10,312
1911	3,143	4,453	1,345	189	1,805	10,935

The number of children who were wards of the Board is shown in the following table, at five-year intervals since 1881 :—

Year ending April.	Boys.	Girls.	Total.	Year ending April.	Boys.	Girls.	Total.
1881	24	35	59	1901	2,205	1,705	3,910
1886	779	587	1,366	1906	2,114	1,776	3,890
1891	1,417	952	2,369	1911	2,551	1,947	4,498
1896	1,954	1,502	3,456	1912	2,727	1,950	4,677

The following table shows, for a period of five years, the ages of children when received by the Board :—

Age.	Year ending April—				
	1908.	1909.	1910.	1911.	1912.
Under 1 year ...	89	101	140	196	191
1 year ...	40	61	48	56	72
2 years ...	39	49	46	55	66
3 „ ...	27	35	45	34	46
4 „ ...	33	31	46	32	45
5 „ ...	49	43	40	48	45
6 „ ...	40	27	44	46	56
7 „ ...	48	40	46	45	52
8 „ ...	41	52	60	55	49
9 „ ...	45	65	65	55	54
10 „ ...	80	69	79	74	85
11 „ ...	70	72	84	88	93
12 „, and over ...	158	207	184	183	285
Unknown ...	141	130	84	32	30
Total ...	900	982	1,011	999	1,169

There has been a marked increase in the number of children placed under the control of the Board as a result of the operation of the Neglected Children and Juvenile Offenders Act, 1905.

Of the 1,169 children shown above, for the year 1912, 682 were boarded out direct from the State Children's Depôt, 39 were received from the Benevolent Asylum, 390 were committed from the Children's Courts, and 58 from other sources.

The Depôt (Ormond House, Paddington) fulfils the function of a central depôt for State Children, and is also used as a shelter for the proportionately few girls passing through the Children's Court; the boys being accommodated in premises specially erected and opened in October, 1911. During the year ended April, 1912, 1,994 State Children, and 954 Court children passed through the Depôt and the Boys' Shelter.

The gross amount expended by the Government during the year ended April, 1912, on account of the services of the State Children's Relief Department was £103,173; of this amount £46,001 represented the cost of maintenance of children boarded-out apart from their parents, while allowances to widows and deserted wives towards the support of their children amounted to £33,742. Contributions by parents and relatives and repayments of maintenance allowances amounted to £4,361, being £642 more

than was contributed in the previous year, but the Department experiences the need for comprehensive and remedial legislation on the lines of the Destitute Persons Act, of New Zealand, to enable the recovery of fuller maintenance contributions from any near relative of a destitute person.

The net cost to the Government of the Department's services for the year ended April, 1912, was £98,812.

The following statement shows the increase in the expenditure of the Department since 1901:—

Year ended April.	Expenditure by Government.					Contributions by Parents, &c.	Net Cost to Government.
	Boarding-out.		Cottage Homes.	Children's Protection and Neglected Children's Acts and Supervision of School Attendance.	Total.		
	With Mothers.	Apart from Mothers.					
	£	£	£	£	£	£	£
1901	41,322	18,775	3,069	66*	63,232	1,442	61,790
1906	38,573	22,835	4,621	1,459*	67,488	1,727	65,761
1907	37,034	20,934	5,444	6,360	69,772	2,078	67,694
1908	40,688	20,027	6,917	8,278	75,910	3,024	72,886
1909	42,901	23,757	10,860	9,045	86,563	3,587	82,976
1910	43,497	27,563	10,253	10,951	92,264	3,419	88,845
1911	44,193	29,152	11,085	9,634	94,064	3,712	90,352
1912	46,001	33,742	13,243	10,187	103,173	4,361	98,812

* Children's Protection Act only.

Payment for Children boarded out.

The rates of payment for children boarded-out with their mothers range from 2s. to 5s. per week, and in April, 1912, 947 widows and 727 deserted wives were in receipt of relief on account of 4,453 children under 12 years of age, the term "deserted wife" being construed to include wives technically deserted by being deprived of their husband's support, whether through insanity (145), imprisonment (95), or through detention of the husband in hospital (126), or in an asylum (68). Actual desertion was represented by 296 cases, being 40 per cent. of the total number.

Of 3,143 children entirely supported by the Department, 2,768 are resident as boarders with guardians, the remainder being in hospitals or cottage homes; the maximum number of children boarded-out in any one family is three. Usually the payment for maintenance ceases at age 12, when the majority of children are apprenticed in terms of the State Children's Relief Act, but under an amending regulation introduced in 1911, the Board was given discretionary power to continue payment for children boarded-out with their mothers or with guardians up to 14 years, and to exempt children from apprenticeship up to that age.

Apprenticeship of State Children.

The following statement shows the number of apprentices placed by the Board during the past five years:—

	1908.	1909.	1910.	1911.	1912.
Boys ...	244	270	338	291	288
Girls ...	165	151	208	169	183
Total ...	409	421	546	460	471

At the end of April, 1912, there were 1,345 apprentices (834 boys and 511 girls) still under indentures. The terms of indenture prescribe a wage payment and pocket-money on a specified scale, the wages being banked half-yearly to the credit of the apprentice; one-third of the accumulated amount is paid over on completion of the apprenticeship, the balance remaining at interest till age 21 is attained. From 1887 to April, 1912, the total collections of the Apprentices Fund were £68,671, of which £53,005 had been paid over on completion of the indentures, and £15,666 remained to the credit of the fund. The majority of girls are apprenticed in domestic service, the boys going to farmers, orchardists, and artisans in country districts; as a preliminary to the apprenticeship system, and to give opportunity for the children in a wider range of industrial occupations, training homes are essential.

Cottage Homes for Children.

Cottage Homes for dependent children requiring special treatment are maintained by the State Children's Relief Board. The first was opened at Mittagong in 1882; there are now ten at Mittagong, and three at Parramatta, all situated amid rural surroundings. Five of the Mittagong cottages form the Cottage Farm Home for truants and juvenile offenders committed from the Children's Court; with these exceptions the cottages are maintained for children who are unfit to be boarded out on account of ill-health or of physical or mental defects.

The homes form a valuable adjunct to the boarding-out system, 5,343 children having been treated since their establishment. The admissions and discharges during the last ten years were as follow:—

Year ended 5th April.	Admissions.	Discharges.	Year ended 5th April.	Admissions.	Discharges.
1903	184	147	1908	392	325
1904	180	178	1909	465	406
1905	222	225	1910	444	525
1906	157	169	1911	370	383
1907	306	271	1912	555	517

On 1st April, 1912, 284 children remained in the various Homes, 211 boys and 73 girls, inclusive of 143 boys at the Cottage Farm Home; there were 5 boys and 14 girls in hospital.

Invalid and crippled children numbered 112, and were classified according to age, sex, and physical condition. The principal ailments are shown in the following statement:—

Debility	16	Skin Diseases	15
Weak Intellect	18	Other	27
Ophthalmia	9		
Crippled	20	Total	112
Epilepsy and Paralysis	7		

The nature of the infirmities frequently demands long detention in the homes.

The Cottage Farm Home at Mittagong provides suitable industrial occupation and training for boys committed from the Children's Court, and the products of the farm are available for the invalid children in the Cottage Homes. The boys on the farm home are taught bootmaking, carpentering, blacksmithing, and general farm-work. Since the opening of the home in October, 1906, 1,542 boys have been admitted and 1,399 discharged, boys who proved their trustworthiness being released on probation.

Two homes are reserved for feeble-minded children who are instructed according to kindergarten principles, and probationary farms are maintained at Dora Creek and Toronto to permit of the detention of mentally and morally deficient boys.

Probationary System.

In connection with the operations of the Law Courts, particulars have been given elsewhere in this volume as to children brought before the Children's Courts. The majority of the children dealt with are released on probation either directly from the Court or through the State Children's Relief Department, and it is noticeable that committals to industrial and reformatory institutions have declined in proportion as the probation clauses of the Neglected Children and Juvenile Offenders Act, 1905, have been applied; the same experience has been met in Victoria.

At 5th April, 1912, there were 1,148 children under probation supervision, 1,022 boys and 126 girls. Their ages ranged up to 16 years, viz.:—

	Boys.	Girls.		Boys.	Girls.
5 to 10 years...	117	14	14 to 16	346	53
10 to 12 ...	213	26			
12 to 14 ...	346	33	Total...	1,022	126

The probationary periods were as follows:—1 year and under, 515; 1-2 years, 515; 2-3 years, 54; and over 3 years, 64.

The offence most common amongst the children was stealing, 160 were convicted of minor offences, and 137 of serious offences, the number on probation included 130 neglected and 192 uncontrollable children. Since its inauguration, approximately, 4,476 children have been placed on probation by the Metropolitan Children's Court. This system compares favourably with the former method of committing juvenile delinquents to institutions.

Street-trading by Children.

Street-trading is defined by law as hawking newspapers, matches, flowers, or other articles, singing, or performing for profit, or any like occupation carried on in a public place. Licenses are issued by the State Children's Relief Department to boys under 16 years, and the trading hours prescribed for boys between ages 12 and 14 are from 7 a.m. to 7 p.m., being extended to 6 a.m. to 10 p.m. for boys over 14 years of age. The minimum age at which a license may be granted was fixed in 1911, at 12 years in case of certain occupations and at 14 years in others. Previously boys over 10 years were allowed to hold a license. Girls are not allowed to engage in street occupations. Licenses are renewable half-yearly, and entail the wearing of an arm badge. Of 904 boys licensed in March, 1912, 834 were engaged in newspaper selling.

With regard to street-trading and probation work, the State Children's Relief Department has some supervision over school attendance, and restricts the extension of truancy.

In connection with the effort of the State to promote the welfare of the child population, it is interesting to note that the President of the State Children's Relief Board was appointed in January, 1912, a Royal Commissioner to inquire into the management of delinquent and neglected children, and the whole question of infant nurture in Great Britain, Europe, and America, and to represent the State at the International Triennial Conference on child-life.

CHILD HYGIENE.

Medical Inspection of School Children.

In the chapter relating to Education, some details have been given as to the Medical inspection of children attending State schools; but as the school population represents one-sixth of the total population of the State, the question of physical fitness of children is of considerable importance to the community, and some further discussion is essential to a clear comprehension of the systematic effort necessary to prevent physical deterioration. In the effort to eliminate physical defects disadvantageous to educational progress, to prevent the spread of epidemic disease, and to check children's ailments in the early and curable stages, initiatory observations were made and measurements obtained from a limited number of public school pupils during 1901. Since that period considerably more attention has been given to the question of physical fitness; and Swedish drill, exercises, and sports have been embodied as essentials in the school curricula. As a consequence of the introduction of such a system of physical training, even over the limited period since it was initiated, the latest records may be expected to show a definite improvement in physique as compared with those obtained in early investigations.

The first systematic medical inspection and anthropometric survey of the children attending State schools were commenced in 1907, and the inaugural work was restricted to the more populous centres of Sydney and Newcastle; during 1911 the medical inspection was extended to the South Coast districts and to a number of inland towns. A further extension of the work upon a systematic basis is contemplated with the objective of embracing the total school population. In the first year two medical officers were engaged on the inspection work; subsequently the number was increased to four; and in 1911 four school nurses were appointed to supplement the work of the doctors. Since the initiation of the scheme 140 distinct schools with an enrolment of 80,000 pupils were visited, and over 50,000 physical records taken. The duty of the inspecting officer is to discover and diagnose, not to treat, ailments.

The following statement shows the extent of the inspection work to the end of the year 1911:—

	May, 1907, to April, 1908.	April, 1908, to June, 1909.	1910.	1911.
Schools visited	50	98	127	144
Enrolment	36,118	66,000	75,854	67,577
Children presented... ..	4,000	14,360	16,036	16,909
Complaints disclosed	4,795	22,824	21,558	18,341

At each investigation it has been found that the ailments revealed consist mainly of nasal obstruction and defective sight; the numbers of such cases noted in 1911 being 5,750 and 4,848 respectively; amongst the less numerous ailments may be noted throat complaints, disorders of the eyes, and bad hearing.

The complaints observed amongst pupils in schools inspected during 1911, were as follows:—

Nature of Complaint.	Complaints observed among Pupils.								
	Metropolitan District.		Newcastle District.		Other Country Schools Inspected.		Total.		
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Total.
Bad sight	1,050	1,546	888	1,232	53	79	1,991	2,857	4,848
Bad hearing	397	504	102	154	45	47	544	705	1,249
Diseases of—									
Eye, internal	27	30	22	13	4	3	53	46	99
„ external	149	200	492	557	...	3	641	760	1,401
Ear	91	51	44	71	1	2	136	124	260
Nose	1,362	1,300	1,348	1,515	123	102	2,833	2,917	5,750
Throat	661	776	252	336					
Skin	27	31	13	20	...	...	40	51	91
Bone	8	2	3	4	...	...	11	6	17
Joint	4	8	1	2	...	1	5	11	16
Lungs	27	26	3	10	...	...	30	36	66
Heart	20	12	6	3	5	3	31	18	349
Digestive organs	154	165	2	1	...	...	156	166	22
Urinary organs	30	31	...	5	...	...	30	36	66
Paralysis	29	18	39	25	4	3	72	46	118
Nervous system	15	19	10	8	...	...	25	27	52
Teeth (very bad cases)	58	60	290	214	10	19	358	293	651
Enlarged glands	273	212	1	1	5	1	279	214	493
Spinal curvature	12	11	3	6	17	34	32	51	83
Defective speech	120	73	48	30	8	4	176	107	283
Mentally defective	66	37	6	7	6	9	78	53	131
Anæmia	59	88	10	11	...	3	69	102	171
Rheumatism	10	28	1	2	...	...	11	30	41
General debility	14	12	...	...	...	...	14	12	26
Ringworm	3	1	...	...	...	...	3	1	4
Other complaints	13	7	...	...	5	4	18	11	29
	4,679	5,248	3,584	4,227	286	317	8,549	9,792	18,341

The number of complaints recorded above does not represent the full extent of the defects prevalent among children attending the State schools visited, as pupils known to be undergoing treatment privately were not included. As the results of the notifications sent to parents during 1911, it is recorded that remedial action was taken in only 36 per cent. of the cases. The proportion has increased from 25 per cent. during the last two years, but the fact that nearly two-thirds of the notifications are disregarded shows the question of ensuring satisfactory treatment after inspection is of vital importance, and the success of the scheme is largely dependent on the solution of this difficulty.

DENTAL INSPECTION.

In 1904 the Dental Association of New South Wales voluntarily commenced inspection in a school in a relatively poor suburb of Sydney; subsequently the area of inspection was increased to cover metropolitan schools. During 1908, records of inspection of 4,076 children were received, viz., 2,631 boys and 1,445 girls. During 1908-9 the examination was extended by the Association to various country centres, the inspection covering 3,574 children—1,802 boys

and 1,772 girls. In 1911 a limited number of inspections were made in the metropolitan and country schools. A summary of the results is shown hereunder :—

Classification.	Boys.				Girls.			
	1908-9.		1911.		1908-9.		1911.	
	Metro- politan.	Country.	Metro- politan.	Country.	Metro- politan.	Country.	Metro- politan.	Country.
Pupils examined... ..	2,631	1,802	408	1,161	1,445	1,772	242	1,161
Teeth examined... ..	61,586	41,690	9,283	27,020	33,095	42,304	5,755	26,692
Percentage of teeth defec- tive	19·	17·	24·	24·	23·	19·	26·	23·
Average number of defec- tive teeth per child...	4·4	3·9	5·2	5·7	5·2	4·5	6·2	5·5

The teeth of the girls were found to be more defective than those of the boys, and the permanent set were found to be far less defective than the first set, also the permanent teeth of the country children were rather less defective than of city children. The periods of greatest defect were—*(a)* ages 6-7, and *(b)* ages 14-16 for boys, and 12-15 for girls.

ANTHROPOMETRIC SURVEY OF SCHOOL CHILDREN.

In conjunction with the medical inspection an anthropometric survey of children is made in order to show the physical development in relation to mental progress, and the effect of environment on physical condition, as well as to establish a basis of comparison of the children of this State with those of other countries. The investigation is based on the measurements of height, weight, and vision made by the teachers in Sydney and various country districts.

The following table shows the averages of measurements in height and weight recorded during 1911 :—

Age last Birthday.	Boys—26,597 Records.		Girls—23,100 Records.	
	Average Height.	Average Weight.	Average Height.	Average Weight.
years.	inches.	lb.	inches.	lb.
3	40·66	39·03	40·04	37·91
4	41·4	39·2	40·5	38·5
5	42·3	42·9	42·0	40·8
6	44·2	44·9	44·1	44·4
7	46·5	49·8	46·1	48·4
8	48·2	53·7	48·1	52·8
9	50·3	58·6	49·9	57·5
10	52·2	64·0	51·9	62·8
11	53·8	68·1	53·9	69·7
12	55·5	74·9	56·0	77·1
13	57·4	83·2	58·2	86·5
14	60·2	94·4	60·5	96·8
15	63·0	108·2	61·4	105·3
16	65·3	122·5	62·0	111·4
17	66·7	132·1	62·6	114·8
18	66·8	137·1	63·3	121·1

CHEST MEASUREMENTS.

To compare the physical condition of children in this State with that of children in other countries on the basis of lung capacity, chest measurements of 2,050 boys at selected city schools were recorded during 1908-9. These are of value as indicating the variation in measurements of boys at different ages in this State. For purposes of comparison with other communities the records are of little value unless the conditions under which the measurements are taken are known to be uniform for the countries under comparison, and failing the necessary uniformity reliance is placed upon records of height and weight as subject in a slight degree only to the influence of varying conditions.

The records of chest measurements disclose that, under fairly uniform conditions, boys in the State schools in Sydney maintain a standard equal to those of other countries. The circumference of the chest in the cases of Sydney boys increases gradually up to the twelfth year, after which there is a period of more rapid growth for four years, the maximum increase being recorded between the fourteenth and fifteenth years. This period of rapid growth corresponds to that noted for height and weight, and the mean chest girth is rather less than half the average height of the child at stated ages.

Comparison with the records obtained in Great Britain, the United States of America, Poland, and Tasmania, shows the favourable results of the New South Wales investigations. Sydney measurements were taken over the bare skin, the records being the mean of observations at full expansion and full contraction. Tasmanian measurements are over shirt and vest.

Following are the figures obtained as to chest girth, being average measurements of boys of various countries:—

Age last Birthday.	Great Britain (Anthrop. Comm.).	U.S. America (Kline).	Tasmania—Hobart (Elkington).	Poland (Landsberger).	New South Wales— Sydney.
	inches.	inches.	inches.	inches.	inches.
7	.....	.....	23·9	21·8	23·6
8	.....	.....	24·8	22·8	23·9
9	.....	23·48	25·48	23·7	24·5
10	26·1	24·30	25·7	24·4	25·1
11	26·53	25·34	26·34	25·1	25·9
12	27·2	26·28	27·1	25·6	26·7
13	28·03	27·28	27·4	27·2	27·7
14	28·46	28·55	28·1	.....	28·9
15	29·74	29·90	29·0	.....	30·6
16	31·53	.....	.....	.....	31·8
17	33·64	.....	.....	.....	32·7
18	34·19	.....	.....	.....	33·5

Vision of School Children.

During 1911, 42,000 records of vision of public school children in metropolitan and country districts were obtained. The records disclosed that the sight of both boys and girls is more defective in the metropolitan district than in the country; and the sight of girls in both Sydney and country is worse than that of boys. To a large extent, however, the abnormalities in vision are of a minor character, many of which become corrected as the child grows older.

School Children with—	Boys.		Girls.	
	Metropolitan.	Country.	Metropolitan.	Country.
	per cent.	per cent.	per cent.	per cent.
Both eyes normal	77.2	78.7	66.8	70.0
One eye defective	10.4	9.9	11.9	11.8
Both eyes defective	12.4	11.4	21.3	18.2
Very good vision	85.3	86.2	76.3	78.9
Good vision	7.6	6.9	11.0	10.0
Fair vision	4.5	3.9	7.6	6.7
Bad vision	2.1	2.2	4.0	3.9
Very bad vision	0.5	0.8	1.1	0.5

Of the boys examined, 78 per cent. had normal vision in both eyes; 10 per cent. were found to be below normal in one eye; and 12 per cent. were found to be below normal in both eyes. Of the girls examined, 68 per cent. had normal vision in both eyes; 12 per cent. had less than normal vision in one eye; and 20 per cent. had both eyes below normal.

In connection with the prevalence of defects of vision in the schools, it may be of interest to detail the results of recent investigations made in Tasmanian schools as to the cause and cure of defective vision. The hygiene of the eye is dependent, to a very great extent, on the lighting of the school-room, and the construction of the desks and general furniture, but even more on the character of the work, particularly in the case of sewing and reading. In the New South Wales experience, the eyesight of girls is generally worse than of boys; and in some of the sewing classes visited, work of girls of 12-14 years was examined which showed 40-48 stitches per inch done in rooms not brilliantly lighted.

As regards reading, the cause of much ocular defectiveness may be traced in the type of the books used. The standard type adopted as the result of scientific investigation in German schools, on the basis of Roman "n" as measurement should not be less than 1.5 mm. in height; the smallest leading allowable being 2.5 mm., with a maximum line length of 9 mm., and a down-stroke of 0.3 mm. thickness. Practically none of the books examined conformed to these standards, the failure being particularly noticeable in books relating to music and poetry. To remedy these defects in ocular hygiene, proper illumination of school-rooms is essential, and attention should be given to the matter of hygienic furniture, standard-type books, and scientific instruction in sewing.

HOSPITALS FOR THE SICK.

Public Subsidised Hospitals.

General hospitals for the treatment of the sick numbered 141 at the end of 1911—21 being in the metropolitan area, and 120 in country districts; the accommodation provided was 5,050 beds, viz., 2,086 in the metropolitan hospitals, averaging 95 beds per hospital; and 2,964 in country districts, averaging 25 beds per hospital. The cubic capacity of metropolitan hospitals was 2,810,753 cubic feet, averaging 1,347 cubic feet per bed; in the country hospitals the average was 1,242 cubic feet, the average for New South Wales being 1,286 cubic feet per bed. The following statement shows the extent to which hospital services have increased since 1901:—

	1901.		1911.	
	Metropolitan.	Country.	Metropolitan.	Country.
Hospitals	15	103	21	120
Beds	1,453	1,938	2,086	2,964
Indoor patients during year	16,919	16,093	29,610	26,954
Outdoor patients (general)	72,645	7,614	104,466	11,880
Indoor patients per 1,000 of mean population	24·1		34·0	

Private Hospitals.

In addition to the subsidised hospitals which are open to the public, and are subject to the Public Hospitals Act, 1898, and its amendments, there exist numerous private hospitals which receive no revenue from the State, and which prior to 1909 were entirely free of State supervision; but since the passing of the Private Hospitals Act, 1908, a private hospital (which includes any place in which medical, surgical, or lying-in cases may be received) exists only by virtue of a license issued annually by the Board of Health. The premises are inspected, and both the management and the premises must be approved before a license issues. The hospitals thus licensed number 443, viz. 114 in Sydney, and 329 in the country.

The following statement shows the classification of these hospitals:—

Type of Hospital.	Sydney.	Country.	Total.
Medical, surgical, and lying-in	38	116	154
Medical or surgical... ..	9	5	14
Lying-in	67	208	275

In the majority of these hospitals the accommodation provided was from 1 to 3 beds; only in 16 hospitals in Sydney and one in the country were more than 20 beds available. A register of hospital and general nurses is kept for each institution, and the licensees and resident managers must be qualified. In 410 hospitals the licensee was the resident manager.

STAFFS AND PATIENTS IN PUBLIC HOSPITALS.

The following statement shows the medical and nursing staffs attached to public hospitals during 1911:—

	Medical Staff.		Nursing Staff.			
	Honorary.	Salaried.	Qualified Nurses.	Nurses Training.	Others.	Total.
Metropolitan ...	333	58	441	315	69	825
Country ...	173	136	333	265	80	678
Total ...	506	194	774	580	149	1,503

During the year 56,564 persons were under treatment as indoor patients, viz., 29,610 in metropolitan and 26,954 in country hospitals, and the number remaining in hospital at the close of the year was 3,409 (2,016 males and 1,393 females). The average time during which each person was under treatment was: of those who died—males, 26.0 days, and females, 17.3 days; and of those who recovered—males, 21.6 days, and females 21.4 days.

The following statement shows the number of indoor patients treated, and the discharges and deaths during the past ten years:—

Year.	Patients under treatment.		Deaths		Number of Patients at the close of year.
	Total.	Number Discharged	Number.	Per cent. of treated.	
1902	34,426	29,595	2,594	7.5	2,237
1903	37,011	31,860	2,660	7.2	2,491
1904	38,430	33,532	2,431	6.3	2,467
1905	38,646	33,581	2,529	6.5	2,536
1906	41,552	36,402	2,576	6.2	2,574
1907	44,667	39,133	2,767	6.2	2,767
1908	47,349	41,391	3,020	6.4	2,938
1909	50,541	44,208	3,194	6.3	3,139
1910	54,683	48,370	3,224	5.9	3,089
1911	56,564	49,605	3,550	6.3	3,409

The increase in the number of patients treated has been steady, and has been more rapid than the growth of population; the proportion of the population treated in hospitals having risen gradually from 24.1 per 1,000 in 1901 to 34.0 per 1,000 in 1911.

The death-rate per 100 persons under treatment during 1911 was 6.3 as compared with 7.5 in 1902. The death-rate in hospitals in New South Wales is apparently high, but this to a large extent is due to the number of deaths from accidents, which form a considerable proportion of the total causes of deaths registered. A majority of the accidents are treated in the hospitals; and these institutions, especially in country districts, are maintained principally for the treatment of surgical cases.

SICKNESS IN PUBLIC HOSPITALS.

The statement below shows the principal diseases of patients who were treated during 1911, including those remaining in hospital at the end of the year. The number of patients who died, who were discharged as recovered, relieved, or unrelieved is also shown.

As will be seen from the table, there were 55,479 patients of whom particulars were obtained—30,200 males and 25,279 females. There were 2,317 deaths of males, and 1,232 of females; 38,445 patients were discharged as recovered, 8,697 as relieved, and 1,451 as unrelieved.

Disease.	Total under Treatment during 1911.		Number of those discharged during the year who—					
			Recovered.		Were Relieved.	Were unrelieved.	Died.	
	Males.	Females.	Males.	Females.	Both Sexes.	Both Sexes.	Males.	Females.
Typhoid	960	614	751	478	7	...	78	58
Diphtheria and croup ...	1,501	1,873	1,325	1,684	86	9	60	66
Influenza	676	303	640	288	22	1	4	1
Tuberculosis of lungs ...	1,007	358	102	55	507	119	195	37
Tuberculosis, other organs	429	279	106	89	308	44	43	13
Veneral Diseases	797	388	314	60	662	52	13	8
Cancer	806	472	247	137	337	253	151	76
Rheumatism	1,000	472	592	259	495	11	8	8
Diseases of the eye	668	453	369	273	351	65	...	...
Heart diseases	608	344	74	45	496	19	169	81
Hæmorrhoids, &c.	512	311	434	257	87	7	...	...
Diseases of nose	869	879	833	850	27	26	...	...
Bronchitis	706	410	493	333	182	8	47	23
Pneumonia	1,302	697	990	570	29	6	226	92
Gastritis	606	522	484	405	178	9	2	3
Diarrhœa and enteritis	776	481	527	327	89	9	44	84
Intestinal obstruction...	869	308	720	241	44	26	55	31
Appendicitis, typhlitis...	1,122	1,188	937	1,002	122	14	46	35
Nephritis, Bright's disease	418	222	87	54	228	21	151	63
Diseases, female genital organs ... ..	...	3,156	...	2,539	344	85	...	34
Diseases of skin	1,148	598	889	456	258	15	22	12
Accidents	5,465	1,112	4,298	836	627	70	251	88
All Causes	30,200	25,279	19,885	18,560	8,697	1,451	2,317	1,232

Duration of Illness.

The following figures show the condition under which discharges during 1911 were effected for all cases, and the average number of days' illness suffered :—

	Proportion Discharged.		Average Duration of Illness.	
	Males. per cent.	Females. per cent.	Males. Days.	Females. Days.
Recovered	70·5	77·6	21·6	21·4
Died	8·2	5·2	26·0	17·3
Relieved	18·3	14·8	...	...
Unrelieved	3·0	2·4	...	...
	100·0	100·0	23·9	22·3

Fatality Rates in Age-groups.

For all cases of sickness treated in hospital, the fatality rates were 8·2 per cent. for males and 5·2 per cent. for females, the various age-groups showing as follows:—

Age Group.	Fatality Rates per cent. of Cases treated.		Age Group.	Fatality Rates per cent. of Cases treated.	
	males.	females.		males.	females.
Under 1 year ...	23·6	20·8	45-64 years ...	11·6	9·0
1-4 years ...	8·2	8·9	65 and over ...	18·9	18·9
5-19 „ ...	3·3	3·0	All ages ...	8·2	5·2
20-44 „ ...	5·4	3·4			

The fatality rates per 100 cases of various diseases treated during 1911 are shown below; the cases of persons remaining in the hospitals at the end of the year are not included:—

Disease.	Cases.		Fatality Rate per 100 Cases.	
	Males.	Females.	Males.	Females.
Typhoid Fever ...	834	538	9·4	10·8
Diphtheria and Croup ...	1,429	1,801	4·2	3·7
Tuberculosis—Lungs ...	727	288	26·8	12·8
Other ...	361	242	11·9	5·4
Cancer ...	758	443	19·9	17·2
Diseases of the Heart ...	566	318	29·9	25·5
Bronchitis ...	684	402	6·9	5·7
Pneumonia ...	1,240	673	18·2	13·7
Diarrhoea and Enteritis ...	727	453	19·8	18·5
Appendicitis ...	1,039	1,117	4·4	3·1
Intestinal Obstruction ...	825	292	6·7	10·6
Nephritis ...	394	210	38·3	30·0
Accident ...	5,137	1,036	4·9	8·5

OUT-DOOR HOSPITAL PATIENTS.

During 1911, 116,346 persons were treated as out-door patients of the general hospitals; viz., 104,466 at metropolitan hospitals, and 11,880 at country hospitals, and 4,843 were treated at the metropolitan dental hospital.

LEPER LAZARET.

At the Leper Lazaret on 31st December, 1911, there were 20 persons of whom 16 were males. Only 5 of the inmates were born in New South Wales. The cost of management of the Lazaret was £1,657 8s. 4d., the average cost per inmate per annum being £96 9s. 5d.

HOSPITALS IN GAOLS.

The health of prisoners receives special attention from medical officers at hospitals attached to gaols.

The following return shows the total number of cases treated in gaol hospitals, and is exclusive of minor cases treated outside the hospitals:—

Year.	Cases of Sickness treated.	Year.	Cases of Sickness treated.
1906	704	1909	673
1907	626	1910	525
1908	683	1911	732

ANTI-TUBERCULOSIS DISPENSARIES.

An important innovation in connection with out-door relief has been made by the establishment of anti-tuberculosis dispensaries. The first was opened in Sydney in 1912 under the auspices of the National Association for the Prevention of Consumption, aided by a Government grant of £500. In addition, two metropolitan hospitals have opened special out-door departments for the treatment of tuberculous patients, and an extension of the dispensary system in connection with hospitals is contemplated. An Advisory Board consisting of medical and veterinary experts meets regularly to advise the Government regarding the treatment of tuberculosis.

In addition to the State institutions described below, the Queen Victoria Homes for Consumptives and the R. T. Hall Sanatorium provide open air treatment for persons suffering from consumption in curative stages, and tuberculous cases are received at the Sacred Heart Hospice for the Dying. Further particulars regarding tuberculosis and its treatment are given in the chapter "Vital Statistics."

AMBULANCE AND FIRST AID.

In the work of rendering first aid, and transporting invalid or injured persons, several organisations are engaged, viz., the St. John Ambulance Association and Brigade, the Civil Ambulance and Transport Corps, and the New South Wales Marine Ambulance, none of which is subsidised by the Government.

The primary object of the St. John Ambulance Association is the dissemination of general information as to the preliminary treatment of the sick and injured; a large number of classes for First Aid instruction are held throughout the State, certificates of competency being awarded by the Association. Ambulance Corps connected with the Railway and Tramway Department and with the Department of Mines, also encourage first aid instruction. The Royal Life-Saving Society promotes technical education in life-saving and resuscitation of the apparently drowned.

SUBSIDIARY SOCIAL SERVICES.

Supplementing the activities of the larger institutions, there exist various minor organisations, some of which are subsidised by the Government.

In the matter of nursing the District Nursing Association, the Bush Nursing Association, and the Sydney Day Nursery Association are active. The Sydney District Nursing Association restricts its operations to Sydney and its suburbs, and during 1911 the nurses connected with the Association made 21,780 visits to 601 patients. The Association is maintained by public subscriptions.

To provide a measure of nursing and hospital services in districts sparsely settled or remote from an established hospital the Bush Nursing Association was instituted during 1911, and during its first year four nurses were installed, viz., one each at Jindabyne, Euston, Lake Cudgellico, and Carinda. In each town a cottage was furnished and equipped for the use of the nurse; the costs of equipment and services are guaranteed by local committees, promoted and subsidised by the association which was inaugurated with an endowment provided by public subscriptions, and is maintained by annual contributions subsidised by the Government. During 1911-12 the Government subsidy was £100. Among other public institutions engaged in social service may be mentioned the Royal Life-Saving Society, with a State subsidy for 1911 of £250; the New South Wales Public Disaster

Relief Fund, the Royal Shipwreck Relief and Humane Society of New South Wales, and the Surgical Appliance Aid Society, which receives an annual subsidy of £50. The Sydney Medical Mission treated 3,370 patients during 1911, dispensed medicines, and visited numerous patients. The Fresh Air League sent 134 children and 105 adults for trips to the country during the year 1911.

HOSPITAL FINANCE.

The following statement shows the revenue and expenditure of the public hospitals for the year 1911 :—

Items.	Metropolitan	Country.	New South Wales
Receipts—	£	£	£
State aid	80,982	78,165	159,147
Subscriptions and donations	63,929	67,315	131,244
Patients' contributions	24,028	26,071	50,099
Miscellaneous	15,362	7,505	22,867
Total Receipts	£ 184,301	179,056	363,357
Expenditure—			
Buildings and repairs	22,024	28,878	50,902
Salaries and Wages	56,734	63,104	119,838
Provisions, Stores, &c.	73,013	70,186	143,199
Miscellaneous	20,997	13,880	34,877
Total Expenditure	£ 172,768	176,048	348,816

The expenditure in connection with the Coast Hospital, Little Bay, and the Hospital for Consumptives at Waterfall has been included in the figures stated above; these institutions are controlled entirely by the Government.

At the Coast Hospital there were 314 beds, a nursing staff of 79 including 56 probationers, and a medical staff of 14, of whom five were salaried; 4,762 patients were treated during the year, the cost of the establishment being £27,455.

The Waterfall Hospital was established in 1909 for the treatment of persons suffering from pulmonary tuberculosis in early as well as advanced stages of the disease. There are 218 beds in the institution and 503 patients were treated during 1911 at a cost of £10,638, including £336 contributed by patients. Hitherto only male patients have been admitted, but a wing for females is in course of construction. Pending its completion female patients are treated at the Newington Asylum for the Infirm.

According to the hospital accounts the total expenditure of the Government in connection with the hospitals in the metropolitan area in 1911 was £80,982, and on the country hospitals, £78,165. The total for the State was £159,147, comprising special grants amounting to £3,673 for metropolitan and £10,632 for country hospitals, and subsidies, £77,309 to metropolitan and £67,533 to country institutions. These amounts are irrespective of payments for attendance on aborigines, and of expenses in connection with special outbreaks of disease, which are met from the general Medical Vote, nor do they include cost of maintenance of a large number of chronic and incurable cases in destitute asylums.

PROGRESSION OF HOSPITAL FINANCE.

The revenue and expenditure of public hospitals at intervals since 1900 are shown below :—

Year.	Revenue.					Expenditure.			
	State aid.	Subscriptions and Donations.	Patients' contributions.	Other.	Total.	Building and repairs.	Salaries and Wages, Provisions, Stores, &c.	Other.	Total.
	£	£	£	£	£	£	£	£	£
1900	88,463	65,634	20,458	16,474	191,029	17,362	131,932	14,339	163,633
1905	100,976	72,430	27,635	14,824	215,865	34,541	167,815	22,808	225,164
1906	109,296	85,421	31,525	16,617	242,859	26,815	179,431	18,666	224,912
1907	128,690	87,812	34,126	14,497	265,125	40,260	193,419	20,630	254,309
1908	135,183	85,452	38,985	15,842	275,462	53,446	213,207	20,744	287,397
1909	146,774	96,733	41,208	16,358	301,073	44,502	225,316	23,402	293,220
1910	146,638	102,690	45,417	19,603	314,348	33,652	241,607	29,054	304,313
1911	159,147	131,244	50,099	22,867	363,357	50,902	263,037	34,877	348,816

The State aid received by the hospitals has increased by 80 per cent. since 1900; the subscriptions and donations by 100 per cent.; the patients' contributions by 145 per cent., and the total revenue by 88 per cent. The expenditure on maintenance has increased during the same period by 113 per cent., and the total expenditure by 113 per cent.

Hospital Funds.

The balances of the funds of the hospitals as at the beginning and end of the year 1911 are shown in the following statement :—

Hospitals.	At 1st Jan., 1911.		At 31st Dec., 1911.	
	Current Account.	Invested Funds	Current Account.	Invested Funds.
	£	£	£	£
Metropolitan ...	(—) 25,351	126,237	(—) 6,375	118,794
Country ...	27,777	86,961	28,748	88,998
Total ...	2,426	213,198	22,373	207,792

(—) Indicates debit balance.

PUBLIC CHARITABLE COLLECTIONS.

With the object of increasing the revenue of the hospitals and charitable agencies, public collections are made annually in the Metropolitan and several country districts. Particulars of the Hospital Saturday Fund and the United Charities Fund, both operating in the metropolitan area, are shown below; no information is available of other collections.

Hospital Saturday Fund.

The Hospital Saturday Fund of New South Wales, inaugurated in 1895, is registered under the Companies Act, and is managed by a Board of thirty members and eight honorary officers, all of whom are elected annually. Indoor collections at places of business, household collections by means of boxes, and an annual out-door collection are made; the money is distributed among certain hospitals and auxiliary medical charities in the metropolitan area.

For the year ended 31st May, 1912, £9,427 was collected and £8,600 was distributed; the expenses amounted to £798.

United Charities Fund.

The United Charities Fund is administered by a general committee, composed of delegates of the Associated Charities within Sydney and suburbs, except the medical charities aided by the Hospital Saturday Fund; an annual collection is made throughout the metropolis. During the year ended 1st February, 1912, the amount collected was £2,274 and the amount distributed was £1,821, the expenses being £561.

VACCINATION.

During 1911, 20 persons were vaccinated by Government medical officers in New South Wales, the cost to the State being £3. Complete information on this subject may be obtained upon reference to part Vital Statistics of this Year Book.

INSANITY.

Under the Lunacy Act, 1898, the Judge in Equity is constituted a court to deal with matters relating to the declaration of any person as of unsound mind or incapable of managing his own affairs, and to the appointment of a committee of his estate; the Master in Equity, as Master in Lunacy, is clothed with all the powers of such a committee, and controls trust funds which at December, 1911, amounted to £226,045. The Act authorises the appointment of an Inspector-General of Insane, who is empowered to visit every hospital, reception-house, ward, cell, or licensed house, and to inquire generally as to the care, treatment, and health, mental and physical, of the patients. Persons deemed to be insane may be examined and detained on the order of a Justice; and in public hospitals, and in gaol establishments, wards are reserved for the reception and observation of insane patients, but special hospitals are maintained by the Government for their treatment and care. The number of such hospitals open during 1911 was eight, in addition to a hospital for criminal insane at Parramatta, a temporary hospital on Rabbit Island, three licensed houses at Tempe, Ryde, and Picton, and reserved accommodation in the South Australian hospitals for patients from the Barrier District of New South Wales.

HOSPITALS FOR THE INSANE.

At the end of the year 1911 there were in the New South Wales hospitals 6,074 patients—3,675 males and 2,399 females; in the South Australian hospitals the patients from New South Wales numbered 17 men and 15 women; in addition there were 118 men and 159 women on leave from various institutions, making a total number of 6,383 insane persons—3,810 males and 2,573 females.

In the following table is stated the number of persons certified as insane at the close of each year, with their proportion per 1,000 of the population at quinquennial intervals since 1876:—

Year.	Number of Insane Persons.			Proportion per 1,000 of Population.		
	Males.	Females.	Total.	Males.	Females.	Total.
1876	1,072	533	1,605	3·21	1·90	2·61
1881	1,354	726	2,080	3·16	2·06	2·66
1886	1,644	1,073	2,717	3·03	2·41	2·75
1891	1,912	1,222	3,134	3·04	2·29	2·70
1896	2,356	1,489	3,845	3·46	2·49	3·01
1901	2,684	1,804	4,488	3·72	2·75	3·26
1906	3,285	2,240	5,525	4·13	3·11	3·65
1911	3,810	2,573	6,383	4·30	3·19	3·77

From these figures it appears that the proportion of insane treated in the hospitals for insane is increasing steadily from period to period; but, to ascertain the general insanity rate it is necessary to consider the extent to which patients are cared for in private houses, and the proportion of persons whose mental condition, while not calling for certification, might be relieved by treatment if provision were made for the admission of voluntary patients.

Each institution admitting new cases is provided with a mental hospital specially designed and fully equipped for the treatment of curable patients, in separate buildings, so that a classification system can be ensured, and a high standard of nursing and care maintained.

Juveniles are sent to the Hospital for the Insane at Newcastle—an asylum reserved for imbecile and idiot children, and young people and those requiring special nursing; kindergarten classes undertaken in this hospital have proved of great benefit to the children attending. In connection with the State Children's Relief Department, two cottage homes for feeble-minded children are maintained.

Admissions and Discharges.

The numbers of admissions and readmissions to hospitals for the insane since 1876 are shown below in five-year periods:—

Period.	Admissions.			Readmissions.		
	Males.	Females.	Total.	Males.	Females.	Total.
1876-1880	1,164	610	1,774	203	145	348
1881-1885	1,441	801	2,242	116	131	247
1886-1890	1,615	972	2,587	156	105	261
1891-1895	1,843	1,116	2,959	217	201	418
1896-1900	1,980	1,278	3,258	300	259	559
1901-1905	2,488	1,621	4,109	415	365	780
1906-1910	2,708	1,724	4,432	518	410	928
1910	650	397	1,047	92	82	174
1911	674	387	1,061	113	73	186

Prior to 1893 there was no law in force to prevent the influx of insane into New South Wales, but in that year legislation rendered the owner, charterer, agent, or master of a vessel liable for the maintenance of any insane person landed in the State.

The steadily increasing number of admissions has resulted in so overtaxing the accommodation available in the large hospitals, that temporary accommodation had to be secured, and the opportunity was taken in 1910 of giving to selected patients experience of open-air treatment, they being housed in tents with wooden framework and flooring; the resultant benefit to health was regarded as highly satisfactory.

The next table shows, in quinquennial periods, the numbers of patients who were discharged from the hospitals, on account of recovery, permanent or temporary, or who died :—

Period.	Discharged.						Deaths.		
	Recovered.			Relieved.			Males.	Females.	Total.
	Males.	Females.	Total.	Males.	Females.	Total.			
1876-1880	578	301	879	93	104	197	461	143	604
1881-1885	624	394	1,018	88	78	166	529	226	755
1886-1890	732	531	1,263	76	47	123	630	344	974
1891-1895	815	633	1,448	108	99	207	742	350	1,092
1896-1900	880	737	1,617	125	131	256	887	364	1,251
1901-1905	1,132	891	2,023	149	139	288	1,100	573	1,673
1906-1910	1,134	954	2,098	221	164	385	1,311	651	1,962
1910	256	212	468	38	37	75	275	150	425
1911	268	191	459	61	35	96	338	147	485

Analysis of the direct causes of deaths as certified, during 1911, shows the predominance of brain diseases generally, and of paralysis. Following are principal causes of death :—

	Males.	Females.	Total.
Inflammation and other Brain Diseases ...	46	27	73
General Paralysis	68	5	73
Other Cerebral Diseases	28	26	54
General Debility and Old Age	35	13	48
Pulmonary Consumption	28	22	50
Diseases of Heart and Blood-vessels	44	19	63
Inflammation of Lungs, Pleura, and Bronchia...	30	15	45
Abdominal Diseases	45	11	56
Other Diseases	10	8	18
Accident and Suicide	4	1	5
Total	338	147	485

Causes of Insanity.

On the admission or readmission of patients to hospitals or reception houses, the causes of insanity, apparent or assigned, are verified; the records gathered for 1911 show that among the exciting causes of insanity intemperance in drink is most prominent, particularly among men; among predisposing causes the most important are old age, ascertained congenital defects, and hereditary influence. In the cases of 85 men and 67 women earlier attacks were recorded, than those which were responsible for their admissions in 1911.

In connection with the treatment of feeble-minded persons, on scientific lines, the trend of modern method is towards segregation and their treatment in establishments specially adapted for the purpose. Grave consideration has been given to the question in England, in the United States, and Canada, and at the Medical Congress held in Sydney during 1911, the subject was fully discussed, in view of its national importance, and its social reactions on the healthy minded among the population. The suggested policy in regard to the feeble-minded demands the examination of children in all schools, so as to ascertain exactly the proportion of feeble-minded, and thereupon the establishment of special schools where individual attention under special teachers may be assured. Naturally, among a number of feeble-minded persons (adults or children), will be many who are fairly normal, and capable of considerable mental development; thence the capacity may decline through the grades of those who lack resource, judgment, initiative, or even intelligence, to those who are absolutely without mental equipment and school knowledge. A proper system of classification is essential to any attempt at improvement through the development of skill in some form of manual work, and the formation of normal habits. As regards those who become dependent on the State, or who infringe the law, oversight and supervision are already provided, but more comprehensive measures are necessary to safeguard the community, and properly protect and educate all feeble-minded persons.

Cost of Maintenance.

The weekly cost of maintaining insane patients in Government hospitals during the year 1911 was 12s. 0³/₄d. per patient, of which the State paid 9s. 9¹/₂d., the balance being derived from private contributions. The sub-joined table shows the average weekly cost per patient from 1902 to 1911 :—

Year.	Annual Cost of maintenance of Patients.	Cost of maintenance of Patient per week.		
		To State.	Private Contribution.	Total per Patient without deducting collections.
	£	s. d.	s. d.	s. d.
1902	143,253	10 11 ¹ / ₄	1 7 ³ / ₄	12 7
1903	151,309	10 10	1 10 ¹ / ₂	12 8 ¹ / ₂
1904	139,974	9 5 ² / ₄	1 10 ¹ / ₂	11 4 ¹ / ₄
1905	137,971	8 9 ² / ₄	2 0 ¹ / ₄	10 10
1906	143,245	8 8 ¹ / ₂	2 0 ³ / ₄	10 9 ¹ / ₄
1907	149,728	8 9	2 1 ³ / ₈	10 10 ³ / ₈
1908	165,428	9 8 ¹ / ₈	2 2 ¹ / ₄	11 10 ³ / ₈
1909	166,528	9 6 ¹ / ₈	2 2 ⁵ / ₈	11 8 ³ / ₄
1910	181,482	10 0 ¹ / ₈	2 2 ¹ / ₂	12 2 ⁵ / ₈
1911	185,266	9 9 ¹ / ₈	2 3 ¹ / ₄	12 0 ³ / ₈

Duration of Treatment.

The duration of treatment of completed cases shows that, during 1911, of 459 cases recovered, viz., 268 men and 191 women, the majority had been

under treatment ranging from one to six months, or in more stubborn cases from one to two years. The following table shows the duration of treatment of those who recovered and those who died during 1911 :—

Length of Residence in Institution.	Recovered.			Died.		
	Males.	Females.	Total.	Males.	Females	Total.
Under 1 month ...	11	2	13	37	14	51
From 1 to 3 months	86	26	112	29	13	42
" 3 6 "	59	31	90	35	17	52
" 6 9 "	31	32	63	30	6	36
" 9 12 "	18	27	45	21	7	28
" 1 2 years	34	48	82	55	17	72
" 2 3 "	9	10	19	20	8	28
" 3 5 "	11	9	20	25	12	37
" 5 7 "	2	2	4	16	13	29
" 7 10 "	6	3	9	17	10	27
" 10 12 "	1	...	1	8	6	14
" 12 15 "	...	1	1	10	7	17
Over 15 years ...	...	...	...	35	17	52
Total	268	191	459	338	147	485

SUPPLEMENTARY INSTITUTIONS.

State Asylums for the Infirm.

Five asylums for the infirm are maintained by the Government—four for men and one for women, and in addition twenty-one cottage homes for aged couples have been erected. These institutions were established as asylums for aged and destitute persons, but the introduction of the Old-age and Invalidity pension systems and the prosperous conditions prevalent throughout the State have caused a considerable decrease in the number of persons requiring relief. In consequence the character of the work of these institutions has changed considerably and the treatment of the sick is rapidly developing into a primary feature of administration, the majority of inmates being those requiring medical care. The average number resident during the year ended 30th June, 1912, was 2,907 as compared with 3,606 during the year 1908-9.

The following statement shows the weekly cost per inmate at the Government Asylums during the years ended 30th June, 1909-1912 :—

Head of Expenditure.	Weekly Cost per Inmate.			
	1909.	1910.	1911.	1912.
	s. d.	s. d.	s. d.	s. d.
Salaries and money allowances	2 2	2 4 $\frac{1}{4}$	2 6 $\frac{1}{2}$	3 4
Provisions, extras, medical comforts, and forage ...	3 4	3 8	3 0 $\frac{3}{4}$	3 3 $\frac{3}{4}$
All other expenses	2 8 $\frac{1}{2}$	2 0 $\frac{3}{4}$	2 2	2 8 $\frac{3}{4}$
Gross weekly cost for maintenance per inmate ...	8 2 $\frac{1}{2}$	8 1	7 9 $\frac{1}{4}$	9 4 $\frac{1}{4}$
Average weekly contribution towards Revenue per inmate.	0 5	0 4	0 4	0 8 $\frac{3}{4}$
Net weekly cost per inmate	7 9 $\frac{1}{2}$	7 9	7 5 $\frac{1}{4}$	8 7 $\frac{1}{2}$

Charitable Institutions.

In addition to hospitals for the treatment of sickness or disease, there exist, both in the metropolis and in the country, other institutions for the alleviation of distress in its various forms, such being the homes for women, and for the blind, deaf, and dumb; for the relief of consumptives; for granting casual aid to indigent persons; for the help of discharged prisoners.

There are a number of charitable institutions which are maintained partly by State aid and partly by private contributions, as well as others which are wholly dependent on private aid.

During 1911 the recorded admissions to the various charitable institutions numbered 12,030, viz., 7,565 males, and 4,465 females, and at the end of 1911 there were 6,187 persons in the institutions, of whom 2,124 were children, and were included in a previous table relating to dependent children. The estimated value of outdoor relief afforded during 1911 was £4,573. State aid amounted to £172,496, the total revenue and expenditure being respectively £278,669 and £269,222.

In addition to the institutions which afford both indoor and outdoor relief there exist numerous societies which are engaged in distributing relief in various forms. During 1911 these societies distributed outdoor relief to the value of £14,314, their total revenue and expenditure being £44,097 and £39,309 respectively, State aid amounting to £3,965.

GOVERNMENT RELIEF ORDERS.

To the various hospitals and asylums the Government issues orders authorising the holders to secure relief from the institutions. During 1911, 9,183 orders were granted, of which 4,168 were to the Government hospitals and asylums, 2,600 were to the Government Coast Hospital, and 1,581 were for out-door treatment at different hospitals; the balance were distributed among other institutions. The total applications numbered 10,613 as compared with 10,791 in 1910; 1,430 were refused, but it frequently happens that applicants who have been refused Government orders receive recommendations to institutions not under State management. More than half the applicants in 1911 were over 40 years of age, 2,249 being over 60.

DIVORCE, &c.

A total of 7,313 petitions for divorce, 609 for judicial separation, and 79 for nullity of marriage, have been presented to the Supreme Court in the Divorce and Matrimonial Causes Jurisdiction from 1873 to the end of 1911. Of the petitions for divorce, 2,382 were presented *in forma pauperis*.

The following statement shows the divorces, judicial separations, and decrees of nullity of marriage granted in New South Wales since the year 1873:—

Period.	Divorces.		Judicial Separation granted.	Nullity of Marriage.	
	Decrees <i>nisi</i> .	Decrees absolute.		Decrees <i>nisi</i> .	Decrees absolute.
1873-1877	55	33	...	...	...
1878-1882	85	70	...	...	...
1883-1887	141	120	8	2	2
1888-1892	305	224	31	5	5
1893-1897	1,403	1,308	55	7	7
1898-1902	1,185	1,098	89	12	12
1903-1907	1,022	888	67	14	10
1908	241	206	12	3	1
1909	318	287	14	3	4
1910	199	257	7	2	3
1911	216	200	10	5	3
Total ...	5,170	4,691	293	53	47

The first Divorce Act in New South Wales was passed in 1873, and from 1st July in that year down to the end of 1892 the number of divorce decrees made absolute was 447. In August, 1892, an amended Divorce Act came into force, and in 1893 the number of decrees was 247, and in the following year 288; in 1907 the number decreased to 152, rising again to 287 in 1909; in 1911 the number was 200.

Reckoning as a divorce only those cases where the decree has been made absolute, the total number of decrees from 1873 to 1911 was 5,031, of which 4,691 were divorces, 47 cases of nullity of marriage, and 293 judicial separations.

The majority of petitions are lodged by the wife, the proportion being approximately 70 petitions made by the wife to 30 lodged by the husband.

The following statement shows the sexes of petitioners for divorce in the cases of decrees made absolute during the past ten years :—

Year.	Petitions for Divorce.		Year.	Petitions for Divorce.	
	Husband.	Wife.		Husband.	Wife.
1902	76	163	1907	41	111
1903	67	116	1908	68	138
1904	68	147	1909	85	202
1905	63	119	1910	81	176
1906	50	106	1911	61	139

In regard to judicial separations over the same period, 19 were granted on petition of the husband, and 112 on petition of the wife.

The grounds of suits for divorce made during each year since 1902 were as follows :—

Ground of Suit.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.
Adultery	79	64	70	58	58	63	67	85	69	63
„ coupled with bigamy, cruelty, and desertion	9	3	11	8	6	4	7	13	10	3
Cruelty and repeated assaults	1	...	1	2	...	1	1	1	3	1
„ „ habitual drunkenness	8	5	11	8	9	6	8	7	5	...
Desertion	134	96	115	98	74	67	110	157	152	116
Habitual drunkenness and neglect to support	4	5	5	4	3	6	5	11	4	11
Habitual drunkenness and neglect of domestic duties	4	9	2	..	2	2	1	2	2	3
Imprisonment of husband for three years ... ..	...	1	...	2	1	1	2	4	2	...
Non-compliance with order for restitution of conjugal rights ... ..	...	...	...	2	3	2	5	7	10	3
Total	239	183	215	182	156	152	206	287	257	200

As to the grounds of appeal for divorce, the majority of petitions granted were made on counts of desertion, a lesser proportion including habitual drunkenness as a causative factor in the conditions upon which the appeal

was based. The following statement shows the proportions of petitions based on these grounds, viz., desertion and habitual drunkenness, during the ten years 1902-1911 :—

Year.	Causes based on		Other.	All Causes.	Year.	Causes based on		Other.	All Causes.
	Desertion.	Drunkenness				Desertion.	Drunkenness		
1902	134	16	89	239	1907	67	14	71	152
1903	96	19	68	183	1908	110	14	82	206
1904	115	18	82	215	1909	157	20	110	287
1905	98	8	76	182	1910	152	11	94	257
1906	74	14	68	156	1911	116	14	70	200

It will thus be seen that on the average nearly 60 per cent. of divorces granted are allowed on these two counts. As regards judicial separations, these factors are prominent, but are outweighed by the proportion of causes which are based upon mutual consent.

As regards the duration of marriages dissolved, the records for 1911 show an average of thirteen years, the families averaging 1.8 children.

FRIENDLY SOCIETIES.

Progress of Legislation.

The first Act of Parliament to regulate Friendly Societies, passed in 1843, conferred certain legal advantages on societies established for the purpose of raising funds for mutual relief of the members, but provision was not made to enforce correlation of contributions to benefits, nor to secure periodic financial statements from the societies, and no officer was specifically appointed to supervise the administration of the Act.

In 1873 a more comprehensive Act was passed, and a Registrar was appointed to certify as to the accordance of the rules of the societies with the law. To obtain the registration of a society under this Act it was essential that the table of contributions be certified by an actuary; but after registration, the society had power to vary the rates of subscription and the amount of benefits, so stultifying the requirement as to certification.

In 1881 a Royal Commission was appointed to investigate the working of the Act, and a series of valuations made of the positions of the societies disclosed a condition of insolvency in all cases. For eighteen years no attempt was made, however, to carry out recommendations made by the Commission; but under the Friendly Societies Act, 1899, the supervision of the State was imposed upon societies in the conduct of their business, and in the safeguarding of their funds, collection of data as to membership, sickness and mortality experience, investigation of accounts; and expert advice was made available in their financial concerns, with actuarial oversight by means of periodic valuations.

In the process of re-registration of the societies the vital question of adequacy of contributions was raised, and the necessity for actuarial certification of scales of payments was enforced; but the difficulty of impressing this necessity upon old members accustomed to paying a contribution far lower than was judged commensurate actuarially with the benefit accruing, was great, and was eventually adjusted by compromise, which permitted all

societies subsisting at the commencement of the Act of 1899 to register, subject to provision being made for keeping the accounts of contributions and benefits of old members separate from those of future members; new members were to pay at actuarially certified rates, while the rates of old members were to be not less than those formerly payable, and the registration was to be effective until the next quinquennial investigation, when re-registration could be secured, (1) if such valuation showed that the society had improved its financial position in respect of persons who were members at the last preceding registration; or (2) if the rules of the society provided that the rates of contribution to be charged in respect of such old members were certifiable by an actuary.

In 1906, under further legislation, compulsory registration of all Friendly Societies was required, the only exception being as to dividing societies, which annually distribute all their funds amongst their members. Separation of accounts of old and new members was no longer required, but stringent provisions were made to prevent misapplication of benefit funds.

In 1908 a new feature was introduced in the form of Subventions to Societies from the Public Revenue of the State, under the Subventions to Friendly Societies Act, 1908. This system is detailed subsequently.

In 1912 the enactments relating to Friendly Societies were consolidated in the Friendly Societies Act, 1912, thus marshalling all the legislation concerning these institutions under one law.

Benefits and Actuarial Valuations.

The benefits assured are fairly uniform in all societies, and consist usually of medical attendance and medicine for a member and his family, with sick pay for the member, and funeral allowances for the member and his wife. The average sickness benefit is 21s. per week during the first six months, 10s. 6d. for the next six months' illness, and 5s. per week for rest of illness, this last provision being rendered possible by the Subventions to Friendly Societies Act, 1908, of which more detailed mention is made below. The funeral benefits range from £20 to £40 at death of the member, with a contingent benefit of £10 or £15 on death of the wife. A separate benefit for widows, usually £10, may be assured in some societies for a stated contribution.

The first quinquennial valuation of Friendly Societies required in compliance with the Act of 1899 was undertaken as at 31st December, 1904. Eighteen affiliated societies and thirteen single societies were valued.

At this valuation 96,422 members were valued for sickness benefit, and 97,511 for funeral benefits, with 51,155 subsidiary funeral benefits. With one exception, in which a 4 per cent. interest rate was adopted, the valuation was made on a 3 per cent. basis on the experience of the M.U.I.O.O.F. of England, 1866-70.

Taking into account only the large affiliated Orders, the results showed that eight of them possessed surpluses amounting in the total to £28,967, and in the remaining ten instances there were deficiencies representing an aggregate amount of £289,997. There was, consequently, a net deficiency of £261,030, in respect of total liabilities of £3,904,545. Of the single societies three showed small surpluses, amounting in the aggregate to £346, and thirteen had deficiencies amounting to £10,936. Dealing with the figures for all societies, there was a net deficiency of £271,620 on a total liability of £3,981,252, equal to 1s. 4d. per £1, or, in other words, a sum of only 18s. 8d. was available to meet each £1 of liability.

To strengthen the financial position of the societies, and to improve their status, the Registrar recommended to the societies close watchfulness of finances as to collection and allocation of contributions, and as to investments and the payment of benefits; adequate rates of contributions for every benefit quoted; and consolidation of resources under control of a central committee for each society; careful selection of new members as to soundness of health; the preparation of tables of benefits in accordance with the average earnings of members; and insistence on a special premium from members engaged in hazardous occupations. By these measures, efficient management of the finances would be secured, high sickness and mortality rates lessened, and imposition and malingering prevented.

In their observance of these recommendations, the societies endeavoured to improve the state of their finances, and the results disclosed by the second valuation, as at the 31st December, 1909, showed that the position of the societies as a whole is distinctly sound. The second quinquennial valuation was made on a 3½ per cent. rate on the basis of the experience of the Friendly Societies in this State during the nine years 1900-8. Sickness and Funeral benefits were valued for 116,186 members, funeral benefit only for 5,258, and sickness benefit only for 13,109 members. In addition, there were subsidiary risks on account of 54,391 persons, comprising members, their wives, and children.

The results showed that the eighteen affiliated societies had a surplus of £135,780 in the Funeral Fund, and a deficiency of £70,800 in the Sickness Fund, the net result being a surplus of £64,980 on the total liability of £4,122,197. The single societies showed a surplus of £1,411 over liabilities of £97,570. The assets of all the societies were, therefore, £66,391 in excess of the liabilities, £4,219,767, so that for every £1 of liability they held assets valued at £1 Os. 4d.

The results of the 1904 and 1909 valuations are compared in the following table, which shows the value of assets for £1 of liabilities at each date:—

Societies.	1904.		1909.	
	s.	d.	s.	d.
Affiliated	18	8	20	4
Single... ..	17	3	20	3
All Societies... ..	18	8	20	4

The deficiency of 1s. 4d. in the £ at the first valuation was converted to a surplus of 4d. in the £ during the quinquennial period. The Sickness Funds show a deficiency of 6d. in the £1, and the Funeral Funds a surplus of 2s. 1d., the combined funds disclosing a surplus of 4d., as shown above.

Membership.

The following table shows the position as to the number of societies, branches, and members, during the seven years ended 31st December, 1911:—

Year ended 31st December.	Branches.	Aggregate Membership.	
		Members.	Percentage of Population.
1905	1,195	101,463	6·8
1906	1,299	106,678	7·0
1907	1,333	116,985	7·5
1908	1,333	123,297	7·8
1909	1,492	133,129	8·3
1910	1,635	149,442	9·1
1911	1,769	164,780	9·7

The membership of 164,780 at 31st December, 1911, representing 9·7 per cent. of the total population of the State, is the highest ratio yet attained in a steadily rising scale; the benefits of medical attendance and medicine accrue also to the member's family, so that approximately 40 per cent. of the population derive advantage from the societies in some form.

The membership in 1911 comprised 147,738 adult males, 10,688 adult females, and 6,354 juveniles. The earliest age at which members are admitted to full membership is 16 years, and it is estimated that of the male population aged 16 years and over, one in every five was a member of a friendly society in 1911.

As compared with the previous year there was an increase of 14,382 adult male members and 1,385 females, while the juveniles decreased by 429, the total net increase being 15,338 members.

Initiations and secessions are the main factors controlling the increase of membership, and the movements under these headings during 1911 were as follow; the figures are exclusive of clearances :—

Members.	Initiations.		Secessions.	
	Number.	Percentage of Membership.	Number.	Percentage of Membership.
Adult Males ...	25,566	19·2	10,121	7·6
„ Females ...	3,111	33·4	1,691	18·2
Juveniles ...	2,355	34·7	2,318	34·2
Total ...	31,032	20·8	14,130	9·5

The excess of initiations over secessions during 1911 represented a gain of 11·3 per cent. on the total membership at 31st December, 1910, but this was reduced to 10·3 per cent. by deaths, and clearances outstanding or removed to other States.

Secessions.

The following table shows the secession rates prevailing amongst male adult members of Friendly Societies in New South Wales, during the period 1900-08, and, in comparison, the rates found to exist in the tabulated experience of the three other authorities. The quotations are given in age-groups, to enable the variations throughout life to be traced :—

Central Age.	Rate of Secessions per cent. per annum.			
	Manchester Unity, England, 1866-1870.	South Australia, 1895-1904.	Victoria, 1881-1890.	New South Wales, 1900-1908.
18	4·36	9·1	6·10	10·97
23	5·29	8·8	9·52	13·26
28	4·38	6·8	8·26	11·03
33	3·09	4·6	6·04	7·86
38	2·19	3·1	3·72	5·55
43	1·42	1·8	2·20	3·44
48	·87	1·3	1·69	2·01
53	·61	1·0	1·23	1·25
58	·48	·7	1·01	1·11
63	·38	·5	·76	·76
68	·26	·4	·31	·67

It is to be expected that the extension of benefits made possible by the subvention system will have a marked effect in decreasing the rate of secessions at all ages, but particularly in the higher age groups, where the majority of the lapses have probably been caused through inability to pay contributions at an age when the member's financial resources are small.

FINANCES OF FRIENDLY SOCIETIES.

Receipts and Expenditure.

The receipts and expenditure of the societies for the seven years ended 31st December, 1911, are set out in the following statement:—

Year.	Receipts to Funds.					Expenditure from Funds.					Excess of Receipts.
	Sick-ness.	Funeral.	Medical and Management.	Other.	Total.	Sick-ness.	Funeral.	Medical and Management.	Other.	Total.	
	£	£	£	£	£	£	£	£	£	£	£
1905	149,495	60,015	170,890	10,066	390,466	103,910	26,844	175,633	8,105	314,492	75,974
1906	144,702	60,726	180,240	10,339	396,027	93,093	26,005	172,833	7,269	299,200	96,827
1907	163,438	83,381	175,075	9,106	431,000	111,705	25,764	168,352	15,680	321,481	112,519
1908	153,109	74,346	184,195	23,334	435,324	111,260	46,245	179,915	8,939	346,409	88,915
1909	150,022	81,870	191,957	31,675	455,524	112,458	47,483	195,420	22,807	378,163	77,366
1910	156,783	80,616	206,387	19,762	463,398	130,559	29,905	203,506	15,727	379,682	84,316
1911	177,898	89,724	226,296	22,319	516,237	152,012	32,945	223,080	20,547	428,584	86,653

The apparent retrogression shown by the figures for the years 1908 and 1909 is to be explained mainly by the introduction of reduced rates of contributions authorised in the majority of societies in consequence of the favourable position disclosed in the first quinquennial valuation and of the assistance rendered to the societies generally under the Subvention Act.

Investment of Funds.

The total funds of the Friendly Societies at the end of 1911 amounted to £1,506,318, disposed as under:—

Mode of Disposal.	Sickness Fund.	Funeral Fund.	Medical and Management Fund.	Other Funds.	Total.
	£	£	£	£	£
Mortgage	553,726	468,012	13,704	24,017	1,059,459
Public Funds	8,602	1,049	680	35	10,366
Savings Banks	79,637	38,019	25,279	9,937	152,892
Other Banks	9,929	922	1,009	72	11,932
Buildings and Freehold Property	87,091	56,022	27,005	4,189	174,307
Other Investments	4,076	397	2,042	597	7,112
Uninvested	36,939	27,098	21,164	6,949	92,170
In use by other Funds	6,446	3,559	1,178	5,606	16,789
Total	786,486	595,078	92,061	51,402	1,525,027
Overdraft	3,052	280	13,797	1,550	18,679
Total Funds... ..	783,434	594,798	78,264	49,852	1,506,348

With the exception of two societies, who have the matter under consideration, all affiliated Societies have become applicants under the Act. Details of the claims of the societies for the year 1911 are shown below: Sick pay under clause 1 (a) is shown as for continuous sickness, and under 1 (b) as sickness for aged members:—

Society.*	Sick Pay.					Contributions.				Total Amount of Claims.	
	Continuous Sickness.			Sickness of Aged Members.		Medical.		Funeral.			
	Members.	Period of Sickness.	Amount.	Members.	Period	Amount.	Claimants.	Amount.	Claimants.		Amount.
A.H.C.G.	10	wks. dys.	£	76	wks. dys.	£	185	£	181	£	£
A.O.F. (Sydney) . . .	36	1,623 2	203	56	2,076 . .	519	172	202	215	79	1,003
„ (New England)	1	48 . .	7	..	..	..	..	..	..	..	7
G.U.O.F.G.	27	1,061 . .	132	13	305 3	76	21	27	25	11	246
G.U.O.O.F.	87	3,479 . .	459	221	5,126 4	1,253	443	536	500	313	2,561
H.A.C.B.S.	22	882 4	60	20	454 1	84	74	88	72	23	254
L.O.O.F.	49	1,153 4	132	71	891 5	223	177	104	191	40	499
L.O.R.	13	464 3	116	7	102 . .	23	28	31	28	11	184
L.P.B.S. . . . .	..	..	..	19	464 5	124	38	48	46	14	187
M.U.I.O.O.F.	161	6,541 . .	892	462	11,541 5	2,869	1,252	1,318	1,251	735	5,814
N.I.O.F.	6	147 3	19	..	..	..	..	..	..	..	19
O.R.F.	17	702 5	86	72	1,552 3	388	199	220	217	..	335
P.A.F.S.	61	1,858 2	232	148	3,800 1	950	..	561	..	141	1,923
S.D.T.	14	536 5	64	131	3,127 1	716	299	341	396	311	1,432
U.A.O.D.	66	2,601 3	358	83	2,539 4	636	148	160	..	..	1,154
Single Societies . . .	6	224 . .	28	38	986 5	247	158	182	213	103	560
Total	576	21,028 3	2,839	1,417	34,234 2	8,430	3,194	4,033	3,400	2,058	17,360

* The full titles of the Societies denoted are shown in a subsequent table.

The average period of aged members' sickness, disclosed above, was 24.2 weeks; the experience for the years 1905 to 1908 showed that the average sickness experience of male members aged 66 years and over was only 7.91 weeks per annum; it will, therefore, be seen how wide has been the extension of the benefits consequent upon the introduction of the subvention scheme. The comparison between societies is not entirely equitable, as the age grouping of members is not precisely similar, but it is sufficiently close for general purposes.

The refunds to the Societies on account of sick pay to 1,993 members amounted to £11,268 8s. 9d., and the payments on account of contributions to £6,091 13s. 10d.; of the latter amount £4,033 3s. 10d. went to provide medical attendance and medicine to 3,194 aged members and widows, and £2,058 10s. to pay the contributions to the Funeral Fund of 3,400 aged members and widows.

The following is a summary of the claims paid on account of the three years during which the system has been in operation:—

Year.	Applicant Societies.	Sick Pay.				Contributions.				Total Amount of Claims.
		Continuous Sickness.		Sickness of Aged Members.		Medical.		Funeral.		
		Members.	Amount.	Members.	Amount.	Claimants.	Amount.	Claimants.	Amount.	
1909	18	285	£ 925	701	£ 2,763	2,569	£ 1,348	2,486	£ 822	£ 5,858
1910	28	457	2,442	1,188	7,072	3,608	3,402	3,481	1,871	14,787
1911	30	576	2,838	1,417	8,427	3,194	4,028	3,400	2,055	17,348

The claims of the whole period amounted to over £38,000. The amount paid in 1909 was comparatively small, as the majority of applicant Societies did not register as such until the middle of the year; during 1910 there were ten more applicant Societies, and the claims practically covered the whole of the year, consequently there was a large increase in the amount paid. In 1911 there was a still further increase, and it is probable that the claims for 1912 will reach £20,000.

The system has been of benefit to all the societies, but more particularly to those in which the proportion of aged members is large.

The position of the societies respecting aged members is shown in the following table, which has been compiled from figures published in the last valuation report :—

Society.	Total Members over age 16 at 31st December, 1909.			Males 66 and over.		Females 61 and over.	
	Males.	Females.	Total.	Number.	Per cent. of all Males.	Number.	Per cent. of all Females.
Australasian Holy Catholic Guild...	2,993	331	3,324	141	4·71	...	...
Ancient Order of Foresters (Sydney)	4,856	...	4,856	115	2·37	...	...
Grand United Order of Free Gardeners	2,980	...	2,980	21	·71	...	...
Grand United Order of Oddfellows	20,277	1,162	21,439	421	2·08	12	1·03
Hibernian Australasian Catholic Benefit Society	6,302	1,134	7,436	46	·73	4	·35
Independent Order of Oddfellows	12,754	1,436	14,190	128	1·00	...	...
Independent Order of Rechabites ...	4,359	116	4,475	10	·02	...	...
Loyal Protestant Benefit Society ...	341	611	952	35	10·26	17	2·78
Manchester Unity Independent Order of Oddfellows	29,313	...	29,313	902	3·08	...	...
National Independent Order of Oddfellows	1,788	78	1,866	...	...	...	...
Order of Royal Foresters	2,648	...	2,648	110	4·49	...	...
Protestant Alliance Friendly Society	9,726	42	9,768	283	2·91	...	...
Sons and Daughters of Temperance	1,726	779	2,505	210	12·17	110	14·12
United Ancient Order of Druids ...	12,081	716	12,797	127	1·05	2	·28
Other Societies	2,928	529	3,457	...	...	...	...
Total, Affiliated Societies	115,072	6,934	122,006	2,558	2·22	145	2·09
Single Societies	4,708	280	4,988	272	5·78	12	4·28
Total, all Societies	119,780	7,214	126,994	2,830	2·36	157	2·35

THE FRIENDLY SOCIETIES EXPERIENCE OF SICKNESS AND INFIRMITY.

The returns of the Friendly Societies of New South Wales furnish valuable information relating to the sickness and mortality of the members, and a standard of purely local experience is provided as a basis of the quinquennial valuations of the societies, by their experience recorded for the nine years 1900-08.

During this period the sickness of the male members aggregated 859,412 weeks, the annual rate per member being 1·30 weeks; the experience of the female members was too small to be of any practical value.

For the derivation of experience rates in valuation, 18 years was regarded as the most representative commencing age, the membership below that age being insufficient to provide reliable quotations, and owing to sparseness of data at the higher ages, the rates were not extended beyond age 65 as the upper limit. The following table shows the average annual weeks of sickness per member in New South Wales at every fifth year of age during the years 1900-08 in comparison with the experience of the Manchester Unity Friendly Society of England, 1866-70, and of the South Australian Friendly Societies, 1895-1904.

Central Age.	New South Wales Friendly Societies, 1900-1908.	Manchester Unity, England, 1866-1870.	South Australian Friendly Societies, 1895-1904.
Years.			
18	·8391	·5165	·740
23	·7614	·7758	·772
28	·7377	·8163	·814
33	·7511	·9659	·819
38	·8345	1·0850	·925
43	1·0198	1·3211	1·080
48	1·3057	1·7467	1·397
53	1·8308	2·3358	1·971
58	2·9118	3·3236	3·043
63	4·6233	5·1627	5·012

Except at the central age 18 years the New South Wales experience is considerably below that of England and of South Australia.

The male rates decrease down to age 29, and then increase regularly to the end of the observed period of life. The phenomenon of high rates at the early ages is not explained on the ground of paucity of data, as the same result was exhibited in the experience of individual societies whether their membership was large or small. The sickness rates of the Friendly Societies of other States of the Commonwealth disclose a similar feature, and it must be concluded that such high rates are peculiar to this class of experience, and probably induced by the liberal benefits available.

The total cases of sickness of adult males in 1911 were 30,509 at an aggregate cost of £143,566, or an average amount of sick pay of £4 14s. 1d. per sick member. The records for female and juvenile sickness are small relatively to those for male adults, and conclusions of practical value are not deducible from them. The following statement shows the extent to which each section of membership participated in sickness benefits:—

	Sick Members.	Period of Sickness.	Sick Pay.
		weeks.	£
Adult Males ...	30,509	181,374	143,566
„ Females ...	1,533	10,329	4,760
Juveniles ...	240	719	250
Total ..	32,282	192,422	148,576

The sickness experience of the male members of all ages during the last seven years is shown below :—

Year.	Male Members exposed to risk of Sickness.	Sick Members.		Period of Sickness.	
		Number.	Proportion to total exposed to risk.	Total.	Per member exposed to risk.
			per cent.	weeks.	weeks.
1905	81,642	17,982	22·0	102,420	1·25
1906	84,053	18,156	21·6	102,633	1·22
1907	89,986	21,721	24·1	120,440	1·35
1908	95,050	21,150	22·2	124,084	1·30
1909	99,080	19,976	20·2	131,306	1·32
1910	110,813	25,319	22·8	155,702	1·41
1911	128,516	30,509	23·7	181,374	1·41

In 1911 the number of sick members and the total period of sickness were the highest on record, while the proportion of sick members has been exceeded only once.

Hazardous Occupations—Extra Sickness Risk.

The only well-defined class of occupations carrying a heavy risk, the experience of which was deducible from the available records of the societies, was that of the mining section. An experience of all persons engaged in the work of mining could not be secured, but an investigation was made of the branches of which the members were nearly all miners, and the experience obtained may be assumed to fairly represent this particular class.

The following table shows a comparison of the rates of sickness of the mining and non-mining branches as disclosed by the valuation :—

	Weeks of Sickness.	
	Total.	Annual Rate per Member.
Mining	154,251	1·613
Non-mining	705,161	1·249
All Members	859,412	1·301

The effect of the added sickness of the mining population was to raise the general rate by 4·2 per cent., the mining being 29·2 per cent. above the non-mining rate. It is unfortunate, in view of the results disclosed by this section of persons engaged in hazardous occupations, that other such dangerous occupations could not be treated, but the data were too scanty for exhaustive investigation.

The deductions made from the experience of mining localities have since been verified by an occupational experience made available through the more complete records of one Society, the Independent Order of Rechabites, Salford Unity, which permitted of an analysis of the experience during six years of persons actually engaged in the mining industry. Following are the results of this investigation :—

Central age of Group.	Standard Rate of Sickness of non-Miners per annum (all Societies).	Actual Rate of Sickness of Miners per annum.	Miner's Rates per cent. of non-Miners (100).
	weeks.	weeks.	
18	·839	1·410	163
23	·761	1·208	159
28	·738	·769	104
33	·751	1·908	254
38	·834	1·382	166
43	1·020	1·847	181
48	1·306	2·828	217
	6·249	11·352	182

In connection with this question of the extra sickness risk involved in hazardous occupations as denoted by the experience quoted above for miners, it may be of interest to record the principal recommendations made at the end of 1911 by the Miners' Phthisis Commission in Western Australia. These recommendations were as follows :—

(1) Compulsory medical examination and certification of miners before employment; (2) all miners then engaged to be examined three months after the passing of the proposed Act, and to be medically examined every six months; (3) employment of uncertificated miners to be an offence; (4) miners medically rejected for tuberculosis or intermediate fibrosis to be sent to a sanatorium at the State's expense; (5) a Miner's Claims Board to be created to deal with the employment of medically rejected men, the board to be financed by the State until the scheme of employment is perfected. Miners' Insurance Trust to be established, the men to contribute one-third of the premium on the basis of one-half per cent. of their wages up to £250 a year; (6) the mine-owners also to contribute one-third, and the State the remaining third, miners who are adequately insured in an ordinary insurance company or benefit society to be exempted from contribution; (7) contribution miners to receive medical attention and medicine free.

“The report recommends the reserving of special areas for settlement under the Miners' Claims Board, for miners who are obliged to leave mine work as a result of medical inspection.

“The commission holds that tuberculosis should be treated on different lines to pneumoniocosis, as defined by Dr. Cumpston's clinical standard for ‘intermediate fibrosis.’ The former is a danger to the entire community; the latter only involves increasing incapacity to earn a living.

“For the prevention of disease, boards of experiment should be created on the Kalgoorlie and Murchison fields, to test inventions for improving ventilation, disposing of dust and explosive gases, and the prevention of accidents in mines.”

The following comparative table shows the accumulated assets of all funds at the close of each of the last ten years :—

Year.	Sickness Fund.	Funeral Fund.	Medical and Management Fund.	Other Funds.	Total.
	£	£	£	£	£
1902	438,794	239,906	67,055	38,622	784,467
1903	474,099	263,988	64,924	48,589	851,600
1904	594,363	296,411	61,251	22,669	884,694
1905	549,949	329,582	56,508	24,629	960,668
1906	602,314	365,003	64,170	27,337	1,058,824
1907	651,812	425,620	70,894	20,782	1,169,108
1908	693,751	453,921	75,174	35,177	1,258,023
1909	731,315	488,308	71,711	44,045	1,335,379
1910	757,548	539,019	75,048	48,080	1,419,695
1911	783,434	594,798	78,264	49,852	1,506,348

The advancement recorded in the above figures is shown by the following percentage rates of growth of the funds during the year 1911, as compared with 1910 :—

Sickness Fund	Increase	3·4 per cent.
Funeral Fund	„	10·3 „
Medical and Management Fund	„	4·3 „
Other Funds	„	3·7 „
Total Funds	„	6·1 „

The effect of the subvention system is visible in the reduction of the rate of increase in the sickness fund from 6·4 per cent. in 1908 to 3·4 per cent. in 1911. The main cause of reduction is that aged members are no longer required to pay contributions.

The rate of increase in the Funeral Fund was practically the same as for the year 1910.

STATE SUBVENTION OF FRIENDLY SOCIETIES.

To enlarge the sphere of usefulness of the Friendly Societies the Subvention to Friendly Societies Act, 1908, assured to the societies which might elect to be bound by its provisions, the following monetary benefits payable from the Consolidated Revenue of the State.

1. Sick pay—

(a) One half the total cost in each year in respect of all sickness after twelve months from the commencement of such sickness, for male members less than 65, and for females less than 60, years of age—provided that the maximum cost to the State shall not exceed 5s. per week for each case of prolonged sickness.

(b) The whole cost of sick pay in respect of male members aged 65 years and over, and of female members aged 60 years and over—subject to the same proviso as above.

2. Refund of contributions payable—

(a) On account of all male members 65 years and over, and of female members 60 years and over, for medicine and medical attendance, provided that such contributions shall not be more than those payable by members of the same society under the ages stated.

(b) Under the rules of a society in respect of the aged members above mentioned, to assure payment of funeral allowance at their death.

MORTALITY.

Experience of Friendly Societies.

The following figures show the mortality experience per 1,000 adult males of the principal societies over the valuation period 1905-1908, and the variation from the expected rates derived from the aggregate experience of the societies in the years 1900-08 :—

Society.*	Age Group.										All Ages.	Percentage of expected.	
	Under 20.	21 to 25.	26 to 30.	31 to 35.	36 to 40.	41 to 45.	46 to 50.	51 to 55.	56 to 60.	61 to 65.			66 and over.
A.O.F. (Sydney)	3.11	2.46	4.10	0.89	4.04	2.73	7.02	14.50	27.67	47.27	86.96	7.36	90
G.U.O.O.F.	3.30	3.11	2.58	3.33	4.13	5.22	7.14	10.62	22.01	30.43	52.73	6.34	83
H.A.C.B.S.	4.08	2.68	3.39	5.28	4.82	0.57	14.49	7.08	53.69	45.92	64.52	6.03	108
L.O.O.F.	1.84	2.92	1.73	2.39	4.63	7.91	9.71	15.49	24.72	40.85	50.80	6.07	93
M.U.	3.02	2.17	2.85	5.15	4.99	5.69	8.51	11.64	20.02	28.73	67.48	7.91	92
P.A.F.S.	1.80	2.78	1.96	2.76	4.45	5.27	6.44	14.13	12.31	25.34	53.33	6.90	78
S.D.T.	2.99	4.00	1.28	5.14	6.12	3.48	7.18	11.99	13.73	45.07	67.89	16.00	85
U.A.O.D.	2.23	2.39	3.14	3.87	3.91	10.36	10.74	14.95	22.19	39.92	79.01	7.66	105
All Societies.	2.80	.63	2.80	3.91	4.52	6.14	8.66	12.39	20.25	31.98	66.07	7.27	91

* The full titles of the societies denoted are shown in a previous table.

The general death rate per 1,000 adult males, irrespective of age incidence, during each of the past seven years has been as follows :—

Year.	Death Rate per 1,000 Adult Males.	Year.	Death Rate per 1,000 Adult Males.
1905	7.4	1909	6.9
1906	7.1	1910	6.9
1907	6.6	1911	7.2
1908	7.7		

In conjunction with the low sickness experience of the members, there was also a low mortality rate. During the nine years 1900-8 the male adult experience comprised 791,856 exposures to risk for one year each, and there were 5,952 deaths, the rate being 7.52 per thousand.

EXPECTATION OF LIFE.

Friendly Societies' Experience.

The following table shows the average duration of life in years as deduced from the experience of the Friendly Societies in this State in comparison with that of other experiences :—

Age.	N.S.W. Friendly Societies, 1900-8.	Manchester Unity Friendly Society, England, 1860-70.	South Australian Friendly Societies, 1895-1904.	Australian Mutual Provident Society, 1849-88.
18	48.68	42.95	47.89	48.79
23	44.37	39.15	43.84	44.60
28	40.02	35.47	39.71	40.36
33	35.70	31.82	35.69	36.21
38	31.48	28.19	31.65	32.18
43	27.34	24.69	27.65	28.25
48	23.30	21.27	23.75	24.46
53	19.43	17.93	19.98	20.77
58	15.92	14.77	16.48	17.14
63	12.76	11.87	13.30	13.70
68	9.87	9.34	10.36	10.75
73	7.43	7.20	7.75	8.15
78	5.49	5.53	5.38	5.57
83	3.97	4.20	3.73	3.89
88	2.81	3.20	2.72	2.84
93	1.95	2.46	1.46	1.53
98	1.39	1.91	...	...

Experience of Australian States—General Population.

The expectation of life for males and females in each State of Australia, and for the Commonwealth as a whole, calculated since the Census of 1911, on the basis of the mortality experience of the decennium 1901-10 are shown below; the Northern Territory is included with South Australia and the Federal Capital Territory with New South Wales:—

Age.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Commonwealth.
MALES.							
0	55-896	55-060	54-203	56-755	51-440	57-761	55-200
3	60-277	59-270	57-892	60-357	57-348	61-810	59-449
8	56-153	55-129	53-782	56-144	53-484	57-584	55-325
13	51-625	50-631	49-266	51-633	49-050	53-112	50-815
18	47-205	46-237	44-939	47-227	44-641	48-823	46-427
23	42-974	41-985	40-960	43-036	40-655	44-724	42-245
28	38-767	37-852	37-064	38-879	36-848	40-610	38-147
33	34-592	33-779	33-204	34-734	32-962	36-447	34-092
38	30-510	29-800	29-420	30-722	29-092	32-457	30-112
43	26-612	25-988	25-755	26-807	25-386	28-564	26-268
48	22-877	22-337	22-229	23-038	21-911	24-606	22-594
53	19-262	18-801	18-897	19-516	18-589	20-600	19-032
58	15-807	15-386	15-695	16-176	15-387	16-740	15-646
63	12-639	12-184	12-666	13-056	12-396	13-206	12-485
68	9-806	9-323	10-050	10-251	9-650	9-928	9-663
73	7-528	6-974	7-819	7-792	7-179	7-015	7-347
78	5-775	5-264	5-926	5-775	5-289	5-045	5-566
83	4-308	4-019	4-440	4-280	3-970	3-715	4-137
88	3-260	3-058	3-234	3-210	3-010	2-763	3-014
93	2-465	2-294	2-308	2-361	2-286	2-030	2-157
98	1-716	1-619	1-558	1-639	1-657	1-493	1-499
FEMALES.							
0	58-974	58-460	59-294	60-389	56-455	59-863	58-837
3	62-656	61-856	62-522	63-023	61-416	63-013	62-341
8	58-504	57-693	58-422	58-664	57-539	58-861	58-191
13	53-934	53-184	53-872	54-101	53-161	54-399	53-658
18	49-461	48-795	49-371	49-606	48-772	50-185	49-231
23	45-217	44-537	45-074	45-549	44-621	46-156	45-007
28	41-114	40-506	40-960	41-546	40-685	42-089	40-927
33	37-042	36-534	36-953	37-574	36-846	38-029	36-944
38	33-676	32-650	33-044	33-616	33-062	34-092	33-028
43	29-167	28-800	29-184	29-681	29-243	30-170	29-145
48	25-261	24-973	25-337	25-756	25-403	26-145	25-247
53	21-395	21-154	21-492	21-866	21-554	22-063	21-369
58	17-615	17-404	17-789	18-076	17-800	18-148	17-623
63	14-113	13-957	14-412	14-531	14-333	14-583	14-160
68	11-037	10-808	11-509	11-425	11-316	11-468	11-073
73	8-429	8-218	8-895	8-727	8-788	8-816	8-456
78	6-409	6-272	6-616	6-509	6-656	6-586	6-430
83	4-796	4-615	4-851	4-863	5-041	4-721	4-772
88	3-413	3-295	3-478	3-612	3-833	3-366	3-423
93	2-345	2-351	2-439	2-668	2-796	2-365	2-426
98	1-503	1-566	1-648	1-830	1-852	1-535	1-816

Comparing the rates of the individual States it is found that as regards the males the average expectation of life is greatest in Tasmania at ages up to 64 years, but lowest in the same State at ages 74 and over. Up to 64 years the South Australian figures hold second place; the averages in New South Wales are slightly lower than the South Australian, but are in excess of those relating to the Commonwealth as a whole. Comparing the figures based on the experience of the total male population of New South Wales, 1901-10,

with those deduced from the New South Wales Friendly Societies 1900-8, it will be seen that for ages 18-68, the latter show the greater expectation; the difference is greatest at the earliest age, 18 years, and gradually decreases up to age 68.

There is less variation in the figures for females of the individual States than in the case of males. The New South Wales figures closely approximate the mean for the whole of Australia. The average duration is highest in Tasmania at ages 4-65 years, and lowest, up to 21 years, in Western Australia, and for ages 22 and over, in Victoria.

The constant improvement in the mortality experience of both males and females in New South Wales is reflected in the average expectation of life, based on the experience during each decennial period since 1881, as shown below :—

Age.	Males.			Females.		
	1881-90.	1891-1900.	1901-10.	1881-90.	1891-1900.	1901-10.
0	48-321	51-771	55-896	51-379	55-071	58-974
3	55-210	57-933	60-277	57-759	60-576	62-656
8	51-747	54-100	56-153	54-190	56-792	58-504
13	47-415	49-670	51-625	49-787	52-308	53-934
18	43-104	45-291	47-205	45-428	47-851	49-461
23	39-129	41-134	42-974	41-423	43-683	45-217
28	35-430	37-096	38-767	37-724	39-703	41-114
33	31-738	33-144	34-592	34-080	35-831	37-042
38	28-086	29-329	30-510	30-475	32-052	33-076
43	24-547	25-617	26-612	26-943	28-286	29-167
48	21-169	22-017	22-877	23-432	24-530	25-261
53	17-970	18-566	19-262	19-973	20-800	21-395
58	14-899	15-351	15-807	16-617	17-234	17-615
63	12-015	12-470	12-639	13-413	13-975	14-113
68	9-493	9-908	9-806	10-573	10-961	11-037
73	7-337	7-534	7-523	8-045	8-238	8-429
78	5-579	5-571	5-775	5-856	6-099	6-409
83	4-236	4-201	4-308	4-257	4-577	4-796
88	3-237	3-208	3-260	3-182	3-431	3-413
93	2-443	2-414	2-465	2-417	2-503	2-345
98	1-636	1-680	1-716	1-758	1-644	1-450

The expected duration of life, as based on the experience 1881-90, at the earliest age—under 1 year—has increased by $7\frac{1}{2}$ years, by reason of the more favourable experience during 1901-10. The added expectation is greatest at the earliest ages, and gradually diminishes up to the highest ages, where little improvement can be expected.

DEAF MUTISM.

The number of persons who were deaf and dumb in 1911 was 640, equivalent to one person in every 2,573 of the population.

The rate at ages 10 to 20 is the highest; whereas, since deaf-mutism is an affliction of childhood, it is reasonable to expect that the rates below those ages would be the highest. This probably arises from the unwillingness of parents to make known this infirmity in their children.

Age Group.	Number of Deaf Mutes.			Proportion per 1,000 of Population.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 10... ..	42	33	75	.22	.18	.20
10 and under 20...	89	86	175	.55	.54	.54
20 „ 30...	70	55	125	.43	.35	.39
30 „ 40...	59	52	111	.49	.47	.48
40 „ 50...	33	35	68	.34	.43	.38
50 „ 60...	21	21	42	.31	.41	.35
60 „ 70...	13	16	29	.37	.54	.45
70 and over ...	2	7	9	.05	.17	.10
Not stated ...	1	5	6	...	...	...
Total ...	330	310	640	.38	.40	.39

Excluding children under 10, it will be seen that the rate declines more or less regularly as the age advances. At all ages over 30 the female rate is higher than the male.

BLINDNESS.

The number of persons afflicted with blindness at the census of 1911 was 1,011; this is equivalent to one person in every 1,629. The higher proportion which exists among males is probably due to the greater risk of accident to which they are exposed. Blindness comes on with approaching old age, as will be seen below, where the numbers and proportion in various age groups are given:—

Age Group.	Number.			Proportion per 1,000 living.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 10... ..	16	10	26	.09	.05	.07
10 and under 20...	29	29	58	.18	.18	.18
20 „ 30...	31*	32*	63	.19	.20	.20
30 „ 40...	47	23	70	.39	.21	.31
40 „ 50...	68	41	109	.70	.51	.61
50 „ 60...	89	47	136	1.33	.93	1.15
60 „ 70...	101	69	170	2.85	2.35	2.63
70 „ 80...	136	97	233	7.88	7.02	7.49
80 „ 90...	68	53	121	19.48	17.63	18.63
90 and over ...	3	13	16	12.55	45.30	30.42
Not specified ...	3	6	9	...	...	...
Total ...	591	420	1,011	.69	.53	.61

* Includes one blind-deaf-mute.

Among both sexes the rate increases from the lowest to the highest ages, and rapidly after age 60. Practically at all ages the male rate is higher than the female. The majority of young persons afflicted with blindness were probably so at birth.

The care and education of the blind and the deaf and dumb are undertaken at several institutions in New South Wales. The New South Wales Institution for Deaf and Dumb and the Blind is maintained partly by Government subsidy and partly by public subscription; special educational courses are provided, the fees being remitted in cases of financial inability. A denominational institution for the instruction of deaf mutes is conducted at Newcastle, and one for blind girls at Liverpool.

The Sydney Industrial Blind Institution undertakes the care of the adult blind and provides industrial training to enable them to earn a livelihood. Homes for blind women and for blind boys, and a free circulating library of embossed books are also conducted in connection with this institution.

NEW SOUTH WALES GOVERNMENT PENSIONS.

No general pension system, other than the old-age and invalid pensions noted subsequently, is in operation in New South Wales; but the Government of the State subsidises various activities in the nature of sectional social insurances for the public services and for other institutions. The following statement shows particulars of these funds as at 30th June, 1912; except in the two instances specially marked the whole expenditure is from the general revenue of the State. The figures are exclusive of costs of administration:—

Classification.	Pen- sioners.	Contri- bution Rate % of Salary.	Aggregate Payments for year 1911-12.
Pensions and Gratuities: To Officers: Constitution Act, 1902—			
Judges	3	—	£ 5,460
Other Officers	7	4	2,931
Public Service Superannuation Acts, 1873 and 1884—			
State Public Service generally	{ 957 }	4	157,166
Officers transferred to Commonwealth—Proportional pay- ment—(Includes payment from accumulated funds, £14,107).	{ 87 }		
Police Regulation (Superannuation) Act, 1906 [Amending Act]—			
Police (Includes payment from accumulated funds, £31,162.)	331	4	54,162
Railway Service Superannuation Act, 1910—			
Railway Officers (Paid from accumulated funds.)	457	1½	24,988
Others—			
Stipends to Clergy	4	—	550
Sir Henry Parkes' Family Grant (Includes house rent, £75.)	2	—	255
Soudan and South African Military Contingents ...	—	—	711
Gratuities and Compensations—			
Officers and Dependents [Includes £473 from Loan Accounts (Railways).]	—	—	30,816
Subventions—			
Friendly Societies—Friendly Societies Act, 1912 [Consolidation] ... ..	...	...	14,000
Miners' Accident Relief—Miners' Accident Relief Acts, 1900-1912 ... ..	...	...	13,892
University Professors' Retiring Allowances ... ..	...	...	1,800
State Children's Relief—State Children's Relief Act, 1901 ... ..	...	...	75,363

The cost of these endowments is supplementary to the cost of charities and relief work in their various forms.

Particulars of the pensions under the Police Superannuation and Reward Fund are given in the chapter "Police and Prison Services."

The Railway Service Superannuation Board came into existence in October, 1910, as the result of the Railway Service Superannuation Act, 1910. At 30th June, 1912, there were 21,477 contributors on the basis of $1\frac{1}{2}$ per cent. of salary. At the same date there were 457 pensioners on the list, viz., 379 over 60 years of age, and 78 under 60 years of age. The average rate of pension payment was £65 15s. 9d. per annum. Since the inception of the fund 491 pensions have been granted and 34 pensioners have died, viz., 18 over, and 16 under, 60 years of age. During the year 1911-12 the receipts of the fund amounted to £45,302; the disbursements representing pensions, gratuities, refunds, &c., amounted to £24,338. The assets of the fund at 30th June, 1912, amounted to £49,065, viz., cash in hand, £44,425, and £4,640 representing premiums paid for life insurance policies transferred by officers to the Board, this amount being recoverable with interest at $3\frac{1}{2}$ per cent. on maturity of the policies.

COMMONWEALTH LITERARY FUND.

The Commonwealth Literary Fund was established by the Federal Government in 1908 to assist Australian authors who by reason of age or infirmity are unable to support themselves, families of literary men who have died poor, and literary men doing good work but unable on account of poverty to continue in that work. A sum of at least £525 is voted annually for the purposes of the fund. The maximum amount payable to an adult is £1 per week, and in respect of each child, 10s. per week, but no one family may receive more than £2 per week. The pensions payable to persons in New South Wales at 30th June, 1912, represented a rate of £312 per annum.

INVALID AND OLD-AGE PENSIONS.

Invalid Pensions.

Invalid pensions were first paid in New South Wales under the Invalidity and Accidents Pensions Act, passed by the State Parliament in 1907, which allowed pensions up to £26 a year to persons over 16 years of age permanently incapacitated for any work; the amount of pension diminished in proportion to the income of the applicant, or to the contributions of relatives. It was essential that applicants should have resided for five years, and have become incapacitated, in the State, but the pensions were not payable to inmates of charitable institutions, nor to persons already in receipt of old-age pensions. The Act was administered in conjunction with the Old-age Pensions Act, 1901, of the State until the Commonwealth Invalid and Old-age Pensions Act, 1908-1909, commenced to operate in July, 1909., when the payment of old-age pensions became a function of the Commonwealth.

The payment of invalidity pensions was undertaken by the Commonwealth as from 15th December, 1910, till which date the State system was maintained; the operations recorded during the currency of the State Act, were as follow :—

Period ended 30th June.	Certificates Issued.	Pensions Current.	Amount Paid.
	No.	No.	£
1908	1,906	1,765	12,527
1909	4,065	3,732	73,387
1910	5,165	4,252	101,192

The conditions attaching to invalid pensions payable by the Commonwealth are similar to those prescribed by the State Act, the amount of pension is the same as in the case of old-age pensions. An important amendment of the Commonwealth Act in 1912, authorised the payment of invalid pensions to persons permanently blind; persons permanently incapacitated or blind by reason of congenital defect are regarded as having become so in Australia, if brought to Australia before the age of 3 years.

It is worthy of note that up to the date of commencement of the Commonwealth Invalid Pension system, New South Wales was practically the only State in which such a pension scheme was operative; in Victoria, the only other State from which claims were transferred to the Commonwealth, the system had only just been initiated, and the claims taken over by the Commonwealth numbered only 111. The pensions taken over from New South Wales at 15th December, 1910, numbered 3,498; particulars of transactions in New South Wales since that date are shown below :—

Year ended 30th June.	New Claims.	Lapses.			Invalid Pensions current in New South Wales at 30th June.		
		Deaths.	Cancellations and Transfers.	Total.	Males.	Females.	Total.
*1911	1,307	135	84	219	1,975	1,869	3,844
1912	1,784	404	135	439	2,549	2,278	4,827

* From 15th December, 1910.

Old-age Pensions.

The old-age pension scheme sanctioned by the Old-age Pensions Act, 1900, passed by the Parliament of New South Wales, commenced to operate on the 1st August, 1901, and virtually expired on 1st July, 1909, when that portion of the Commonwealth Invalid and Old-age Pensions Act, 1908-1909, came into operation, which relates to the payment of old-age pensions to men. The portion of that Act authorising payment of pensions to women of attained age 60 commenced to operate on 15th December, 1910.

The following statement shows the number of pensioners on the old-age pension list of New South Wales on the 1st August of each year from the establishment of the system, the monthly rate of pension payment, the aggregate amount voted in each financial year, and the cost per head of mean population :—

Year.	Pensioners.	Monthly Pension Rate.	Annual Appropriation.	Cost per Head of Population.
		£	£	s. d.
1901	13,957	28,037	436,183	6 4
1902	22,182	44,318	524,967	7 7
1903	20,905	41,795	508,133	7 2
1904	20,438	40,617	496,300	6 11
1905	20,483	40,493	489,095	6 8
1906	20,817	40,924	494,227	6 7
1907	20,963	41,684	503,030	6 7
1908	21,345	42,679	526,835	6 9
1909	21,979	42,713	594,440	7 6

On the introduction of the Commonwealth administration, 21,292 State pensions were converted to Commonwealth pensions, and the following statement shows the applications received in New South Wales during each year, and the number of pensions current on 30th June in each year:—

Year.	New Claims.	Lapses.			Old-age Pensions current in New South Wales at 30th June.		
		Deaths.	Cancellations and Transfers.	Total.	Male.	Female.	Total.
1910	7,588	1,680	126	1,806	13,169	12,046	25,215
1911	6,174	2,100	402	2,502	14,572	13,588	28,160
1912	4,763	2,421	566	2,987	13,639	16,029	29,668

The conditions governing the payment of old-age pensions under the Commonwealth have varied but slightly from the conditions prevailing under the State Act; the age qualification remains at 60 years for women and 65 years for men, with a reduction to 60 years in case of men permanently incapacitated; the length of residence qualification is reduced from twenty-five years in New South Wales to twenty years in Australia, but absences amounting in the aggregate to one-tenth of the total period of residence are permitted. Naturalised persons are eligible for pensions, but aliens and aboriginal natives are disqualified.

The maximum pension payable is £26 per annum, with proportionate reduction in respect of any income or property of the claimant, so that the pensioner's income with the pension shall not exceed £52 per annum; in computing income any benefits accruing from friendly societies are not to be reckoned as income, nor any gifts and allowances from children or grandchildren; in assessing the value of property the home in which pensioner permanently resides is not included.

Prior to the introduction of the Commonwealth system, old-age pensions had been payable only in three States—New South Wales, Victoria, and Queensland.

Negotiations are proceeding between the Commonwealth Government and New Zealand with the object of establishing reciprocity in respect to the payment of old-age pensions.

Old-age and Invalid Pensions current in Australia.

The following statement shows for each State of the Commonwealth the number of old-age and invalid pensioners on 30th June, 1912, and the average fortnightly rate of pension payment:—

State.	Old-age.		Invalid.	
	Pensions current on 30th June, 1912.	Average Fortnightly Rate as at 30th June, 1912.	Pensions current on 30th June, 1912.	Average Fortnightly Rate, as at 30th June, 1912.
	No.	s. d.	No.	s. d.
New South Wales ...	29,668	19 1	4,827	19 5
Victoria	24,449	19 1	3,162	19 5
Queensland	10,436	18 11	989	19 7
South Australia ...	7,289	18 1	707	19 2
Western Australia ...	3,224	18 8	374	18 11
Tasmania	4,005	18 7	704	19 4
Total	79,071	18 11	10,763	19 5

Of the invalid pensions shown above 163 represent special allowances to blind persons.

For the Commonwealth, the total expenditure on old-age and invalid pensions during the financial year ended 30th June, 1912, amounted to £2,148,034, and the administration charges being £41,794, the total cost to the community was £2,189,828.

MATERNITY ALLOWANCES.

The payment of maternity allowances to mothers of children born within the Commonwealth was provided by the Maternity Allowance Act, passed by the Commonwealth Parliament in 1912. A sum of £5 is payable in respect of each birth taking place in Australia after the commencement of the Act, one allowance only being payable in cases where more than one child is born at one birth. The allowance is payable only to women who are inhabitants of the Commonwealth or who intend to settle therein; Asiatic women and aboriginal natives of Australia, Papua, and the Pacific Islands are excepted from the benefits of the Act, which came into operation on 10th October, 1912.

The following statement shows particulars of claims received in each State of the Commonwealth from the date of commencement to 12th April, 1913 :—

State.	Granted.	Rejected.	Under consideration.	Total.
New South Wales ...	20,471	174	601	21,246
Victoria ...	14,944	78	501	15,523
Queensland ...	7,846	49	198	8,093
South Australia ...	4,837	30	109	4,976
Western Australia ...	3,484	42	138	3,664
Tasmania ...	2,391	20	55	2,466
Total ...	53,973	393	1,602	55,968

HOUSING.

In regard to population it has been shown that the density of settlement in the various Sydney and suburban areas varies considerably. The extent of building operations, as shown by the records of past years, indicates an increase of dwelling-houses in New South Wales, but the major portion of that increase has been in suburban dwellings. The following statement shows the number of dwellings, and the acreage of the various divisions :—

Municipalities.	Number of Dwellings.			Acreage.
	1907.	1908.	1909.	
Sydney	22,207	21,445	23,035	3,327
Suburbs	95,748	99,210	100,825	91,932
Total	117,955	120,655	123,860	95,259
Newcastle	2,337	2,381	2,434	1,060
Suburbs	9,461	9,494	9,442	17,919
Total	11,798	11,875	11,876	18,979
Country Municipalities	71,713	72,275	73,465	1,803,842
Total	201,466	204,805	209,201	1,918,080

Shires—Year 1909—99,945 dwellings. Area, 182,111 sq. miles.

In Sydney, particularly, improvements and resumptions have been continuous; since 1909 many of the old buildings have been destroyed. In the rebuilding on the areas thus made available, modern requirements have been kept in view; but apart from them there has been a distinct, though gradual, development of an architectural style adapted to local conditions. In the suburbs the cottage plan of dwelling-house is favoured, quite 85 per cent. of new buildings being in this style. During the past six years, new buildings have been erected in the city and suburbs at a rate averaging 5,700 per annum, viz. :—

Year.	New Buildings.			Net Increase of Population, Sydney and Suburbs.
	Sydney.	Suburbs.	Total.	
1907	211	4,042	4,253	17,380
1908	233	4,150	4,383	14,920
1909	356	5,736	6,092	13,800
1910	326	4,910	5,236	16,330
1911	270	5,858	6,138	34,570
1912	272	7,717	7,989	38,000

In the earlier months of 1910 the output of bricks from various yards was somewhat curtailed on account of a general strike in the coal-mining industry and during the year the high cost of building materials generally, and dearth of labour in the building trades, combined to restrict operations somewhat below the level of 1909; but during the last two years the number of new buildings in the suburban areas has largely increased.

OCCUPIED DWELLINGS.

The number of occupied dwellings in New South Wales at the Census of 1911 was 332,841; the classification according to the nature of dwellings is shown below :—

Nature of Dwelling.	Dwellings.	Proportion per cent.	Nature of Dwelling.	Dwellings.	Proportion per cent.
Private house	317,462	95·88	Military and Naval Establishment	112	·03
Tenement in Private House ...	2,304	·69	Police Barracks	28	·01
Caretaker's Quarters in Store, Offices, &c.	237	·07	Police Station and Quarters ...	534	·16
Hotel	2,795	·84	Fire Station	65	·02
Boarding-house, Lodging-house, Coffee Palace	5,966	1·79	Unspecified	68	·02
Educational Institution	229	·07	Wagons, Carts, Trains, &c. ...	250	·08
Religious Institution (not educational)	135	·04	Aboriginal Camps in which Whites or Half-castes were living... ..	21	·01
Hospital	479	·14	Other Camps without dwellings	1,865	·56
Charitable Institution (other than Hospital)	159	·05			
Penal Establishment	132	·04	Total	332,841	100·00

Private dwellings, including tenements, numbered 319,766, or 96·07 per cent. of occupied dwellings; boarding and lodging houses, 5,966, or 1·8 per cent.; hotels, 2,795, or ·8 per cent.

The inmates of private dwellings numbered 1,494,504, or 91·2 per cent. of the total population of the State. The next statement shows the number of inmates according to the size of the dwellings; it will be seen that nearly 25 per cent. of the inmates of private dwellings reside in houses containing 5 rooms, while 84 per cent. reside in houses containing from 4 to 9 rooms.

Rooms.	Inmates.			Proportion per cent.		
	Private Dwellings.	Other Dwellings.	Total.	Private Dwellings.	Other Dwellings.	Total.
1	28,656	695	29,351	1·93	·54	1·82
2	38,541	247	38,788	2·59	·19	2·40
3	88,295	506	88,801	5·93	·40	5·49
4	303,967	1,291	305,258	20·42	1·01	18·88
5	366,640	3,909	370,549	24·63	3·06	22·93
6	295,975	9,132	305,107	19·88	7·15	18·88
7-9	289,050	24,216	313,266	19·42	18·95	19·28
10-14	65,062	27,625	92,687	4·37	21·62	5·73
15-19	8,234	14,708	22,942	·55	11·51	1·42
20 and over	4,172	45,442	49,614	·28	35·57	3·07
Unspecified	5,912	11,067	16,979	...	...	...
Wagons, carts, trains, &c.	...	1,160	1,160	...	...	...
Camps ... ..	...	4,181	4,181	...	...	...
Total*	1,494,504	144,179	1,638,683	100·00	100·00	100·00

* Exclusive of 8,051 Shipping.

The principal materials used for building are wood and bricks, 4·97 per cent. of the occupied dwellings being built of the former and 36·4 per cent. of the latter; 3 per cent. are built of stone and 2·7 per cent. of iron. A classification of the dwellings and inmates according to materials used is as follows:—

Materials.	Occupied Dwellings.			Inmates.			Proportion per cent.	
	Private.	Other.	Total.	Private Dwellings.	Other Dwellings.	Total.	Dwellings.	In-mates.
Stone	9,020	960	9,980	46,213	18,992	65,205	3·0	4·0
Brick	114,679	6,462	121,141	557,993	80,151	638,144	36·4	38·9
Concrete	865	42	907	4,431	396	4,827	·3	·3
Iron	8,851	152	9,003	37,013	1,763	38,776	2·7	2·4
Wood	162,493	3,022	165,515	783,484	33,586	817,070	49·7	49·9
Sun-dried bricks	1,875	7	1,882	9,360	69	9,429	·6	·6
Pisé	1,741	22	1,763	10,023	263	10,286	·5	·6
Lath and Plaster	791	4	795	3,835	40	3,875	·2	·2
Wattle and Dab	744	3	747	3,391	23	3,414	·2	·2
Bark	1,290	8	1,298	3,317	74	3,391	·4	·2
Bushes, Rushes, Spinifex, &c.	15	...	15	48	...	48	·0	·0
Calico, Canvas, Hessian	15,706	156	15,862	28,562	965	29,527	4·8	1·8
Ruberoid and other compositions.	130	2	132	516	28	544	·0	·0
Unspecified	1,566	99	1,665	6,318	2,488	8,806	·5	·5
Wagons, carts, trains, &c....	...	250	250	...	1,160	1,160	·1	·1
Aboriginal Camps, in which Whites or Half-castes were living ... ..	...	21	21	...	151	151	·0	·0
Other camps without dwellings ... ..	...	1,865	1,865	...	4,030	4,030	·6	·3
Total	319,766	13,075	332,841	1,494,504	144,179	1,638,683*	100·0	100·0

* Excludes Shipping, 8,051.

RENTAL VALUES OF DWELLINGS.

The weekly rental values of private dwellings in New South Wales, as ascertained at the Census of 1911, are shown below :—

Weekly Rental Value.	Private Dwellings.	Proportion per cent.	Weekly Rental Value.	Private Dwellings.	Proportion per cent.
Under 5s.	35,978	13.63	£3 and under £4	700	.26
5s. and under 10s.	90,254	34.18	£4 „ £5	242	.09
10s. „ 15s.	76,689	29.05	£5 „ £6	123	.05
15s. „ 20s.	28,122	10.65	£6 „ £7	68	.03
20s. „ 25s.	16,040	6.08	£7 „ £8	23	.01
25s. „ 30s.	7,372	2.79	£8 „ £9	10	.00
30s. „ 35s.	4,449	1.69	£9 „ £10	5	.00
35s. „ 40s.	1,175	.44	£10 and over ...	15	.01
40s. „ 45s.	1,823	.69	Unspecified ...	55,741	...
45s. „ 50s.	301	.11			
50s. „ 55s.	558	.21	Total ...	319,766	100.00
55s. „ 60s.	78	.03			

The weekly rental values of 264,025 private dwellings were ascertained. Of this number 87.51 per cent. were under £1, 48.81 per cent. being under 10s.; 11 per cent. ranged from £1 to £2; and only 1.49 per cent. were over £2.

The rents paid for dwellings form a large deduction from the earnings of the industrial class in any community. In Germany for 1908 the expenditure for rent or maintenance of dwellings was estimated to absorb 17.96 per cent. of the total family expenditure, the cost of food, drinks, &c., approximating to 50 per cent. of the total. In New South Wales precise figures are not available, but an estimate would place the cost of rent or house maintenance at an average of 20 to 25 per cent. of total expenditure, though necessarily the proportion decreases as the income increases, and *vice versa*. In the suburbs the rents vary in accordance with the class of people which constitutes the population; in more recently developed localities dwellings are rarely long vacant, and rents up to £1 per week, which seems to be the limit set by an average worker's income, are readily obtainable.

The progress which has marked the operations of building societies during recent years, particularly those which favour the ballot and sale system of advances, indicates that, to a large extent, the industrial classes are endeavouring to become freeholders.

Comparison of rental rates may be made with those prevailing in New Zealand, where statistics have been collected since 1906. In April, 1911, the average weekly rental for five-roomed dwellings ranged from 12s. 9d. to 14s. 2d. per week in Auckland, from 15s. 7d. to 18s. 8d. per week in Wellington, and about 13s. per week in Christchurch and Dunedin.

In the matter of high rents, and the difficulty of securing adequate accommodation, a Select Committee of the Legislative Assembly of New South Wales was appointed in 1911 to investigate the question of the alleged recent increase in house rents, and the advisableness of introducing a Fair Rents Bill to restrict rentals within a definite range.

Of the causes to which the Committee ascribed the rise in house rents may be mentioned—the increase of population, the increased cost of labour and material, the demolition of buildings by public authorities, the growing

demand resultant upon general prosperity, and the increased popularity of cottages in preference to the less costly terrace houses. The Committee estimated that the increase in cost of labour and material during the period 1906-12 has amounted to 45 per cent., of which 16 per cent. has taken place during the last two years.

As remedial measures the Committee recommended that the Government Savings Bank Commissioners be empowered to lend, on easy terms, 95 per cent. of the money required by artisans to build small dwellings; that the Crown land about the suburbs be made available for building purposes; that a faster and cheaper railway service be provided to outlying suburbs; that the Government construct dwellings to be let at a reasonable rental to wage-earners; and that local government authorities be empowered to do likewise.

The Committee also favoured the introduction of a Bill to regulate house rents, 10 per cent. gross being considered a satisfactory return on the cost of houses.

HOUSING ACTS.

With the object of relieving the urgent demand for small dwellings the Housing Act was passed in 1912, authorising the construction of dwellings by the Government. The administration of the Act is entrusted to a Housing Board, which will control the Government housing areas. The Board may erect buildings for residential and other purposes on land acquired by the Government, and may dispose of such land and buildings by lease or by sale.

The term of a lease may not exceed seven years, and the rental must be sufficient to cover interest at 4 per cent. on capital value, cost of insurance, rates, repairs, and maintenance, a proportionate part of management expenses, and a sinking fund in respect of the capital outlay. As regards disposal by sale, the selling price will be based on valuation by the Government Savings Bank Commissioners; no person may purchase more than one house and $\frac{1}{4}$ acre of land, and the buyer must satisfy the Board that he is purchasing the land for a home for himself or a member of his family.

The first scheme placed under the Board's control was the Dacey Garden Suburb, situated in the municipalities of Botany and Mascot, where the erection of a number of cottages was commenced in April, 1912.

The management of the Observatory Hill Resumed Area was transferred to the Housing Board in May, 1912. This area is situated on the harbour foreshores adjoining the wharves, and was previously controlled by the Sydney Harbour Trust. It contains a number of business premises and residences, including dwellings erected on the flat system for waterside workers. An Act was passed in 1912 to enable the Municipal Council of the City of Sydney to erect and let dwelling-houses, and for that purpose to acquire land. The construction of a large building in the Chippendale area has been commenced; it will contain a number of workmen's flats, the majority consisting of 3 rooms.

Workers' Dwellings in Queensland.

During 1909 a Workers' Dwellings Act was passed in Queensland, and from the inception of operations up to 30th June, 1912, 1,263 applications were received for advances amounting in the aggregate to £315,728. Of these applications 1,171 had been granted for amounts aggregating £290,639, and averaging £237 per application granted; 61 applications were under consideration for £15,615. Dwellings completed and occupied numbered 1,003. Generally applicants preferred dwellings built to suit their own

requirements rather than to stock designs, and the average cost was between £200 and £300. The following statement shows the contract prices of dwellings erected or in course of erection at 30th June, 1912:—

Cost.	Number of Buildings	Cost.	Number of Buildings.
Under £100	... 2	£300-£400 ...	... 325
£100-£200 ...	... 123	£400-£500 ...	... 30
£200-£300 ...	... 530	£600-£700 ...	... 4
			1,015

Workers' Dwellings in New Zealand.

In New Zealand a Workers' Dwellings Act was passed in 1910, which rendered the benefits of the Act available to workers in all parts of the Dominion, but at present operations are restricted to districts in which there are at least six applicants. Fifteen different designs are in use, but they are subject to alteration to suit the desires of applicants. For the erection of dwellings, land has been set apart in the following districts:—

Auckland	... 63 sections	... 59 miles from city centre.
Wellington	... 152 ,,	... One hour's journey from city.
Christchurch	... 20 ,,	... Close to city.
Dunedin	... 33 ,,	
Napier	... 18 ,,	... 1½ miles from city.
Palmerston North	... 34 acres.	

Control of the dwellings is vested in the Labour Department. They are disposed of by rent-purchase, lease, or tenancy, preference being given to purchase applications, the purchase being effected by a deposit of £10, and payments of 5 per cent. interest and 2 per cent. sinking fund, securing repayment in twenty-five and a half years. Combined with the purchase system is an arrangement with the Government Life Insurance Department by which a purchaser's life may be insured under a special scale, practically for the amount which would be due on the dwelling in the event of death, any balance being payable to the credit of the insured deceased's estate. Altogether, 126 houses have been erected and rented in the various districts, and 59 were in course of erection at 31st March, 1912.

Housing According to Spanish Law.

The latest innovation in connection with housing reform is contained in a Spanish Law enacted in June, 1911, under which the Spanish Government is empowered to sanction the formation in any municipality of a committee under control of the Spanish Labour Department, and vested with authority to advise on and to encourage the erection of cheap and sanitary dwellings for sale or letting to persons with small incomes. Also, the committee will promote the formation of credit societies, facilitate the granting of loans, and even make advances for building purposes, investigate the sanitary condition of cheap dwellings, and generally supervise building operations, condemning buildings deemed dangerous to public health, or demanding improvements. Each local committee will consist of nine members appointed for four years; three of these members are nominated by the Governor of the province on the advice of the local council, one of these being connected with the building trade, one a member of the local council, and the third a doctor. Of the remaining six members, two are elected by a section of the ratepayers, two by workmen's associations, and two are appointed by the Governor. House sites may be provided freely by provincial and municipal authorities out of lands in the environs of towns or accessible to railways, but land liable to improve in value within ten years to such an extent as to eliminate the land and buildings from the category of cheap dwellings is restricted

from free use. The annual grant for the encouragement of this housing system is £20,000, of which one-half is to be devoted to paying interest at a maximum rate of 5 per cent. on advances to co-operative societies, the remaining half being used in subvention to the maximum of one-quarter of the annual outlay of individuals or societies constructing cheap dwellings, or in guaranteeing interest (maximum 5 per cent.) on loans raised by the co-operative societies for the purpose.

RELIGIONS OF THE PEOPLE.

Churches in New South Wales.

New South Wales being originally a Crown Colony the church establishment as existing in England was introduced. Subsequently, there was accorded to the clergy of each of the principal denominations support from the Crown in the form of subventions, which were continued under a statute passed in the New South Wales Parliament (Act 7, Wm. IV, No. 3), after the initiation of responsible government, as an annual payment of £30,000 divisible between the Church of England, Roman Catholic, Presbyterian, and Wesleyan denominations. In 1862 these subventions were restricted to the clergy then actually in receipt of State aid, and in the following year (1863) the subventions paid by the State amounted to £32,372, distributed thus:—

Church of England...	£17,967	Presbyterian	£2,873
Roman Catholic ...	8,748	Wesleyan Methodist...	2,784

At the end of 1912 the number of recipients of these subventions was reduced to four, the allowance made to these clergy during 1912 amounting to £550.

Church Constitution and Government.

The Church of England was represented in the settlement of New South Wales by a chaplain appointed and paid by the Crown, and episcopal oversight of the settlement vested, under an Order in Council of Charles I, in the Bishop of London.

In 1814 the territories under the Government of the East India Company, *i.e.*, all the countries and places situate beyond the Cape of Good Hope and the Straits of Magellan, being not then (1600) occupied by any European power, were erected into the Bishopric of Calcutta. By Letters Patent under the Great Seal, dated 2nd October, 1824, there was constituted an archdeaconry in and over the British Territories within the Colony of New South Wales (*i.e.*, Australia and New Zealand), subject and subordinate to the jurisdiction, spiritual and ecclesiastical, of the Bishop of Calcutta.

In 1834 the Colonies of New South Wales and Van Diemen's Land were severed from the Diocese of Calcutta, and in 1836 all the territories and lands comprised within or dependent on the Colonies of New South Wales (still including New Zealand), Van Diemen's Land, and West Australia were erected into the Bishopric of Australia. The important subdivisions subsequently made of this Bishopric date as follows:—

New Zealand and Tasmania (Van Diemen's Land) were formed into suffragan sees in 1842, and Sydney, Newcastle, Adelaide, and Melbourne Dioceses were erected in 1847. Further variations and subdivisions have resulted in the existence of twenty-one dioceses of the Church of England

in Australia, of which six are in the province of New South Wales, under a Metropolitan, viz., Sydney, and Newcastle, Goulburn, Bathurst, Grafton and Armidale, and Riverina. The clergy attached numbered 496 in January, 1913, of whom the majority were in the Sydney Diocese, as the following statement shows:—

Diocese.			Clergy.	Diocese.			Clergy.
Sydney	...	...	234	Newcastle	...	...	63
Bathurst	...	...	54	Riverina	...	...	20
Goulburn	...	...	48				—
Grafton and Armidale	...	...	77	Total	...	...	496

By an Act passed in 1881, provision was made for the creation of corporate bodies of Trustees, in which property belonging to the Church of England may be vested, and trusts for various dioceses have been formed under the Act. They are entitled to hold, on behalf of the Church, all real and personal property which may be assigned to them by grant, will, or otherwise. In each diocese a Synod, consisting of clerical and lay representatives from each district, presided over by the Bishop, meets annually to make ordinances for the government of the Church. Each diocesan synod elects from its members representatives to sit at the Provincial Synod of New South Wales, which meets every three years, under the presidency of the Metropolitan of New South Wales, and to the General Synod of Australia and Tasmania, which meets every five years under the presidency of the Primate, the Archbishop of Sydney.

The Roman Catholic Church is under the direction of an Archbishop. The Archdiocese of Sydney originally included the whole Australian continent and its adjacent islands, and was erected in 1834 as the Vicariate Apostolic of New Holland. At intervals, subsequently, separate archdioceses were erected as follows:—Melbourne, Hobart, Adelaide, Brisbane, Wellington, with fifteen Bishoprics, an Administration Apostolic in the Northern Territory, a Vicariate Apostolic at Cooktown (Q.), and an Abbey at New Norcia (W.A.). Under the Archbishop of Sydney are the Suffragan Bishops of Maitland, Goulburn, Bathurst, Armidale, Wilcannia, and Lismore, the State of New South Wales forming an ecclesiastical province.

The following statement shows the establishment of the Roman Catholic Church in New South Wales in 1911:—

Diocese.	Priests.	Religious Brothers.	Nuns.
Sydney	199	123	1,438
Bathurst	38	7	239
Goulburn	64	8	305
Lismore	21	3	104
Maitland	44	12	258
Wilcannia	19	...	146
Armidale... ..	30	7	177
Total	415	160	2,687

The various branches of the Presbyterian Church in the State are classified into seventeen Presbyteries, consisting of a number of separate charges, to each of which a Minister is appointed. The management of the affairs of the Church is controlled by a General Assembly, which sits annually, and consists of Ministers and Elders from the charges within the different Presbyteries. It is presided over by a Moderator, who is elected by the Presbyteries. By Act of Parliament, the Assembly has power to grant permission to trustees to mortgage Church property, and trustees are authorised to hold property for the Church generally. In July, 1901, a scheme of federal union was adopted by representatives from the various States, and the United Church is called the Presbyterian Church of Australia.

On the 1st January, 1902, the Wesleyan Methodist Church, the Primitive Methodist Church, and the United Methodist Free Churches in New South Wales entered into organic union, with a common name, common funds, common laws, and equal rights. The United Church is now known as "The Methodist Church of Australasia." In 1911, there were attached to the New South Wales districts 168 ministers, 24 supernumeraries, 38 preachers on trial, and 908 local preachers. The Church members on the roll numbered 22,468, and junior members 988. There were 651 churches, 568 other preaching places, and 134 school buildings.

The Congregational Union of New South Wales was incorporated in 1882 by an Act which gives it legal status, and empowers it to hold land and other property. The Union allows every separate church to maintain perfect independence in the administration of its local affairs. Assemblies for the transaction of denominational business, &c., are held every six months. In 1912 there were 37 self-supporting churches, 78 aided churches and preaching stations, 70 ministers, and 5 mission agents; church members numbered 5,002, and Sunday school scholars 7,720, teachers 797, and 71 lay preachers.

The Baptist Union of New South Wales holds annual sessions, with half-yearly assemblies. For several sessions a draft constitution has been under the consideration of the Union, which, amongst other matters, provides that all properties, which now belong, or may hereafter accrue, to the Union, shall be held under a Model Trust Deed, by trustees to be duly appointed.

The Salvation Army was established in Australia in 1881. Melbourne was made the chief centre for Australia under the command of a Commissioner; Sydney, Bathurst, and Armidale were constituted District headquarters for New South Wales, each district being under direction of a Divisional Commander, all officers and members bearing military titles and designations. There are also treasurers and secretaries to corps. Persons who are in sympathy with the Salvation Army and attend its meetings, but who have not subscribed to the "Articles of War"—which combine a confession of faith and a pledge against the use of intoxicating liquors and baneful drugs—are regarded as adherents.

The army in New South Wales in April, 1913, had 106 societies and 279 outposts, worked by 239 officers; there were also 537 bandsmen and 559 local officers, being persons holding positions without pay. Fourteen homes and institutions are maintained for neglected boys and girls, inebriates, homeless men and women, discharged prisoners. Sixty officers are in charge of the social work.

In addition to those above enumerated, there are other distinct religious bodies, with ministers licensed by the State to celebrate marriages.

Census Records of Religion, 1911.

The following statement shows for New South Wales the strength of denominations, as disclosed by the Census of 2nd April, 1911:—

Religion.	Males.	Females.	Total.
Christian—			
Church of England	380,324	353,676	734,000
Presbyterian	96,354	86,557	182,911
Methodist	75,512	75,762	151,274
Congregational	10,888	11,767	22,655
Baptist	9,891	10,788	20,679
Church of Christ	2,865	3,547	6,412
Salvation Army	3,475	3,938	7,413
Lutheran	4,824	2,263	7,087
Seventh Day Adventist	806	1,193	1,999
Unitarian	512	332	844
Protestant (undefined)	21,309	15,595	36,904
Roman Catholic	190,122	185,269	375,391
Greek Catholic	885	198	1,083
Catholic (undefined)	18,214	18,408	36,622
Others	4,503	4,552	9,055
Total	820,484	773,845	1,594,329
Non-Christian—			
Hebrew... ..	4,062	3,598	7,660
Mohammedan	776	43	819
Buddhist	437	11	448
Confucian	1,198	6	1,204
Pagan	254	.....	254
Others	2,238	150	2,388
Total	8,965	3,808	12,773
Indefinite—			
No Denomination	328	235	563
Freethinker	873	164	1,037
Agnostic	845	131	976
Others	1,022	613	1,635
Total	3,068	1,143	4,211
No Religion—			
Atheist	184	20	204
No Religion	2,228	446	2,674
Others	58	15	74
Total	2,471	481	2,952
Object to state	14,989	6,997	21,986
Unspecified	7,721	2,762	10,483
Grand Total... ..	857,698	789,036	1,646,734

The above figures are exclusive of 992 males, 722 females, total 1,714 persons, within the Federal capital territory, also 2,012 full-blooded Australian aboriginals living in the State, and 10 within the Federal capital territory.

An interesting comparison of the number of persons belonging to the principal religions at the date of each Census from 1891–1911 is afforded in the subjoined table. In this table "Catholic" (undefined) has been included with "Roman Catholic."

Religious Denominations.	Number of Persons.			Proportion per cent.		
	1891.	1901.	1911.	1891.	1901.	1911.
Protestant—						
Church of England	503,054	623,131	734,667	45·32	46·58	45·46
Methodist	112,448	137,638	151,392	10·13	10·29	9·37
Presbyterian	109,390	132,617	183,099	9·86	9·91	11·33
Congregational	24,090	24,834	22,656	2·17	1·86	1·40
Baptist	13,029	15,441	20,679	1·18	1·15	1·28
Lutheran	7,950	7,387	7,087	·72	·55	·44
Unitarian	1,329	770	844	·12	·06	·05
Salvation Army	10,315	9,585	7,413	·93	·72	·46
Other Protestants	9,741	14,251	54,395	·87	1·06	3·37
Total Protestants	791,346	965,654	1,182,232	71·30	72·18	73·16
Roman Catholic	286,911	347,286	412,680	25·85	25·96	25·54
Greek Church... ..	253	561	1,083	·02	·04	·07
Others—						
Jew, Hebrew	5,484	6,447	7,660	·49	·48	·47
Buddhist, Confucian, Moham- medan, &c.	11,508	8,035	5,114	1·04	·60	·32
Freethinkers, Agnostics, &c.	6,358	3,564	3,929	·57	·27	·23
No Denomination, No Religion	8,062	6,265	3,239	·73	·47	·21
Object to state	11,237	13,068	22,008	...	...	...
Unspecified	2,795	3,966	10,503	...	...	...
Total	1,123,954	1,354,846	1,648,448	100	100	100

NOTE.—The figures for 1911, for purposes of comparison with the previous Census returns, include persons within the Federal Capital Territory.

MINISTERS FOR THE CELEBRATION OF MARRIAGES.

Under the Registration of Births, Deaths, and Marriages Act, 1899, ministers of religion desirous of celebrating marriages in New South Wales must be registered by the Registrar-General of the State. The total number of ministers registered for the year 1913 was 1,590, those for each denomination being—Church of England, 496; Roman Catholic, 380; Methodist, 248; Presbyterian, 224; Congregational (Independents), 67; Baptist, 64; Church of Christ, 22; Salvation Army, 29; Seventh Day Adventist, 10; Jews, 5; German Evangelical Lutheran Church, 5; Evangelical Lutheran Church, 3; Presbyterian Church of Eastern Australia, 6; Reorganised Church of Jesus Christ of Latter Day Saints, 6; Australian Aborigines Mission, 6; Lay Methodist Church, 2; Catholic Apostolic Church, 2; The Aborigines Inland Mission, 2; and one each for the following:—Strict Baptist Church, Society of Friends (Quakers), Sydney Society of the New Church, The Free Church, Banksia, Unitarian Church, Church of Christ (Burwood), Greek Orthodox Church, Church of the Brethren, Particular Baptist Church, Sydney Christadelphian Ecclesia, Ocean-street Congregational Church (Woollahra), Whitefield's Devonshire-street Congregational Church, Mascot Congregational Church.

PASTORAL INDUSTRY.

LIVE STOCK.

THE live stock of New South Wales in 1788 consisted of 1 bull, 4 cows, 1 calf, 1 stallion, 3 mares, 3 foals, 29 sheep, 12 pigs, and a few goats. No systematic record of the arrival of live stock was kept in the early days of settlement; but it appears that in the period between Governor Phillip's landing and the year 1800 there were some slight importations, chiefly of sheep from India. The numbers of each class of stock at various periods up to 1850, prior to the separation of Victoria, were as follow:—

Year.	Horses.	Cattle.	Sheep.	Swine.
1788	7	6	29	12
1792	11	23	105	43
1796	57	227	1,531	1,869
1800	203	1,044	6,124	4,017
1825	6,142	134,519	237,622	39,006
1842	56,585	897,219	4,804,946	46,086
1850	132,437	1,738,965	13,059,324	61,631

In 1851 the severance of Victoria from New South Wales reduced the number of stock considerably; the separation of Queensland at the close of 1859 involved a further reduction, and at the end of the latter year the numbers of each kind of live stock within the existing boundaries of New South Wales were 251,497 horses, 2,408,586 cattle, 6,119,163 sheep, and 180,662 pigs. The following table shows the number of stock at the end of each decennial period from 1861 to 1911 inclusive:—

Year.	Horses.	Cattle.	Sheep.	Swine.
1861	233,220	2,271,923	5,615,054	146,091
1871	304,100	2,014,888	16,278,697	213,193
1881	398,577	2,597,348	36,591,946	213,916
1891	469,647	2,128,838	61,831,416	253,189
1901	486,716	2,047,454	41,857,099	265,730
1911	689,004	3,194,236	44,947,287	371,093

In addition to the live stock shown above, at the end of 1911, there were 56,737 goats (including 6,562 Angora), 971 camels, 53 donkeys, 128 mules, and 560 ostriches. Since 1891 the sheep have diminished in number to the extent of nearly 17 millions, but the other classes of stock show increases—horses 219,000, cattle 1,065,000, and swine 118,000. In order to indicate the districts in which the changes in the flocks and herds have occurred, the following table has been prepared, showing the number of live stock in

each district at the end of various years since 1896. A striking feature of the table is the large increase both of dairy and ordinary cattle in the Coastal District :—

District.	1896.	1901.	1906.	1911.
SHEEP—				
Coastal District	964,759	1,097,471	1,316,530	1,433,037
Table-land	7,036,733	8,359,069	8,842,352	8,961,344
Western Slope	10,968,344	11,671,524	11,675,425	11,198,621
Western Plains and Riverina	18,541,901	14,578,523	15,998,996	16,045,370
Western Division	10,806,993	5,522,953	6,299,068	7,305,909
Unclassified .. .. .	.....	127,559	.....	.....
Total	43,318,790	41,857,099	44,132,421	44,947,287
DAIRY COWS IN MILK—				
Coastal District	238,530	284,099	355,238	492,242
Table-land	82,487	70,224	66,745	70,571
Western Slope	46,578	39,732	49,002	48,669
Western Plains and Riverina	26,372	19,790	21,178	24,137
Western Division	6,216	3,990	2,657	2,906
Total	400,133	417,835	494,820	638,525
OTHER CATTLE—				
Coastal District	612,797	667,282	836,055	1,076,147
Table-land	541,493	500,974	502,227	586,259
Western Slope	403,294	305,789	398,230	452,234
Western Plains and Riverina	199,817	114,327	224,677	325,693
Western Division	68,579	41,247	93,935	116,378
Total	1,825,980	1,629,619	2,055,124	2,556,711
HORSES—				
Coastal District	160,285	160,704	171,485	207,074
Table-land	116,314	112,294	110,077	126,602
Western Slope	108,493	110,845	130,947	179,728
Western Plains and Riverina	85,622	77,650	97,009	140,140
Western Division	40,922	25,223	28,244	35,460
Total	510,636	486,716	537,762	689,004

SHEEP.

The suitability of the land for grazing was undoubtedly the means of inducing the early colonists to enter upon pastoral pursuits, and the relative ease with which operations could be conducted, in comparison with the difficulties attendant upon other primary industries, confirmed their choice.

In the year 1795 Captain John Macarthur, one of the first promoters of sheep-breeding in New South Wales, had accumulated a flock of a thousand sheep ; but, not satisfied with the natural increase of his flocks, he sought also to improve the quality of their fleeces. By good fortune, in 1797, Captain Waterhouse arrived from the Cape of Good Hope with a number of very fine Spanish-bred sheep, which he sold to various stockowners. With the advantage of this superior stock, Macarthur gradually improved his strain, and in a few years obtained fleeces of very fine texture.

Prior to the nineteenth century the production of the finest wool had been fostered chiefly in Spain, so that woollen manufactures were necessarily somewhat restricted, and it was at this favourable period that Macarthur arrived in England with specimens of the wool obtained from his finest sheep, proving conclusively the capabilities of Australia as a wool-producing country. In this way he established a small trade, which, as Australian wool rose in public estimation, gradually increased until it has reached its present enormous dimensions ; so that, although not the first to introduce merino sheep into Australia, there is no doubt that to him is due the credit of having been the first to prove that the production of fine wool could be made a profitable industry in this country.

As might have been anticipated, natural conditions in Australia have somewhat varied the character of the Spanish fleece. The wool has become softer and more elastic, and while diminishing in density it has gained in length, so that the weight of the fleece has increased. The quality of the wool, on the whole, has improved under the influence of the climate, and Australian wool is recognised as the best in the world.

The following table shows the number of sheep at the close of each quinquennial period from 1861 to 1911 inclusive, and illustrates the progress of sheep-breeding in New South Wales:—

Year.	Sheep.	Year.	Sheep.	Year.	Sheep.
1861	5,615,054	1881	36,591,946	1901	41,857,099
1866	11,562,155	1886	39,169,304	1906	44,132,421
1871	16,278,697	1891	61,831,416	1911	44,947,287
1876	25,269,755	1896	48,318,790		

Divided into periods, the rates of increase are—

1861-71	annual increase	11·2	per cent.
1871-81	„ „	8·4	„
1881-91	„ „	5·4	„
1891-1901	„ decrease	4·0	„
1901-1911	„ increase	0·7	„

Considering the unimproved condition of the pasturage over a great portion of its area, it was apparent in 1891 that the State was overstocked, and graziers restricted the natural increase of their flocks by breeding only from the better-class ewes. In addition, the following season proved unfavourable, so that during the year there was a large decrease in the number of sheep. The adverse season of 1892 was, unfortunately, the forerunner of many others, so that with the exception of 1900, the whole of the years up to 1902 were distinctly unfavourable to the pastoral industry. The climax was reached in 1902, which was particularly disastrous, as the number of sheep fell from 41,857,099 at the beginning of the year to 26,649,424 at its close, when the total flocks were over 35 millions less than in 1891.

From 1902 there was a steady increase in sheep until 1909, when the number had risen to 46,202,578, the highest recorded since 1898. During 1910 and 1911 the flocks decreased by 641,609 and 613,682 respectively, the principal causes being heavy losses in lambs, the subdivisions of large holdings, and change from pastoral industry to dairying.

The decrease in the total was accompanied by great changes in the sizes of individual flocks, and these changes may be traced in the following table, which gives an approximate classification of the flocks, for various years from 1891 to 1911. In the former year there were only 13,187 holdings, but in 1911 the number had increased to 25,727, although the sheep had decreased by nearly 17 millions. It is significant that while in 1891 there were 73 holdings which each carried over 100,000 sheep, the number of such in 1901 was 12, and in 1911 only 6. The sheep in flocks of over 20,000 comprised 62 per cent. of the total in 1891, but only 28½ per cent. in 1911. The greatest change has occurred since 1894, when a very large number of sheep perished, and pastoralists realised that the best method of meeting droughty seasons

lay in the subdivision of their large flocks. Since 1904 the application of the closer settlement policy to large estates has caused a further subdivision of the flocks.

Size of Flocks.	Number of Flocks.				Number of Sheep.			
	1891.	1901.	1906.	1911.	1891.	1901.	1906.	1911.
1—1,000	7,606	11,800	13,894	17,773	2,794,751	3,797,114	4,397,818	5,252,546
1,001—2,000	1,954	2,351	2,925	3,510	2,979,168	3,560,849	4,327,447	5,149,618
2,001—5,000	1,696	1,722	2,127	2,735	5,493,942	5,519,008	6,715,317	8,554,299
5,001—10,000	686	729	757	847	4,943,221	5,210,117	5,287,191	5,977,233
10,001—20,000	495	465	484	507	7,056,580	6,666,429	6,966,647	7,143,273
20,001—50,000	491	344	357	296	15,553,774	10,552,373	10,637,410	8,737,927
50,001—100,000	186	76	69	53	12,617,206	4,835,547	4,409,600	3,434,693
100,001 and over	73	12	11	6	10,392,774	1,588,103	1,390,991	697,693
Total... ..	13,187	17,499	20,624	25,727	61,831,416	41,857,099*	44,132,421	44,947,287

* Includes 127,559 sheep in unclassified flocks.

After allowing for the causes which naturally impede the increase, such as the demands of the meat supply, the requirements of the neighbouring States, and the losses occurring from causes other than drought, it is found that the rate of annual increase has been as high as 20 per cent., so that it is possible for the flocks of New South Wales to double themselves within four years, and actual experience shows that this rate of increase occurred in 1904 and in several of the earlier years. During the period of five years from 1861 to 1866 there was an increase of 100 per cent. ; and the flocks of the State were again doubled in the eight years from 1866 to 1874, and in the thirteen years from 1874 to 1887.

Until recent years the demand for sheep for local consumption was so small compared with the supply that it did not appreciably affect the increase of the flocks of the State. This, however, is not now the case ; the annual demand for food consumption within the State is nearly 9 per cent. of the number of sheep depastured—equal to slightly more than three-fourths of the cast. The “cast” implies the number of sheep which, from breeding or wool-growing considerations, it is more profitable to kill than to feed. Expressed as a percentage of the whole of the sheep depastured, the “cast” is a variable quantity, which, however, may be taken approximately as 11½ per cent. The number required for export in a frozen or preserved state, and for tallow brings up the total killed per annum to nearly 14½ per cent. of the entire flocks.

The following table gives the number of sheep in each State of Australia at the end of 1911, together with the proportion of the total owned in each :—

State.	Sheep.	Proportion owned in each State.
	No.	per cent.
New South Wales	44,947,287	48·33
Victoria	13,857,804	14·90
Queensland	20,740,981	22·30
South Australia	6,171,907	6·64
Northern Territory	50,983	·05
Western Australia... ..	5,411,542	5·82
Tasmania	1,823,017	1·96
Commonwealth	93,003,521	100·00

The introduction of sheep and cattle into New South Wales was forbidden for many years, lest the flocks and herds might be contaminated by scab and various diseases prevalent in other countries; but these restrictions were removed at the beginning of the year 1888, and pure-bred sheep are now imported from the United Kingdom, the United States, and Germany. So far, the principal breed imported has been the merino; but Lincoln, South Downs, Vermont, Shropshire, and other well-known breeds have been introduced. The sheep imported into New South Wales during 1911 for breeding purposes, from the other Australian States and New Zealand, numbered 6,130, and from England, 35.

The breeds of sheep in New South Wales are the Merino, Lincoln, Leicester Downs, and Romney Marsh, and crosses of the long-woolled breeds, principally with the merino. In addition, the Suffolk Downs sheep, which appear to be pre-eminently adapted for farming purposes, and for the production of a weighty lamb for the export trade, were introduced into the New England district during 1904. At the close of 1911, the respective numbers of merino and cross-breeds were as shown below; the figures are based on returns collected by the Chief Inspector of Stock:—

Class of Sheep.	Rams.	Ewes.	Wethers.	Lambs.	Total.
Merino	500,892	19,170,702	11,215,004	7,542,408	38,429,006
Longwools	116,671	620,067	308,102	303,445	1,348,285
Crosses	22,423	2,286,281	1,314,891	1,546,401	5,169,996
Total	639,986	22,077,050	12,837,997	9,392,254	44,947,287

Of the coarse-woolled sheep the largest proportion are Lincolns and their crosses with merino. The proportion of English and cross-bred sheep has increased considerably. Twenty-seven years ago the proportion of coarse-woolled and cross-breeds was only $3\frac{1}{2}$ per cent., and for fully ten years after it stood at about $2\frac{1}{2}$ per cent. In 1893 the proportion rose to 4.3 per cent., and with the development of the meat export trade it has now advanced to 14.5 per cent.

The climate of New South Wales is so mild that there is no necessity for housing stock during the winter months, except on the highlands. The sheep are kept either in paddocks or under the care of shepherds, though on some stations they are both shepherded and paddocked.

The advantages of the paddock system are numerous, and are now fully recognised by stockowners. Sheep kept in paddocks thrive well, and are less liable to foot-rot and other diseases; they grow a better fleece and the wool is sounder and cleaner; the sheep increase in size and live longer; in addition, the expenses of the station are less than if worked under any other system.

The increased attention paid to cross-breeding to supply the demands of the frozen-mutton trade, and the large increase in small farmers who combine grazing with agriculture, have emphasised the necessity of conducting experimental breeding on a scientific basis, and of providing instructions for sheep-farmers. To meet this necessity a Sheep and Wool Expert was appointed, in 1909, to the Department of Agriculture to organise the experimental work conducted at State Experiment Farms, and to give lectures and demonstrations in country centres.

WOOL.

The wool-clip is the most important item of production of New South Wales, and the prosperity of the State very largely depends upon the wool market. The following table shows the production in quinquennial periods since 1876, distinguishing the exports and local consumption. The exports comprise both washed and greasy wool, and, as regards quantity, the actual weight of exports would not show the production clearly. As the proportion of washed and greasy wool varies each year, the washed wool should, therefore, be stated, as in grease. This has been done for the purposes of the following table, and, adding to the exports the quantity of wool used locally in woollen mills, the total production, stated as in the grease, was as follows:—

Period.	New South Wales Wool.—Quantity.			Value.		
	Exported.	Used locally.	Total production.	Exported.	Used locally.	Total Value.
	lb.	lb.	lb.	£	£	£
1876-1880	713,518,500	4,878,500	718,397,000	31,076,350	222,250	31,298,600
1881-1885	939,605,700	4,208,300	943,814,000	40,381,380	181,720	40,563,100
1886-1890	1,290,919,900	3,861,100	1,294,781,000	44,641,580	130,920	44,772,500
1891-1895	1,808,007,600	5,622,400	1,813,630,000	48,893,010	131,590	49,024,600
1896-1900	1,401,170,000	7,070,000	1,408,240,000	42,782,450	201,250	42,983,700
1901-1905	1,297,118,800	5,466,700	1,302,585,000	46,528,630	190,470	46,719,100
1906	324,605,600	835,400	325,441,000	14,072,400	26,600	14,099,000
1907	366,501,900	944,100	367,446,000	17,158,500	26,500	17,185,000
1908	337,128,900	1,000,100	338,129,000	12,800,300	29,700	12,830,000
1909	369,734,800	1,073,200	370,808,000	13,755,000	33,000	13,788,000
1910	413,775,200	1,562,800	415,338,000	15,651,000	57,000	15,708,000
1911	369,144,000	2,402,000	371,546,000	13,178,000	86,000	13,264,000

The values given in this table represent the export prices free on board, Sydney, and, consequently, differ from those on a later page, which show the values at the place of production. As particulars of the interstate trade were not collected subsequent to the 13th September, 1910, the figures for the last two years are approximate.

No distinction was made prior to 1876 between washed and greasy wool, so that any attempt to estimate the production is surrounded with difficulty. From the information available, however, it would appear that the production in 1861 was 19,254,800 lb., and in 1871 the weight in grease was 74,401,300 lb. An estimate of the production for the intervening years is rendered impossible because in several instances the greater portion of the wool clip was held over for a considerable period, awaiting an opportunity for shipment.

The above figures at once show how greatly the prosperity of the State is affected by fluctuations in the market value of its staple export, for, taking the average annual production during the past five years at 372,000,000 lb., a rise of 1d. per lb. in the market price means an addition of £1,550,000 to the wealth of the people.

As the season for exporting wool does not fall wholly within the calendar year, the exports for any year consist partly of that season's clip and partly

of the previous clip. The following table shows the total number of sheep shorn, according to the returns collected by the Chief Inspector of Stock, during each year since 1891:—

Year.	Sheep and Lambs shorn.	Year.	Sheep and Lambs shorn.	Year.	Sheep and Lambs shorn.
1891	57,702,702	1898	41,220,440	1905	37,145,686
1892	55,602,188	1899	34,569,924	1906	41,704,814
1893	54,090,109	1900	38,400,241	1907	40,338,700
1894	54,234,997	1901	40,417,263	1908	41,912,546
1895	45,695,657	1902	27,639,804	1909	43,356,535
1896	45,997,583	1903	26,994,870	1910	43,179,065
1897	42,429,750	1904	31,804,772	1911	42,468,227

The following additional information regarding the wool clip for the year 1911 is of interest. Of the total, 42,468,227 sheep and lambs shorn in the grease, there were 35,771,381 sheep, the average weight of clip per sheep being 7 lb. 7½ oz., equal to 267,928,894 lb., and the lambs shorn numbered 6,696,846, the average weight of clip per lamb being 2 lb. 6½ oz., equal to 16,082,417 lb. The total wool clip for 1911 was, therefore, 284,011,311 lb.

Of late years considerable attention has been given to the question of breeding, and the result is seen in the steady improvement in the weight of fleeces. In spite of the bad seasons experienced, the wool clips have been very good, and notwithstanding the greatly diminished flocks, the production of wool has not by any means decreased proportionately. The improvement in the weight of fleece will be apparent from a consideration of the following table:—

Period.	Average number of Sheep depastured annually.	Average annual production of Wool.	Average yield of Wool per Sheep.
	No.	lb.	lb.
1881-85	36,020,700	188,762,800	5.24
1886-90	47,746,200	258,956,200	5.42
1891-95	56,297,400	362,726,000	6.44
1896-1900	41,949,300	281,648,000	6.71
1901-05	34,239,300	260,517,000	7.61
1906-11	44,908,700	372,653,000	8.30

From these figures it appears that the average weight during the last five years has been over 8 lb. A striking proof of the increased weight of the fleece is afforded by a comparison of the figures relating to the periods ending with 1890 and 1911. In the earlier period the sheep numbered nearly 3,000,000 more, yet the average annual production of wool was 113,700,000 lb. less than that of the later term.

WOOL SALES.

Formerly almost all the wool was shipped on the grower's account and sold in London, but of late years over 85 per cent. has been sold in the Sydney

market, as purchasers have realised the advantages of buying on the spot. The attached table exhibits the growing tendency to operate in Sydney :—

Seasons.	Total deep-sea exports (from Sydney and Newcastle).	Sydney Wool Sales.		
		Offered.	Sold at auction and privately.	Proportion of deep-sea exports sold in Sydney.
	bales.	bales.	bales.	per cent.
1887-88--1889-90	1,318,351	764,520	580,000	43.99
1890-91--1892-93	1,823,085	1,093,766	886,541	48.63
1893-94--1895-96	2,158,220	1,382,517	1,241,858	57.54
1896-97--1898-99	1,971,513	1,318,579	1,294,373	65.65
1899-1900--1901-02	1,766,922	1,330,747	1,309,915	74.14
1902-03--1904-05	1,549,598	1,232,819	1,252,817	80.85
1905-06--1907-08	2,356,811	1,969,061	1,939,916	82.31
1908-09--1910-11	2,771,200	2,265,155	2,364,555	85.33
1911-12	897,814	788,794	779,099	86.78

Of the wool sold in Sydney during the last season, approximately 626,383 bales were purchased for the Continent of Europe, 92,528 bales for the English trade and for London on speculative account, 10,090 bales for America, 20,002 bales for Japan, China, and India, the balance being taken by local scourers. The average prices per bale realised in Sydney and in London during the last ten years are shown in the following table :—

Year.	Average Prices per Bale realised.					
	In Sydney.			In London.		
	£	s.	d.	£	s.	d.
1902-3	12	8	8	13	2	6
1903-4	12	17	1	13	10	0
1904-5	12	17	1	14	10	0
1905-6	13	19	6	15	15	0
1906-7	14	3	0	17	0	0
1907-8	13	9	0	16	10	0
1908-9	11	15	10	13	5	0
1909-10	13	14	4	15	0	0
1910-11	12	10	11	16	5	0
1911-12	11	19	0	15	0	0

In comparing the prices of the Sydney and London markets, it should be noted that in the former the season ends with June and in the latter with December, also that a much larger proportion of the lower qualities of wool, such as pieces, bellies, locks, &c., are sold in Sydney. As freight and other charges amount to 25s. or 30s. per bale, it is evident that the Sydney market as a general rule is the more favourable to producers.

The prices realised for the different descriptions of wool at the Sydney wool sales during the last two seasons are given below :—

Description.	Superior.		Good.		Medium.		Inferior.	
	1910-11.		1911-12.		1910-11.		1911-12.	
	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.	per lb.
	d.	d.	d.	d.	d.	d.	d.	d.
Greasy—								
Fleece ..	12½ to 16½	12 to 16	9½ to 12½	9 to 11½	8½ to 9½	7½ to 8½	6½ to 8	5½ to 7½
Pieces ..	10 " 12	9½ " 12	8½ " 9½	7½ " 9	7 " 8½	6½ " 7½	5½ " 6½	5 " 6
Bellies ..	7½ " 10	7 " 9	6½ " 7½	5½ " 6½	4½ " 6	4 " 5½	3½ " 4½	3 " 3½
Lambs ..	11½ " 13½	11 " 13½	8½ " 11½	8 " 10½	7 " 8½	6½ " 7½	4½ " 6½	4 " 6½
Crossbred—								
Fine ..	11½ " 14½	10 " 13½	9½ " 11	8½ " 9½	8½ " 9½	7 " 8½	7½ " 8½	5½ " 6½
Coarse ..	8 " 9½	7 " 9	6½ " 7½	5½ " 6½	5½ " 6½	5 " 6½	4 " 5½	3 " 4½
Scoured—								
Fleece ..	20½ " 23½	20 " 23½	18½ " 20½	18 " 19½	16½ " 18½	15½ " 17½	15 " 16½	14 " 15½
Pieces ..	18 " 20	17 " 21½	16 " 17½	15 " 16½	14½ " 15½	13½ " 14½	12½ " 14	11½ " 13½
Bellies ..	15 " 18	14 " 19	13½ " 14½	12 " 13½	11½ " 13	10½ " 11½	10 " 11	9 " 10½
Locks ..	11 " 14	9½ " 13½	9½ " 10½	7½ " 9	8½ " 9½	6½ " 7½	7 " 8	5 " 6

In order to illustrate the fluctuations in value, the following table has been compiled, which gives a fairly correct idea of the average value realised for greasy wool in the London market at each of the principal sales during the last eleven years :—

Year.	1st Series.	2nd Series.	3rd Series.	4th Series.	5th Series.	6th Series.
	per lb. d.	per lb. d.	per lb. d.	per lb. d.	per lb. d.	per lb. d.
1902	10½	10½	11½	11½	12	12½
1903	12½	12	11½	11	11	10½
1904	11	10	10½	11	11½	12
1905	12	11¾	12½	12½	12½	12½
1906	12	12¼	12½	12¼	12	12¼
1907	12¼	12½	12½	12¾	12¾	11¾
1908	11¾	10	9¾	10¼	10¾	11¼
1909	11½	11¾	12	12	12½	12¼
1910	12¼	12½	12¾	12¼	12½	12½
1911	12	12½	12	12	11½	11½
1912	11½	...	11¾	12	12	12¼

During the period covered by the table, Sydney-shipped greasy wool realised 12¾d. to 9¾d. The maximum prices were realised during 1907, when the sales twice closed at 12¾d. per lb., and also in 1910. The 1902 sales opened at 10½d., and the prices rose gradually to 12½d. at the close. In 1903 there was a gradual fall to 10½d., but at the last sales in 1904 prices again reached 12d. This value was more than maintained during the next three years. During 1908 the value fell to 9¾d., but rose to 11¼d. at the close of the year. In 1909 prices opened at 11½d. and gradually rose to 12¾d. in 1910, finishing at the last sales at 12½d. During 1911, the ruling price was 12d.; the price did reach 12½d., but receded to 11½d. at the close of the year. This was also the opening quotation for the following season, and although the second series had to be abandoned on account of the coal strike in March, 1912, the prices rose gradually to 12¼d. at the last series in November and December.

CATTLE.

Though still a very important industry, cattle-rearing does not now occupy so prominent a position as formerly. The number of cattle returned at the close of various years since 1861, as per the subjoined table, shows that there was a great decline in the total from 1876 to 1886, that the number steadily increased from 1886 to 1896, when it stood at 2,226,163, and then owing to unfavourable seasons the numbers decreased until in 1902 the total was only 1,741,226. Since 1902 the number has steadily increased, and in 1911 reached a total of 3,194,236, the highest yet recorded.

Year.	Cattle.	Year.	Cattle.	Year.	Cattle.
1861	2,271,923	1896	2,226,163	1907	2,751,193
1866	1,771,809	1901	2,047,454	1908	2,955,934
1871	2,014,888	1902	1,741,226	1909	3,027,727
1876	3,131,013	1903	1,880,578	1910	3,140,305
1881	2,597,348	1904	2,149,129	1911	3,194,236
1886	1,367,844	1905	2,337,973		
1891	2,128,838	1906	2,549,944		

The principal breeds of cattle now in the State are the Durham or Shorthorn, Hereford, Devon, Black-polled, Ayrshire, Alderney, Jersey, and crosses from these various breeds. At the close of the year 1911 the numbers of each breed, as far as could be ascertained, were:—

Breed of Cattle.	Pure and Stud.	Ordinary.	Total.
	No.	No.	No.
Shorthorn	97,381	625,196	722,577
Hereford	37,409	154,712	192,121
Devon	14,103	32,988	47,091
Black-polled	2,382	20,108	22,490
Red-polled	427	2,637	3,064
Ayrshire	9,561	63,401	72,962
Alderney	1,190	3,861	5,051
Holstein	727	4,885	5,612
Jersey	15,123	66,967	82,090
Guernsey	776	9,023	9,799
Brittany ... ..	.....	25	25
Kerry	4	.....	4
Red Lincoln ... ..	.....	10	10
Total	179,083	983,813	1,162,896
Crosses (first crosses)—			
Shorthorn—Hereford ... ..	.....	330,089	330,089
" —Devon ... ..	.....	136,406	136,406
Hereford—" ... ..	.....	53,172	53,172
Ayrshire—Shorthorn ... ..	.....	197,297	197,297
" —Holstein ... ..	.....	170	170
Alderney—Shorthorn ... ..	.....	900	900
Black-polled—" ... ..	.....	43,115	43,115
Red-polled—" ... ..	.....	430	430
Jersey—" ... ..	.....	114,995	114,995
" —Ayrshire ... ..	.....	740	740
" —Holstein ... ..	.....	75	75
Black-polled and Hereford ... ..	.....	1,260	1,260
Unknown ... ..	.....	755,486	755,486
Total ... ..	.....	1,634,135	1,634,135
Total—All Breeds	179,083	2,617,948	2,797,031

Included among the ordinary crosses in the foregoing table are 394 animals used for stud purposes, but there were in addition, 397,205 cattle not classified, which were for the most part in the towns.

There has been an appreciable increase in the number of milking cattle, many of the farmers in the coastal districts having turned their attention to dairying, with very satisfactory results. The number of milch cows at the close of the year 1911 was 638,525.

The breed of cattle throughout the State is steadily improving—a result due to the introduction of good stud stock; to greater attention and care exercised in selection and breeding, more particularly for dairying purposes; and to culling and keeping in paddocks. In order to encourage and assist dairy farmers in improving breeds the Government have imported some high-class stud bulls from England; there are now about thirty of these bulls.

Importations from Europe and America were discontinued for many years owing to the natural dread of the stockowners lest their herds should contract diseases which have devastated the cattle of other countries. The prohibition was removed in 1888, and cattle are now admitted after quarantine; the number so admitted in 1911 was thirty-one—eleven bulls and twenty cows, and in addition, a number of stud cattle were imported from the other States, principally for dairying purposes.

The exports of New South Wales cattle to countries oversea during 1911 numbered 985. Of these 635, valued at £3,376, were ordinary cattle, and 350, valued at £4,576, were cattle for stud purposes.

The breeding cows in the State in 1911 numbered 824,834. Australian cattle, probably because they live in a more natural state, are remarkably free from milk-fever and other complaints attendant on calving.

HORSES.

At an early period the stock of the country was enriched by the importation of some excellent thoroughbred Arabians from India, so that Australian horses have acquired a high reputation. The number in the State steadily increased from 1883 to 1894, when it stood at 518,181; but, owing to the drought, the total in 1895 fell to 499,943. In 1896 there was an increase to 510,636, attributed to increased settlement, more breeding, and fewer sales for export. By successive decrements the number of horses had fallen in 1902 to 450,125; since that year there has been a substantial increase, and the number at the end of 1911 reached 689,004. There was a great advance in horse-breeding in 1910 and 1911 in consequence of the increased demand owing to additional settlement and the prosperous seasons, and to the defence requirements. With reference to the training of military horses it may be mentioned that the Commonwealth authorities have formed a horse recruit camp at Liverpool in this State, where at present 400 horses are being prepared for military purposes.

The following table shows the number of horses in New South Wales at the end of various years since 1861 :—

Year.	Horses.	Year.	Horses.	Year.	Horses.
1861	233,220	1896	510,636	1907	578,326
1866	274,437	1901	486,716	1908	591,045
1871	304,100	1902	450,125	1909	604,784
1876	366,703	1903	458,014	1910	650,636
1881	398,577	1904	482,663	1911	689,004
1886	361,663	1905	506,884		
1891	469,647	1906	537,762		

For purposes of classification the horses have been divided into draught, light-harness, and saddle horses, and the number of each particular kind, so far as could be ascertained from returns collected by the Stock Department, was as follows :—

Class.	Thoroughbred.	Ordinary.	Total.
Draught	29,151	203,592	232,743
Light-harness	16,051	129,113	145,164
Saddle	28,020	175,030	203,050
Total... ..	73,222	507,735	580,957

Returns relating to the remaining 108,047 animals were not received.

New South Wales is specially suitable for the breeding of saddle and light-harness horses, and it is doubtful whether in these particular classes the Australian horses are anywhere surpassed. On many of the large holdings thoroughbred sires are kept, and the progeny combine speed with great powers of endurance. Fed only on the ordinary herbage, these animals constantly perform long journeys across difficult country, and become hardy and sure-footed to a high degree. It is the possession of these qualities which gives them great value as army remounts.

The approximate number of animals fit for market is as follows:—Draught, 33,792; light-harness, 26,744; saddle, 35,516; total, 96,052.

Of these it is estimated that about 24,773 are suitable for the Indian and other markets.

EXPORT OF HORSES.

There is a considerable export trade annually to countries outside Australia, the number of New South Wales horses in 1911 being 1,634, valued at £46,161. The following table shows the number and value of horses bred in New South Wales exported to countries outside Australia in the years 1900, 1905, and 1911:—

Countries.	Number.			Value.		
	1900.	1905.	1911	1900.	1905.	1911.
Burmah ... ..	.....	95	...	.....	2,625	.....
Fiji	48	446	180	1,220	11,189	4,788
Hong Kong	5	404	...	115	15,021	.....
India	1,688	1,922	683	18,521	42,774	13,392
New Zealand	189	118	34	3,276	4,188	4,440
South Africa	7,714	8	6	124,485	1,780	180
Straits Settlements	295	121	65	7,440	3,110	2,332
China	1,489	85	13	41,600	2,041	390
Japan ... ..	.....	1,631	33	.....	26,495	1,755
Java	36	265	474	720	3,345	13,166
Philippine Islands	35	190	63	1,060	3,085	2,340
Other Countries	73	121	83	4,848	3,311	3,378
Total	11,572	5,406	1,634	203,285	118,964	46,161

For many years India has offered the best market for horses. The demand for horses in that country is considerable, and Australia is a natural market from which supplies are derived. The trade with Java has increased, and since 1904 some large consignments have been sent to Japan, but the trade shows great fluctuations.

The large number exported in 1900 was due to the despatch of mounted troops to the South African war; but, apart from this, there has been a considerable decrease in the number exported, mainly on account of the greater local demand.

VETERINARY EXAMINATION.

With a view to improving the breed of horses, the Minister for Agriculture recently decided in connection with Agricultural Societies desiring to participate in the Government subsidy, that all stallions entered as such for prizes at agricultural shows, shall be subject to veterinary examination with a view to detecting hereditary unsoundness, and deciding their suitability otherwise for stud service. It has been recognised, however, that to effect a general improvement compulsory regulation by the State authorities is absolutely necessary. As a step towards this end, a system of examination and certification of stallions by Government veterinary officers was initiated in 1909; it applies only to horses voluntarily submitted by owners for inspection. Primarily the horses examined were chiefly those submitted at Agricultural and Pastoral Shows, but arrangements were subsequently made to hold parades at numerous centres throughout the State. Examination at Shows, except in the case of the "Royal," has now been discontinued.

A list has been published giving the names of certified stallions at the end of 1911, and includes particulars respecting 900 draughts, 457 thoroughbreds, 415 trotters, 156 lights, and 539 ponies.

As the scheme has been in operation for a very short period it is not possible to foreshadow its ultimate effect on the industry; but it has already brought about some desirable results, as, for instance, depreciation in selling value of uncertificated stallions and corresponding increase to the value of the certificated; greater care in the selection of animals for importation; and the education of owners in a practical manner regarding various forms of unsoundness. It prevents unsound horses from being exhibited, and ensures breeders, if they demand the production of the certificate at time of service, from using unsound sires. By means of the examinations also the veterinary officers have been able to collect accurate information which will be useful as a basis of future measures in connection with horse-breeding.

A number of people vitally interested in this industry are in favour of an Act of Parliament, insisting on the examination of all stallions used for breeding purposes, and forbidding the use of any animals which have not obtained the necessary certificate. At the present time horses rejected for certificate are not prevented from doing stud work, and many stallions have not been presented for examination. It is proposed to take united action throughout the Commonwealth, and the best means of combating these disabilities will be discussed at a conference of Ministers to be held shortly in Hobart.

Recognising the importance of improving the breed, and of further developing the industry, the Government has lately established a Chair of Veterinary Science at the Sydney University.

LIVE STOCK IN PRINCIPAL COUNTRIES.

A comparison of the numbers of horses, cattle, sheep and swine in New South Wales and other countries is afforded by the subjoined table, the figures being the latest available:—

Country.	Horses.	Cattle.	Sheep.	Swine.
Australia—				
New South Wales	689,004	3,194,236	44,947,287	371,093
Victoria	507,813	1,647,127	13,857,804	348,069
Queensland	618,954	5,073,201	20,740,981	173,902
South Australia	259,719	393,566	6,171,907	93,130
Northern Territory	24,509	513,383	57,240	996
Western Australia... ..	140,277	843,638	5,411,542	55,635
Tasmania	41,853	217,406	1,823,017	67,392
New Zealand	404,284	2,020,171	23,996,126	348,754
United Kingdom	2,023,711	11,825,984	30,402,428	4,237,273
Argentina	7,531,376	29,116,625	67,211,754	1,403,591
Austria	1,540,931	9,025,257	2,802,346	4,365,095
Belgium	255,229	1,865,833	235,722	1,116,500
Canada	2,291,740	6,468,491	2,535,429	3,084,226
Chile	516,764	2,303,659	4,224,266	216,360
Denmark	535,018	2,253,982	726,879	1,467,822
France	3,160,080	14,297,570	17,357,640	7,305,850
Germany	4,345,043	20,630,544	7,703,710	22,146,532
Hungary	2,173,649	7,152,568	7,904,634	5,489,946
Italy	906,820	6,198,861	11,162,926	2,507,798
Japan	1,551,156	1,350,404	3,411	287,107
Spain	519,665	2,368,767	15,117,105	2,424,039
Union of South Africa	507,042	4,170,162	30,887,750	689,202
United States of America	21,040,000	69,080,000	57,216,000	47,782,000
Uruguay	556,307	8,192,602	26,286,296	180,099

GOATS AND OTHER LIVE STOCK.

The number of goats in New South Wales at the end of 1911 was 56,737, including 6,562 Angora goats. In 1909 there were 5,042 Angora and 52,835 other goats. Angora goats are chiefly valued by pastoralists on account of their effectiveness as scrub exterminators, though the dry climate of the western districts is eminently suitable for the production of the finest mohair. Although the mohair industry is but in its infancy, a shipment from this State, which was sold in London in November, 1910, realised 12½d. per lb.

Camels are used as carriers in the Western Plains, the number in 1911 being 971, and in the previous year 1,013.

Donkeys and mules are not extensively used in New South Wales, the numbers in 1910 and 1911 being 51 donkeys 132 mules, and 53 donkeys 128 mules, respectively. It is claimed that mules have many points of advantage in comparison with horses for farm work, especially in areas of limited rainfall—for instance, longer period of utility, smaller cost of maintenance, combined with a readiness to labour, and comparative freedom from disease. As regards the profitableness of mule breeding, there is generally a good demand for them in the world's markets. They are largely used for various kinds of work in India, United States, South America, and South Africa, also in the sugar plantations of Fiji. The Indian Government regularly purchases them in large numbers for the army transport service.

Ostrich farming is successfully conducted in New South Wales, though not on an extensive scale. The number of ostriches at the end of 1911 was 560, as compared with 381 at the close of the previous year. As the climate of certain portions of the State is considered very suitable for ostrich farming the industry is believed to have a great future.

PASTURES PROTECTION DISTRICTS.

New South Wales is divided into sixty-seven Pastures Protection Districts, which are in charge of sixty Inspectors of Stock.

The number of horses, cattle, and sheep which travelled both ways along the various stock routes during the year ended June, 1912, was:—Horses, 119,972; cattle, 1,431,301; sheep, 39,612,784. There were 29,535 inspections made by the Inspectors of Stock, at which 112,711 horses were inspected, 1,196,801 cattle, and 20,669,556 sheep. 24,056 Permits were issued, and 157 renewed permits.

SHEEP BRANDS AND MARKS.

Under the Pastures Protection Act, 1902, all sheep above the age of six months must be branded and kept legibly branded by the owner thereof with an "owner's brand" which has been duly recorded. Only one fire brand and one paint or tar "owner's brand," and one owner's ear-mark is allotted to each sheepowner for every run held by him. During the year 1911-12 the number of sheep brands and ear-marks recorded and transferred were as follow:—

	Recorded.	Transferred.	Total Registered.
Fire Brands... ..	59	74	133
Tar Brands	1,679	236	1,965
Ear Marks	1,349	274	1,623
Total	3,087	634	3,721

HORSE AND CATTLE BRANDS.

The number of horse and cattle brands registered up to 30th June, 1912, was 116,353. The number of brands registered during the year was:—Horse brands (alone), 410; cattle brands (alone), 533; horse and cattle brands, 2,203; and camels, 4; making a total of 3,150. The brands are registered under the provisions of the Stock Act, 1901.

PRICES OF STOCK.

The prices of stock show great variation in the course of a year; but the following statement shows a fair average of the market prices of each class of stock throughout 1911; in many instances the figures are based on actual sales:—

Class of Stock.	Fair Average Price.	Class of Stock.	Fair Average Price.
Horses—	£ s. d.	Fat Woolly Sheep—	£ s. d.
Draught—Extra Heavy ...	37 10 0	Crossbred Wethers—	
Medium ...	25 0 0	Extra Prime ...	0 19 6
Light ...	17 0 0	Prime ...	0 16 6
Saddle and Harness ...	18 0 0	Good ...	0 13 3
Carriage ...	30 0 0	Ewes—Extra Prime ...	0 17 0
Fat Cattle—		Prime ...	0 14 0
Bullocks—Extra Prime ...	11 3 0	Good ...	0 11 9
Prime ...	9 2 0	Merino Wethers—	
Medium ...	7 17 0	Extra Prime ...	0 19 3
Light ...	6 4 0	Prime ...	0 16 0
Cows—Extra Prime ...	7 19 0	Good ...	0 13 6
Other ...	5 0 0	Ewes—Extra Prime... ..	0 16 3
Steers and Heifers—Prime ...	8 0 0	Prime ...	0 13 6
Other ...	4 15 0	Good... ..	0 11 0
Vealers—Heavy and Prime ...	3 2 6	Lambs—Extra Prime Woolly	0 14 6
Good... ..	2 6 6	Prime ...	0 11 9
Calves—Medium ...	1 17 6	Good ...	0 9 9
Light ...	1 10 0	Pigs—Porkers—Heavy ...	1 13 9
Prime Young ...	1 3 6	Medium ...	1 9 6
Poddies ...	0 11 3	Light ...	1 3 9
Working Bullocks—Best ...	8 10 0	Baconers—Heavy ...	2 6 0
Other ...	6 0 0	Light ...	1 19 9
Dairy Cattle—		Backfatters ...	2 15 0
Milkers—Best ...	10 5 0	Slips and Suckers ...	0 8 3
Good ...	6 12 6	Goats—Angora ...	3 17 6
Inferior ...	3 10 0	Other ...	0 15 0
Springers—Best ...	7 0 0	Camels ...	27 10 0
Other ...	3 15 0	Mules ...	27 10 0
Dry—Best ...	4 10 0	Donkeys—Jacks (for breeding)	55 0 0
Other ...	2 15 0	Jennies ...	35 0 0

In the case of the horses, the average maximum price was £60 for carriage horses, and the minimum £7 for saddle and harness horses. In fat cattle, £15 10s. was the maximum for extra prime bullocks, and the minimum for extra prime cows £6 10s. Working bullocks ranged from £10 to £4 15s. For dairy cattle, the maximum for best milkers was £14, and the minimum for good milkers, £6 5s. The prices of fat sheep vary, not only with the class and condition of the animal and the number on the market, but also in accordance with the season and growth of the fleece. The range of average prices in 1911 was from a maximum of £1 4s. 6d. for extra prime cross-bred wethers to 11s., the minimum for crossbred ewes. The pigs brought prices ranging from £3 0s. 6d. for backfatters to £1 1s. 6d. for light porkers. The maximum price of Angora goats was £5 5s.; for camels, £35; and donkeys, £60.

VALUE OF PASTORAL PRODUCTION.

The grazing industry constitutes the greatest source of wealth in New South Wales, consequently information relating to pastoral returns and income is most desirable; but unfortunately it is not possible to ascertain with precision the values of land occupied for pastoral purposes alone, nor can the worth of the improvements be estimated. Returns collected in respect of all holdings used other than for residential or business purposes, show that at the end of 1911 the fair market value of 52,988,070 acres of alienated land was estimated at £129,577,500, the improvements thereon being valued at £77,114,200. The improvements include the value of buildings, tanks and dams, fencing, ringbarking, clearing, etc. On 120,546,052 acres of Crown lands similarly occupied, the value of the improvements was set down at approximately £14,775,000.

From the nature of the industry, it is difficult to arrive at a correct estimate of the return from pastoral pursuits as at the base of production; but taking the Sydney prices as a standard, and making due allowance for incidental charges, such as agistment, railway carriage or freight, and commission, the value in 1911 would appear as £19,434,000. The returns received from the different kinds of stock are shown in the following table, for various years since 1891:—

Year.	Annual Value of Pastoral Production.					Per Head of Population.
	Sheep for Food.	Wool.	Cattle.	Horses.	Total.	
	£	£	£	£	£	£ s. d.
1891	2,367,000	9,996,000	1,535,000	827,000	14,725,000	12 17 10
1896	1,745,000	8,619,000	990,000	420,000	11,774,000	9 5 4
1901	2,071,000	8,425,000	1,374,000	682,000	12,552,000	9 3 8
1902	1,446,000	7,152,000	1,322,000	811,000	10,731,000	7 14 7
1903	2,327,000	8,361,000	1,339,000	750,000	12,777,000	9 1 7
1904	2,206,000	9,133,000	1,347,000	687,000	13,373,000	9 7 2
1905	2,753,000	12,103,000	1,533,000	724,000	17,113,000	11 15 3
1906	3,514,000	13,792,000	1,592,000	845,000	19,743,000	13 6 0
1907	3,222,000	16,459,000	1,574,000	1,026,000	22,281,000	14 13 7
1908	3,034,000	12,680,000	2,032,000	1,100,000	18,846,000	12 3 10
1909	2,742,000	13,128,000	1,878,000	1,292,000	19,040,000	12 1 5
1910	2,704,000	14,727,000	1,704,000	1,893,000	21,028,000	13 0 2
1911	2,811,000	12,933,000	1,689,000	2,001,000	19,434,000	11 13 6

The value of production in 1911 was not so high as in the previous year, due mainly to the diminished wool production. Although the number of sheep depastured was not nearly so great as in some of the earlier years, and it is satisfactory to note the rapid recovery which has been made since 1902. The improved position has been attained through the advancement in prices of pastoral products, especially of wool, which fortunately has been concurrent with a greatly increased average production.

In order to exhibit clearly the extent of the variation in the prices of pastoral products, the following table has been prepared, showing the price-level in each year since 1905 as compared with 1901. The figures are

calculated on the average prices of exports to the United Kingdom free on board ship at Sydney. The prices of 1901, represented by the number 1,000, are taken as a basis.

Article.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.
Wool—greasy	1,300	1,433	1,553	1,272	1,200	1,266	1,200	1,200
„ scoured	1,396	1,509	1,585	1,258	1,245	1,188	1,132	1,151
Tallow	937	1,031	1,303	1,176	1,135	1,250	1,188	1,215
Leather	1,078	1,183	1,150	1,017	972	1,100	1,133	1,161
Frozen Beef	1,000	875	1,010	1,008	1,250	1,250	1,375	1,375
„ Mutton	1,031	1,125	1,055	1,021	1,063	1,250	1,250	1,500
Skins—Hides	1,250	1,375	1,316	1,053	950	1,100	1,113	1,204
„ Sheep, with wool	1,541	2,000	1,863	1,175	1,279	1,311	1,164	1,299
All articles	1,192	1,316	1,354	1,122	1,137	1,214	1,194	1,327

PASTORAL IMPLEMENTS AND MACHINERY.

A list of the implements and machinery in use on pastoral holdings during 1911 is given below ; the aggregate value amounted to £1,128,666.

Pastoral Machinery.	Coastal Division.	Table- lands.	Western Slopes.	Western Plains and Riverina.	Western Division.	Total New South Wales.
Earth scoops, excavators, tanks, ploughs, &c.	235	294	1,504	3,040	1,319	6,392
Land-graders	5	17	15	95	31	163
Road-makers	5	16	82	58	40	201
Poison carts	167	2,063	2,595	2,911	1,148	8,889
Sheep-shearing machines	621	3,822	5,888	9,138	3,463	22,932
Wool-washing machines... ..	9	69	195	70	41	384
Wool presses—Hand power	272	2,221	2,150	1,946	511	7,100
„ Hydraulic	2	11	16	28	11	68
„ Steam, &c.	1	10	6	45	18	80
Well-boring plant	7	2	30	49	48	136
Steam boilers—Number	22	96	73	127	121	439
„ Horse-power	128	587	479	1,006	907	3,107
Steam engines—Number	14	155	177	308	269	923
„ Horse-power	109	941	1,186	2,106	1,811	6,153
Gas or oil engines—Number	101	266	443	425	84	1,319
„ Horse-power	371	1,220	2,028	2,260	517	6,396
Hot-air engines—Number ... ..	.....	1	4	5	2	12
Fumigators	5	32	31	89	20	177

On all the large holdings devoted to wool-growing, shearing machines have been installed. In addition to shearing their own sheep, the owners of the machines often contract for the shearing of small flocks in the vicinity. Carts

and waggons used on all rural holdings are included with agricultural machinery, as stated in the chapter relating to Agriculture, in which a comparative table of the value of agricultural, pastoral, and dairying machinery is shown also.

MEAT SUPPLY.

Slaughtering for food is permitted only in places licensed for the purpose, such establishments being very numerous. In the metropolis there are 62, and in the country districts, 1,225 slaughter-yards, employing respectively 602 and 3,741 men; in all 1,287 establishments and 4,343 men.

The following table shows the number of stock slaughtered during 1911 :—

Stock	Metropolis.	Country.	Total.
Sheep	2,060,304	4,086,435	6,146,739
Lambs	85,843	314,343	400,186
Bullocks	112,209	194,564	306,773
Cows	49,375	132,803	182,178
Calves	46,872	13,097	59,969
Swine	153,846	162,485	316,331

These figures represent the stock killed for all purposes. Of the sheep and lambs, 4,068,349, including 1,314,714 killed on stations and farms, represent the local consumption; 925,475 sheep were required by meat-preserving establishments; 1,463,841 for freezing for export; and 89,260 were boiled down for tallow. All the cattle killed, except 61,596 treated in the meat-preserving works and 9,913 exported frozen, were required for local consumption.

The following table shows the stock slaughtered in the various establishments for ten years :—

Year.	Establishments.	Employees.	Stock Slaughtered.					
			Sheep.	Lambs.	Bullocks.	Cows.	Calves.	Swine.
1902	1,548	3,685	4,502,513	133,337	164,916	99,450	23,765	208,352
1903	1,702	3,991	3,180,408	96,712	157,173	103,471	14,555	178,157
1904	1,593	3,961	2,927,078	131,458	211,839	72,778	14,472	232,955
1905	1,568	4,570	3,959,577	324,054	236,306	64,838	19,713	289,096
1906	1,522	4,391	4,229,407	252,648	237,722	94,955	26,200	281,650
1907	1,352	4,553	4,882,206	302,851	242,261	109,263	28,518	238,488
1908	1,216	4,056	4,840,367	361,125	233,006	114,689	28,879	210,319
1909	1,249	5,293	5,959,985	430,501	243,150	128,705	40,021	202,303
1910	1,282	4,328	7,082,102	448,932	275,497	156,110	52,340	290,328
1911	1,287	4,343	6,146,739	400,186	306,773	182,178	59,969	316,331

The stock for the supply of meat for Sydney and suburbs are for the most part sold at the Flemington saleyards, near Sydney, and slaughtered in abattoirs at Glebe Island. The stock sold at Flemington are inspected *ante-mortem*, and any found diseased are destroyed, while "doubtful" beasts are marked for further special attention at the Abattoirs. At Glebe Island the *post-mortem* inspection is carried out by a Chief Inspector and sixteen assistants, and there are also seven inspectors stationed at other slaughtering premises. In addition, thirteen inspectors are engaged at canning works, cold

stores, ships, and slaughter-houses in connection with the export trade. The work of these officers is supervised by the Veterinary Inspector in charge of export meat. All inspectors have authority to condemn meat which, from any cause, is unwholesome or unfit for food.

The carcasses of animals are conveyed from the slaughtering premises in covered louvered vans for distribution to retail shops, which are regulated by municipal authorities.

The particulars of operations at Glebe Island abattoirs during 1911 and 1912 are shown in the following statement:—

Animals.	1911.			1912.		
	Slaughtered.	Condemned.		Slaughtered.	Condemned.	
		Number.	Per cent.		Number.	Per cent.
Bulls	1,330	181	13·60	1,393	202	14·50
Bullocks	94,341	562	0·59	104,785	557	·53
Cows	46,682	1,952	4·18	60,840	2,504	4·11
Calves	44,919	1,993	4·43	60,043	2,799	4·66
Sheep	1,899,470	2,565	0·13	1,773,458	3,280	·18
Pigs	95,811	1,504	1·56	112,396	2,580	2·29

In order to cope with the expanding requirements of the meat trade, new abattoirs are in course of construction at Homebush Bay, where facilities will be provided for both railway and steamer traffic.

The average prices of the best beef during 1911 ranged from 20s. per 100 lb. in June to 27s. 9d. in September.

THE MEAT EXPORT TRADE.

The table below shows the growth of the oversea export trade in New South Wales beef and mutton since 1904. The export of frozen meat varies, of course, with the seasons. It having been proved that a great expanse of country is suited to the breeding of large-carcass sheep, pastoralists have lately turned their attention in this direction, with a view to securing a larger share in the meat trade of the oversea countries:—

Year.	Frozen or Chilled Meat.				Preserved Meat.	
	Beef.	Mutton.	Total Weight.	Total Value.	Weight.	Value.
	cwt.	cwt.	cwt.	£	lb.	£
1904	3,721	202,135	205,856	280,899	4,751,029	70,770
1905	18,470	434,940	453,410	599,892	6,919,561	128,054
1906	32,640	455,165	487,805	579,294	3,121,933	62,307
1907	18,905	498,551	517,456	639,253	4,569,718	81,303
1908	6,473	398,594	405,067	535,473	5,756,395	105,702
1909	9,127	503,249	512,376	563,489	11,734,019	202,499
1910	74,868	810,175	885,043	1,101,247	16,492,876	288,341
1911	65,097	535,259	600,356	758,155	20,783,779	401,384

There has been considerable expansion in the meat export trade during the last few years, and the prospects of its continuance are most favourable. The European countries are gradually opening their ports to frozen meat, and the trade in the East is increasing. In order to establish a high reputation for this product it is necessary for exporters to exercise the greatest care in preparation and transport. Stringent regulations have been

issued by the Department of Trade and Customs regarding inspection and shipment, which work is carried out for the Commonwealth authorities by the Meat Export Branch of the Department of Public Health. All stock killed for export are examined in a similar manner to those for local consumption, as shown above, and again after having been in cold storage just prior to shipment. In all the large modern steamers visiting the ports of New South Wales accommodation has been provided for this class of trade.

There were fifty-nine steamers engaged at the end of the year 1912 in the frozen meat trade between Australia and the United Kingdom. The carrying capacity of these steamers, which are fitted with refrigerating machinery, is 2,520,200 carcasses.

The following statement, compiled from the British trade returns, shows the imports of frozen mutton into the United Kingdom during the past nine years, and also the quantity imported from New South Wales:—

Year.	Total Imports.		Imports from New South Wales.	
	Quantity.	Value.	Quantity.	Value.
	cwt.	£	cwt.	£
1903	4,016,622	7,826,062	37,502	73,406
1904	3,494,782	6,861,531	67,200	130,839
1905	3,811,069	7,336,490	244,033	470,482
1906	4,082,756	7,645,935	341,963	609,275
1907	4,578,523	8,687,407	391,500	723,148
1908	4,385,771	8,140,029	315,998	564,326
1909	4,761,838	7,839,195	448,011	715,764
1910	5,405,923	9,802,858	776,084	1,261,173
1911	5,350,070	9,576,446	612,620	1,000,556

It is satisfactory to note that the proportion of frozen mutton received into the United Kingdom from New South Wales has increased from 1 per cent. in 1903 to 12 per cent. in 1911.

Below is given a statement of the average wholesale prices obtained during the past ten years for English and frozen mutton sold in London. From an examination of the figures, it would seem that the class of people requiring locally-grown mutton in England is quite distinct from that using frozen mutton:—

Year.	Best English.	New Zealand.	Australian.	River Plate.	Year.	Best English.	New Zealand.	Australian.	River Plate.
	d.	d.	d.	d.		d.	d.	d.	d.
1902	7	4½	3½	3¾	1907	7½	4¾	3¾	3½
1903	7½	4	3½	3¾	1908	7¾	4½	3¾	3½
1904	7½	4½	4	3¾	1909	6¾	3½	3	3¾
1905	7½	4½	3½	3¾	1910	7½	4½	3½	3¾
1906	7½	4	3¾	3½	1911	7¾	4½	3½	3½

In addition to frozen beef and mutton, there was an export during 1911 of rabbits and hares to the value of £330,741, and other meats £84,237.

OTHER PASTORAL PRODUCTS AND BY-PRODUCTS.

The minor products arising from pastoral occupations include tallow, lard and fat, skins and hides, furs, hoofs, horns, bones, bone-dust, glue pieces and hair. Some of these are more specially discussed in the chapter on **Manufactories and Works**, and need only brief mention here.

The production of tallow has declined considerably since 1897, consequent on the decrease in the number of live stock depastured, and the falling-off in the market value of the article. In earlier years the production was much greater than for any of the years shown hereunder, for in each of the years 1894 and 1895 it reached nearly 54,000 tons :—

Year.	Estimated Quantity of Tallow.		
	Produced.	Locally consumed.	Exported.
	tons.	tons.	tons.
1902	12,329	4,884	7,445
1903	11,036	5,710	5,326
1904	17,654	5,897	11,757
1905	24,758	5,686	19,072
1906	24,391	5,837	18,554
1907	24,527	5,788	18,739
1908	21,031	5,881	15,150
1909	32,006	5,810	26,196
1910	37,110	5,923	31,187
1911	36,467	6,187	30,280

The oversea exports of skins and hides, the produce of New South Wales, are of considerable value, and show a large increase during the last decade, as will be seen from the following statement. The other products of the pastoral industry are of minor importance, as leather, valued at £324,000 in 1911, is classified as a product of the manufacturing industry :—

Products.	Value of Oversea Exports.		
	1901.	1906.	1911.
Skins and Hides—	£	£	£
Cattle	86,017	84,893	292,193
Horse	170	428	790
Rabbit and hare ..	9,379	293,260	295,476
Sheep	151,144	314,722	260,007
Other	184,522	140,050	296,672
	431,232	833,353	1,145,138
Hoofs, horns, and bones	13,765	14,673	15,390
Bone dust	14,848	13,817	33,286
Hair	9,833	13,524	16,503
Lard and animal fats ..	312	2,557	4,841
Tallow	362,631	461,540	871,018
Glue-pieces and sinews	6,020	8,103	8,781
Furs	767	1,540	117
Total	839,408	1,349,107	2,095,068

CATTLE AND SHEEP DOGS.

In the successful handling of sheep and cattle in large numbers the assistance of well-trained dogs is of great importance, and much attention has been directed in New South Wales towards breeding dogs possessing the speed, endurance, and intelligence, necessary for the special work required of them. Of the various types of cattle dogs used in New South Wales the following may be mentioned :—the merlin or blue heeler, the Welsh heeler or merle, the red and the black bob-tails.

The merlin or blue heeler is a variety founded by crossing the blue-gray Welsh merle with the Australian dingo; by careful breeding and selection a distinct type has been established.

The classes of sheep dogs are the Barbs and Kelpies, and smooth-haired collies. The Barbs and Kelpies are supposed to have originated in Scotland from a cross of fox and smooth-haired collie. Numerous cattle and sheep dogs of nondescript type are used, some of which have proved most useful, but, being of doubtful origin, are not satisfactory for breeding purposes.

Under the Dog and Goat Act of 1898 all dogs are required to be registered, the annual fee being 2s. 6d. per dog. No exemption is granted for cattle and sheep dogs, as is the case in Great Britain, where trained sheep dogs may be exempted under certain conditions.

NOXIOUS ANIMALS.

The only large carnivorous animals in Australia dangerous to stock are the dingo, or native dog, and the fox; but graminivorous animals, such as kangaroos, wallabies, hares, and rabbits, are deemed by the settlers equally noxious, indirectly. In recent years foxes have been found in New South Wales; in addition to making ravages on poultry-yards, the foxes, especially in districts where rabbits are not numerous, destroy large numbers of young lambs.

The estimated losses in sheep, during the year ended 30th June, 1912, by dogs and foxes were as follows:—

Destructive Agent.	Sheep.	
	No.	Value.
Native Dogs	56,585	£ 23,525
Tame Dogs	23,525	10,853
Foxes	39,196	15,348
Total.....	119,306	49,726

Rabbits, which are the greatest pests, first found their way into this State from Victoria, where some were liberated about fifty years ago in the Geelong district. Their presence first attracted serious attention in 1881, when complaints were heard in the south-west portion of this country of the damage done. They multiplied so rapidly that, in 1882, they were to be met on most of the holdings having frontages to the Murray River. Attempts to cope with them under the Pastures and Stock Protection Act were ineffectual, and the Rabbit Nuisance Act was passed. This Act provided for the compulsory destruction of rabbits by the occupiers of the land, who were to receive a subsidy from a fund raised by an annual tax upon stockowners, but the fund soon proved inadequate, and from the 1st May, 1883, to the 30th June, 1890, when the Act was repealed, it was supplemented by £503,786 from the Consolidated Revenue. The tax upon stockowners yielded £831,457, and landowners and occupiers contributed £207,864, so that the total cost during the whole period exceeded £1,543,000.

The Rabbit Act of 1890 repealed the 1883 Act and those provisions of the Pastures and Stock Protection Act relating to rabbits. It also provided, as occasion required, for the proclamation of Land Districts as "infested," and for the construction of rabbit-proof fences. From the 1st July, 1890, to the 30th April, 1902, the State expenditure under this Act was £41,620, nearly all of which has been devoted to the erection of rabbit-proof netting. From May, 1902, to December, 1903, the expenditure was £10,548.

Under the Pastures Protection Act of 1902 the State was divided into districts, the protection of the pastures being supervised by a board elected in each district by the stockowners. The Pastures Protection Boards are empowered to levy a rate upon the stock, and to erect rabbit-proof fences on any land, take measures to ensure the destruction of all noxious animals and pay rewards for such destruction. The State expenditure on rabbit extermination since the establishment of the Boards has consisted mainly of payments to the Railway Commissioners for the maintenance of rabbit-proof fences, amounting to £8,969 to the end of June, 1912.

In order to prevent the spread of the pest, and also with a view of assisting in its destruction, fences have been erected by the Government of the State at numerous places. The longest of these traverses the western side of the railway line from Bourke, *via* Blayney and Murrumburrah, to Corowa, in the extreme south of the State, a distance of 612 miles, the Railway Commissioners undertaking the work of supervision. On the border between New South Wales and South Australia there is a fence which extends from the Murray River northwards, a distance of about 350 miles. On the Queensland border a rabbit-proof fence has been erected between Barrington and the river Darling, at Bourke, a distance of 84 miles; while another has been erected at the joint expense of the Governments of Queensland and New South Wales, from Mungindi to the Namoi River, a distance of about 115 miles. The total length of rabbit-proof fences erected by the State up to 30th June, 1912, was, approximately, 1,332 miles, at a cost of £69,888; by private persons, 86,487 miles, at a cost of £4,929,075; and by Pastures Boards, 466 miles, at a cost of £20,159.

The chief means adopted for the destruction of the pest are poisoning and trapping, but it has long been recognised that these methods are inadequate to cope with the evil. In 1906 Dr. Danysz, an eminent French scientist, claimed to have discovered a disease which was fatal to rabbits and easily propagated amongst them, while proving harmless to other animals or to birds. A liberal offer was made by the pastoralists of the State for the introduction of the disease, and the use of Broughton Island, near Newcastle, was granted by the New South Wales Government for the purpose of experiments with animals and birds, under the supervision of a medical officer of the Health Department. The experiments were continued during 1907, and in November of that year the Supervising Medical Officer reported that although the microbe used could be made to infect small animals, there was no reason to apprehend danger from its practical use, but the efficacy of the virus as a destroyer of rabbits had not been demonstrated.

Bonuses are offered by the Pastures Protection Boards for the destruction of noxious animals. During the year ended 30th June, 1912, the total amount paid as bonus by the Boards was £14,765, viz:—

Destructive Agent.	Animals Destroyed.	Bonus Paid.
		£
Native Dogs	9,644	4,559
Foxes	20,402	2,698
Wallabies... ..	281,764	1,256
Kangaroo Rats	101,275	1,026
Pademelons	41,043	288
Wombats	173	7
Hares	143,970	1,083
Eaglehawks	3,620	332
Crows	120,062	3,516
Total	721,953	14,765

RABBITS AND HARES—EXPORTED.

Although rabbits and hares have commercial value, both as food and for skins, the return furnished is but poor compensation for the enormous inroads upon pastures.

The following table shows the exports of frozen rabbits and hares and skins from New South Wales to countries outside the Commonwealth of Australia during each year since 1903 :—

Year.	Value of Domestic Exports beyond Australia.		
	Frozen Rabbits and Hares.	Rabbit and Hare Skins.	Frozen Rabbits, Hares, and Skins.
	£	£	£
1903	37,274	35,923	73,197
1904	54,286	96,810	151,096
1905	143,768	153,779	297,547
1906	246,803	293,260	540,063
1907	301,115	209,754	510,869
1908	247,525	138,403	385,928
1909	329,020	159,904	488,924
1910	406,762	327,874	734,636
1911	330,741	295,476	626,217

In the State itself, these animals now form a common article of diet, both in the metropolis and country, especially during the winter months, when large numbers of men are engaged in their capture and disposal. The fur is largely used in the manufacture of hats. The total return from rabbits and hares was estimated at £736,000 during 1911.

CATTLE TICK.

The regulations prohibiting and controlling the admission of stock entering this State from Queensland have been strictly enforced, the border being divided into five sections, which are governed by different conditions. The fences have been continuously patrolled and kept in good order, and the care of Departmental dips and yards maintained.

In order to obtain comprehensive information as to methods of dealing with the cattle tick in the United States of America a Commission was appointed in June, 1912, to visit that country.

WATER CONSERVATION AND PUBLIC WATERING PLACES.

The necessity of providing a constant water supply for domestic use, and also for stock in the dry portions of the interior of New South Wales, induced the Government to devote certain funds to the purpose of bringing to the surface such supplies as might be obtained from the underground sources which exist in the tertiary drifts and the cretaceous beds which extend under an immense portion of the area of the State.

The probability of the existence of underground water had long been a subject of earnest discussion, but doubts were set at rest in 1879 by the discovery of an artesian supply of water on the Kallara run, at a depth of

140 feet. The Government then undertook the work of searching for water, and since the year 1884 the sinking of artesian wells has been conducted in a systematic manner, under the direction of specially-trained officers.

The following statement shows the extent of the work which has been successfully effected by the Government, and by private owners:—

Bores.	Flowing.	Pumping.	Total.	Total Depth.
				feet.
For Public Watering-places, Artesian Wells, &c.	113	28	141	283,468
For Country Towns Water Supply	3	.....	3	4,352
For Improvement Leases	46	3	49	80,207
Total, Government Bores	162	31	193	368,027
Private Bores... ..	221	43	264	381,836

The average depth is 1,950 feet in the case of Government bores, and of private bores, 1,450 feet.

The deepest bore is at Boronga, in the Moree district, where boring has been carried to a depth of 4,338 feet; this well yields a supply of 1,062,133 gallons per diem. The largest measured flow obtained from Government bores is from Boomi, in the Moree district; the depth of this well is 4,008 feet, and the flow 1,168,710 gallons per diem. The State flowing bores yield about 66 million gallons of water per day, and in addition there are pumping bores which supply 459,600 gallons per day; but in many cases the flow is estimated only, and in others no data are available.

The Artesian Wells Act of 1897 provides that any occupier of land, or any group of occupiers, may petition the Minister to construct an artesian well, and the necessary distributing channels. The petitioners are required to transfer to the Crown an area, not exceeding 40 acres, embracing the site for the bore, and to pay such charges as may be assessed by the Land Board, which shall not exceed the yearly value to each occupier of the direct benefit accruing to his land from the supply of water, but such charges must not exceed 6 per cent. per annum on the cost of the works. Provision is also made for the Minister to take the initiatory steps when a group of settlers are not in agreement; it is enacted that a two-thirds majority, occupying two-thirds of the area affected, shall rule, and that the minority must come into the scheme and pay proportionately with the others under the provisions of this Act. Thirteen bores watering an area of 381,230 acres have been sunk.

Much has been done in the way of artesian boring by private enterprise. As far as can be ascertained, 285 private bores have been undertaken in New South Wales, of which twenty were failures, and seven are in progress. Information concerning the daily flow is not available, as in many cases this has not been gauged at all, whilst in the others the measurements cannot be regarded as reliable.

The Water and Drainage Act of 1902 authorises the construction by the Government of works for affording supplies of water, for irrigation, stock, or domestic purposes, and for draining swamp lands. The works are administered by Trusts constituted under the Act. The trustees make an assessment to cover maintenance, 4 per cent. interest and 2 per cent. sinking fund

and to liquidate the capital cost of the work at the end of twenty-eight years. Under this Act trusts for the supply of water have been constituted in connection with (a) fifty-five artesian wells, (b) four schemes for the improvement of natural offtakes of effluent channels for the purpose of diverting supplies from the main rivers, (c) in four instances for the construction of dams across stream channels, and (d) two pumping schemes from natural water-courses. The total area included within these trusts amounts to 4,474,035 acres. In addition, twenty-six trusts have been formed for the purpose of draining swampy lands, and rendering them fit for pastoral and agricultural purposes, and the area dealt with amounts to 110,563 acres.

Watering places are established on all the main stock routes of the State, and consist of tanks, dams, wells, and artesian bores. At the close of 1911 there were 664 public watering-places, consisting of 486 tanks and dams or reservoirs, 107 wells, and 71 artesian bores. Except at those dams and reservoirs which are of large extent and capacity, stock are not allowed direct access to the tanks, but are watered at troughs which are filled by means of service reservoirs, into which the supply is raised by various methods—steam, horse, or wind power. From the wells the water is mostly drawn by whims and self-acting buckets.

DAIRYING INDUSTRY.

DAIRY FARMING.

THE dairying industry is now a very important factor in the wealth and prosperity of New South Wales. Although the first dairy farm for the manufacture of butter was established on the Nepean River, dairying as a profitable pursuit was in later years conducted mainly on the South Coast, in the Shoalhaven and Illawarra districts. For many years its progress was slow, and it was not until the introduction of the creamery and factory system that any great development occurred. With the manufacture of butter by machinery, and the perfection of the cold-storage system, the real business of dairying may be said to have begun.

The first creamery and factory were established in the South Coast district, and for some years dairying was confined mainly to this district; but eventually it was firmly established in the North Coast, especially on the Clarence and Richmond Rivers, and the advantages of the northern coastal rivers have induced a large migration from the South Coast district.

The following figures show the dairy production in each division of the State during 1911:—

Division.	Dairy Cows in Milk at end of year.	Total yield of Milk.	Butter made.	Cheese made.
Coastal—	No.	gallons.	lb.	lb.
North Coast	238,366	99,597,485	39,404,906	198,497
Hunter and Manning ...	132,397	48,855,414	19,275,844	178,689
County of Cumberland	23,677	11,287,274	933,324	20,646
South Coast	97,802	35,771,769	11,989,245	4,337,053
Total	492,242	195,511,942	71,603,319	4,734,885
Tableland—				
Northern	28,682	7,069,735	2,521,875	136,760
Central	26,094	7,499,634	2,097,327	183,300
Southern	15,795	3,712,111	1,130,287	20,220
Total	70,571	18,281,480	5,749,489	340,280
Western Slopes—				
North	19,565	5,790,217	1,222,326	204
Central	8,989	2,977,434	679,245	.....
South	20,115	6,314,333	2,751,830	384,983
Total	48,669	15,081,984	4,653,401	385,187
Western Plains—				
North	2,954	865,851	64,168	.....
Central	5,759	1,541,115	138,061	.....
Total	8,713	2,406,966	202,229	.....
Riverina	15,424	5,577,685	950,188	240
Western Division	2,906	762,943	45,942	60
Total, New South Wales	638,525	237,623,000	83,204,568	5,460,652

Although dairying is confined mainly to the coastal regions, where grass is available for food throughout the year, it is also actively pursued in the more favoured parts of the non-coastal regions for the purpose

of supplying local wants, and already in places remote from the metropolis well-equipped factories have been established. In these localities the industry is generally carried on in conjunction with wheat-farming and sheep-raising, and sufficient fodder must be grown to carry the cattle through the winter months.

The system of share-farming has been applied to dairying chiefly in the northern coastal divisions. As a general rule the farm and stock are the property of one party, and the other conducts the farm work. In 1911 the area of dairy farms under this system was 106,451 acres, of which 18,027 acres were in the North Coast and 45,544 acres in the Hunter and Manning Division.

Most of the native grasses of the State are particularly suitable for dairy cattle, as they possess milk-producing as well as fattening qualities, and these are supplemented in winter by fodder, such as maize, barley, oats, rye, lucerne, and the brown variety of sorghum or planter's friend. Ensilage is also used as food, but not so generally as it should be, and the quantity made varies considerably in each year. In the year 1911 the quantity made was 20,477 tons. The area of land devoted to sown grasses has been largely extended during recent years, and in March, 1912, it amounted to 1,119,764 acres. The produce of this land is principally used as food for dairy cattle, and as the area is still below the present requirements, an extension of this form of cultivation may be anticipated. The number of dairy cows in milk, and the area under sown grasses at the end of the year, also the quantity of ensilage made in each district of the State during 1911 were as follows:—

Division.	Dairy Cows in Milk.	Area of land under Sown Grasses.	Ensilage made.
Coastal Division—	No.	acres.	tons.
North Coast	238,366	770,813	626
Hunter and Manning	132,397	93,587	562
County of Cumberland	23,677	4,099	2,266
South Coast	97,802	183,444	8,645
Total	492,242	1,051,943	12,099
Tableland Division—			
Northern	28,682	24,805	173
Central	26,094	5,128	1,331
Southern	15,795	3,882	145
Total	70,571	33,815	1,649
Western Slopes—			
North	19,565	4,702	1,325
Central	8,989	3,308	287
South	20,115	7,463	1,485
Total	48,669	15,473	3,097
Western Plains—			
North	2,954	84	225
Central	5,759	1,592	807
Total	8,713	1,676	1,032
Riverina	15,424	9,798	2,600
Western Division	2,906	7,059	.....
Total, New South Wales ...	638,525	1,119,764	20,477

YIELD OF MILK.

The number of dairy cows shows a considerable increase since 1902, although several of the seasons were unfavourable; and, still more important, as is apparent from the following figures, there has been also an increase in their average yield of milk :—

Year.	Dairy Cows in Milk at end of year.	Production of Milk.	Average Yield of Milk per Cow.
	No.	gallons.	gallons.
1901	417,835	122,750,500	294
1902	351,287	105,742,900	301
1903	362,429	129,966,100	359
1904	424,936	158,650,800	373
1905	442,950	162,918,600	368
1906	494,820	185,941,230	376
1907	506,395	183,303,474	362
1908	527,843	188,518,562	357
1909	566,378	201,183,337	355
1910	632,786	235,577,702	372
1911	638,525	237,623,000	372

It would be more accurate to base the average yield on the mean number of cows in milk during the year. Owing, however, to the great difficulty in ascertaining that number, which depends not only on the actual number of cows, but on the length of time during which they were in milk, the average has been deduced as above, and probably is as accurate as can be obtained. It is evident that there has been a substantial increase in the average yield since the first year quoted; the figures for 1908 and 1909 are not so high as in the previous five years, as the seasons were not favourable in many dairying districts, but there was a marked improvement in 1910 and 1911.

Almost as important as the average yield of milk is the percentage of butter-fat, and it is satisfactory to note that this has been well maintained throughout the period reviewed in the following table, which shows the quantity of butter made per 100 gallons of milk treated on farms and in factories :—

Year.	Quantity of Butter per 100 gallons of Milk treated.		
	On Farms.	In Factories.	On Farms and in Factories.
	lb.	lb.	lb.
1902	34·5	39·6	39·0
1903	34·5	39·7	39·1
1904	35·4	41·7	41·1
1905	34·0	41·5	40·7
1906	32·0	38·0	37·8
1907	32·4	39·8	39·2
1908	33·6	40·2	39·6
1909	33·2	38·7	38·2
1910	32·5	39·8	39·2
1911	33·0	42·9	42·2

The decreased proportion of butter-fat in 1906 and 1909 was due to unfavourable seasons in parts of the coastal dairying districts. During the winter and spring months of the year 1910 the South Coast districts were affected by the abnormally low rainfall.

The proportion of factory-made butter in the total production has increased from 72 per cent. in 1895 to 94 per cent. in 1911; and naturally, as in factories butter of the highest quality may be produced at a very reduced cost as compared with farms.

Full particulars regarding dairy factories are given in the chapter "Manufacturing Industry."

CHEESE-MAKING.

The advance in cheese-making has not been commensurate with the expansion of the butter trade; in 1909 the quantity of cheese made was only 19 per cent. more than in 1896, but the production of butter had increased by 143 per cent. The demand for cheese is much more limited but as the production does not meet the requirements of the local market, it is evident that the manufacture of butter has been found more profitable. It is certain that the manufacture of cheese will never command the same attention as butter, owing to its great disadvantages as an article of export. Cheese matures quickly, and, unlike butter, cannot be frozen; and it decreases in value after a certain period. Moreover, it has only half the money value of butter, while the cost of freight is practically the same; so that it is not surprising that even where cheese can be produced in New South Wales under excellent conditions, its manufacture is not being greatly extended.

From a previous table showing the manufacture of cheese in districts it will be seen that cheese-making is practically confined to the South Coast; in fact, the quantity made in other parts of the State is becoming smaller each year. The South Coast production in 1911 was equivalent to over 79 per cent. of the total in all divisions.

The following table shows, for each year of the last decennial period, the production of cheese in factories and on farms:—

Year.	Production of Cheese.		
	In Factories.	On Farms.	Total.
	lb.	lb.	lb.
1902	2,691,439	1,456,599	4,148,038
1903	3,340,510	1,407,666	4,748,176
1904	2,677,830	1,545,791	4,223,621
1905	2,997,982	1,627,998	4,625,980
1906	3,459,641	1,929,704	5,389,345
1907	3,261,894	1,324,963	4,586,857
1908	3,260,389	1,502,971	4,763,360
1909	3,248,515	1,526,753	4,775,268
1910	3,892,506	1,298,583	5,191,089
1911	4,617,387	843,265	5,460,652

As in the case of butter, the proportion of cheese made in factories is increasing.

Although the manufacture of cheese for export has many disadvantages, it is evident that these must apply to a similar extent in other countries, and it is, therefore, notable that there is a large import into this State.

CO-OPERATIVE AND PROPRIETARY FACTORIES.

Most of the factories dealing with dairy produce are established on the co-operative principle, which has steadily gained favour, until in 1911 over 82 per cent. of the factory butter was made in these establishments. The following figures showing a comparison of the co-operative and proprietary factories are exclusive of butter and cheese made in factories worked in conjunction with farms:—

Year.	Butter.		Cheese.	
	Factories.	Output.	Factories.	Output.
	No.	lb.	No.	lb.
Co-operative Factories.				
1907	69	35,572,428	6	624,775
1908	77	40,510,586	7	677,662
1909	86	43,914,116	8	853,420
1910	99	57,732,363	8	866,021
1911	101	64,454,197	8	992,829
Proprietary Factories.				
1907	91	20,176,712	21	2,101,155
1908	73	16,445,335	25	2,093,485
1909	64	13,931,907	22	1,895,686
1910	50	13,657,736	23	2,214,864
1911	50	13,967,315	20	2,493,096

OTHER MILK PRODUCTS.

In addition to butter and cheese, there are other milk products which might receive more attention than at present. The manufacture of condensed milk is an instance, as the local production is not sufficient, and large importations are necessary to supply the demand for this article. At present there are two factories in the State, situated at Bomaderry and Belford. A somewhat similar product, known as concentrated milk, is also being manufactured at these factories. This article will keep for months in cool chambers, and is used principally on ocean-going steamers. Being without sugar, it has all the richness and flavour of fresh milk, and consequently is more useful than condensed milk, which is not palatable to many people. The total quantity of milk used in the manufacture of the two products in 1911 was 858,997 gallons, and the output of the articles totalled 3,058,497 lb., valued at £41,488.

SWINE.

The breeding of swine, which is usually carried on in conjunction with dairy-farming, has been very much neglected in New South Wales, as the fluctuations in the following table tend to show:—

Year.	Swine.	Year.	Swine.	Year.	Swine.
	No.		No.		No.
1860	180,662	1895	223,597	1906	243,370
1865	146,901	1900	256,577	1907	216,145
1870	243,066	1901	265,730	1908	215,822
1875	199,950	1902	193,097	1909	237,849
1880	308,205	1903	221,592	1910	321,632
1885	208,697	1904	330,666	1911	371,093
1890	283,061	1905	310,702		

The breeding of swine is an important factor in successful dairy-farming, but the number of stock has not kept pace with the increase in the quantity of milk available for pigs' food. A farmer who possesses his own cream separator can utilise the separated milk for the purpose of feeding pigs, and those who sell their milk to a creamery can sometimes obtain separated milk without cost; in any case it can be purchased at about a farthing per gallon, a price which renders it a most economical food for pigs, provided that such crops as maize, rye, peas, mangolds, pumpkins, &c., are grown to supplement the milk diet. Under these circumstances, and as it is no uncommon thing for good bacon pigs to bring over £3 each in the open market, the breeding of swine must be a profitable pursuit. Until recent years, there was some difficulty in obtaining suitable pigs for breeding purposes, but as stock from the best imported strains may now be purchased at the Government Experiment Farms and other Institutions, this difficulty has been overcome. The breeds most general in New South Wales are the improved Berkshire, Poland, China, and Yorkshire strains.

The following statement shows the number of pigs in each Division at the end of 1911, and the quantity of bacon and ham made:—

Division.	Swine.	Bacon and Ham cured.
Coastal—	No.	lb.
North Coast	111,710	6,923,226
Hunter and Manning	74,185	608,769
County of Cumberland	25,056	5,592,876
South Coast	44,410	720,649
Total	255,361	13,845,520
Tableland—		
Northern	15,168	419,592
Central	21,450	457,070
Southern	8,960	247,429
Total	45,578	1,124,091
Western Slopes—		
North	14,200	147,133
Central	9,240	173,886
South	18,818	345,154
Total	42,258	666,173
Western Plains—		
North	1,768	7,202
Central	4,124	77,676
Total	5,892	84,878
Riverina	15,304	368,695
Western Division	6,700	13,470
Total, New South Wales	371,093	16,102,827

As with butter and cheese, the production of bacon and ham is confined chiefly to the coastal districts, but the breeding of pigs is more evenly distributed throughout the State.

BACON AND HAMS.

There is no reason why the production of bacon and hams should not be largely increased, as, except in rare instances, it has not hitherto been sufficient to meet local requirements. The production has varied with the seasons, but the general tendency is towards an increase, as may be seen from the following table:—

Year.	Production of Bacon and Hams.		
	Factory.	Farm.	Total Production.
	lb.	lb.	lb.
1901	7,392,060	3,688,831	11,080,891
1902	6,143,030	2,852,826	8,995,856
1903	5,664,492	2,200,279	7,864,771
1904	7,343,220	3,337,312	10,680,532
1905	6,931,217	4,721,223	11,652,440
1906	7,337,910	4,505,685	11,843,595
1907	7,240,685	3,117,841	10,358,526
1908	7,296,532	2,191,767	9,488,299
1909	7,856,466	2,074,911	9,931,377
1910	10,183,441	2,436,626	12,620,067
1911	13,393,536	2,709,291	16,102,827

At present there are few factories devoted entirely to the curing of bacon and hams, and more bacon factories fitted with refrigerating machinery are required, so that curing may be continued during the summer months. In these central establishments, moreover, greater care could be exercised both in securing uniformity in the quality of the article and in cutting. For export the animals should be grown larger, as English bacon pigs weigh 300 or 400 lb. each. The pigs bred in this State are usually sold at from 60 lb. to 90 lb. weight, the majority being sent to the Sydney market alive. The average prices for pigs during 1911 are shown, with those of other live stock, in the chapter dealing with Pastoral Industry. Owing to the neglect to grow root crops for the purpose of feed during the winter, when milk is scarce, the demand for store pigs at the commencement of the summer is usually very great, and there is a corresponding glut of fat pigs at low prices as winter approaches.

LARD.

Statistics showing the total production of lard are not available; during the year 1911 the quantity made in bacon factories amounted to 690,628 lb., valued at £13,772, but as the manufacture of this product is carried on in many other establishments and on farms this quantity represents only a portion of the total output. It is apparent, however, that the production is not sufficient for local requirements, which are supplied by importation mainly from the other Australian States.

During 1911 the oversea exports of lard, lard oil, and refined animal fats produced in New South Wales amounted to 227,000 lb., valued at £4,841, and the direct imports from oversea countries to 33,350 lb., valued at £979.

DAIRY INSTRUCTION.

Educational and experimental work relating to dairying is conducted by the Department of Agriculture at several of the State institutions, notably at the Hawkesbury Agricultural College, at Wagga and Grafton Experiment Farms, and at the Wollongbar Dairy Farm in the North Coast, and at the Berry Stud Farm in the South Coast district.

The Berry farm is devoted to the breeding and raising of pure bred stock, and at Wollongbar and Grafton experimental work is done in connection with the cross-breeding of cattle; at Wagga Jersey cattle are bred. At each of these institutions and at the Hawkesbury College provision is made for students, and it is intended to establish a dairy school in connection with the Berry farm, where special courses of veterinary instruction will be given.

In order to enable factory managers and butter-makers to improve their scientific knowledge dairy science schools are held for short terms at different dairying centres; two during 1910 were held at Bega in the South Coast and at Port Macquarie in the North Coast district.

A staff of instructors travel throughout the principal dairying districts during each year to give instruction and advice in cream-grading, butter and cheese-making, and all other matters connected with the industry.

Lectures and demonstrations in the theory and practice of milk and cream testing are given to senior pupils in State schools in the dairying districts.

HERD-TESTING ASSOCIATIONS.

Efforts are being made by the Department of Agriculture to encourage the organisation of herd-testing associations as a most effective means of improving the dairy herds and increasing the milk yield. In many localities the associations will be conducted in connection with the dairy factories, where samples supplied by the farmers could be tested with a minimum of expense. Acting upon the results of the tests, the farmers would be enabled to cull unprofitable animals from their herds, and with stricter attention to breeding they should reap considerable benefit by reason of increased quantity and the higher quality of their products.

EXPORTS OF DAIRY PRODUCTS.

The following table shows the oversea exports of butter, cheese, and bacon during the last six years. The export of bacon during 1910 and 1911 was much heavier than formerly, owing to the opening up in England of a market for heavy sides of green bacon, a class which is not suitable for local requirements:—

Year.	Oversea Exports.					
	Butter.		Cheese.		Bacon and Ham.	
	lb.	£	lb.	£	lb.	£
1906	22,991,303	962,877	99,918	2,652	83,862	2,932
1907	17,832,354	769,463	134,468	3,813	80,346	3,368
1908	17,261,331	813,490	53,554	1,921	82,899	3,742
1909	17,381,117	752,487	53,117	1,732	62,380	2,670
1910	27,047,481	1,223,518	82,294	2,413	500,296	14,551
1911	32,629,324	1,500,709	85,395	2,508	487,845	12,836

Under the Customs regulations dairy produce for export must be submitted to inspection and graded before shipment, and the exportation of inferior products is prohibited unless the goods are labelled as below standard. The examination in this State is conducted by a special staff of Inspectors connected with the Department of Agriculture.

The export trade in butter has grown rapidly, and is carried on almost entirely with the United Kingdom, where an immense population presents a ready market for all products of the dairying industry. The imports of New South Wales butter into the United Kingdom during the last six years are shown hereunder :—

Year.	Imports of Butter from New South Wales.	Proportion of Total Butter imported into United Kingdom.
	cwt.	per cent.
1906	180,655	4·17
1907	195,289	4·64
1908	138,953	3·30
1909	132,708	3·27
1910	217,780	5·03
1911	281,588	6·54

Butter from this State has attracted attention in London only in recent years; the great import and established reputation of the Swedish or Danish article had practically controlled the market. But the position is changing, so that 33 per cent. of all butter imported into the United Kingdom during the four months December, 1910, to March, 1911, was of Australian origin, and on many occasions Australian creamery butter has commanded a higher value than Danish.

PRICES OF BUTTER IN LONDON

The prices per cwt. for New South Wales butter in London during the last four seasons were as shown below :—

Month during which Sales were effected in London.	1908-1909.		1909-1910.		1910-1911.		1911-1912.	
	Top.	Bottom.	Top.	Bottom.	Top.	Bottom.	Top.	Bottom.
	1908.		1909.		1910.		1911.	
	s.	s.	s.	s.	s.	s.	s.	s.
August	*	*	*	*	*	*	119	113
September	*	*	120	104	116	112	122½	119½
October	121	117	120	106	112	110	133½	131
November	118	115	114	113	107	104	127	124
December	107	105	110	103	103	101	129	127
	1909.		1910.		1911.		1912.	
January	108	106	122	110	106	104	131	128
February	106	104	117	113	102½	98½	129	127
March	105	103	122	118	101½	98	125	123
April	98	96	116	114	104	100	113½	111½
May	98	96	106	102	98	95½	107½	106
June	98	96	103	100	101	99	110½	110
July	106	104	102	100	*	*	107½	102

*No quotations.

The experience of the export trade shows that butter should be made, salted and coloured to suit the taste of the particular market for which it is intended. So long as the present standard is maintained, no doubt the product of this State will continue in its present demand, and there is no reason why further improvement should not be made by greater attention to detail.

In earlier years the difficulty in securing ocean freights during the export season constituted a severe drawback, but the trade has assumed such important dimensions that it is now the subject of keen competition among shipping companies, with consequent reduction in charges.

The freight on butter forwarded by mail steamers from Sydney to London during the seasons 1900-1 to 1904-5, was 3s. 6d. per box of 56 lb., while other steamers accepted shipments at rates varying from 1⁵/₈d. to 3³/₈d. per lb. For the season 1905-6 mail steamers contracted to accept 1s. 10d. per box, while other steamers charged 3³/₈d. per lb., or 1s. 9d. per box. Since the 1st January, 1908, the rates have been 2s. 6d. per box by mail steamers, except those of the Orient Company, by which the charge has been 2s. 4d. since the date of the mail contract with the Federal Government. The charge by all other steamers, including the cargo boats of the Peninsular and Oriental Company, is 2s. per box.

DAIRYING INDUSTRY.—VALUE OF PRODUCTION.

The value of the production from the dairying industry during 1911 was £4,768,000, to which may be added £447,000 obtained from the sale of swine, making a total of £5,215,000. The value from each produce was as follows:—

	£
Butter	3,631,000
Cheese	129,000
Milk (not used for butter or cheese)	619,000
Milch cows	389,000
Swine	447,000
Total... ..	£5,215,000

The value of dairy production in 1911 was £419,000 above the value in the year 1910, which had previously been the highest recorded.

The value of farm implements and machinery used in the dairying industry during 1911 was £519,467.

A list of dairying implements and machinery in use is appended:—

Dairying Implements and Machinery.	Coastal Division.	Table-lands.	Western Slopes.	Western Plains and Riverina.	Western Division.	Total, New South Wales.
Milking machines... ..	1,065	126	147	48	...	1,386
Milk coolers, refrigerators, &c....	561	18	30	3	5	617
Milk testers	353	31	68	29	2	483
Crean separators—Hand-power ...	12,586	2,681	1,884	1,489	60	18,700
" Horse	66	16	14	3	..	99
" Steam, &c....	572	100	117	35	2	826
Churns—Hand-power	2,147	1,492	1,109	1,050	61	5,859
" Horse	17	3	4	2	...	26
" Steam, &c.	38	14	7	5	1	65
Combined churns and butter workers—						
Steam, &c.	42	33	22	26	1	124
Butter workers—Hand-power	102	106	60	32	3	303
" Machine	17	7	3	1	1	29
Butter-presses	16	12	6	5	2	41
Butter-weighers	52	32	31	14	3	132
Card mills	61	4	5	...	...	70
Vats—Curd	100	9	11	2	...	122
" Cheese	136	51	13	13	...	213
Cheese-hoops	1,337	76	180	9	...	1,602
Cheese-presses	161	11	11	1	...	184
Brine and salting machine pumps ...	33	4	4	3	...	44
Steam boilers—Number	350	47	98	15	...	510
" Horse-power	1,548	172	336	66	...	2,122
Steam engines—Number	147	19	30	10	1	207
" Horse-power	631	70	135	53	4	893
Gas or oil engines—Number	282	10	18	8	...	318
" Horse-power	1,068	43	128	35	...	1,274

A notable feature of the list is the large number of cream separators in the dairying districts. As previously stated, the carts and wagons on all rural holdings are included with agricultural machinery.

A comparison of machinery used in rural industries is shown in chapter dealing with Agriculture.

POULTRY-FARMING.

Poultry-farming has been conducted in past years in conjunction with the dairying industry, but the interests involved have become so important commercially, that a distinct industry relating to poultry alone has now been developed. Great attention is given to secure the most modern methods in the conduct of the farms, both as to the excellence of breeds for egg-producing and for table, and as to the treatment of the birds in view of expected profitable results. Information is not available regarding the full production, but a general estimate based on the accessible records shows the value for 1911 to be approximately £1,280,000, as compared with £619,000 in 1904.

Since 1901, egg-laying competitions organised by private subscription have been conducted at the Hawkesbury Agricultural College, with the object of stimulating this branch of the poultry industry. These competitions have attracted widespread interest, and birds for competition are sent by owners from all parts of New South Wales, the other Australian States, and New Zealand, and some have been sent from America.

By this means much valuable information has been gained by practical experiment and research; tests are arranged and records kept of results obtained from the various breeds of poultry and by different methods of treatment.

FORESTRY.

THE earliest evidence of attention to State forestry is found in the publication of Timber License Rules in the year 1839. In 1871 the first timber reserves were notified, and in 1877 regulations governing the cutting and use of timber were enacted.

During the ensuing years little was done in the way of protecting the forest resources. Timber was cut as requirements prompted, no heed being given to the necessity for systematic replacement to meet the wants of the future; and as there was no specially constituted body with powers of supervision or conservation, large tracts of country were denuded and much valuable timber destroyed.

Realising the necessity for remedial measures, the Government in 1907 appointed a Royal Commission to investigate the matter, and, *inter alia*, to report upon the effectiveness of the forest laws, and to indicate what steps should be taken in the direction of afforestation and reafforestation.

The forest lands of the State containing timber of commercial value comprise about 15 million acres, and of this area about $7\frac{3}{4}$ million acres have been reserved for forestry purposes.

The total forest area, although not large, contains a great variety of useful timbers, which in hardwoods comprise about twenty different kinds of good commercial value, including such renowned constructive woods as ironbark, tallow-wood, and turpentine, whilst in soft or brush woods there are about twenty-five varieties, including such valuable timbers as cedar, beech, pine, and teak.

The Royal Commission estimated that at the current rate of consumption local supplies of hard and soft wood timbers could last about forty-seven and twenty-eight years respectively, and recommended the passing of Forestry legislation, the strengthening of supervisory machinery, and that practically all the lands reserved for forestry purposes should be permanently dedicated under the Act for the preservation, growth, and re-growth of timber. Among other recommendations were the prohibition of export of certain timbers which are of special value for local constructive purposes; the establishment of a Department of Forestry; the appointment of a Director of Forests; and the initiation of a vigorous policy of afforestation and reafforestation.

Following this report, the Forestry Act, 1909, was passed, establishing a Forestry Department, with a Director of Forestry and other necessary officers.

The Government may purchase, resume, or appropriate land for the purpose of a State forest, and, subject to certain restrictions, may dedicate Crown lands as State forests or timber reserves. Timber-getters' and other licenses are granted by the Minister or any person authorised by him, and exclusive rights, under certain conditions, to take timber products on specified areas of State forest or timber reserves may also be granted.

The Minister may grant exclusive rights, under certain conditions, to take timber or products on specified areas of State forest or timber reserves.

Every person conducting a sawmill for the sawing or treatment of timber must obtain a license, keep books and records, and make prescribed returns. Royalty must be paid on all timber felled and on all products taken from any State forest, timber reserve, Crown lands, or lands held under any tenure from the Crown which require the payment of royalty; but such royalty is not payable on timber therefrom by terms of the license or by the regulations, or on timber required for use on any holding. Allowance may also be made for any timber which is not marketable. Trees on any State forest, timber reserve, or Crown lands, with the exception of lands held under conditional lease granted before the passing of the Act, must not be ringbarked except under permission, with stated conditions.

The Minister, where practicable, must impose conditions for afforestation and reafforestation in all exclusive rights or licenses.

The Act makes provision for regulations on the following matters:— For granting licenses, &c., and prescribing the fees and royalties payable. Determining the periods and the conditions under which licenses, &c., may be granted. Providing for the protection and preservation of timber, and regulating the cutting, marking, and removing thereof. For inspecting, branding, and marking timber, and prescribing the kinds, sizes, and quantities which may be cut or removed. Determining the conditions under which fires may be lighted in State forests, and providing for the organisation of a system of education in scientific forestry.

The Act also provides for the classification of forest lands and for proclamation of State forests; survey work with this object is in progress.

As an aid to forest management, arrangements are being made for the enrolment of forest cadets, for the establishment of a training school and for a course of training, which will include a curriculum of educational and scientific subjects.

A large amount of regenerative work has already been done in connection with the Murray River and the inland forests; experimental works have been started in various parts of the coast and highlands to test the reafforestative capacity of different classes of hardwood forest, and to ascertain the best methods of treatment; and stations have been selected for the promotion of afforestation by the establishment of State nurseries, the object being to utilise in this way, as far as possible, some of the waste lands of the State.

On the 30th June, 1912, the total area included in reserves for the preservation of timber was 7,654,600 acres, as compared with 7,670,544 the previous year.

FOREST NURSERIES AND PLANTATIONS.

In connection with the scheme of afforestation and reafforestation, suitable sites for nurseries have been selected at Tuncurry, on the North Coast, and at Armidale, on the northern tableland, and the preliminary work of planting is in progress.

Experimental areas have been selected near Grafton, Bellingen, and Coopernook, and in the State Forest Nursery at Gosford the planted area comprises 42 acres.

The annual distribution of plants from Gosford was as follows:—

Plantations,	21,280;
agricultural farms and public institutions,	5,030;
transfers to Campbelltown State Nursery,	11,150;
exchanges,	1,805.
Total,	39,265.

Indigenous seed was exchanged during the year with interstate and foreign Departments of Forestry.

Forest and Timber Reserves.

Difficulty is experienced in obtaining an adequate supply of sleepers for use in railway construction and renewal work, and the desirableness is urged of restriction of exports, so as to facilitate local supplies.

The annual requirement for renewals and maintenance of existing lines is 470,000 sleepers; for duplications and deviations, etc., at the rate of 100 miles per annum, some 250,000 are required, making a total of 720,000, or nearly 14,000 per week.

In November, 1912, forest reservations, to the extent of 276,717 acres were confirmed for the supply of timber for railways and other public works, and exempted from the operation of ordinary timber licenses. The areas were in the north-western slopes, and distributed as follows:—

County Gowen	22,720 acres.
„ Lincoln	208,450 „
„ Napier	17,400 „
„ Pottinger	24,847 „
Counties Napier and Pottinger	3,300 „

FOREST INDUSTRIES.

During the year ended 30th June, 1912, there were 628 sawmills licensed. Excluding a large number of establishments in which firewood only was treated, there were, during 1911, 452 sawmills in operation. The employees numbered 5,205, and the value of plant and machinery was estimated at £526,909. The output of native timber from logs amounted to 142,358,000 superficial feet, valued at the mills at £967,898.

Attention has recently been directed towards the employment of prison labour in connection with reforestation.

It is impossible to state accurately the annual value of production for forestry; but it has been calculated to represent, at the base of production, about £998,000 for 1911, the return from hardwood sleepers obtained for export and local use being about £97,000.

FORESTRY LICENSES AND PERMITS.

The following return shows the forestry licenses and permits current during the year 1911:—

Description.	Amount of Fee.			Total Fees collected during 1911.
	Per Month.	Per Quarter.	Per Year.	
Timber License (subject to Royalty).	s. d. 2 6	s. d. 7 6	s. d.	£ 6,846
Fuel License	5 0	10 0	40 0	
Products License	2 6	7 6	.....
Grazing Permit	1 0	.....	.....	£ 656
Saw-mill License	(Subject to payment of agistment fees, as assessed by Forestry Officers.)		20 0	
Special License	(When issued after 30th June in any year, 10s. for unexpired portion of the year.)		30 0	£ 397
Occupation Permit	1 0	.....	.....
Ringbarking Permit	(Subject to payment of rent to the Crown and compensation to the lessee or licensee (if any), assessed by the Minister.)			£ 568
	(Prescribed fee, £2). Net amount received ...			
	Total			£ 8,467

TIMBER LICENSES.

The revenue collected by the State from Timber Licenses and from Royalty on Timber during each of the last ten years is given in the subjoined table:—

Year.	Timber Licenses, &c.	Royalty on Timber.	Total.	Year.	Timber Licenses, &c.	Royalty on Timber.	Total.
	£	£	£		£	£	£
1902	6,667	25,204	31,871	1907	9,955	45,775	55,730
1903	7,018	29,246	36,264	1908	10,546	46,583	57,129
1904	6,388	27,995	34,383	1909	10,486	46,755	57,241
1905	7,540	30,414	37,954	1910	10,877	70,960	81,837
1906	9,199	38,981	48,180	1911	11,153	79,165	90,318

The practice of forestry in Europe and America has shown that greater expenditure by the Government means vastly increased profits, and there certainly is reason for expecting increased profit from forest improvement in New South Wales, as timber grows more rapidly and to larger size in this State.

TIMBER PHYSICS.

The series of timber tests undertaken at the P. N. Russell Testing Laboratory, University of Sydney, under the direction of Professor W. H. Warren, M.I.C.E., has now been completed, and a final report on the results was published during the year.

The tests were carried out in accordance with the latest modern methods, and are of scientific and practical value. They proved the correctness of the opinion held by users of the timber of New South Wales as to its great strength and durability.

INTERSTATE FORESTRY CONFERENCE.

In September, 1911, the first Interstate Conference of Forest Officers of Australia was held in Sydney. Important resolutions were agreed to, with the object of securing uniformity in procedure and administration under the following heads:—

Forest Policy and Legislation, Education and training of Forest Officers, Afforestation of Waste Lands, Establishment of an Australian Forestry League, Concerted Action in connection with the establishment of Plantations of Coniferous trees and maintenance of existing Coniferous forests, Fire Protection and Legislation, Preservation of Forest vegetation on mountain water sheds in relation to stream flow, and conservation of storage power.

TREE-PLANTING BY LOCAL AUTHORITIES.

Under the Local Government Act, 1906, the primary functions of a Shire Council include the making of provisions—

For the prevention or mitigation of bush-fires, including the organisation of bush-fire brigades.

The construction and maintenance of streets, including tree-planting.

The primary functions of municipalities include the care and management of parks and recreation grounds, public reserves and commons, the care of which is not by or under any statute vested in other bodies or persons. A Council of a municipality or shire may plant trees in any public road or street; may set apart and fence portions of public roads or streets as tree reserves.

Portion of the output of Gosford Sylvicultural Nursery is distributed to local authorities, who made no records available as to the extent of their tree-planting operations.

FISHERIES.

UNDER the Fisheries Act, 1902, control of the fisheries of the State, previously administered by a Commission, was placed in the hands of a board to supervise the industry, to carry out investigations likely to be of service, to ensure observance of the regulations in regard to the dimensions of nets, closures of inland and tidal waters, net-fishing, and other such matters. Under an amending Act, in 1910, the Fisheries Board was dissolved, and its powers vested in a Minister of the Crown, the Chief Secretary being charged with the administration of the Act.

The following information has been derived directly from an article on the Fisheries of New South Wales by Mr. David G. Stead, F.L.S., Superintendent of Fishery Investigation, State Fisheries Department.

FISHING LICENSES.

Every fisherman in tidal waters must apply for a license yearly, the fee being 5s., which is reduced to half that amount if the license is issued after the 30th June and before the 1st December. A license must be taken out for every fishing-boat, the fee being 5s., which likewise is reduced by one-half if granted after the 30th June and before the 1st December.

The number of licenses granted to fishermen during the year 1912 was 2,405, and of fishing-boat licenses issued 1,278, the fee received for these 3,683 licenses amounting to £1,114.

OYSTER LEASES.

For the purposes of oyster-culture, Crown leases of tidal waters below the mean high-water mark are obtainable for "average lands," "special lands," and "inferior lands"; for "average lands" for terms not exceeding fifteen years, at yearly rentals to be determined by the Minister, for every 100 yards of frontage along an approximate high-water mark; for "special lands," any area of special value after being offered by auction or tender, subject to same conditions as leases of "average lands," except that they need not be measured along an approximate high-water mark; for "inferior lands," for terms not exceeding ten years, at yearly rentals to be determined by the Minister. No limit is placed as to the extent of water frontage to be leased.

During the year 1912, applications for leases numbered 571, aggregating 179,819 yards, and 31 acres of deepwater areas; while at the end of the year the existing leases numbered 2,010, and the length of foreshore held was 596,458 yards. In addition, there were in existence deep-water leases to the extent of 69 acres 26 perches. The deposits paid with the applications for leases amounted to £1,223, while the rentals received during the year for leased areas were £4,543.

PRODUCTION.

Fish.—The amount of fish delivered to recognised distributing markets during the year 1912 totalled 162,212 baskets, or, approximately, 12,165,900 lb. In addition, a quantity equal to about 993,048 lb. is recorded as having been disposed of in various fishing centres in coastal areas, but these figures are incomplete.

As usual the supplies came principally from the estuaries and lakes on the northern half of the coast-line. A small proportion (snapper, chiefly) came from the ocean, this being principally the product of the long-line ("Jacob") fishery. The six most important sources of the fresh fish supply were:—

Clarence River	2,723,850 lb.	Lake Macquarie	1,008,600 lb.
Port Stephens	1,250,175 ,,	Tuggerah Lakes... ..	787,950 ,,
Cape Hawke (Wallis L.)	1,181,100 ,,	Richmond River	584,025 ,,

Notwithstanding the immense shipping development and consequent increase of traffic, added to the large reclamation of foreshores of Port Jackson of recent years, it is of special interest to note that the marketed production here was as much as 327,825 lb. The actual production would be very much greater, because a considerable quantity has been sold in the suburbs of Sydney without passing through the markets.

Crayfish.—The number of marine crayfishes (*Palinurus*) marketed during 1912 was 115,548. The number captured was very much greater than that, but many were lost by death before marketing. The source of supply was principally the northern crayfish grounds, from Newcastle to Port Macquarie. In addition, figures derived from returns as to local sales show a total of 9,458. These figures, however, are incomplete, as they do not cover the whole coast.

Prawns.—A quantity of 4,797 baskets, or, approximately, 191,880 quarts, of marine prawns (*Penæus*) was marketed during 1912. Local returns (incomplete as before mentioned), show an additional production of 46,240 quarts.

Crabs.—A large number of edible crabs were marketed. These comprised several species of swimming-crabs, notably the Blue (*Lupa*) and the Mangrove (*Scylla*). The figures are incomplete.

Oysters.—For the year 1912, the oyster production of the State amounted to 17,621 sacks, equivalent to about 24,668,100 of the "Rock" Oyster (*Ostrea cucullata*). This output was principally the result of artificial cultivation. In the previous year the production reached 21,053 sacks, this being the maximum output. The greatest output in previous years was that of 1899, when a quantity of 20,182 sacks was obtained. From that date to 1904, when the smallest output (12,613 sacks) was recorded, production was on the down grade, this being largely the result of undue depletion of the natural beds. Since 1904 there has been a solid increase, and as the work is now based more and more on artificial cultivation, the industry may be expected to expand gradually. It may be added that the very great demand in 1911 probably induced numbers of lessees to market stock which they might otherwise have retained till a large size was reached. Thus the total for that year (an increase of 3,904 sacks on the previous year) must not be regarded as normal.

Whaling.—The year 1912 saw a great revival of whaling on the waters lying on the seaboard of New South Wales. The operations being carried out by modern whalers under the most modern conditions, were totally unlike the old-time whaling, and were closely connected with the capture of species of whales which were seldom taken under old whaling conditions.

During September, the Whaling Factory s.s. "Loch Tay," a large steamer of 8,000 tons, with two accompanying whale gunboats (joined later by a third), started operations from Jervis Bay. Work was carried out for about two and a half months, during which time no less than 158 whales were captured. From these approximately 3,500 barrels

(583½ tons) of oil, valued at £11,670, were taken. The whales comprised the following species, with their respective numbers:—Blue (*Sulphur-bottom*), 60; Humpback, 52; Finback, 24; Pollack Whale (*Seihval*), 21; Sperm, 1. They ranged from 35 feet to 85 feet in length. The amount of oil taken would have been considerably greater, had there been sufficient labour to treat every carcase. Most of the carcasses were treated for oil, but many were not. It is unfortunate that, through the same absence of the necessary labour for handling, some thousands of bags of a valuable fertiliser which might have been prepared from the offal were entirely lost. In all future operations, full provision should be made for the economic treatment of every portion of the whale's carcase, so as to obviate waste of both oil and a valuable fertiliser.

In addition to the oil, a large quantity of the inferior grades of whale-bone was obtained, and also some spermaceti.

During the short period that the "Loch Tay" and her attendants were at work, a smaller Factory Ship, the "Polynesia," accompanied by two steam whalers, put in an appearance, but only remained for a short time. Some whales were taken, but the number is at present unknown.

The small shore station at Eden, Twofold Bay, famous as being the locality where the whalers are assisted in their captures by the "Killers" or Killer-Whales (*Orca*), accounted for 8 whales (7 Humpbacks and 1 Finback) during the 1912 season. With modern appliances at this locality a big industry would be possible. At present the whole outfit comprises a 5-oared whale-boat and an oil launch, using hand-lances, harpoons, and bomb-guns. One hundred and twenty barrels (20 tons) of oil were taken. The carcasses were not treated.

There are alluring prospects, for, say, two shore stations, working under modern conditions, with two steam whaling gunboats each on the coast of the State. The season begins about June and ends about November—though whales may be got before and after that period. The "Loch Tay," it will be noted, only arrived here in time for the later half of the season.

Dolphin Fishing.—In the "Brief Review of the Fisheries of New South Wales" (David G. Stead, F.L.S.), mention is made of the existence of a small fishery for Dolphins ("Porpoises") in these waters. Since then there has been a material development of this work. The dolphins are harpooned from a swiftly moving motor-launch; at present, the teeth only being saved. The teeth are used as currency in certain Pacific Islands, and are worth about 10s. per hundred to the captors. Each dolphin yields, on an average, about 160 teeth. From returns of the Fisheries Department, it is seen that a total of not less than 360,000 teeth were obtained during 1912. The demand for these teeth will, no doubt, decline, but, in the meantime, the pursuit of the dolphin is helping the development of ocean fisheries.

General.—There is a small consumption of marine mussels, cockles, and whelks, various squids and octopus, and the "Mutton Fish" or "Ear-shell" (*Haliotis*), but, in the aggregate, they are not at present of great importance in the food supply. In the western areas of the State there is a fair consumption of the Freshwater Crayfish (*Astacopsis*), which attain a large size, and a few are sent to Sydney markets.

VALUE OF FISHERIES.

Excluding (1) crayfishes and prawns sold locally in coastal districts without being accounted for, (2) the product of the crab fishery, (3) freshwater crayfishes ("Lobsters") and shrimps sold in country districts, (4) mollusks other than oysters, and (5) a small amount of fish

used for fertiliser and oil, the value of the fisheries of New South Wales for the year 1912 may be set down as, approximately, £221,540. This would be made up as follows:—

	£
Fresh Fish...194,654 baskets* @ 16s. =	155,723
Crayfish ... 10,417 dozen @ 9s. =	4,688
Prawns ... 5,953 baskets @ 20s. =	5,953
Oysters ... 17,621 sacks @ 45s. † =	39,647
Whaling ... 3,620 barrels (603 tuns) of oil ... @ £20 =	12,060
Low-grade Whalebone (Blue, Humpback, Finner) =	500
Dolphin Fishing—Teeth ... 360,000 @ 10s. per 100 =	1,800
Fish fertiliser‡ =	1,169
Total Value	<u>£221,540</u>

* No. of baskets of fresh fish calculated on an assumption of an amount equal to one-fifth market supply having been unrecorded.

† Oyster values range from 25s. to 70s. per sack. Those of the former price would be a very poor quality indeed, and, relatively speaking, only a small quantity were sold at such a price. The bulk of the "good" oysters are sold at from 50s. to 60s. per sack.

‡ Manufactured solely from market offal and fish condemned as unfit for human consumption.

Fish, fresh and preserved, to the value of £283,257, was imported into the State of New South Wales during 1912.

BOUNTY FOR FISH PRESERVING.

Under the Bounties Act (Commonwealth), provision has been made to foster the fishing industry by subsidising the fish-preserving industry. Necessarily, the fish preserved must, to qualify for bounty, have been caught by white labour only in waters and under conditions prescribed. The bounty is fixed at $\frac{1}{2}$ d. per lb., and is payable for ten years from 1st July, 1909, with a maximum aggregate of £10,000 in any one year. In the years 1907-8-9, in New South Wales there was one fish-preserving establishment. For 1910 there was none.

POTENTIALITIES OF NEW SOUTH WALES FISHERIES.

A greatly increased supply of fresh fish from the present sources—principally the coastal lakes and estuaries—is easily possible. Those kinds of fishes which are at present of principal importance in the markets may oft-times be captured in quantities immensely greater than those now utilized. Increased and regular facilities for transport, with a corresponding readiness to deal with the fish in a satisfactory manner when it arrives at the markets, so that no time may be lost between its arrival and disposal to the consumer, will mean that many fishermen who only work at present for a portion of a week will be enabled to work regularly from day to day. More convenient transport arrangements will also greatly increase the output of Murray Cod from the waters of the Murray River system. It is not to these places, however, that we must look for principal future developments, but to the ocean waters, and chiefly among the immense shoals of pelagic fishes. There are, in these waters, great Tunnies, Spanish Mackerel, Bonito, Mackerel, Kingfish, Tailer, Salmon, and many other truly pelagic fishes, which travel in large shoals. There are also incredible quantities of Pilchards, Sprats, and other "Herring-kind," as well as vast shoals of Sea Garfish and others.

These pelagic fishes would be taken by special surface-nets, like the American purse-seine, the drift-net, surface trawls, &c.

In addition to the surface fisheries, bottom fishing, by means of the long-line ("Jacob" or Bultow) the trammel-net and the trawl-net, is capable of enormous development. A very considerable section of the

8,960,000 acres of bottom lying within the 100-fathom line is known to be suited to the operation of the trawl-net. The experiments of the "Endeavour," the "Thetis," and of still earlier vessels, with also the work of a commercial trawler, the "Simplon," have clearly shown, although in each case their work was fragmentary, that both suitable bottom and fishes are there; while, even without such evidence, the knowledge of the many gregarious piscine forms known to inhabit the area would almost enable one possessing an intimate knowledge of them to predict safely that well-planned trawling operations would be successful. Information regarding the investigations undertaken by the F.I.S. "Endeavour" will be found in the last issue of this Year Book.

The crayfish fisheries are capable also of great development, but better means of handling during transport must be introduced to save the present waste.

The development of the oyster industry, and the consequent output of oysters, simply depends on a diffusion of that knowledge of successful oyster culture which has begun to manifest itself among a number of oyster growers during the last few years. With the intense cultivation that is practicable, it is not too much to say that one locality—Port Stephens—could produce in one year the whole of the present output of New South Wales.

There is opportunity for the development of a large Mussel fishery in New South Wales. This mollusk may be easily and successfully farmed on somewhat similar lines to oysters, and in many cases in waters or in zones of the littoral in which the oysters will not flourish.

The Whaling Industry also may be expected to take on a new aspect through the work already mentioned as having been carried out at the latter end of 1912. To be of any importance, however, the work should be done with shore stations and with steam gunboat whalers, using the most modern equipment.

Seaweed Industry.—There is considerable scope for the development of seaweed industries along the coast of New South Wales, as a great and varied marine flora occurs in abundance. Seaweeds are used in the manufacture of certain food products, vegetable isinglass, &c. Some are used in the manufacture of jellies, some as vegetables, & in the making of salads, some as condiments, and some for decorative purposes. Large quantities also are used as fertilisers for the soil, while immense quantities are employed in the manufacture of iodine; secondary products being common salt, sodium sulphate, potassium chloride, and sulphur.

Sponges.—Many kinds of sponges occur on the New South Wales coast-line. Quite a number of species would be of value for domestic purposes, and among the others are many which apparently would be suitable for use in various trades. The numbers of these sponges to be found on coastal beaches after storms are an evidence of the large natural supplies which exist. The most valuable, from a domestic standpoint, belong to the genera *Hippospongia* and *Euspongia*.

OYSTERS AND THEIR CULTIVATION IN NEW SOUTH WALES.

The following brief notes by Mr. David G. Stead will, no doubt, prove of use to those about to enter the oyster industry, as well as those already identified with it.

Summed up, successful oyster work may be said to consist largely in the putting into practice of a knowledge of how, when, and where to lay out certain forms of "cultivation," and also in properly combating various oyster pests.

Cultivation is carried out by laying down in suitable places one or other of the following—stones, sawn-timber, branches of Black Mangrove or of White Mangrove, stakes cut from Mangrove, Oak (*Casuarina*), &c., shingles (made from various timbers), tiles, as well as empty oyster and other shells.

The available zone of oyster growth varies in the different waters, and consequently the available area differs greatly in the various waters, and in various sections of the same water. The available "zone" is governed largely by the density of the water. Oysters cannot live permanently in water that is either too fresh or too salt, but must have a certain admixture of both. In localities in which the entire body of water is suitable (and granted of course, a suitable bottom) for oyster growth, there is no limit nor zone in the oyster beds; and they may be found in such localities starting from near the limits of high-tide, and running continuously down to the bottom of the bed of the estuary and on to the opposite shore. In the lower, and saltier, parts of estuaries and other coastal inlets, the oysters are found to occur in a very narrow and limited zone—usually only between tide-marks. Instances of this may be seen in the Lower Hawkesbury (Broken Bay), Middle Harbour (Port Jackson), Port Hacking, and on the training walls at the entrances of some of our rivers. Where small patches of oysters occur, as is sometimes seen, right on the ocean face, it is a sure sign of a local seepage of fresh water.

The food of the oyster consists principally of the microscopic plants known as *Diatoms*; these occurring in prodigious numbers in estuarine waters and wherever there is a soakage from the shore.

The local distribution of growing oysters, in a natural state, depends primarily on two things—(1) Density of the water, and (2) suitability of the bottom; but their local distribution under proper systems of cultivation depends principally on the first only, as it is often possible to make an unsuitable bottom quite suitable; and oysters may be made to grow profusely in many localities in which they have never been known to grow naturally. For instance—and this is only one of many varied cases that might arise—a bottom many consist of soft squelchy mud in which the oyster would gradually sink out of sight, if placed there. In such a case as this all that may be necessary would be to spread a good layer of old oyster or other molluscan shells over the mud bottom, and so prepare it for the growth of the oyster. Many would-be lessees are misled by first appearances. They are inclined to take up only areas which already show a good deposit of oysters, whereas there may be abundant signs of the suitability of other areas for oyster culture, which have few or no oysters upon them.

There are many oyster areas which show great natural recuperative powers even after serious depletion, with very little attention, but usually a good deal of attention is necessary after the first natural stock has been thinned out, if the new stock is to be obtained in a reasonable time.

Oysters attain their greatest perfection and size in the vicinity of, though not necessarily on, muddy bottoms or bottoms of mud and sand, but not on pure sand. Their food supply is most abundant in the vicinity of the mud.

Our oysters show an enormous fecundity, each one of 2 inches or more in length producing many millions of ova each year, the power of production increasing with size. They also become sexually mature at a very early age, and young have been obtained of only three months old which contained ripe eggs. The wonderful fecundity often leads a person to expect

that a rapid recuperation should always naturally follow the thinning out of oyster beds, and that a few mature oysters should be able to do the work. But this is fallacious reasoning. Enormous fecundity is always an unfailling sign of correspondingly enormous destruction. Millions of oyster spat are deposited every week which do not last more than a few days, and countless millions of eggs are destroyed before there is a chance for the embryo to settle down in life. At the outset, and when spawning actually takes place, the besetting influences are infertile eggs, unsuitable water, unsuitable catchment and microscopic enemies; while a large number of the eggs and motile embryos are consumed by the oysters themselves. The common oyster is dioecious, or bi-sexual.

Even after the spat has gone through its short free swimming existence, and has settled down (on its left side), it is surrounded by enemies—both active and passive. The active enemies embrace, among many, various fishes, boring mollusks, worms, starfishes, and a boring sponge. Among passive forms may be included vegetable and animal growths in the shape of seaweed, barnacles, mussels, &c., which grow round and gradually over the oyster, so as to more or less envelope it. Added to the enemies of oysters are the times of unsuitable water, when there are either prolonged freshets or else periods of drought in which the water becomes too salt.

Growth of Oysters.—There is no fixed period for the growth of the oysters. Some attain a marketable size in fifteen months, while others might take three, four, or five years to attain the same size; or, indeed, might be so dwarfed as never to attain the size. Oysters that are submitted to a prolonged existence in water of too strong a density always become stunted. A rough average of the time taken to produce a marketable oyster may be said to be from two to three years.

METHOD OF MARKETING OYSTERS IN NEW SOUTH WALES.

After being "culled"—which may be done by hand on beds in shallow water or between tide-marks or with the aid of the oyster dredge or tongs in the case of deep-water beds—and placed in sacks (usually of 3-bushel capacity), the oysters are shipped to Sydney from the various ports to agents, as deck cargo. Not being subject to such rapid deterioration as fish, they do not need the speedy handling of the latter. At the same time they are decidedly of a "perishable" nature, and live longer or "keep" better in a low temperature—especially if the edges of the shells remain intact. Comparatively few oysters are consigned to the fish agents—the wholesale fish trade being practically distinct from the wholesale oyster trade. All of the Sydney agents have interests of their own among the oyster leases and, of course, place their own production upon the market, with whatever else they can get from other lessees. These agents have separate stores of their own in various parts of the city. For the past three or four years competition has been very keen among some of the agents. This competition has been good for the bulk of the lessees, who have received high returns for their product.

Under the present conditions of the trade, oysters are, of course, not sold at auction—nor would it be practicable, even if desirable, to do so. the prices paid to the producer by the agents, as also the prices paid by the retailer to the latter, are fixed by private treaty; consequently, if a lessee on the one hand, or a retailer on the other, are not satisfied, they deal with another agent. Lessees often sell to agents to sample; the agents offering a stated price for a certain time for a certain class

of oyster, and then making whatever profit they can over and above that. There is a good deal of competition for the custom of the retail sellers (oyster saloons, restaurants, and hotels).

The general "run" or size of oysters marketed is, as a whole, considerably smaller than that of a few years back. This is occasioned solely by the increased demand bringing the oysters to market at the earliest moment commensurate with marketableness.

The general quality of the oysters is, apparently, as good as ever. Though there is considerable fluctuation in the price of oysters, as a general thing, it is possible to keep a better control over the oyster market than in the case of fish. The stock in hand is, to a large extent, a known quantity, though a liberal allowance has to be made for the sudden incursion of pests, even when the oysters are nearly ready for culling. At times, however, sudden shortages in the supply occur through boats being held up by continuous heavy weather and the river bars.

Persons Employed in Oyster Culture.

At the end of December, 1910 (the latest figures available) the number of men and youths employed in connection with the actual business of oyster cultivation, *i.e.* on the leases themselves, amounted to 471. Of these, forty were youths below the age of 18. During the year there were, of course, a number of casual employees, in addition to this total; while the lessees themselves not permanently engaged on their leases are not included.

Boats in Use.

The number of boats employed in oyster work at the end of 1910 was 522. In the general term "boats" are included punts of various shapes and sizes, ordinary pulling or sailing boats, and motor launches. The actual number of launches was 45.

Gear used in Oyster Culture.

At the end of 1910, the total value of the whole of the gear, including boats of all descriptions, used in the business of oyster culture in all the oyster waters of New South Wales, was £9,315. Of this, the boats were valued at £8,008.

LOCAL GOVERNMENT.

It was not till the years 1905 and 1906 that legislation was passed giving the State of New South Wales full local government.

The Act of 1842, by which the City of Sydney was incorporated, contained no provision for conferring municipal privileges on other localities; but in 1843 the first step was taken towards the extension of the system to the country districts, by the incorporation, under letters patent, of Campbelltown, Appin, Camden, Narellan, and Picton, as one district council, which was subdivided into two, during the same year, by the formation of Campbelltown and Appin into separate councils.

In 1844 the number of country district councils had increased to eight, and these, in conjunction with the Municipal Council of Sydney and the Road Trusts, subsequently established, constituted the whole of the local government system prior to 1858. In the latter year the first important measure relating to general municipal government was enacted. An Act was passed, making provision for dissolving the district councils, and placing the area controlled by them under municipal bodies. Under its authority thirty-five districts were incorporated; with the exception of Cook, joined in 1870 to Camperdown, which became a ward of the City of Sydney in 1911, and East St. Leonards and Victoria, united to St. Leonards, these still exist, although many of the boundaries have been altered.

Under the Act of 1858, the municipal council was elected by the ratepayers, and its most important functions were to make by-laws for the good government of the municipality; to control roads, bridges, and ferries; and to remove nuisances. The general rate was limited to one shilling in the £ on the annual value of ratable property, but a special rate for water supply, sewerage, and street lighting was permissible. Endowment by the Government was provided during a term of fifteen years, based on the amount of general rates actually collected. No district, however populous, was obliged to become incorporated, and it was only on the presentation of a petition, signed by at least fifty of the prospective ratepayers, and containing a larger number of signatures than those attached to any counter petition, that a municipality could be formed.

MUNICIPALITIES ACT OF 1867.

The Act of 1858 was repealed by the Municipalities Act of 1867. Under this Act the thirty-five existing municipalities were continued as boroughs, and all areas incorporated in the future were to be classified either as boroughs or municipal districts. Boroughs might include any city, town, or suburb of the metropolis, or any populous country district with a population exceeding 1,000 persons and an area not less than 9 square miles. Municipal districts might include any area not containing a borough, with a population not less than 500 and an area not more than 50 square miles.

The powers of the councils were extended slightly, and the rate remained as before. It was still left optional for any district to become incorporated, and consequently local government was not generally adopted.

The Municipalities Act of 1897 consolidated the Acts and Amending Acts which had been passed from time to time, but did not alter their principles. The voluntary principle of incorporation which was retained was not conducive to the adoption of a general system of local government, as it was natural that, so long as the central Government continued to construct local works, the persons benefited would submit to the absence of local management of their affairs.

LOCAL GOVERNMENT (SHIRES) ACT.

The Local Government (Shires) Act, 1905, provided for the compulsory division of the State, with the exception of the city of Sydney and existing municipalities, the whole of the Western Division, the Quarantine Station, Lord Howe Island, and the islands in Port Jackson, into local government areas, called shires. It provided for the payment of a sum not less than £150,000 annually, as endowment from the Consolidated Revenue Fund, in the following proportions, viz. :—First-class shires, from nil up to 10s. per £; second-class, 15s. per £; third-class, 20s.; fourth-class, 25s.; fifth-class, 30s.; and sixth-class, 40s. or more. These endowments were payable on the amount of general rates received during the preceding year, the amount of endowment being fixed triennially, according to the area, revenue, and expenditure of the shires.

The councils were authorised to exercise the following powers :—The care, control, construction, fencing, and maintenance of all public places, except those vested in the Railway Commissioners, or other public bodies or trustees, and except national works; regulation of traffic; street and road lighting; prevention of bush fires; flood relief and prevention; construction and maintenance of streets, jetties, wharfs, and buildings for the transaction of business; and the administration of the Impounding and Public Watering Places Acts. The acquisition of other powers was provided for, such as the prevention of nuisance; water supply; regulation and licensing of public vehicles and hawkers; management of parks and commons; and the administration of the Public Gates Act and the Native Dog Destruction and Poisoned Baits Act.

The Act also provided for the division of the shires into ridings, each riding having equal representation on the council. The members were designated councillors, one being chosen as president. Triennial elections were prescribed. All owners and occupiers of ratable property of annual value not less than £5, over 21 years of age, male and female, unless not naturalised, were entitled to be entered on the electors' roll, any male person enrolled being qualified for nomination as a councillor. The usual conditions as to disqualification were provided, also the penalties for acting while not properly qualified.

Under an important provision in the Act the rates were to be charged on the unimproved value of the land, and not on the annual rental. It was provided also that the rate levied should not be less than 1d., nor more than 2d. in the £, unless the minimum was more than sufficient to meet the requirements of the shire, in which case a rate of less than 1d. might, by permission of the Governor, be levied. The ratable value of coal-mines was fixed at 50 per cent. of the gross value of the average annual output for the preceding three years, and of other mining properties at 40 per cent. for the same period. The minimum

rate in respect of any portion of land was fixed at 2s. 6d. Another important feature of the Act was the provision for suspending the operation of the land tax when the Council had imposed a rate of 1d. in the £ on the unimproved capital value. Commons, public reserves, and parks, cemeteries, public hospitals, benevolent institutions, churches and other buildings used exclusively for public worship, free public libraries, and unoccupied Crown lands were exempted from taxation.

In 1906 a very comprehensive measure, the Local Government Extension Act, was passed by Parliament. The first important provision was for the establishment of cities. The Governor was authorised to proclaim as a city any municipality which had had, during the preceding five years, a population exceeding 20,000 persons and a revenue of £20,000, and was an independent centre of population. During the year 1907 the municipality of Broken Hill was proclaimed a City.

It was also enacted that all municipalities not receiving statutory endowment under the existing Act, if found on investigation to be in necessitous circumstances, should be entitled to a sum not exceeding 3s. 4d. in the £ on the general rate collected; but if the revenues were sufficient to meet the reasonable requirements under proper management of the corporations, endowment would not be paid. When, however, the estimated responsibility for expenditure transferred with the land tax should exceed the amount of the suspended tax, the amount of 3s. 4d. in the £ might be increased, provided that the endowment were not greater than the excess of expenditure aforesaid.

The rates were leviable on the unimproved value, at a minimum amount of 1d. per £, but if this rate proved more than sufficient to meet the requirements of the municipality it might be reduced. Having levied the general rate of 1d. on the unimproved value, a council was empowered to impose such additional rate as was required, either on the improved or on the unimproved value. Special, local, and loan rates also were to be imposed on the improved or unimproved value, at the option of the council. The conditions as to ratable value and the franchise of electors were similar to those of the Local Government (Shires) Act.

Other important provisions were the power to borrow up to 10 per cent. of the unimproved value, such loans to be guaranteed by the Government; redistribution and reconstruction of existing areas, so that the municipalities might form portions of shires; acquisition of land and works; control of cattle-slaughtering and public health; dealing with noxious animals and plants; safety of the public; regulation of hoardings and other structures; the appointment of auditors, and the inspection of accounts by Government examiners. The Governor was authorised to proclaim any park, road, bridge, or other public work as a national work to be maintained by the State, but which might be handed over to the council at any time.

LOCAL GOVERNMENT ACT, 1906.

The Local Government Act, 1906, deals fully with both shires and municipalities, and came into operation on 1st January, 1907, as regards shires, and on 1st January, 1908, as regards municipalities. It repeals the Local Government (Shires) Act, 1905, and the Local Government Extension Act, 1906, and consolidates their provisions. Under an amending Act passed at the end of 1908, councils must cause a valuation of all ratable land to be made at least once in every three years, provided that they may adopt for any period the whole or any part of the valuations in force at the close of the preceding period.

Before the Local Government Act, 1906, came into operation, a very small portion of the State had been incorporated, as will be seen in the statement below, which gives the area incorporated and unincorporated in 1906 in the three great land divisions of the State:—

Division.	Incorporated.	Unincorporated.	Total.
	sq. miles.	sq. miles.	sq. miles.
Eastern	1,977	93,742	95,719
Central	571	88,579	89,150
Western	232	125,216	125,438
Total	2,830	307,537	310,367

The area incorporated in the Western Division included 41 square miles, the area of the Municipality of Silverton, which is now defunct.

On 31st December, 1911, the area incorporated, excluding Lord Howe Island, was as follows, the only part of the State unincorporated being that portion of the Western Division not included in municipalities. The population in the different groups is also given:—

	Area (sq. miles).	Population.
In Metropolitan Municipalities... ..	149	646,890
In Country Municipalities	2,848	431,500
In Shires	182,113	601,840
Total (incorporated)... ..	185,110	1,680,230
Western Division (portion unincorporated)	125,257	18,506
Total	310,367	1,698,736

INCORPORATION OF THE CITY OF SYDNEY.

The City of Sydney was incorporated 20th July, 1842, under the Sydney Municipal Council, the election of aldermen taking place on the 9th November. Mr. John Hosking was the first Mayor. The city was originally divided into six wards, but at a subsequent adjustment the number was increased to eight.

After a few years, great dissatisfaction arose in the minds of the citizens as to the manner in which the affairs of the Corporation were conducted. A Select Committee of the Legislative Council was appointed in 1849 to inquire into the matter, and reported in favour of the abolition of the Municipal Council, with a recommendation that its powers should be vested in three Commissioners. This was not carried into effect until 1853, when the Corporation was dissolved, and its authority was transferred to a Commission of three persons, who administered the affairs of the city from the beginning of 1854 to the end of 1857, when a new Council, under the original conditions, came into existence. Mr. George Thornton was the first Mayor under the changed order of things, and there were sixteen aldermen—two for each ward. By the Sydney Corporation Act of 1879 the number of aldermen was increased to twenty-four, being three representatives for each ward.

Towards the close of 1900 an Amending Act was passed, dividing the city into twelve wards, each returning two aldermen. The innovation of retiring the whole of the aldermen simultaneously was introduced by a provision for the election of a new Council on the 1st December in every

second year, re-election of qualified persons being permitted. A candidate is debarred from expending more than £50 in his endeavour to obtain a seat in the Council. The penalty for exceeding that amount is a fine of £20; and, in the case of an elected candidate, the election is to become void. Another change brought about by the Act is the enfranchisement of sub-tenants and lodgers. Power is given also to the Council to resume land required for opening or enlarging streets and other public places.

The Sydney Corporation Act of 1902 consolidated the statutes previously passed relating to the City of Sydney.

In 1905 a further amending Act was passed to provide for the better government of the city, especially with regard to the control of hoardings, the proper cleansing of footways, the prevention or regulation of the smoke nuisance from furnaces and chimneys, the regulation and control of refreshment stalls and stands, the control of juvenile hawkers and shoeblacks, and the prevention of betting in public places. The tenure of office of the aldermen was altered to three years. The City Council consists now of twenty-six aldermen, elected at the end of every third year by the citizens on a broad franchise. There are thirteen wards, each returning two representatives to the Council. The Lord Mayor is elected by and from the aldermen, and is allowed £1,000 per annum towards the expenses of his office.

The Act also regulates the election of the city members of the Metropolitan Board of Water Supply and Sewerage, and the Fire Brigades Board, and extends the power of the Council as regards resumptions, in order to provide workmen's dwellings, and further provision is made for the extension of the city boundaries.

In 1908 an Amending Act was passed, containing several important provisions. Commencing with the year 1909, the Council must levy a rate, not less than one penny in the £, upon the unimproved capital value, which rate is to be in addition to any rate under the Act of 1902. It is provided, however, that the total amount leviable shall not exceed the amount which would be yielded by a rate of three pence in the £ on the unimproved capital value, and two shillings in the £ on the average annual value, taken together, of all ratable property. On the Council imposing such rate on the unimproved capital value, the land tax is suspended. The valuation of the unimproved capital value is to be made at least once in every five years. The Municipality of Camperdown was amalgamated with the City of Sydney as from 1st January, 1909. The Council was empowered to establish public libraries and milk depôts, to control certain parks, and to widen certain streets. The Lending Branch of the Public Library, and various parks and public ways were vested in the Council by the Government under certain conditions.

The Sydney Corporation (Dwelling-houses) Act, 1912, enables the City Council to erect and let dwelling houses, and for that purpose to acquire land.

GREATER SYDNEY.

The amalgamation of the metropolitan municipalities is a question which has attracted considerable attention, and various schemes have been suggested, such as the unification of these municipalities under one central administration.

In 1902 a Parliamentary Select Committee collected evidence regarding a system of local government for Greater Sydney, but the matter was not brought to a definite conclusion. In 1912 the subject was revived and a Bill was introduced into Parliament for the constitution of a

convention to formulate a scheme for the amalgamation of the local government areas of Sydney and neighbouring municipalities. This Bill was not passed by Parliament, but in 1913 a Royal Commission was appointed to inquire regarding the establishment of a Greater Sydney Municipal Council, by consolidating into one central government the various local areas in the metropolitan district. This Commission is now sitting.

MUNICIPALITIES.

The Sydney Corporation Act of 1902 directs that improved property within the city shall be assessed at a fair average annual value, with an allowance for outgoings not exceeding 10 per cent., and the unimproved property at a maximum of 6 per cent. on its capital value; and on the value of such assessment a city rate not exceeding 2s. in the £ may be levied, exclusive of lighting. The rate stood at 16d. from 1891 to 1899, but was increased to 18d. for 1900, and 24d. for 1901. In 1902, it was reduced to 22d., and still further reduced to 21d. in 1903, which was also levied from 1904 to 1911. The Act provides for a special local rate not exceeding 6d. in the £ of annual value, for any work which may be for the particular benefit of one locality, but then only if two-thirds of the ratepayers of such locality petition for the same. Occasional advantage of this power has been taken for street-watering, though not of late years, and the amount now levied covers the expenses of street-lighting and street-watering.

The other Councils were formerly empowered to raise revenue by rates not exceeding 1s. in the £ for ordinary purposes and the same amount for special purposes, with 6d. in addition for street-watering. The amount of each rate was calculated upon nine-tenths of the fair average annual rental of all buildings and cultivated lands, or lands let for pastoral, mining, or other purposes, and upon 5 per cent. of the capital value of the fee-simple of all unimproved lands.

Municipalities which avail themselves of the provisions of the Country Towns Water and Sewerage Act of 1880 are empowered to levy a rate for each service not exceeding a maximum of 10 per cent. on the assessed annual value of land and tenements, in addition to the ordinary municipal rates. Under the Local Government Act, however, a water rate equivalent to this maximum of 10 per cent. on the assessed annual value must be levied either on the unimproved or the improved capital value of lands within the reticulated area.

On 30th June, 1912, there were forty-eight municipalities with waterworks constructed under the provisions of the Act, and eleven with sewerage works, but the water-works at Manly, Richmond, and Wollongong were subsequently transferred to the control of the Metropolitan Board of Water Supply and Sewerage.

In order to aid municipalities in providing for the expenditure in their formative stages, the 1867 Act provided for endowment by the State during a period of fifteen years. In each of the first five years after incorporation, every municipality is entitled to a sum equal to the whole amount actually raised by rates or assessments; in each of the next succeeding five years, a sum equal to one-half; and in each of the next succeeding five years, a sum equal to one-fourth of the amount so received. After the expiry of these fifteen years, such assistance ceases, and further aid from the State must be obtained by special grant. At the end of 1911 there were ten municipalities entitled to statutory endowment.

VALUATIONS.

It has already been explained that under the Local Government Act of 1906 the basis of rating was changed. The valuations for 1908, 1909, 1910, and 1911, therefore, cannot be compared with those of previous years.

Property in the City of Sydney was in 1911 still rated on the basis of the annual rental value. The following is a comparison of the capital and annual values in the city during the three years 1909-1911 :—

	1909.	1910.	1911.
	£	£	£
Unimproved capital value	19,970,365	19,952,793	23,940,030
Improved capital value	50,948,240	52,142,200	55,520,640
Assessed annual value... ..	2,292,671	2,346,393	2,498,429

VALUATIONS AND RATING UNDER 1906 ACT.

Since 1st January, 1908, under the Local Government Act of 1906, municipalities have been obliged to levy a general rate on the unimproved capital value of all ratable land, and may levy additional general, special, local, or loan rates on either the unimproved or the improved capital value. Municipal rates are no longer charged on the annual value; the only rates based on that value are those charged by the Metropolitan and the Hunter District Water Supply and Sewerage Boards.

The unimproved capital value of land is the amount for which the fee-simple estate in such land could be sold under such reasonable conditions as a *bonâ-fide* seller would require, assuming that the actual improvements had not been made.

The improved capital value is the amount for which the fee-simple estate of the land, with all improvements and buildings thereon, could be sold.

The general rate must be not less than 1d. in the £ on the unimproved capital value of all ratable land, and the total amount to be derived from the general rate and additional rates taken together must not exceed the amount yielded by a rate of 2d. in the £ on the unimproved value and 2s. in the £ on the assessed annual value of all ratable land. In 1911 very few municipalities levied additional general rates, nearly all confining themselves to one general rate. The variation in the rates is rather remarkable. In the suburbs of Sydney they ranged in 1911 from 2d. to 5d. in the £, and in the country from 1d. to 14d. The number of municipalities levying the rates specified below was as follows, distinguishing suburban from country, and showing the unimproved capital value of the land in each class :—

General Rate Levied.	Number of Municipalities.		Unimproved Capital Value of Land.	
	Suburbs of Sydney.	Country.	Suburbs of Sydney.	Country.
1d. and under 2d.... ..	Nil.	23	£ Nil.	£ 3,395,839
2d. „ 3d.... ..	4	29	2,171,260	4,560,219
3d. „ 4d.... ..	16	43	12,123,708	6,976,827
4d. „ 5d.... ..	18	30	10,482,252	2,722,742
5d. „ 6d.... ..	2	17	1,165,484	1,275,856
6d. and over	Nil.	7	Nil.	1,030,260
Total	40	149	25,942,704	19,961,743

The majority of suburban councils levied rates between 4d. and 5d.; the next in number were between 3d. and 4d., and the next between 2d. and 3d. In the country municipalities the proportions were different as the majority charged 3d. to 4d. per £, while the number between 2d.

and 3d. ranged next, and from 4d. to 5d. in the third place. The municipalities which levied 6d. and over in the £ were Aberdeen, Hillgrove, Wallsend, and Wyalong each 6d.; Broken Hill 7d., Bourke 8d., and Wrightville 14d. These rates are exclusive of the amounts levied on mines. None of the suburban councils levied 1d. in the £; but this rate was imposed in four country municipalities.

As regards other than general rates, three municipalities levied additional general rates on the unimproved capital value, viz., Hunter's Hill, $\frac{1}{4}$ d.; Mascot, $\frac{1}{2}$ d.; and Albury, $\frac{1}{4}$ d.; and twelve on the improved capital value, ranging from $\frac{1}{4}$ d. to 2d. in the £.

Sixty-eight municipalities levied special and local rates on the unimproved capital value, ranging from $\frac{9}{64}$ d. to 15d. in the £, and twenty-three on the improved capital value, ranging from $\frac{1}{4}$ d. to 3d. in the £.

Twenty-two municipalities levied loan rates on the unimproved capital value, ranging from $\frac{1}{16}$ d. to 1d. in the £, and three on the improved capital value, ranging from $\frac{1}{4}$ d. to $\frac{3}{4}$ d.

The rates levied amounted to £1,066,787, of which £975,189 were general and additional general rates.

As was generally supposed under the new system of rating, the unimproved values were increased; the upward movement was continued in 1911.

In the following table the unimproved values and improved values for 1910 and 1911 are compared:—

Division.	Unimproved Value.		Improved Value.		
	1910.	1911.	1910.	1911.	Increase.
	£	£	£	£	per cent.
Sydney—City	19,952,793	23,940,030	52,142,200	55,520,640	6·2
Suburbs	23,823,398	25,942,704	59,175,874	63,855,054	7·9
Metropolis... ..	43,776,191	49,882,734	111,318,074	119,375,694	7·2
Country	19,753,131	19,961,743	45,824,999	47,484,486	3·6
Total	63,529,322	69,844,477	157,143,073	166,860,180	6·2

The particulars in respect of unimproved values in former years were somewhat misleading, owing probably to the fact that in certain cases the town clerks furnished returns showing ratings before appeal in the previous year. The figures shown above for 1910 and 1911, on the other hand, represent the values generally as reduced after appeal.

The difference between the unimproved and improved capital values is, of course, the value of improvements, and the following statement shows that in both the suburbs and country the value of improvements has increased:—

Division.	Value of Improvements.		
	1910.	1911.	Increase.
	£	£	per cent.
Sydney—City	32,189,407	31,580,610	1·9*
Suburbs	35,352,476	37,912,350	7·2
Metropolis	67,541,883	69,492,960	2·9
Country	26,071,868	27,522,743	5·5
Total	93,613,751	97,015,703	3·6

* Decrease.

The steady increase in the value of improvements may be taken as indicative of municipal prosperity, taken together with existing industrial conditions. Of late years, particularly in the city and suburbs, there has been an increasingly marked activity in the building trade; old buildings have been demolished and have been replaced by more extensive structures, made still more valuable by reason of the increased cost of labour and materials.

The unimproved capital value of ratable land in municipalities is £69,845,000, and in shires £94,190,000, the total being £164,035,000. If to this be added £10,000,000, the estimated unimproved value of unincorporated land in the Western Division, the unimproved value of the land of the State, excluding a small area exempt from taxation, is £174,035,000. The value placed upon land in the Western Division is 2s. 6d. per acre, which is over 25 per cent. lower than in the shire in the west of the Eastern Division, with the lowest value per acre, and cannot be considered high.

The value of improvements in municipalities was £97,016,000, or 139 per cent. of the unimproved value. In the suburbs it was 146 per cent., and in the country 138 per cent. The value of improvements is not available for all the shires, but assuming that it is the same proportion of the unimproved value as the average in those which are known, namely, about equal to the unimproved value, a value of, say, £90,000,000 is obtained. In the Western Division it may be placed at £10,000,000, so that for the whole State the following values are obtained:—

Division.	Unimproved Value of Land.			Value of Improvements.		
	Total.	Per Head.	Per Acre.	Total.	Per Head.	Per Acre.
	£	£	£ s. d.	£	£	£ s. d.
Sydney—City ...	23,940,000	210	7,195 13 5	31,581,000	266	9,492 6 8
Suburbs ...	25,943,000	50	282 3 11	37,912,000	72	412 7 9
Metropolis ...	49,883,000	78	523 13 1	69,493,000	108	729 10 3
Country Municipalities ...	19,962,000	46	10 19 0	27,523,000	64	15 1 6
Shires ...	94,190,000	157	0 16 0	90,000,000	150	0 15 5
Western Division (part unincorporated).	10,000,000	540	0 2 6	10,000,000	540	0 2 6
State ...	174,035,000	103	0 17 6	197,016,000	116	0 19 9

FINANCES.

371.061

The Local Government Act, 1906, prescribes that there must be a general fund in each local governing area (municipality or shire), to which must be paid the proceeds of all general and additional general rates, any moneys received by way of grant, endowment, &c., from the Government, and other income not required by law to be carried to other funds. The expenditure from the fund must be on administration, health, roads, and other public services.

In addition, in each local area there must be a special fund for each special rate levied, and for each work or service carried on by the council in respect of which the special rate has been made, and the fund may be applied only for the purposes of such work or service. A special rate is levied for a special purpose, and applies to the whole area. Likewise a local fund must be kept for each local rate levied, with similar restrictions to those in the case of special funds. A local rate is levied for a local purpose, and applies only to that portion of the area which is benefited. The expenditure of the local fund is restricted to work within or for the sole benefit of that portion of the area.

Where any borrowed money is owing by a council a separate loan fund must be kept in respect of each work or service on which the loan is owing. Except where a Loan Fund has its own revenue as from rates, the obligations attendant thereon, such as provision for the repayment of principal and interest, may be met by transfers from the General Fund or other appropriate fund. The object of the loan, as a rule, determines the source from which the Loan Fund shall obtain its necessary revenue. When the loans have been raised for general purposes, transfers are made from the General Fund, and the profits of trading concerns provide for the disbursements of their corresponding loan funds.

The revenue of special and local funds may be used in a similar manner; for example—Street Lighting Special Fund must provide the money to meet not only the ordinary cost of maintaining the street lighting for the year, but also the obligations of the Street Lighting Loan Fund; and similarly with Sewerage, Water Supply, and other Special and Loan Funds.

The above has reference more particularly to those Loan Funds which must be kept in respect of loans, which were raised before the present Act came into operation, that is to say,—loans raised when the law did not require (as it does now) a loan-rate to be levied to pay interest and provide for the extinction within a fixed period of each loan raised. It is apparent, therefore, that all new loans will be self-supporting, quite apart from the question whether the loan undertakings are profitable or not. In these latter cases the councils may either use profits to swell the amount which is being provided to repay, or retain them in the working accounts of the undertakings (that is, in the Special, Local, or Trading Funds, as the case may be).

The Regulations under the Act prescribe the system of accounts to be kept. The accounts must be "Income and Expenditure Accounts," kept by double entry, and each "Fund" must have a separate banking account. Thus there is shown for each General, Special, Local, Loan or Trading Fund of each area concerned, a "Revenue Account" (or Profit and Loss Account), giving the total expenditure chargeable for the period (whether paid or unpaid), and the total income for the same period (whether received or outstanding). A balance-sheet is also shown for each Fund with appropriate liabilities and assets. Only "realisable" assets are allowed to be included, so that the whole of the roads, bridges, drains, and much other constructive work, which are taken to account elsewhere as assets, are here excluded.

The Council of the City of Sydney conducts its affairs under the City Corporation Act, and therefore is not bound by the provisions of the Local Government Act, which is of a later date. With the exception of the Electric Lighting Fund, the various accounts of the city are kept on a "cash" basis, and apart from the fact that those accounts show receipts and disbursements in respect of both capital and revenue, the information cannot in many instances be allocated to the headings of expenditure and income as set out in the system of accounts prescribed under the Local Government regulations. It is obvious, therefore, that when discussing the financial transactions of the whole municipal area of the State an endeavour to collate similar information from two entirely different systems of accounts would serve no useful purpose, and the figures for statistical comparison would be of doubtful value.

For the reasons stated above, the following particulars relating to municipal accounts are divided into two parts, one dealing with the City of Sydney and the other with the suburbs of Sydney and country municipalities.

CITY OF SYDNEY—RECEIPTS.

The receipts from the various funds, exclusive of the Electric Lighting Fund, in 1911 amounted to £467,932, the City Fund contributing £411,718, the Public Markets Fund £38,899, and the Cattle Saleyards Fund £17,315.

The total receipts exceeded the disbursements by £5,830. Although abstracts of receipts and disbursements in respect of the Public Markets and the Cattle Saleyards Funds are shown in the city accounts, those funds are really subsidiary to the City Fund, their balances at the end of the year being transferred and shown as adjustments in that fund.

The following is a statement of the receipts of the City Fund under appropriate headings:—

	£
General Purposes	321,448
Works	23,916
Health Administration	12,316
Public Services... ..	8,125
Municipal Property	36,413
Miscellaneous	9,500
Total	£411,718

Rates, £221,450, together with land tax, £98,183, form by far the greater part of the receipts under the heading "General Purposes." As provided by the amending Act of 1908, rating on the unimproved value of land was first brought into force in 1909, and that such a large amount should be realised with the minimum rating of 1d. in the £ shows the importance to be attached to the acquisition of the transferred Land Tax as an addition to the city finances. The revenue from city improvements amounted to £16,120, or 67·4 per cent. of the total from works; resurrections were responsible for £24,981, or over two-thirds of the receipts from municipal property.

DISBURSEMENTS.

The disbursements of the City Fund in 1911 amounted to £407,055, of the Public Markets Fund £46,666, and of the Cattle Saleyards Fund £8,381, making a total of £462,102. Shown under the same headings as the receipts, the following were the disbursements of the City Fund:—

	£
General Purposes	33,463
Works	73,133
Health Administration	79,749
Public Services... ..	54,365
Municipal Property	24,942
Miscellaneous (Interest, Sinking Fund, &c.)	136,403
Total	£407,055

Salaries, which amounted to £27,373, absorbed a very large share of the expenses for General Purposes. Out of the sum spent on Public Works, Health Administration, and Public Services, streets, footpaths, &c., claimed £64,977, city cleansing cost £56,386, and street lighting, £22,479. The large amount shown under "Miscellaneous" includes the Annual Debenture indebtedness, which in 1911 was £66,145 for interest, commission, &c., and £36,610 from Sinking Fund contributions.

With the transfer of the Land Tax, the amending Act of 1908 provided that the City Council should take over the control or bear the expenditure contingent to certain works and services hitherto a charge on the Government. As a result of this enactment the following items appear as disbursements in 1911:—Pyrmont Bridge, £7,300; Medical Officer of Health, £1,600; and Traffic Regulation, £7,500. The three items mentioned are annual statutory payments to the Crown, as the works and services concerned are still under Government control.

The receipts and disbursements of the Public Markets Fund, as stated, were £38,899 and £46,666 respectively, showing a deficit of £7,767 on the year's transactions. Although the Queen Victoria Markets brought in revenue to the extent of £17,424, or about 45 per cent. of the total, that amount was insufficient to meet even the interest charges on Capital Expenditure and Sinking Fund contributions, which together amounted to £18,470. The total outlay was £25,218, or £7,794 in excess of the receipts.

The following statement shows the net result of the transactions of the year in respect of each source of revenue included in the fund:—

Balances transferred to City Fund.			
	<i>Dr.</i>	£	£
Fish Markets ... ..	...	1,887	
Cooling Chambers ... ..	...	166	
Queen Victoria Markets ... ..	...	7,795	
Municipal Market, No. 1 ... ..	...	665	
" " No. 2 ... ..	...	197	
Market Stores ... ..	...	88	
			10,798
	<i>Cr.</i>		
Belmore Markets ... ..	...	941	
Belmore Site ... ..	...	1,493	
Municipal Market, No. 3 ... ..	...	464	
Fish Agency Account... ..	...	133	
			3,031
Net Deficit			£7,767

The Council expended £8,381 on the Cattle Saleyards during the year, and received in return revenue amounting to £17,315, leaving a credit balance of £8,934 to be transferred to the City Fund.

The next item to be considered is the accounts of the Electric Lighting Fund, which, as has already been stated, unlike the other funds of the city, is kept on the double-entry system.

The following is the Revenue Account for the year, 1911:—

Expenditure.		Income.	
	£		£
Generation of Electricity	37,781	Private Lighting	98,425
Distribution	29,020	Public Lighting	19,930
Management	10,889	Power Supply	46,980
Special Charges	17,596	Rentals—Meters, Motors, Lamps, &c.	7,192
Bad debts written off	142	Net Revenue—Company Pur- chases	17,596
Total	£95,428	Miscellaneous	166
Balance carried to Net Revenue Account	94,861	Total	£190,289
Total	£190,289		

Generation forms the largest item of expenditure, accounting for 39·7 per cent. of the whole. Distribution cost 30·4 per cent., and Management 10·1 per cent. The special charges were monthly payments on account of transferred customers to companies whose works were purchased by the City Council. They represent, however, the gross expenditure only, as after expenses of management, &c., have been deducted the municipality is credited with the balance, amounting to £17,596, as shown on the income side of the account.

The sales of current to the public for light and power amounted to £144,992, and the sales to the Council realised £20,343.

The principal charges, out of a total of £65,151 against the gross profit of £94,861 carried to the Net Reserve Account, were:—Interest on Debentures, £30,519; Interest on Balances—Company purchases, £3,332; Sinking Fund contribution, £6,999; and Depreciation Reserve Account, Loan flotation expenses, &c., £25,620. It will be seen from the foregoing that the net gain for the year was £28,391, which, added to the net profit from 1910, viz., £1,319, gives a total of £29,710 credited to profit and loss at the end of 1911.

Below is a summary of the balance-sheet of the Electric Lighting Fund on 31st December, 1911:—

Liabilities.		Assets.	
	£		£
Debenture Loans... ..	750,000	Capital Expenditure — Land, Buildings, Machinery, Plant, &c.	1,002,539
Company Purchases—Balance of Purchase Money	42,693	Goodwills—Company Purchases	87,193
Sinking Fund	36,191	New South Wales Treasury— Sinking Fund Investments ...	36,191
Reserve and Suspense Accounts	109,702	Other	24,511
Sundry Creditors... ..	27,067		
Miscellaneous	1,149		
Balance—Net Revenue Account	29,710		
Bank of New South Wales debit balance	153,922		
	<u>£1,150,434</u>		<u>£1,150,434</u>

The Loan Capital, which forms about 66 per cent. of the liabilities, returned 3·8 per cent. profit for the year; but consideration of the fact that the interest payments and Sinking Fund contribution for the year amounted to £40,850, that £24,504 was allowed for depreciation, and that the Sinking Fund is represented by an investment of £36,191 in Government Stock, will show that the finances of the Sydney Electric Lighting Fund are in a healthy condition.

The following is a summary of liabilities and assets of all funds of the City of Sydney as at 31st December, 1911:—

Liabilities.		Assets.	
	£		£
Debentures current	3,870,600	Bank Balances, Cr.	131,125
Bank Balances, Dr.	290,006	Rates Outstanding	8,643
Sundry Creditors	40,851	Landed Properties, Baths, and Sundries	3,385,955
Debenture Interest Account, Ser- vices payable, and Sundries... ..	108,984	Machinery, Plant, Furniture, Stores, &c.	927,112
		Sundry Debtors	28,736
		Sinking Funds	303,553
		Investments	59,987
	<u>£4,310,441</u>		<u>£4,845,111</u>

Notwithstanding the large Loan indebtedness the assets exceed the liabilities by £534,670. It should be noted that the Debentures include £750,000 borrowed in connection with Electric Lighting, and £450,000 for Public Markets, and that as the proceeds of such loans have been spent on reproductive municipal works, such works should provide the annual interest charges and sinking fund contributions. It follows that "rate" revenue is relieved to the extent that annual liabilities of this nature are so liquidated. It is true that the Electric Lighting Fund is quite self-supporting; but, then again, the loss on Queen Victoria Markets, which, as already stated above, was in 1911 £7,794, becomes a charge on the city rates. Landed properties, baths, &c., which comprise about 70 per cent. of the assets, include such large items as Public Markets, £1,071,300, Town Hall, £534,324, Resumptions, £1,079,809, Electric Light Buildings, Works, &c., £252,630, and Cattle Saleyards, £103,039. The accumulated Sinking Fund, £303,553, as against a Debenture Debt of £3,870,600, must be regarded as a satisfactory cover.

PROGRESS OF SYDNEY.

The following table is appended for the purpose of showing the progress of the city during the last four years:—

Particulars.	1908.	1909.	1910.	1911.
Area Acres	2,892	3,327	3,327	3,327
Population No.	112,900	120,660	119,800	118,800
	£	£	£	£
Unimproved Capital Value ...	20,207,812	19,970,365	19,952,793	23,940,030
Improved Capital Value	49,060,600	50,948,240	52,142,200	55,520,640
Assessed Annual Value	2,249,760	2,292,671	2,346,399	2,498,429
City Fund—				
Receipts—Rates	194,627	202,272	206,461	221,450
Land Tax ... ..	...	78,723	83,569	98,183
All other sources	107,325	79,179	69,664	92,085
Total	301,952	360,174	359,694	411,718
Disbursements	317,740	333,062	385,947	407,055
Public Markets Fund—				
Receipts	29,579	30,383	33,807	38,899
Disbursements	33,638	34,048	43,557	46,666
Cattle Saleyards Fund—				
Receipts	15,007	26,666	18,568	17,315
Disbursements	6,493	16,619	8,146	8,381
Electricity Works Fund—				
Expenditure	89,430	111,498	141,335	161,898
Income	93,600	128,980	166,047	190,289
Liabilities—All Funds	2,408,062	2,994,579	3,794,063	4,310,441
Assets—All Funds	2,622,898	3,677,159	4,318,028	4,845,111
Loans outstanding 31st Dec. ...	2,105,000	2,679,000	3,231,900	3,870,600
Sinking Fund	191,070	220,621	259,061	303,553

The increase in area in 1909 is due to the inclusion of Camperdown as a ward of the city, and for the same reason an increased population appears in that year.

The tendency of a city population as opposed to a city and suburban population is to decrease rather than increase. Three important factors have combined to make this particularly applicable to Sydney—private enterprise shown by the building of extensive premises designed almost entirely for business purposes, improved facilities for reaching suburban areas by quicker and cheaper means of transport, and perhaps the most

important, the council's policy of city improvement by demolishing "slums" and opening up new streets, which must force the population outwards.

The steady progression in the city finances indicated in the above statement is marred by the figures relating to the Public Markets Fund, which shows a loss on each year's transactions, attributable almost wholly to the Queen Victoria Markets, imposing as they do an annual incubus of about £8,000 on the city rates.

Each year's returns emphasise the rapid and at the same time profitable expansion of the electric lighting undertaking.

The lights were used for the first time on 8th July, 1904, when parts of the city were illuminated. Since that date great progress has been made, and the public parks as well as the remainder of the streets under the control of the council are now included.

The cattle saleyards form another productive asset, the transactions showing each year an increasing surplus.

Although additions are continually being made to the loans current it will be seen by a glance at the above figures that the sinking fund obligations have been strictly fulfilled.

SUBURBS OF SYDNEY AND COUNTRY MUNICIPALITIES.

As already stated, with 1908 a new era began in the municipal book-keeping of this State, and for the same reason that the accounts of the City of Sydney cannot be included with those of municipalities working under the provisions of the Local Government Act, the transactions of the latter for the years subsequent to 1908 cannot, with any advantage, be compared with those of earlier years when the accounts were kept on a "cash basis."

The value of the statistical information disclosed is somewhat discounted by the exclusion of particulars in respect of Broken Hill and Narrabri in 1910, and the figures relating to Bega, Broken Hill, and Narromine for 1911, the municipalities in question having neglected to furnish the prescribed returns.

EXPENDITURE.

The total expenditure during 1911 by the various municipalities under the Local Government Act amounted to £1,071,249, which was £53,798 less than the income. The following statement shows the expenditure allocated to the various funds in 1910 and 1911:—

Funds.	1910.			1911.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
	£	£	£	£	£	£
General Fund	425,185	322,518	747,703	463,220	320,042	783,262
Trading Accounts	7,894	84,552	92,446	9,708	90,247	99,955
Special and Local Funds	31,058	170,939	201,997	38,090	185,391	223,481
Loan Funds	37,802	43,063	80,865	35,574	51,738	67,312
Reserves and Renewals Account ... ..	...	...	...	775	1,643	2,418
Gross Expenditure	501,939	621,072	1,123,011	547,367	629,061	1,176,428
Deduct Transfers... ..	47,061	47,599	94,660	45,806	59,373	105,179
Net expenditure	454,878	573,473	1,028,351	501,561	569,688	1,071,249

Of the expenditure by municipalities, 13 per cent. was on administrative expenses, and 52·8 per cent. on public works. Of the administrative expenses, salaries were the largest. The relative cost of administration in the country is high, being 16·6 per cent. of the total expenditure; the suburban municipalities spend only 10·6 per cent. under the same heading. The significance of the foregoing remarks, showing the effect of the amended Act on certain items of expenditure, may be more readily understood by glancing at the relative cost of these items as set out in the above table. The high relative cost of administration in the country is due, no doubt, to the sparse population and small revenue of many of the country municipalities. In such cases, the expenses on account of salaries, &c., would naturally be larger proportionately than in the more closely-settled localities in the suburbs. Public Services for 1911 include—Pounds, £1,133; street-watering, £8,426; street-lighting, £62,902; and all other services, £36,936. The greatest part of the expenditure on Public Works was on roads, streets, &c., as will be seen below:—

Services.	1910.			1911.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
	£	£	£	£	£	£
Roads, streets, culverts, &c....	219,636	150,190	369,826	232,726	146,253	378,979
Bridges	780	4,960	5,740	493	4,060	4,553
Drains, sewers, &c. ...	6,257	3,729	9,986	12,632	4,018	16,650
Ferries, wharfs, and jetties	1,503	1,565	3,068	3,275	3,050	6,325
Sundries	2,498	1,958	4,456	3,540	3,199	6,739
Total	230,674	162,402	393,076	252,666	160,580	413,246

Of the expenditure on roads, streets, &c., in 1911, the amount spent on maintenance, renewals, and repairs was £183,943; £56,639 was expended on construction, £32,322 on street and gutter cleaning, £31,728 on kerbing and guttering, £35,969 on footpaths, and £5,306 on sundries, a large part of which was absorbed by tree-planting.

The Trading Accounts, which relate to the supply of gas or electricity, will be treated later under those headings, and the special Water and Sewerage Funds will also be discussed.

INCOME.

The total income in 1911 of all the municipalities brought under the provision of the Local Government Act, 1906, was £1,135,047, including £26,136 received as endowments or grants from the Government. Under the same funds as in the expenditure the income for 1910 and 1911 is shown below:—

Funds.	1910.			1911.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
	£	£	£	£	£	£
General Fund	419,063	320,003	739,066	483,721	331,217	814,938
Trading Accounts	6,565	85,252	91,817	8,067	92,992	101,059
Special and Local Funds	26,261	173,639	199,900	32,668	194,388	227,056
Loan Funds	48,490	47,822	96,312	43,988	46,298	90,286
Reserves and Renewals Account. ... ..	.....	.....	.....	799	6,088	6,887
Gross Income	500,379	626,716	1,127,095	569,243	670,983	1,240,226
Deduct Transfers... ..	47,061	47,599	94,660	45,806	59,373	105,179
Net Income	453,318	579,117	1,032,435	523,437	611,610	1,135,047

Details of the items of the General Fund for 1910 and 1911 are as follows:—

Source of Income.	1910.			1911.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
General Purposes—	£	£	£	£	£	£
Rates levied (including interest)	349,241	224,359	573,600	400,152	242,478	642,630
Government Endowments, &c.	847	8,486	9,333	899	6,001	6,900
Sundries	8,683	6,972	15,655	7,732	6,253	13,985
*Public Works	25,410	22,826	48,236	35,310	15,535	50,845
*Health Administration	16,164	11,908	28,072	16,546	13,413	29,959
*Public Services	4,018	10,137	14,155	6,203	14,970	21,173
Municipal Property	10,477	25,384	35,861	12,249	24,862	37,111
Miscellaneous	4,223	9,931	14,154	4,630	7,705	12,335
Total	419,063	320,003	739,066	483,721	331,217	814,938

* Including Government grants.

Comparing this statement with the expenditure of the General Fund, it will be found that the income in 1911 was £31,676 in excess. Included in the rates levied is an amount of £4,122, being interest due on unpaid rates.

To the income from public works, the Government contributed £11,172 as grants for roads, streets, &c., and £712 as grants for ferries.

Under Health Administration are included Government grants for Parks, &c., amounting to £5,227. The Government also granted £1,265 for General Purposes and Public Services.

Stating the income under each head as a percentage of the total income of the General Fund, the following results are obtained:—

Source of Income.	1910.			1911.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
General Purposes—	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Rates levied (including interest)	83·3	70·1	77·5	82·7	73·2	78·8
Government Endowments, &c.	0·2	2·7	1·3	0·2	1·8	0·9
Sundries	2·1	2·2	2·2	1·6	1·9	1·7
*Public Works	6·1	7·1	6·5	7·3	4·7	6·2
*Health Administration	3·9	3·7	3·8	3·4	4·0	3·7
*Public Services	0·9	3·2	1·9	1·3	4·6	2·6
Municipal Property	2·5	7·9	4·9	2·5	7·5	4·6
Miscellaneous	1·0	3·1	1·9	1·0	2·3	1·5
Total	100·0	100·0	100·0	100·0	100·0	100·0

* Including Government grants.

The bulk of the general income was received from rates, the average for all municipalities being 78·8 per cent. In the suburbs it was 82·7 per cent., and in the country 73·2 per cent. The next important source of income was from Public Works, but it should be remembered that about 38 per cent. of its contribution was provided by the Government by way of grants. By the transfer of the Sanitary and Garbage Services from the General Fund, as provided by the 1908 Amendment of the Act, Health Administration lost its most important factor of revenue, contributing only 3·7 per cent. of the total as against 9·8 per cent. in 1908. The difference is still more marked in the country, where the proportion was 15·5 per cent. in 1908 and 4·0 per cent. in 1911. In the suburbs, the Metropolitan Sewerage Board levies charges in addition to those made by the municipalities.

SPECIAL AND LOCAL FUNDS.

The expenditure and income of the Special and Local funds for the years 1910 and 1911 are shown in the following table:—

Funds.	1910.			1911.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
Expenditure—	£	£	£	£	£	£
Water Supply ... ..	.....	70,462	70,462	.....	70,814	70,814
Sewerage ... ..	.....	5,936	5,936	.....	8,094	8,094
Sanitary and Garbage	13,969	68,750	82,719	15,747	78,226	93,973
Street Lighting ... ..	.....	17,598	17,598	.....	19,281	19,281
Street Watering	2,667	409	3,076	1,686	371	2,057
Old Loans' Interest	8,795	1,511	10,306	6,265	1,298	7,563
Miscellaneous	5,627	6,273	11,900	10,354	7,307	17,661
Cemetery ... ..	.....	.....	.....	4,038	.....	4,038
Total	31,058	170,939	201,997	38,090	185,391	223,481
Income—						
Water Supply ... ..	.....	66,959	66,959	.....	71,961	71,961
Sewerage ... ..	.....	4,920	4,920	.....	8,546	8,546
Sanitary and Garbage	14,934	72,852	87,786	16,506	82,290	98,796
Street Lighting ... ..	.....	18,170	18,170	.....	20,512	20,512
Street Watering	2,026	331	2,357	1,383	394	1,777
Old Loans' Interest	7,673	2,209	9,882	6,373	1,374	7,747
Miscellaneous	1,628	8,198	9,826	2,592	9,311	11,903
Cemetery ... ..	.....	.....	.....	5,814	.....	5,814
Total	26,261	173,639	199,900	32,668	194,388	227,056

BALANCE-SHEET.

The financial position of the municipalities, as at 31st December, 1910 and 1911, is shown by the following statement of liabilities and assets of the various funds:—

Funds.	1910.			1911.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
Liabilities—	£	£	£	£	£	£
General Fund	54,047	51,611	105,658	53,531	46,685	100,216
Trading Accounts	3,325	25,639	28,964	4,282	28,736	33,018
Special and Local Funds	9,893	1,021,291	1,031,184	8,474	1,062,015	1,070,489
Loan Funds	780,417	616,416	1,396,833	769,783	613,722	1,383,505
Reserves and Renewals Account ... ..	.....	.....	.....	949	9,694	10,643
Total	847,682	1,714,957	2,562,639	837,019	1,760,852	2,597,871
Assets—						
General Fund	230,689	404,260	634,949	250,675	410,251	660,926
Trading Accounts	1,764	58,302	60,066	2,409	62,024	64,433
Special and Local Funds	14,303	1,086,078	1,100,381	23,094	1,135,160	1,158,254
Loan Funds	165,224	435,807	601,031	160,955	444,973	605,928
Reserves and Renewals Account ... ..	.....	.....	.....	949	9,694	10,643
Total	411,980	1,984,447	2,396,427	438,082	2,062,102	2,500,184

Every municipality must keep a General Fund, and the liabilities consist mostly of temporary loans and overdrafts; but the assets are more than sufficient to meet them. In only four municipalities in 1910 and three in 1911 was there an excess of liabilities. The liabilities and assets of the General Fund in the various municipalities, as at 31st December, 1910 and 1911, are shown below:—

	1910.			1911.		
	Suburbs of Sydney.	Country.	Total.	Suburbs of Sydney.	Country.	Total.
Liabilities—	£	£	£	£	£	£
Temporary loans	16,431	13,540	29,971	18,203	11,930	30,133
Overdrafts ... ..	.....	1,059	1,059	13	883	896
Sundry creditors (including amounts due to other Funds)	34,240	32,053	66,293	35,315	32,499	67,814
Other	3,376	4,959	8,335	.....	1,373	1,373
Total	54,047	51,611	105,658	53,531	46,685	100,216
Assets—						
Outstanding rates (including interest)	32,408	63,909	96,317	31,656	60,741	92,397
Stores and materials	3,360	5,369	8,729	4,187	6,042	10,229
Bank balance and cash	26,091	41,465	67,556	37,695	44,582	82,277
Land and buildings	137,221	220,194	357,415	140,951	224,913	365,864
Plant and furniture	22,489	44,932	67,421	24,277	40,630	64,907
Other	9,120	30,107	39,227	11,909	33,343	45,252
Total	230,689	405,976	636,665	250,675	410,251	660,926

The principal asset of the municipalities consists of land and buildings, which were at the end of 1911 valued at £365,864, or 55·3 per cent. of the total assets. Outstanding rates and interest amounted to £92,397, while bank balances and cash in hand were equal to £82,277.

LOANS.

The total amount of loans raised during 1911 was £1,197,360, including £998,700 borrowed by the City of Sydney and allowing for additions and reductions of secured overdrafts; while the sinking funds were increased by £40,201. Most of the new loans in the suburban and country districts were renewals, opportunity naturally being taken of the general reduction in the rates of interest to considerably reduce the annual liability in respect of interest charges. Apart from the liability of the State under the Country Towns Water and Sewerage Act, the total amount of loans outstanding at the close of the year was £5,327,228, and towards this amount there was at the credit of the sinking funds a sum of £331,096.

Rates of interest ranged from 3 per cent., which was carried by £3,165, to 8 per cent., which, however, was payable only on £100; and the amount paid and due as interest on loans during the year was £209,971. The total indebtedness was £5,327,228, bearing an average rate of interest of 3·94 per cent., viz., 3·88 per cent. on the loans of the City of Sydney, 3·99 per cent. on those of the suburban municipalities, and 4·26 per cent. on those of the country municipalities.

The average rate of interest payable on all loans is scarcely, however, an index of the true value of municipal debentures to the investors, as out of a total debt of £5,327,228 the sum of £1,641,149 pays interest at 4 per

cent., £2,076,465 at $3\frac{7}{8}$ per cent, and £515,517 at $3\frac{3}{4}$ per cent. Of these amounts the metropolitan municipalities are responsible for £1,499,112, £2,076,465, and £507,850 respectively. The country municipalities borrowed £142,037 at 4 per cent., £203,449 at $4\frac{1}{2}$ per cent., and £134,200 at 5 per cent.

The total debt per head of population living in municipalities amounted to £4 16s. 11d., without allowance being made for sinking funds, while the yearly charge for interest is 3s. 11d. per head. These sums, compared with the resources of the municipalities, appear by no means formidable.

The following are the outstanding loans on 31st December, 1911, and the sinking funds set apart to meet them:—

Division.	Loans Outstanding.			Sinking Funds.	Interest paid and due on Loans, 1911.
	New South Wales.	London.	Total.		
	£	£	£	£	£
Sydney—City	3,320,600	550,000	3,870,600	303,553	150,013
„ Suburbs	689,561	76,500	766,061	13,928	32,235
Country	541,410	27,959	569,369	13,615	27,723
Total	£ 4,551,571	654,459	5,206,030	331,096	209,971

Temporary loans, amounting altogether to £71,609, which bear interest at current bank rates, and loans payable on demand amounting to £49,589, are excluded from the above table.

The loans are redeemable at various periods from 1912 to 1945, and the total amount to be repaid in London was £654,459, or rather less than one-eighth of the total, and the total amount of debentures held locally was £4,551,571.

The majority of the loans are renewable at maturity, and sinking funds have been established in connection with several of the issues, the aggregate amount of which, at the end of 1911, was £331,096.

Under the Local Government Act, 1906, a municipality may borrow to an amount which, with existing loans, does not exceed 10 per cent. of the unimproved capital value of ratable lands. Where, at the commencement of the Act, any municipality had exceeded this limit, it could not borrow further until the total amount owing had fallen below the limit.

Purposes for which loans may be raised are prescribed (a) for permanent improvements or works; (b) for any object which the Council may legally effect; and (c) for the repayment of former loans. All loans are to be borrowed on the credit of the municipality, and to be a charge upon the revenues.

It has been explained previously that, in respect of municipalities operating under the regulations of the Local Government Act, a separate loan fund must be kept relating to each work or service for which loans are raised. There are, therefore, numerous funds relating to such matters as permanent improvements, town hall and other property, garbage service, wharfs, electricity, gas, cattle sale-yards, street-watering, and others.

It has been considered inadvisable to show the revenue accounts of these funds, as their revenue practically consists of transfers from other funds to repay principal and interest, and there is a danger of duplication in quoting them. The following is a statement of the total liabilities and assets of all funds at the close of 1911; but it is incomplete to some

extent, as several municipalities, where a loan related to a trading concern or public work, have included the assets in the balance-sheet of the loan fund:—

	Suburbs of Sydney.	Country.	Total.
	£	£	£
Liabilities—			
Loans current	762,453	594,273	1,356,726
Interest due and unpaid... ..	6,044	17,032	23,076
Other	1,286	2,417	3,703
Total	£ 769,783	613,722	1,383,505
Assets—			
Bank balance and cash	5,222	8,994	14,216
Sundry creditors (including amounts due from other funds)	5,142	34,260	39,402
Land and buildings	103,768	163,430	267,198
Plant, &c.	25,588	185,714	211,302
Investments	13,834	8,655	22,489
Other	7,401	43,920	51,321
Total	£ 160,955	444,973	605,928

The liabilities of the loan funds exceeded the assets by £777,577, but against the loans of a municipality may be set its whole revenue and credit, so that there is no element of danger in the position as stated. Further, the municipalities have inconvertible assets in the shape of roads, streets, bridges, and other permanent improvements, which have been constructed out of loans, and which are valued at over six millions sterling. Although these have not been included in the balance-sheet, they are very necessary for developing the various localities, and add materially to their resources for rating purposes, in the increased value they give to property.

SHIRES.

Since 1st January, 1907, 134 shires have been working under the Local Government Act, 1906. These shires are all in the Eastern and Central Land Division, 96 being in the former, and 38 in the latter. With the exception of 8 municipalities, the Western Land Division is unincorporated.

The shires vary in area from 36 square miles in Ku-ring-gai, immediately north of the metropolis, to 5,745 square miles in Lachlan, the headquarters of which are at Condobolin. The smallest shires are in the most closely settled parts of the State. A general rate, not less than 1d. in the £, and not more than 2d. in the £, may be levied by shires on the unimproved capital value of all ratable land. If, however, the general rate of 1d. is more than sufficient to meet requirements, the Governor may allow the rate to be reduced below 1d. In 1911 six shires levied a rate less than 1d.

The rates levied in 1911, and the unimproved capital value of the land in each class are as follows:—

No. of Shires.	General Rate levied in £.	Unimproved Capital Value of Land. £	No. of Shires.	General Rate levied in £.	Unimproved Capital Value of Land. £
1	$\frac{1}{2}$ d.	1,457,645	1	$1\frac{3}{4}$ d.	265,729
3	$\frac{3}{4}$ d.	3,183,168	22	$1\frac{1}{2}$ d.	11,920,307
2	$\frac{3}{4}$ d.	2,081,341	1	$1\frac{3}{4}$ d.	343,457
64	1	50,901,773	14	2	8,308,673
3	$1\frac{1}{4}$ d.	1,924,245	—	—	—
23	$1\frac{1}{4}$ d.	13,803,601	134	...	£94,189,939

In addition to the general rates shown above, local rates were also levied by several shires, particulars of which are shown in the following table:—

Shire.	District.	Purpose for which Levied.	Amount of Rate.
Berrigan ...	Berrigan ...	Footpaths and drainage	2d. in £ on u. c.
	Tocumwal ...	do do	3d. in £ on u. c. v.
Bland ...	Barmedman and West Wyalong.	Street improvement	2d. in £ on u. c. v.
Blaxland ...	Portland ...	Roads and streets and water supply.	6d. in £ on u. c. v.
Blue Mountains..	Leura ...	Street lighting	$\frac{3}{4}$ d. in £ on u. c. v.
Bolwarra ...	Phoenix Park...	Drainage	1d. in £ on u. c. v.
	Lorn ...	Fire Brigade	$\frac{1}{2}$ d. in £ on i. c. v.
	do ...	Street lighting	$\frac{1}{4}$ d. in £ on i. c. v.
Boree ...	Canowindra ...	Street improvement	3d. in £ on u. c. v.
Cessnock ...	Cessnock and Kurri Kurri.	Fire Brigade	$\frac{1}{4}$ d. in £ on u. c. v.
Coolamon ...	Coolamon & Ganmain	Street lighting and street improvements	2 $\frac{1}{2}$ d. in £ on u. c. v.
Crookwell ...	Crookwell ...	Street improvements...	2d. in £ on u. c. v.
Erina ..	Gosford ...	Street lighting	1d. in £ on u. c. v.
Gilgandra ...	Gilgandra ...	Street improvements	3d. in £ on u. c. v.
		Fire Brigade	$\frac{1}{2}$ d. in £ on u. c. v.
Gloucester ...	Gloucester ...	Street lighting	3d. in £ on u. c. v.
Goobang ...	Trundle ...	Water supply	3d. in £ on u. c. v.
Hastings ...	Comboyne ...	Roads, &c.	1d. in £ on u. c. v.
Hornsby... ..	Hornsby and Waitara	Street lighting	$\frac{1}{2}$ d. in £ on u. c. v.
	Pennant Hills, Beer-croft, and Epping.	do	$\frac{3}{4}$ d. in £ on u. c. v.
Ku-ring-gai ...	Wahroonga, Warrawee, Turramurra, Pymble, Gordon, Killara, Lindfield, and Roseville.	Street	$\frac{3}{4}$ d. in £ on u. c. v.
Kyogle ..	Kyogle ...	Street improvements...	3 $\frac{3}{4}$ d. in £ on u. c. v.
Lake Macquarie..	Boolaroo and West Wallsend.	Fire Brigade	$\frac{1}{4}$ d. in £ on u. c. v.
Lockhart ...	Lockhart ...	Additional general rate	3d. in £ on u. c. v.
Lynnhurst ...	Millthorpe ...	Street improvements...	2d. in £ on u. c. v.
Patrick Plains ...	Scott's Flat ...	Roads	1 $\frac{1}{4}$ d. in £ on u. c. v.
	Jerry's Plains ...	Water	1d. in £ on u. c. v.
Wakool ...	Barham ...	Kerbing and guttering	2d. in £ on u. c. v.
Warringah ...	Freshwater and Queenscliff.	Street lighting	$\frac{1}{2}$ d. in £ on u. c. v.
Wingadee ...	Quambone ...	Water supply	5d. in £ on u. c. v.

The unimproved capital value of the shires in 1911 was £94,189,939, but it is not possible to give the improved capital value, or the assessed annual value, as the shires are not compelled to make these valuations. The total amount of general rates levied was £461,971, and special and local rates £7,634. These figures represent the rates actually levied in respect of the year 1911, and differ from the amount shown later, the difference being due to the inclusion of interest on unpaid rates.

In several cases the general rate was not sufficient to meet the requirements, and the State paid endowments to a large number of shires. Endowments are fixed every third year, and are determined according to the extent of the shire, the probable revenue from a rate of 1d. in the £, the necessary expenditure, the extent of roads and other public works to be constructed and maintained, and other matters. The endowment in any year is paid on the general rates actually collected in the preceding

year. There are six classes into which the shires are divided for endowment purposes, the classification for the three years 1912-15 being as follows:—

54	shires in 1st class receive no endowment.
59	„ 1st „ „ up to 10s. in the £ on General Rate.
7	„ 2nd „ „ „ 15s. „ „
5	„ 3rd „ „ „ 20s. „ „
3	„ 4th „ „ „ 25s. „ „
5	„ 5th „ „ „ 30s. „ „
1	„ 6th „ „ not less than 40s. in the £ on General Rate.

The highest endowment allotted in 1911 was 40 shillings in the £ to Bellingen shire, and, as will be seen from previous publications, considerable reductions have been made in the allowances by the Government. In 1911 the Government paid £319,593 as endowment to the shires, and a further sum of £35,693 was paid as grants for special purposes, making the total subvention from the State £355,286.

INCOME.

The principal heads of income in 1911 were as follows; for purposes of comparison the 1910 figures are attached:—

Particulars.	1910.		1911.	
	Income.	Per cent.	Income.	Per cent.
General Fund—	£		£	
General rates	421,596	53·1	463,501	52·3
Government endowment	277,731	35·0	319,593	36·3
Public works	59,527	7·5	45,331	5·3
Health administration	3,746	0·5	3,998	0·5
Public services	7,441	0·9	8,769	1·0
Shire property	4,229	0·5	6,731	0·8
Miscellaneous	5,008	0·6	8,594	1·0
Special and local funds	15,095	1·9	24,513	2·8
Total revenue... ..	£ 794,373	100·0	881,030	100·0

The proportion of general rates showed a decrease in 1911, being 52·3 per cent. of the total income, as compared with 53·1 per cent. in the previous year. There was a slight increase in the Government endowment, while the income from special and local funds increased about 62 cent., owing principally to the expansion in the Sanitary, Garbage, and other Local Funds.

Of the total income in 1911, Government assistance, exclusive of grants for public works, provided 36·3 per cent., as against 35·0 per cent. in 1910. The principal items in public works were contributions to roads, bridges, &c., £7,833; Government grants for roads, &c., £25,688; and the receipts from ferries, including Government grants amounting to £9,205, were £10,432. The principal item in public services was rent, &c., from public watering places, £7,486. The income derived from special and local funds, consisting of the proceeds of special and local rates and sanitary and garbage fees, claimed 2·8 per cent. of the total, as compared with 1·9 per cent. in 1910.

EXPENDITURE.

The following statement shows the expenditure during 1911 in comparison with the previous year:—

Particulars.	1910.		1911.	
	Expenditure.	Per cent.	Expenditure.	Per cent.
General Fund—	£		£	
Rates and interest abandoned ...	...	...	3,377	0·4
Administrative expenses ...	125,669	16·4	128,126	15·4
Public works ...	599,945	78·4	647,220	77·8
Health administration ...	4,840	0·6	5,724	0·7
Public services ...	13,012	1·7	15,410	1·9
Shire property ...	4,561	0·6	7,657	0·9
Miscellaneous ...	5,129	0·7	3,743	0·4
Special and local funds ...	11,976	1·6	20,949	2·5
Total expenditure ...	£ 765,132	100·0	832,206	100·0

The expenditure on the whole, and taking item for item, differs to such a slight extent in each year that it is apparent that the councils now measure their necessities in conjunction with their estimated revenue.

The administrative expenses were £128,126, or 15·4 per cent. of the total expenditure. This may be considered high, especially in connection with the expenditure on works and services, and suggests the possibility of too many shires. Of the administrative expenses, £73,210 were on salaries, £12,645 on advertising, stationery, printing, &c., £5,301 on valuation fees, and £5,231 on presidents' allowances and councillors' travelling expenses. The expenditure on works accounted for 77·8 per cent. of the total, and was nearly double the grants received from Government. The principal expenditure was £581,859 on roads, streets, culverts, &c., of which £309,746 were on maintenance, repairs, and renewals, £268,661 on construction, and £3,452 on sundries. On other public works—bridges, punts, ferries, wharfs, &c.—£26,147 were spent on maintenance and repairs, and £30,717 on construction.

BALANCE-SHEET.

The financial position of the shires on 31st December, 1911, was strong, as there was an excess of assets of £311,762. The combined balance-sheet of the shires on 31st December, 1911, appears as follows:—

Liabilities.		Assets.	
General Fund:—	£		£
Temporary Loans ...	12,445	Outstanding Rates... ..	27,940
Due to Trust Fund ...	64	Stores and Materials	10,585
Sundry Creditors ...	38,067	Bank Balance and Cash	140,551
Due on Contracts ...	5,523	Sundry Debtors	6,555
Other ...	253	Land and Buildings	50,986
		Plant and Property	107,337
Total, General Fund ...	£56,352	Furniture, &c.	13,653
Special or Local Funds ...	11,475	Other	2,171
Total, all Funds... ..	67,827	Total, General Fund ...	£359,778
Excess of Assets	311,762	Special or Local Funds ...	19,811
Total	£379,589	Total	£379,589

It will be observed that a very large proportion of the assets of the General Fund—£140,551, or about 39 per cent.—consists of cash in bank or in hand. Probably a large part of this amount represented endowments recently received from the Government. The liabilities of the special or local funds consist for the most part of amounts due to the General Fund and sundry creditors; and the assets, sundry plant, and buildings appropriated to these funds at their inception, outstanding fees and rates, and bank balances.

TAXATION BY LOCAL GOVERNING BODIES.

The total revenue collected by all the local governing bodies from rates and charges amounts to £2,182,479, equal to £1 6s. 7d. per head of the population residing in the taxable districts. This sum includes £1,066,787, rates collected by municipalities; £469,605, rates collected by shires; and £646,087, rates collected by the various Water and Sewerage Boards referred to later. The distribution of the total amount is as follows:—

Local Bodies.	General Rates	Special and Loan Rates.	Total.	Per head.
	£	£	£	£ s. d.
Municipalities	975,189	91,598	1,066,787	1 0 6
Shires	461,971	7,634	469,605	0 15 7
Metropolitan water and sewerage charges	587,300	.....	587,300	0 16 1
Hunter District water and sewerage charges.	58,787	.....	58,787	0 13 3
Total	£ 2,083,247	99,232	2,182,479	1 6 7

BOARDS AND TRUSTS.

In addition to the ordinary form of municipal local government, there are various boards and trusts with local jurisdiction. The control of the water supply and sewerage of the Metropolitan and Hunter districts is placed under separate boards. The Metropolitan and the Country Towns Water Supply and Sewerage Acts, the Fire Brigades Act, the Sydney Harbour Trust Act, and the Metropolitan Traffic Act, were all passed with the object of extending the principle of local government, and boards have been established to carry out the provisions of some of these Acts.

The majority of the Boards dealing with local affairs have jurisdiction within the metropolitan area, and work mainly in connection with the local municipalities, although possessing powers independent of those bodies. In 1900 the Metropolitan Traffic Act was passed, which repealed the Public Vehicles Act, 1899, and such portions of the Sydney Corporation Act of 1879 and the Municipalities Act, 1897, as were inconsistent with the Act, and placed the complete control of street traffic and the licensing of public vehicles, drivers, and conductors, under the Inspector-General of Police.

The Metropolitan Board of Water Supply and Sewerage was established in 1887, and the Hunter District Board in 1892, and a reference to their transactions will be found in subsequent pages.

The Sydney Harbour Trust was established in the year 1900, and a description of its functions will be found in the chapter of this "Year Book" dealing with "Shipping."

The Fire Brigades Act, 1909, which came into operation on 1st January, 1910, repealed the Act of 1902. At the commencement of the Act the provisions were applied to the City of Sydney, to forty-one suburban municipalities, to eighty-five country municipalities, and to parts of six shires as notified in the *Government Gazette*; they may be extended to other districts by proclamation. The provisions of the Act were extended during the year 1910 to part of one additional shire, and at the beginning of 1911 to one country municipality and areas in two shires; and during 1911 three municipalities and the area in one shire were withdrawn from the operation of the Act.

BOARD OF FIRE COMMISSIONERS.

The administration of the Act is placed in the hands of a Board of Fire Commissioners, consisting of five members. The councils of the metropolitan municipalities, the councils of the country municipalities and shires, the insurance companies, and the volunteer fire brigades each elect one member; and the president is appointed by the Governor. The Board may group together any municipalities or shires, and constitute them a fire district, and must estimate each year the amount to be expended in each district. The three parties—municipalities and shires, the insurance companies, and the Government—will each contribute one-third of this amount to the Board. Where a fire district contains more than one municipality or shire, the amount of contribution is apportioned according to the average annual value in the case of the City of Sydney, and to the assessed annual value under the Local Government Act of 1906 in any other municipality or shire. Where the Act applies to the whole of a municipality or shire, the contribution must be paid out of the City Fund of Sydney, and out of the general fund of any other municipality or of a shire. Where the Act applies to part only of a municipality or of a shire, the council must raise the required amount by a local rate in such part.

The estimates adopted by the Board for the year 1911 amounted to £64,929 for the Sydney Fire District and £26,463 for the Country Fire Districts—a total of £91,392; the contribution levied upon the municipalities and shires, the insurance companies, and the Government therefore amounted to £30,464 respectively.

The number of calls attended during 1911 were 1,633, of which 1,092 were in the Sydney district. Particulars are shown below:—

Calls.	Sydney District.	Country Districts.	Total.
False alarms	155	23	178
Chimney alarms	49	26	75
Fires—Slight	824	362	1,186
,, Serious	20	4	24
,, Total destruction...	44	126	170
Total	1,092	541	1,633

The following table shows the Revenue Account and Balance-sheet for the year ended 31st December, 1911:—

REVENUE ACCOUNT, 1911.

Revenue.			Expenditure.		
			£		
Balance from 1910...	...	6,899	Administration ...	...	3,544
Subsidy from Government	...	30,464	Salaries—Permanent	...	41,774
Subsidy from Municipalities and Shires	...	30,464	Salaries—Volunteer	...	8,762
Subsidy from Fire Insurance Companies	...	30,464	Buildings, repairs and alterations	...	1,461
Other sources	...	1,769	Plant, stores, and clothing	...	7,611
			Electrical work, telephones, fire alarms, &c.	...	1,512
			Horses, fodder, harness, &c.	...	5,289
			Lighting and fuel	...	1,856
			Miscellaneous	...	14,473
			Balance	...	13,778
Total	...	£100,060	Total	...	£100,060

BALANCE-SHEET, 1911.

Liabilities.			Assets.		
			£		
Fund Account	...	31,799	Lands and buildings	...	3,144
Sinking Fund	...	3,425	Plant, stocks on hand, &c.	...	36,716
Revenue Account	...	13,778	Sundry debtors	...	60
Other	...	2,468	Bank balance and cash	...	11,550
Total	...	£51,470	Total	...	£51,470

GOVERNMENT EXPENDITURE ON LOCAL WORKS.

Excluding the expenditure on works of national importance, the Government has expended no less than £44,523,000 on works of purely local character. It was not to be expected that the division of the State into local government districts would be followed by an entire stoppage of expenditure on works of local interest by the Central Government, but the larger portion of the works previously undertaken by the Government are left to the local authorities, who, having to provide the revenue, should see that it is laid out to the best advantage. The expenditure by the Government on account of works which may be classed as local, during the last ten years, is given below:—

Year ended 30th June.	Total Expenditure.	Per head.	Year ended 30th June.	Total Expenditure.	Per head.
	£	£ s. d.		£	£ s. d.
1902	1,671,400	1 4 0	1907	887,000	0 11 7
1903	1,349,100	0 19 2	1908	837,000	0 10 6
1904	768,400	0 10 9	1909	896,000	0 11 2
1905	641,300	0 8 9	1910	816,000	0 9 11
1906	655,400	0 8 9	1911	907,000	0 11 1

The amounts given above are approximate, and include the expenditure from loans, consolidated revenue, and from Public Works Fund, but the endowments to municipalities and shires have not been taken into account. The expenditure on the Burrinjuck Reservoir and

Northern Murrumbidgee Irrigation Scheme has also been excluded. The large decline from 1903 to 1906 is due chiefly to the smaller borrowing policy of the Government, while the increase during the later years is caused by the operation of the Water and Drainage Act and a considerable expansion of tramway construction, harbours and rivers, water supply and sewerage, &c.

WATER SUPPLY FOR COUNTRY TOWNS.

The Country Towns Water Supply and Sewerage Act of 1880 was passed with the object of assisting municipalities to construct general systems of water supply and sewerage. To the end of June, 1912, forty-eight municipal councils had availed themselves of the privileges offered as regards the former service, and works were under construction in other municipalities.

The amount required for carrying out the works is advanced by the State. The municipality, however, has the option of supervising and constructing the works, failing which the Government undertakes these duties. Under the original Act, the sum advanced was to be repaid by instalments, with interest at the rate of 4 per cent., on the unpaid balances, each annual instalment to be equal to 6 per cent. of the total cost, and the first payment to be made twelve months after the date of the transfer of the works to the municipality; but as it was found that the municipalities which had contracted liabilities in respect of water supply works were unable to comply with these conditions, the Government, in 1894, passed an amending Act which granted them more favourable terms, the rate of interest being reduced to 3½ per cent., and the number of yearly repayments fixed at a maximum of 100. Under the amending Act of 1905, the rate of interest is fixed at 4 per cent. per annum. This Act also provides for the issue of licenses to workmen, for the recovery of rates, and for making by-laws for the assessment of lands, and for other purposes.

The following is a statement, as at 30th June, 1912, of the water-works completed and handed over by the Government, with the amounts expended, and the sums payable annually for the period of one hundred years:—

Municipality.	Amount of Debt (as gazetted).	Amount Payable Annually.	Municipality.	Amount of Debt (as gazetted).	Amount Payable Annually.
	£	£		£	£
Albury	41,000	1,483	Junee	42,000	1,519
Armidale	40,718	1,474	Katoomba	20,730	884
Ballina	17,652	664	Kiama	7,073	256
Balranald	6,000	217	Lismore	18,526	716
Bathurst	55,734	2,010	Lithgow	35,732	1,441
Bery	4,380	159	Mittagong	11,734	512
Blayney	10,771	389	Moama	7,601	275
Bourke	13,436	486	Moree	10,940	396
Bowral	872	61	Moss Vale	13,000	470
Casino	12,246	456	Mudgee	19,947	767
Cobar	26,160	946	Murwillumbah	518	22
Condoholin	7,725	283	Nowra	13,259	483
Coonamble	10,214	387	Nyngan	10,219	369
Cootamundra	22,916	876	Orange	40,322	1,507
Corowa	10,579	464	Parkes	22,000	796
Cowra	15,521	682	Pictou	17,194	630
Deniliquin	18,668	682	Singleton	22,977	980
Dubbo	22,080	843	Tumut	10,238	370
Forbes	20,927	817	Wagga Wagga	41,588	1,518
Goulburn	56,571	2,056	Warren	5,819	256
Gundagai	11,278	486	Wellington	12,433	451
Gunnedah	14,881	634	Wentworth	4,000	145
Hay	17,075	624	Wilcannia	3,381	303
Hillgrove	4,009	170			
Jerilderie	6,518	245			
			Total	£ 864,153	32,649

At Forbes, Hay, and Wilcannia, the works were constructed by the municipal authorities, and the expenditure shown in the table is not the actual cost of the works, but the Government valuation.

The combined financial statements—revenue account and balance sheet—of the municipalities which maintain waterworks are shown below. The revenue account was as follows for 1911:—

Expenditure.				Income.			
£				£			
Management	...	...	12,598	Rates levied...	...	...	47,066
Working and maintenance	...	...	20,066	Meter rents	...	...	266
Repairs and renewals	...	...	3,096	Water sales	...	...	19,405
Interest payable to Government	...	...	29,743	Garden charges, &c.	...	...	5,224
Other	...	...	5,311				
Total	...	...	£70,814	Total	...	...	£71,961

Of the expenditure, management charges accounted for 17·8 per cent., working and maintenance for 28·3 per cent., repairs and renewals 4·4 per cent., interest payable to Government 42·0 per cent., and miscellaneous items 7·5 per cent.

Rates contributed 65·4 per cent. to the income, meter rents 0·4 per cent., water sales 26·9 per cent., and garden charges, &c., 7·3 per cent.

The combined balance-sheet, on 31st December, 1911, was as follows:—

Liabilities.				Assets.			
£				£			
Amount for which liable to Government	...	...	854,549	Waterworks—plant, buildings, &c.	...	...	865,592
Interest due to Government and unpaid	...	...	34,329	Outstanding rates	...	...	13,324
Sundry creditors	...	...	14,917	Bank balances and cash in hand	...	...	20,720
				Stores and materials	...	...	3,108
				Sundry debtors	...	...	19,791
				Fixed deposits (including interest)	...	...	5,242
Total	...	...	£903,795	Total	...	...	£927,777

The total amount advanced by the Government was £868,208, of which £13,659 has been repaid, and the former sum practically represents the present value of the services; but where the works were not constructed by the Government, the value is included as an asset of the loan fund. A considerable amount of rates was outstanding on the date mentioned, while the bank balances and cash in hand were also large, and, on the whole, the assets exceeded the liabilities by £23,982.

The Burrinjuck Reservoir and Northern Murrumbidgee Irrigation scheme have not been dealt with, as they are national works, but it may be stated that a sum of £508,000 had been expended to 30th June, 1912.

SEWERAGE WORKS.

Only eleven municipal councils have taken advantage of the Act providing for the construction of sewerage works in country towns, and the capital debt and annual repayments on 30th June, 1912, were as follows:—

Municipality.	Amount of original Debt.	Amount payable Annually.	Municipality.	Amount of original Debt.	Amount payable Annually.
	£	£		£	£
Ballina	327	20	Lismore	17,589	636
Blayney	429	26	Narrandera	10,064	464
Casino	3,023	129	Parramatta	66,011	2,387
Coraki	1,214	69	Tamworth	1,217	56
Forbes	1,624	59			
Hay	22,368	809	Total... ..	£ 141,165	5,348
Katoomba	17,299	693			

Other sewerage systems are in existence in several places, which have been constructed altogether apart from the Act, but, with few exceptions, the operations have been on a minor scale. The general system of sewerage in the metropolitan area has superseded the isolated systems of some of the suburban districts. The Metropolitan Board has assumed control of the sewerage constructed by the City of Sydney and by various suburban municipalities.

In addition to the assistance granted for the works mentioned above, the Government has advanced a sum of £213,048 for swamp drainage, bores, garbage destructors, and other services, which is payable by annual instalments, and the amount outstanding on 30th June, 1912, was £188,572.

Of the municipalities named in the above table, Ballina, Forbes, Tamworth, and Blayney do not levy special sewerage rates, and therefore do not keep a special account. The combined financial statements of the other municipalities are shown below. The revenue account for the year 1911 was as follows:—

Expenditure.	Income.
	£
Management	1,460
Working and maintenance... ..	2,339
Repairs and renewals	140
Interest payable to Government	3,896
Other	259
Total	£8,094
	£
Rates levied	6,639
Other	1,907
Total	£8,546

Practically the only source of income is from rates. Of the expenditure, management charges took up 18·1 per cent., working and maintenance 28·8 per cent., repairs and renewals 1·7 per cent., interest payable to Government 48·1 per cent. The combined balance-sheet was as follows:—

Liabilities.	Assets.
	£
Amount of Capital Debt for which liable to Government	135,956
Interest due to Government and unpaid	5,978
Sundry creditors	1,552
Total... ..	£143,486
	£
Works	136,664
Outstanding rates	1,562
Bank balance and cash	1,843
Stores and materials	133
Sundry debtors	2,429
Total... ..	£142,631

Three of the municipalities showed an excess of liabilities amounting to £2,845, the others showing an excess of assets of £1,990. On the whole there was an excess of liabilities amounting to £855.

GAS-WORKS.

The Municipalities Act authorises the construction of works for public lighting, and enables municipalities to provide private consumers with gas. In addition, acetylene gas plants have been established in fifteen municipalities.

The operations of the municipalities with gas-works in 1911 will be seen from the statements below of the trading fund revenue account and balance-sheet, and the loan fund balance-sheet. The first statement is the trading fund revenue account, and particulars for 1910 are appended for purposes of comparison :—

Expenditure.	1910.	1911.	Income.	1910.	1911.
	£	£		£	£
Manufacture of gas ...	28,466	29,942	Private lighting ...	41,027	43,183
Distribution of gas ...	2,896	2,931	Public lighting ...	8,948	9,258
Management expenses	5,207	5,323	Sale residual products	5,353	5,806
Public lighting ...	2,000	2,149	Other	403	252
Other	4,345	4,564			
Total ...	£ 42,914	44,909	Total ...	£ 55,731	58,499

On the total operations for 1911 there was a gross profit of £13,590, none of the municipalities showing a loss. The manufacture of gas accounted for 66·7 per cent. of the expenditure, as compared with 66·3 per cent. in 1910, and private lighting for 73·8 per cent. of the income as against 73·6 per cent. in 1910.

The gross profit was reduced in the Net Revenue Appropriation Account, which is not shown here, by charges amounting to £15,575. Transfers to the loan fund included £5,061 for payment of interest, and £2,297 for other purposes; and the net loss for 1911 was £249, which, deducted from the credit balance of £12,462 brought forward from 1910, leaves £12,213 to be carried forward.

The next statement is the balance-sheet of the trading account for 1911 :—

Liabilities.				Assets.			
			£				£
Due to other Funds			17,415	Materials, stock, &c.			33,902
Sundry creditors			2,811	Sundry debtors, including amounts			
Reserves			1,851	due from other funds			11,765
				Fixed deposits			1,017
				Bank balance and cash			7,208
Total			£22,077	Total			£53,892

The total excess of assets amounted to £31,815, each municipality, with three exceptions, contributing thereto.

The following balance-sheet of the loan fund really shows the value of the assets of this trading concern for 1911:—

Liabilities.				Assets.			
£				£			
Loans current	...	...	151,651	Land and buildings	...	...	31,900
Interest accrued not paid	...	...	1,462	Plant, &c.	...	...	138,203
				Due from other funds	...	...	13,969
				Investments	...	...	3,895
				Other	...	...	3,497
Total	...	...	£153,113	Total	...	...	£191,464

Against a total loan indebtedness of £153,113, the municipalities had assets valued at £191,464, the excess of assets being substantial. Of the assets, land, buildings, plant, &c., made up 88·8 per cent.; amounts due from other funds, chiefly trading accounts, 7·3 per cent.; and investments, &c., 3·9 per cent.

ELECTRICITY WORKS.

The following municipalities have erected electric lighting plants:— Sydney, Redfern, Broken Hill, Möss Vale, Newcastle, Penrith, Tamworth, and Young, also Inverell, where works were opened in December, 1911. These works were erected under special Acts, as electric lighting may not be undertaken without the authority of a special Act.

Dealing with the electricity works in a similar manner to the gas-works, the following show the results of the operations in 1911 in respect of municipalities operating under the Local Government Act, Sydney electric lighting undertaking having already been dealt with.

The following is the trading revenue account for 1910 and 1911:—

Expenditure.	1910.		1911.		Income.	1910.		1911.	
	£	£	£	£		£	£		
Generation	11,105	13,322	Private lighting	...	7,410	9,478	
Distribution	1,697	1,957	Public lighting	...	9,084	9,569	
Management, &c.	1,434	1,930	Power supply	...	4,211	5,373	
Special charges	1,439	1,046	Rents of meters, &c.	...	141	297	
Reserves (renewals and repairs)	452	.....	Other	...	210	469	
Public lighting	1,952	2,090					
Other	134	56					
Total	...	£	18,213	20,401	Total	...	£	21,056	25,186

Generation of electricity is the largest item of expenditure, accounting for 65·3 per cent. of the whole. Distribution of the current cost 9·6 per cent., and management 7·5 per cent. The gross profit of this concern to the municipalities combined was £4,785; but the transactions of the Net Revenue Appropriation Account (not included here) show a debit balance of £10,854 to be carried forward to the next account. This unsatisfactory result was brought about by the burdening of the debit side of the account with amounts transferred to the loan fund.

The balance-sheet of the trading fund for 1911 is as follows:—

Liabilities.				Assets.			
			£				£
Due to other funds...	...	...	8,867	Materials, stock, &c. ...	...	...	2,753
Sundry creditors...	...	...	2,074	Sundry debtors ...	...	...	5,854
				Bank balance and cash...	...	...	1,844
				Other ...	...	...	90
Total ...	...	...	£ 10,941	Total ...	...	...	£ 10,541

The last statement is the balance-sheet of the loan fund for 1911:—

Liabilities.				Assets.			
			£				£
Loans current ...	...	...	101,015	Land and buildings ...	...	...	7,299
Interest accrued not paid ...	...	...	12,282	Steam plant ...	...	...	27,892
Other ...	...	...	3,515	Dynamamos...	...	...	5,148
				Cables, poles, &c. ...	...	...	31,031
				Due from other funds ...	...	...	16,665
				Bank balance and cash ...	...	...	3,826
				Other ...	...	...	8,444
Total ...	...	...	£ 116,812	Total ...	...	...	£ 100,305

The liabilities exceed the assets by £16,507, and the assets do not even cover the outstanding loans. It should be noted, however, that while the trading fund is able to meet interest charges, provide for redemption and sinking fund, and still show a surplus, there is no reason to doubt the solvency of the undertaking.

METROPOLITAN BOARD OF WATER SUPPLY AND SEWERAGE.

In March, 1888, the Government passed an Act establishing a Board of Administration, under the title of the Metropolitan Board of Water Supply and Sewerage, to regulate the water supply and sewerage services in the county of Cumberland, including those under the control of the City Council. The management of the former service was transferred to the Board in May, 1888, and of the latter in September, 1889. The total length of water mains taken over was 355 miles, and on 30th June, 1912, this had increased to 1,763½ miles, inclusive of trunk mains. There were 70¼ miles of sewers in 1889, lengthened to 863¼ miles in 1912.

The Board consists of seven members, three of whom are appointed by the Government, two by the City Council, and two by the suburban and country municipalities within the county of Cumberland which are supplied with water. The Board is subject to the general control of the Minister for Works—a provision considered necessary, as the Government advances the whole of the money for the construction of the works, the amount so advanced constituting part of the public debt of the State.

METROPOLITAN WATER SUPPLY.

As early as 1850 authority was given by the Legislative Council to the City Corporation for the construction of water and sewerage works, and a system of water supply from the Lachlan, Bunnerong, and Botany Swamps was adopted. By this scheme the waters of the streams draining

these swamps were intercepted at a point near the shore of Botany Bay. A pumping plant was erected there, and the water raised to Crown-street reservoir, 141 feet above the level of the sea, thence into Paddington reservoir, at an elevation of 214 feet above sea-level; and to Woollahra, 282 feet above sea-level. The cost of these works was £1,719,565. This system has since been superseded by the Upper Nepean system, the management of which was transferred in 1888 to the Metropolitan Board of Water Supply and Sewerage.

The sources of supply under the existing system are the waters of the Nepean, Cataract, and Cordeaux Rivers, draining an area of 354 square miles, a catchment enjoying a copious and regular rainfall. The off-take works are built at a height of 437 feet above the level of the sea, and the water flows by means of tunnel, open canal, and wrought-iron aqueducts to Prospect Reservoir, a distance of 40 miles from the farthest source of supply. The conduits above Prospect Reservoir have a maximum delivery of 150,000,000 gallons per day, and for 10 miles below this reservoir the capacity of the canals and pipes is 50,000,000 gallons. For the last 11 miles the water is conveyed by two 48-inch mains. In this work there are 63½ miles of tunnels, canals, and pipes.

Notwithstanding the size of Prospect Reservoir, it was found in 1902—a very dry year—that the supply was not sufficient for the growing needs of the metropolis. The Government therefore decided to build the Cataract Dam, which was completed in 1908, the catchment area above the dam being about 50 square miles. The water flows from this dam down the Cataract River to a weir at Broughton's Pass, where it enters a tunnel previously existing, and is conveyed by a system of open canals to the Prospect Reservoir. The total distance from Cataract to Sydney, *via* Prospect, is 66½ miles.

The dimensions of the Prospect and Cataract dams are shown in the following statement:—

Dam.	Height above Sea level.	Area.	Capacity.	Length.	Width at top.	Height.
	ft.	acres.	gallons.	ft.	ft.	ft.
Prospect	195	1,266½	11,029,180,000*	7,300	30	85½
Cataract	950	2,400	21,411,000,000	811	16½	160

* When full, about half this quantity is available by gravitation.

From Prospect the water flows 5 miles by open canal to the Pipe Head Basin, thence 5 miles by 6-foot wrought-iron and steel pipes to the Potts' Hill Balance Reservoir, which has a capacity of 100,000,000 gallons, and covers 24½ acres. This reservoir was designed to tide over any interruption in the supply from Prospect, as well as to prevent fluctuation at the head of pressure. A by-pass is laid along the floor to enable mains to deliver water to Sydney direct.

At Potts' Hill the water passes through a series of copper-gauze screens, and is then conducted by two 48-inch mains and three smaller mains to the reticulated area south of Port Jackson. At Lewisham a bifurcation takes place in one of the 48-inch mains; one branch supplying the Petersham Reservoir, the other continuing to Crown-street. The Petersham Reservoir is 166 feet above high-water mark, is built of brick, and has a capacity of 2,157,000 gallons. The other 48-inch main, laid in 1893, delivers water direct from Potts' Hill to Crown-street. These two trunk

mains are connected at Petersham as an intermediate spot. The Crown-street Reservoir is 21 miles from Prospect. It is of brick, and contains 3,250,000 gallons, the top water-level being 141 feet above high-water mark.

On account of the elevation of parts of the reticulated area, pumping is necessary for the purpose of supplying the upper zones, and no less than 6,590·69 million gallons were raised at the various stations during the twelve months ended June, 1911, representing 60·9 per cent. of the water consumed. Pumping expenses amounted in the aggregate to £25,075. At Crown-street is situated the main pumping station, where are erected three sets of compound high-duty pumping engines. A covered reservoir, of a capacity of 17,000,000 gallons, has been constructed in the Centennial Park, at a height of 245 feet, for the purpose of ensuring a larger bulk of water within the city limits. At Ashfield there is a 100,000-gallon wrought-iron tank at an elevation of 223 feet above high water. This tank is supplied from the Centennial Park Reservoir by a main, and provides for the higher part of the district. Vacluse Reservoir is connected with Waverley, and supplies a district of about 1,200 acres around Vacluse and South Head. It has a diameter of 107 feet, a depth of 18 feet, and its capacity is 1,000,000 gallons.

North Sydney receives its supply from Potts' Hill, *via* Ryde, where there is a reservoir containing 2,116,000 gallons, from which the water is pumped into a million-gallon tank at Ryde village, 234 feet above sea-level, and, by a continuation of the same main, into a pair of tanks, of a joint capacity of 3,000,000 gallons, at Chatswood, at an elevation of 370 feet above high-water mark. Water can be lifted direct from Ryde to Wahroonga and Pymble, or may be re-pumped from Chatswood, where a small pumping station has been erected. There are two tanks of 1,000,000 and 40,000 gallons capacity at Wahroonga, $7\frac{1}{2}$ miles distant, at an elevation of 717 feet above sea-level, whence the water flows as far as Hornsby, 13 miles to the north-west of Port Jackson. A concrete reservoir of a capacity of 500,000 gallons has been constructed at Pymble. From this reservoir the districts between Pymble and Chatswood are served, thus reducing the abnormal pressure by reason of the supply being from so great a height as Wahroonga.

From the Ryde village tank the whole of Ryde, Gladesville, and Hunter's Hill are supplied; while a 9-inch main extends over the Parramatta and Iron Cove bridges to supply Balmain. An elevated tank, with a capacity of 72,800 gallons, and a reservoir with a capacity of 1,925,000 gallons have been erected for the convenience of residents at Mosman.

The districts of Campbelltown and Liverpool are supplied from the main canal by gravitation. At the latter place, a 4,000,000-gallon earthen reservoir has been constructed, and a tank with a capacity of 250,000 gallons, for the purpose of tiding over any interruption in the flow from the canal. Other districts lying nearer Sydney, viz., Smithfield, Granville, Auburn, and Rookwood, are also supplied *en route*; and at Smithfield there is a 100,000-gallon concrete tank, the top water of which is 175 feet above sea-level. At Penshurst there are two tanks 270 feet above sea-level, one of which has a capacity of 1,000,000 gallons, and the other of 20,000 gallons. Works for the supply of water to the towns of Camden and Narellan, from a point on the canal near Kenny Hill, were completed in October, 1899, and the scheme has proved satisfactory. In 1893, the Board assumed control of the Richmond waterworks, in 1902 of the Manly works, and in 1903 of the Wollongong works. Manly is also connected with the metropolitan system by a main from Mosman, crossing Middle Harbour.

The following statement shows the number of houses and population in the metropolitan area supplied with water during the last ten years:—

Year ended 30th June.	Houses Supplied.	Estimated Population supplied.	Average Daily Supply.	Total Supply for Year.	Average Daily Supply.	
					Per House.	Per Head.
	No.	No.	gallons.	gallons.	gallons.	gallons.
1903	104,681	523,000	16,896,000	6,166,992,000	161	32·3
1904	109,191	546,000	18,690,000	6,840,549,000	171	34·2
1905	112,343	561,700	21,712,800	7,925,184,000	193	38·7
1906	116,202	581,000	22,393,300	8,173,555,000	193	38·5
1907	120,782	603,900	22,912,600	8,263,104,000	189	37·9
1908	124,083	620,400	24,500,400	8,967,135,000	197	39·5
1909	128,508	642,500	25,911,400	9,457,660,000	201	40·3
1910	133,788	668,900	26,903,000	9,819,652,000	201	40·2
1911	139,237	696,200	29,007,000	10,587,434,000	208	41·7
1912	146,236	731,200	30,522,000	11,141,700,000	208	41·7

The average daily consumption during the year ended 30th June, 1912, was 30,522,466 gallons, equivalent to 208 gallons per house, or 41·7 gallons per head of population. The consumption was restricted in 1903 and 1904, and has not yet reached the average of the years preceding the two mentioned.

The rate levied for water is 6d. in the £ in the Metropolitan district, while 11d. is the charge for 1,000 gallons by meter. The revenue from the Water Service Branch during the year ended 30th June, 1912, exclusive of the country towns, was £329,605, and the expenditure, including interest on capital, £311,401. The net revenue showed a return of 3·86 per cent. on the capital debt of £5,606,268.

The following statement gives the transactions for each of the last ten years:—

Year ended 30th June.	Capital cost— interest- bearing.	Revenue.	Working expendi- ture.	Interest.	Net return after paying working expenses.	Net profit after paying working expenses and interest.
	£	£	£	£	per cent.	£
1903	4,077,365	220,745	70,008	134,740	3·70	15,997
1904	4,289,012	222,827	57,800	144,927	3·85	20,100
1905	4,434,991	251,503	66,015	153,304	4·18	32,184
1906	4,674,341	270,263	64,487	164,216	4·40	41,560
1907	4,902,463	275,591	67,593	176,170	4·24	31,828
1908	5,009,012	283,410	75,016	183,033	4·16	25,361
1909	5,146,302	267,519	80,281	185,591	3·64	1,647
1910	5,286,917	284,943	93,027	184,486	3·63	7,430
1911	5,420,813	299,442	99,355	192,486	3·69	7,601
1912	5,606,268	329,605	112,958	198,443	3·86	18,204

The charges were reduced in 1907 and in 1908; but the returns still show a profit after paying working expenses and interest.

In addition to the city and suburbs, various country towns are supplied with water by the Metropolitan Board, and their accounts are kept distinct from those of the metropolis. The works at Richmond and Wollongong were constructed under the Country Towns Water Supply and Sewerage Act, and subsequently handed over to the Board; also the districts of Campbelltown, Camden, and Narellan, and Liverpool, receive

the water by gravitation from the upper canal at Prospect. The following table shows particulars of the capital, receipts, and expenditure in the country districts during the year ended 30th June, 1912:—

District.	Capital Cost.	Revenue.	Annual Liability.			Total.
			Interest and instalment required to pay off cost of reticulation in 100 years.	Maintenance, including proportion of Head Office expenses.	Charges for water supplied from Canal.	
	£	£	£	£	£	£
Campbelltown	8,318	906	301	210	173	684
Liverpool	20,806	1,392	752	374	430	1,556
Camden and Narellan	10,835	548	392	168	252	812
Richmond	15,652	762	566	1,124	...	1,690
Wollongong	50,397	3,261	1,822	942	...	2,764

THE HUNTER DISTRICT WATER SUPPLY.

The water supply works of the Lower Hunter were constructed by the Government under the provisions of the Country Towns Water Supply and Sewerage Act of 1880. In 1892, under the authority of a special Act, a Board was established on similar lines to those of the Metropolitan Water and Sewerage Board, the number of members being the same—three being nominated by the Governor, one elected by the Municipal Council of Newcastle, two by the adjacent municipalities, and one by the municipalities of East and West Maitland and Morpeth. The following districts are within the area of the Board's jurisdiction:—

Municipalities—

Adamstown, Carrington, Greta, Hamilton, Lambton and New Lambton, East and West Maitland, Merewether, Morpeth, Newcastle City, Plattsburg, Wallsend, Waratah, Wickham.

Shires—

In Bolwarra Shire: Bolwarra, Lorn.

In Cessnock Shire: Aberdare, Abermain, Abermain Government Township, Cessnock, South Cessnock, Bellbird, Hebburn, Heddon Greta, Homeville, Kurri Kurri, Mayfield, Neath, Oakhampton, Rutherford, Telarah, Weston.

In Lake Macquarie Shire: Argenton, Boolaroo, Spier's Point, West Wallsend.

In Tarro Shire: Hexham, Minmi, Morpeth Road, Pelaw-Main, Stanford Merthyr.

The supply of water for the district is pumped from the Hunter River, about a mile and a half up stream from the Belmore Bridge, West Maitland. The pumping engines are situated above flood-level, on a hill about 44 chains from the river. At the pumping station there is a settling tank of 1,390,500 gallons; also six filter-beds, 10,000 superficial feet each, a clear-water tank of 589,500 gallons capacity, and a storage reservoir of 172,408,100 gallons available capacity. The filtered water is pumped from the clear-water tank into two summit reservoirs, one at East Maitland and one at Buttai. The former is connected by a 10-inch cast-iron main about $4\frac{1}{5}$ miles in length, with a capacity of 463,430 gallons, and supplies East Maitland, West Maitland, Morpeth, and neighbouring places. Buttai Reservoir is fed by two rising mains, one riveted steel pipe, $20\frac{3}{4}$ inches diameter, and a 15-inch cast-iron main, $5\frac{3}{8}$ miles in length; it has a capacity of 1,051,010 gallons, and supplies Newcastle and environs. Twelve district reservoirs which are supplied from Buttai, nine by gravitation and three by repumping, receive water for distribution.

The length of the mains when the Board was established was 105 miles, which has been increased to 346 $\frac{1}{4}$ miles as at 30th June, 1912.

Particulars relating to the water supply of the Board are given below. A water rate of 10d. in the £ is payable on the assessed annual value of all properties over £12 in value, and the charge by meter is 2s. per 1,000 gallons.

Year ended 30th June.	Houses Supplied.	Estimated Population served.	Supply.		Average Daily Supply	
			Daily average.	Total.	Per House.	Per Head.
	No.	No.	gallons.	gallons.	gallons.	gallons.
1903	10,522	52,600	1,113,000	406,172,000	106	21·2
1904	11,100	55,500	1,093,000	399,954,000	98	19·7
1905	12,167	60,800	1,266,000	461,936,000	104	20·8
1906	12,968	64,840	1,478,500	539,655,000	114	22·8
1907	13,569	67,845	1,479,400	539,964,500	109	21·8
1908	14,457	72,285	1,654,100	603,755,000	114	22·8
1909	15,679	78,395	1,766,500	644,689,000	113	22·5
1910	16,446	82,230	1,650,700	602,497,000	100	20·1
1911	17,164	85,820	1,849,900	675,214,000	108	21·5
1912	17,796	83,980	2,026,100	739,539,000	114	22·7

The funds necessary for the maintenance and management of the water supply and sewerage services, as well as the sum required to pay interest on the capital debt, are obtained by rates levied on the properties situated in the districts benefited by the systems. The assessments of the Municipal Councils are generally accepted by the Boards as the values on which to strike their special rates. In cases of heavy consumption of water, a charge is made according to the quantity used; but fixed charges are imposed for the use of water in certain trades and callings, for gardens, and for animals.

Year ended 30th June.	Estimated Capital Debt.	Revenue.	Expenditure (including Interest).	Return on Estimated Capital Debt.
	£	£	£	per cent.
1903	500,784	31,102	32,217	3·27
1904	515,565	31,360	32,361	3·30
1905	533,270	34,486	33,714	3·64
1906	544,798	40,801	34,801	4·60
1907	398,618	41,822	38,886	6·25
1908	454,199	43,609	39,664	4·37
1909	474,485	43,395	41,184	3·90
1910	485,967	46,767	43,126	4·17
1911	495,747	45,711	45,420	3·55
1912	510,897	47,788	47,920	3·56

The capital debt has been adjusted as from 30th June, 1907, in accordance with the report of the Committee appointed to investigate the accounts of the Board. The reduction was effected by writing off the difference between the revenue and expenditure of the Board, allowing for depreciation of the works to 30th June, 1907.

METROPOLITAN SEWERAGE WORKS.

The first sewerage works at Sydney were begun in 1853; and in 1889, the date of transfer to the Board, there were 70 $\frac{1}{4}$ miles of old city sewers in existence. The original scheme was designed on the "combined" system, by which street-surface water as well as sewage was removed.

The works comprised five main outfalls discharging into the harbour at Blackwattle Bay, Darling Harbour, Sydney Cove, Fort Macquarie, and Woolloomooloo Bay. The pollution of the harbour consequent on these outlets, led to the appointment of a Commission of Inquiry, and the outcome of the labours of the Commission was the adoption of the present system.

This system consists of three main outfalls—the northern, southern, and western; the northern discharges into the Pacific Ocean near Bondi, and the southern and the western discharge into the sewage farm at Webb's Grant, near Botany Bay. The northern system receives sewage from Waverley, Bondi, Woollahra, Double Bay, Darling Point, Rushcutter's Bay, Elizabeth Bay, and parts of Woolloomooloo.

The southern main outfall commences at a point on the north side of Cook's River, near Botany Bay, and receives the drainage from Alexandria, Waterloo, Erskineville, Newtown, and portions of the Surry Hills district. The inlet-house, into which the sewage passes, is fitted with the latest machinery for straining the sludge, and for ejecting the fluid after filtration. A portion of the area has been cultivated, and fair crops have been raised. Storm-water channels are also constructed at various points to carry off the superfluous water after heavy rainfalls.

The western outfall, which provides for the western suburbs, starts at a receiving chamber in the Rockdale end of the sewage farm, from which it runs to another chamber about a quarter of a mile to the north-east of Muddy Creek, and thence to a penstock chamber at Marrickville on aqueducts over Wolli Creek and Cook's River. The latter chamber receives the discharges from the eastern, northern, and western branch sewers, and drains part of Marrickville, Petersham, Stanmore, Newtown, Leichhardt, Annandale, Camperdown, Summer Hill, Ashfield, Canterbury, Enfield, Burwood, Five Dock, and Concord. A branch outfall has been constructed at Coogee, which discharges into the ocean, and serves the districts of Randwick, Kensington, and Coogee. On the northern side of the city, extensive works have been completed; in the borough of North Sydney septic tanks were built in 1899 to deal with the sewage matter; and at Middle Harbour, Mosman, and Manly, ample provision has been made for the sanitation of the districts.

The subjoined statement gives the transactions relating to sewerage during the last ten years:—

Year ended 30th June.	Capital cost - interest-bearing.	Revenue.	Working expenditure.	Interest.	Net return after paying working expenses.	Net profit after paying working expenses and interest.
	£	£	£	£	per cent.	£
1903	3,409,176	145,666	45,609	113,116	2·93	- 13,059
1904	3,824,530	156,274	43,320	129,653	2·95	- 16,699
1905	3,774,264	213,937	54,314	130,519	4·23	+ 29,104
1906	3,828,495	220,629	55,368	134,527	4·32	+ 30,734
1907	3,922,514	217,864	62,141	140,980	3·96	+ 14,743
1908	4,053,591	216,258	64,020	148,142	3·75	+ 4,096
1909	4,225,239	214,212	68,574	151,317	3·44	- 5,679
1910	4,351,381	223,131	70,851	151,943	3·49	+ 3,337
1911	4,496,290	234,208	79,636	159,070	3·43	- 4,498
1912	4,769,449	250,826	82,246	166,771	3·53	+ 1,809

There was a loss during the first two years of the table, but the four succeeding years each showed a profit. The rate was reduced in 1908, and although the returns showed a deficit during the following year, and 1911, there was a profit in 1910 and in 1912.

The sewerage rate from the city of Sydney and the eastern suburbs up to 1903 was 7d., the northern and the western suburbs being rated at 1s., but in 1904 a uniform rate of 11d. was imposed. In 1907 it was reduced to 10d., and in 1908 to 9½d.

The length of sewers in the metropolis, and the population and houses served during the last ten years are shown below:—

Year ended 30th June.	Houses connected.	Estimated Population served.	Length of Sewers.	Length of Storm-water Drains.	Length of Ventilating Shafts.	Length of Sewers Ventilated.
	No.	No.	miles.	miles.	feet.	miles.
1903	78,620	400,000	588·38	37·27	239,767	595
1904	82,215	410,000	610·73	38·67	252,977	614
1905	85,958	430,000	630·42	44·71	256,535	622
1906	88,881	444,000	656·84	44·82	264,255	636
1907	91,940	457,000	684·38	46·15	281,885	654
1908	94,735	470,000	724·37	46·94	286,000	684
1909	98,009	490,000	760·16	47·30	297,910	714
1910	102,896	514,000	793·55	47·82	344,820	756
1911	106,879	534,000	825·20	48·85	376,900	795
1912	110,988	555,000	863·29	49·69	382,654	809

NEWCASTLE AND SUBURBS SEWERAGE WORKS.

The sewerage scheme for Newcastle and suburbs, now in course of construction by the Public Works Department, will deal with the sewerage partly by gravitation and partly by pumping. The outfall is situated at Merewether Gulf, some distance south from Newcastle. Two gravitation sewers which branch from the main, one at Merewether and the other in the city of Newcastle, have been completed and transferred to the control of the Hunter District Water and Sewerage Board, also the reticulation sewers for the areas capable of being drained by gravitation. The first transfer was made in July, 1907, and the particulars of cost, revenue, and expenditure to 30th June, 1912, are shown below:—

Year ended 30th June.	Capital cost— interest- bearing.	Revenue.	Working expendi- ture.	Interest.	Net return after paying working expenses.	Net profit after paying working expenses and interest.
	£	£	£	£	per cent.	£
1907	53,763	.....	.....	.....	.....	.....
1908	65,917	17	627	2,374	.....	- 2,984
1909	87,127	745	1,461	2,779	.....	- 3,495
1910	128,655	6,192	2,303	3,814	3·02	+ 75
1911	170,151	8,975	4,217	5,368	2·79	- 610
1912	246,915	10,999	6,002	7,331	2·45	- 2,334

The sewerage rate—1s. in the £ on the annual rental value—came into force on 1st January, 1909. As the following table shows, the length of sewers under the control of the Board on 30th June, 1912, was 38 miles, and 2,424 houses were connected:—

Year ended 30th June.	Houses connected.	Estimated Population served.	Length of Sewers.	*Ventilating Shafts.	Length of Sewers Ventilated.
	No.	No.	miles.	No.	miles.
1908	52	260	23·59	.....	.....
1909	228	1,140	23·67	183	11·45
1910	661	3,305	29·50	183	17·28
1911	1,465	7,325	29·91	285	17·68
1912	2,424	12,120	37·14	418	37·14

* Length not available.

PARKS AND RECREATION RESERVES.

It has always been the policy of the State to provide the residents of incorporated towns with parks and reserves for public recreation, and the city of Sydney contains within its boundaries an extent of parks, squares, and public gardens affording favourable comparison with the great cities of the world. The most important are--Moore Park, where about 380 acres are available for public recreation, including the Association Cricket Ground, the Royal Agricultural Society's Ground, and the Zoological Gardens; the Botanic Gardens and Garden Palace Grounds, 60 acres, with the adjoining Domain, 90 acres, ideally situated on the shores of the Harbour, and Hyde Park, 40 acres, in the centre of the city. The total area covered is 679 acres, or 20 per cent. of the whole of the city proper. This does not include the Centennial Park, 552 acres in extent, situated on the outskirts of the city, formerly reserved for the water supply, but now used for recreation by the inhabitants of Sydney. This magnificent recreation ground has been cleared, planted, and laid out with walks and drives, so that it is a favourite resort of the citizens.

The suburban municipalities are also well served, as they contain, including the Centennial Park, about 3,826 acres of public parks and reserves, or about 4 per cent. of their aggregate area, dedicated to, and in some cases purchased for, the people by the Government.

In addition to these parks and reserves, there was dedicated to the people, in December, 1879, a large area of land, situated about 16 miles south of the metropolis, and accessible by railway. This estate, now known as the National Park, with the additions subsequently made in 1880 and 1883, contains a total area of 33,719 acres, surrounding the picturesque bay of Port Hacking, and extending in a southerly direction towards the mountainous district of Illawarra. It is covered with magnificent virgin forests; the scenery is charming, and its beauties attract thousands of visitors.

Another large tract of land, designated Kuring-gai Chase, was dedicated in December, 1894, for public use. The area of the Chase is 35,300 acres, and contains portions of the parishes of Broken Bay, Cowan, Gordon, and South Colah. This park lies about 10 miles north of Sydney, and is accessible by railway at various points, or by water *via* the Hawkesbury River, several of whose creeks, notably Cowan Creek, intersect it.

In 1905 an area of 248 acres was proclaimed as a recreation ground at Kurnell, on the southern headland of Botany Bay, a spot famous as the landing-place of Captain Cook; and the Parramatta Park (252 acres) although outside the metropolis, may be mentioned on account of its historic interest.

In country districts, reserves have been proclaimed as temporary commons, and considerable areas have been dedicated from time to time as permanent commons attached to inland townships, which are otherwise well provided with parks and reserves within their boundaries.

A State Nursery is maintained at Campbelltown, from which plants, trees, and shrubs are distributed for public purposes.

Under the Public Parks Act the Governor may appoint trustees of any lands proclaimed for the purposes of public recreation, convenience, health, or enjoyment. The trustees are empowered to frame by-laws for the protection of shrubs, trees, &c., upon the land vested in them, and to regulate the use and enjoyment of such land by the public.

EMPLOYMENT AND INDUSTRIAL ARBITRATION.

EMPLOYMENT.

THE LABOUR FORCE.

Age Distribution.

THE age limits within which the working force of the population of New South Wales is found are fixed fairly definitely. Legislation in regard to education, apprenticeship, and the regulation of industry determines age 14 as the normal minimum age at which children may find employment; the upward limit lies naturally for the majority of the population within the age group 60-65, and is, for all practical purposes, definitely fixed by the fact that old-age pensions are claimable from the Commonwealth Government by females on attainment of age 60, and by males at age 65. The population as at the census of April, 1911, classified in working and non-working or dependent ages—*i.e.*, infancy and old age—and exclusive of the population of the Federal Territory situated within the boundaries of New South Wales, was as follows:—

Age Groups.	Population.			Percentage of Total.		
	Males.	Females.	Total.	Males.	Females.	Total.
Working ages—						
14-20	116,397	113,347	229,744	7·1	6·9	14·0
21-29	146,174	138,305	284,479	8·9	8·4	17·3
30-39	119,349	110,604	229,953	7·2	6·7	13·9
40-49	97,578	81,038	178,616	5·9	4·9	10·8
50-59	66,889	50,869	117,758	4·1	3·1	7·2
60-64	20,023	.....	20,023	1·2	...	1·2
Total	566,410	494,163	1,060,573	34·4	30·0	64·4
Non-working ages—						
Under age 14 ...	250,430	244,584	495,014	15·2	14·9	30·1
60-64 ... ..	.....	16,352	16,352	...	1·0	1·0
65 and over ...	36,368	30,134	66,502	2·2	1·8	4·0
Total	286,798	291,070	577,868	17·4	17·7	35·1
Unspecified ...	4,490	3,803	8,293	·3	·2	·5
Total, all ages ...	857,698	789,036	1,646,734	52·1	47·9	100·0

At per thousand persons in the population, 644 constituted the potential labour forces, while the persons excluded from that category were approximately 356.

Occupations.

Records of occupation, however, show that the persons actually classed as breadwinners numbered only 431 per thousand of population. The following table displays the proportions of breadwinners to non-breadwinners:—

Classification.	Population.			Percentage of Total.		
	Males.	Females.	Total.	Males.	Females.	Total.
Occupational Groups	575,300	134,612	709,912	34·93	8·18	43·11
Independent ...	5,507	3,401	8,908	·33	·21	·54
Dependent ...	265,731	650,480	916,211	16·14	39·50	55·64
Unspecified ..	11,160	543	11,703	·68	·03	·71
Total ...	857,698	789,036	1,646,734	52·08	47·92	100·00

The persons for whom precise occupations were unspecified, constituting less than three-quarters of 1 per cent. of the total population are negligible factors in comparison. Similarly, the independent class is relatively small, so that the population appears in two main sections—active breadwinners in occupational groups, and dependents, the latter class, of course, including married women and other persons engaged in services for which no money-wage is paid—*e.g.*, domestic duties.

Roughly, there were for each person who was independent 100 who were dependent, and dependent males comprised somewhat less than one-third of the male population, while dependent females represented five-sixths of the female population. The class, independent males, was numerically and relatively larger than the class, independent females. The population, excluding unspecified persons, was distributed in the occupational groups as follows:—

Class.	Occupational Population.			Percentage of Total Population.		
	Males.	Females.	Total.	Males.	Females.	Total.
I. Professional ..	36,763	19,377	56,140	2·23	1·18	3·41
II. Domestic ...	18,898	54,483	73,381	1·15	3·31	4·46
III. Commercial ...	88,208	18,112	106,320	5·36	1·10	6·46
IV. Transport and Communication	60,367	1,597	61,964	3·66	·10	3·76
V. Industrial ...	171,921	36,093	208,014	10·44	2·19	12·63
VI. Primary Pro- ducers...	199,143	4,950	204,093	12·09	·36	12·39
Total ...	575,300	134,612	709,912	34·93	8·18	43·11

Class and Status.

For males, excluding the classes, dependent and independent, the occupational records derived were as follows:—

Class.	In Employment.				Unem- ployed.	Total.	Others.		Total.
	Proprietors.		Assistants.				Not Ap- plicable.	Not Stated.	
	Employ- ing Labour.	Non- Em- ploy- ers.	Remune- rated.	Unre- mune- rated.					
I. Professional	3,041	3,324	25,870	45	388	32,668	3,940	155	36,763
II. Domestic	3,304	1,168	12,732	190	696	18,090	723	82	18,898
III. Commercial	12,015	10,180	57,767	610	1,891	82,463	5,273	472	88,208
IV. Transport and Com- munication	2,216	3,558	51,192	277	1,393	58,641	1,366	390	60,367
V. Industrial	14,750	6,138	135,104	436	7,617	164,045	7,198	678	171,921
VI. Primary Producers ..	33,080	25,170	110,358	16,247	3,544	188,399	3,552	7,192	199,143
Unspecified	176	138	593	2,582	676	4,165	4,745	2,250	11,160
Total	68,582	49,676	393,616	29,387	16,210	548,471	26,800	11,189	586,460

In this classification of population, inmates of hospitals, charitable or penal establishments, etc., have been classed according to their usual avocations, when such was indicated.

For females, the classification on the same basis was:—

Class.	In Employment.				Unem- ployed.	Total.	Others.		Total.
	Proprietors.		Assistants.				Not Ap- plicable.	Not stated.	
	Employ- ing labour.	Non- em- ploy- ers.	Remune- rated.	Unre- mune- rated.					
I. Professional	321	4,679	11,215	63	262	16,540	2,682	155	19,377
II. Domestic	1,650	1,789	47,658	812	1,466	53,325	999	159	54,483
III. Commercial	879	1,694	12,102	890	312	15,877	2,119	116	18,112
IV. Transport and Com- munication	40	5	1,536	7	5	1,593	4	.	1,597
V. Industrial	1,612	4,067	28,967	195	582	35,423	316	354	36,093
VI. Primary Producers ..	1,177	586	249	2,779	..	4,791	15	144	4,950
Unspecified	43	7	88	123	73	334	14	195	543
Total	5,672	12,827	101,815	4,869	2,700	127,888	6,149	1,123	135,155

For the whole working population, male and female, the records summarised are as follows:—

Class.	In Employment.				Unem- ployed.	Total.	Others.		Total.
	Proprietors.		Assistants.				Not ap- plicable.	Not stated.	
	Employ- ing labour.	Non- em- ploy- ers.	Remune- rated.	Unre- mune- rated.					
I. Professional	3,362	8,003	37,085	108	650	49,208	6,622	310	56,140
II. Domestic	4,904	2,957	60,390	1,002	2,162	71,415	1,725	241	73,381
III. Commercial	12,894	11,874	69,869	1,500	2,203	98,340	7,392	588	106,320
IV. Transport and Com- munication	2,256	3,563	52,728	284	1,403	60,234	1,370	360	61,964
V. Industrial	10,362	10,205	164,071	631	8,199	199,408	7,514	1,032	208,014
VI. Primary Producers ..	34,257	25,756	110,607	19,026	3,544	193,190	3,567	7,336	204,093
Unspecified	219	145	681	2,705	749	4,499	4,759	2,445	11,703
Total	74,254	62,503	495,431	25,256	18,910	676,354	32,949	12,312	721,615

Occupational Status.

The classification, as regards occupational status, emphasises the preponderance of assistants, as compared with proprietors. The figures following include persons unspecified in previous tables as to occupational class:—

Status.	Persons.			Percentage of Total Population.			Percentage of Active Bread-winners.		
	Males.	Females	Total.	Males.	Females	Total.	Males.	Females	Total.
Proprietors—									
Employers	68,582	5,672	74,254	4·16	·34	4·50	10·14	·84	10·98
Non-employers	49,676	12,827	62,503	3·02	·78	3·80	7·34	1·90	9·24
Assistants—									
Remunerated	393,616	101,815	495,431	23·90	6·18	30·08	58·20	15·05	73·25
Unremunerated	20,387	4,869	25,256	1·24	·90	1·54	3·01	·72	3·73
Unemployed	16,210	2,700	18,910	·99	·16	1·15	2·40	·40	2·80
Total Active Breadwinners..	548,471	127,883	676,354	33·31	7·76	41·07	81·09	18·91	100·00

Proprietors represent 8·3 per cent. of the total population, or 20·22 per cent. of active breadwinners. Assistants represent 31·62 per cent. of total population, or 76·98 per cent. of active breadwinners.

Proprietors were grouped in occupational classes as follows:—

Class.	Employers.			Non-employers.			Total.		
	Males.	Females	Total.	Males.	Females	Total.	Males.	Females	Total.
I. Professional .. .	3,041	321	3,362	3,324	4,679	8,003	6,365	5,009	11,365
II. Domestic .. .	3,304	1,600	4,904	1,168	1,789	2,957	4,472	3,399	7,861
III. Commercial .. .	12,015	879	12,894	10,180	1,694	11,874	22,195	2,573	24,768
IV. Transport and Com- munication .. .	2,216	40	2,256	3,558	5	3,563	5,774	45	5,819
V. Industrial .. .	14,750	1,612	16,362	6,138	4,967	10,205	20,888	5,679	26,567
VI. Primary Producers ..	33,080	1,177	34,257	25,170	586	25,756	58,250	1,763	60,013
Unspecified .. .	176	43	219	133	7	145	314	50	364
Total .. .	68,582	5,672	74,254	49,676	12,827	62,503	118,258	18,499	136,757

Assistants on the same basis were grouped thus:—

Class.	Remunerated.			Unremunerated.			Total.		
	Males.	Females	Total.	Males.	Females	Total.	Males.	Females	Total.
I. Professional .. .	25,870	11,215	37,085	45	63	108	25,915	11,278	37,193
II. Domestic .. .	17,732	47,658	60,390	190	812	1,002	12,922	43,470	61,392
III. Commercial .. .	57,767	12,102	69,869	610	890	1,500	58,377	12,992	71,369
IV. Transport and Com- munication .. .	51,192	1,536	52,728	277	7	284	51,469	1,543	53,012
V. Industrial .. .	135,104	28,967	164,071	436	195	631	135,540	29,162	164,702
VI. Primary Producers ..	110,358	249	110,607	16,247	2,779	19,026	126,605	3,028	129,633
Unspecified .. .	593	88	681	2,582	123	2,705	3,175	211	3,386
Total .. .	393,616	101,815	495,431	20,387	4,869	25,256	414,003	106,684	520,687

Age and Occupation.

For the Commonwealth of Australia the census records show the population classified according to age and occupation, but detail figures are not published to enable this relation to be displayed for the State of New South Wales.

INTERCENSAL VARIATIONS.

Age Distribution.

The percentage variation as between the population of working and non-working ages in 1901 and in 1911 is as follows:—

Census.	Non-working Ages.							Working Ages.			Unspecified.			
	Under 14 Years.			Males, 65 years and over; Females, 60 years and over.				Total, Non- working all ages	Males.	Females	Total.	Males.	Females	Total.
	Males.	Females	Total.	Males.	Females	Total.	14-64.		14-59.					
1901	17.0	16.6	33.6	2.0	2.3	4.3	37.9	33.2	28.6	61.8	.2	.1	.3	
1911	15.2	14.9	30.1	2.2	2.8	5.0	35.1	34.4	30.0	64.4	.3	.2	.5	

The figures for 1911 are exclusive of the population in the Federal Territory. The increase of nearly 3 per cent. in the working-age group reflects the results of the encouragement of immigration throughout the latter half of the decennium.

Dependency.

In the history of a young community in process of development a ten-year period represents, relatively to more stable communities, an epoch marked by considerable changes, and it is natural to expect the recorded figures to reflect these variations between the periods. Taking two groups of breadwinners, including persons of independent means and indefinite occupations and dependents, but excluding the comparatively small class of those whose occupations were not recorded, the proportion in each class per cent. of the total population at the respective census dates between 1861 and 1911 was remarkably constant, viz.:—

Census Years.	Percentage Distribution.					
	Males.		Females.		Total.	
	Bread- winners.	Depend- ents.	Bread- winners.	Depend- ents.	Bread- winners.	Depend- ents.
1861	67.58	32.42	19.07	80.93	46.46	53.54
1871	63.19	36.81	16.01	83.99	41.67	58.33
1881	64.37	35.63	16.29	83.71	42.61	57.39
1891	63.13	36.87	17.36	82.64	42.09	57.91
1901	63.75	36.25	17.59	82.41	41.76	58.24
1911	68.61	31.39	17.50	82.50	43.96	56.04

The relatively high proportion of breadwinners in 1861 may be taken as a reflex of local conditions in a preponderance of able-bodied adults resulting from the opening up of the gold-fields and the consequent influx of immigrants. Thereafter no abnormal changes are apparent in the distribution of population.

Unfortunately, the basis of classification of occupations has not been constant from census to census. The first census record of occupational distribution of population in New South Wales was obtained in 1841, when attention centred on pastoral and agricultural pursuits as constituting the important, and, in fact, almost the sole, industries of the people. Details

available concerning other occupations are insufficient for fair comparisons. This condition was maintained, with but slight modification, in subsequent census records till 1881, when the classification of occupations was elaborated, the unspecified section was curtailed, records of unemployed persons were obtained, and the classification by sex, in occupation, was made more definite.

The following tables enable a general comparison of class variation as recorded at each census since 1871:—

Census.	Specific Occupations.		Indefinite, chiefly independents.		Dependents.		Unspecified.		Total.		Total.
	Males.	Females	Males.	Females	Males.	Females	Males.	Females	Males.	Females	
1871	169,404	35,203	1,916	1,165	99,820	190,854	4,411	1,233	275,551	228,430	503,981
1881	259,060	52,713	3,631	2,250	145,410	282,510	3,048	2,846	411,149	340,319	751,468
1891	377,779	83,885	4,606	5,617	223,711	425,950	1,907	499	608,003	515,951	1,123,954
1901	447,836	107,469	3,597	5,927	256,034	531,164	1,968	281	710,005	644,841	1,354,846
1911	575,300	134,612	5,507	3,401	265,731	650,480	11,100	543	857,698	789,039	1,646,734

Reduced to percentages of the total population the variations are more readily perceptible:—

Census.	Specific Occupations.			Indefinite and Independent.			Dependent.			Unspecified.		
	Males.	Females	Total.	Males.	Females	Total.	Males.	Females	Total.	Males.	Females.	Total.
1871	33·60	6·99	40·59	·38	·23	·61	19·81	37·87	57·68	·88	·24	1·12
1881	34·47	7·02	41·49	·48	·30	·78	19·35	37·59	56·94	·41	·38	·79
1891	33·61	7·46	41·07	·41	·50	·91	19·90	37·90	57·80	·17	·05	·22
1901	33·05	7·93	40·98	·27	·44	·71	18·94	39·20	58·14	·15	·02	·17
1911	34·93	8·18	43·11	·33	·21	·54	16·14	39·50	55·64	·68	·03	·71

The noticeable feature in these records is the persistent increase in the proportion of females in specific occupations, from 6·99 per cent. in 1871 to 8·18 per cent. in 1911; the increase in the proportion of males in specific occupations between 1901 and 1911 reflects the degree to which the encouragement of immigration has added to the male labour force.

Specified Occupations.

In regard to specific occupations, the grouping at each census was as follows:—

Class.	1871.		1881.		1891.		1901.		1911.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. Professional ..	6,817	2,075	11,546	4,288	21,186	10,417	26,255	14,529	36,763	19,377
II. Domestic ..	8,721	16,507	12,689	25,000	17,704	38,249	20,128	52,690	18,898	54,483
III. Commercial ..	23,119	2,473	41,441	4,194	50,837	4,782	67,097	10,567	88,208	18,112
IV. Transport and Communication ..	.....	.....	.....	.....	34,208	500	42,322	1,045	60,367	1,597
V. Industrial ..	49,316	6,126	97,293	10,326	118,998	17,819	122,692	23,996	171,921	36,093
VI. Primary Producers ..	81,431	8,027	96,091	8,905	134,846	12,118	168,212	4,642	199,143	4,950
Viz. :—										
Agriculture ..	45,733	6,361	60,365	6,520	66,478	7,022	75,884	1,735	77,599	1,636
Pastoral ..	17,169	1,666	17,333	2,385	27,212	334	31,312	595	69,724	3,266
Dairying ..	.....	.....	.....	.....	4,966	4,758	15,850	2,285	.....	.....
Mining ..	18,529	.....	18,593	.....	30,936	1	38,378	4	39,551	23
Forestry ..	.....	.....	.....	.....	.....	.....	.....	.....	6,358	6
Other ..	.....	.....	.....	.....	5,224	3	6,788	23	5,911	19
Total ..	169,404	35,208	259,060	52,713	377,779	83,885	447,806	107,469	575,300	134,612

The figures and classification for 1871 and 1881 are, as stated previously, hardly on a comparable basis with those for the subsequent censuses. The percentage distribution of the persons in specified occupations for 1891, 1901, and 1911 was as follows:—

Class.	1891.			1901.			1911.		
	M.	F.	Total.	M.	F.	Total.	M.	F.	Total.
I. Professional ...	4.59	2.26	6.85	4.84	2.61	7.45	5.17	2.73	7.90
II. Domestic ...	3.83	8.29	12.12	3.63	9.49	13.12	2.66	7.67	10.33
III. Commercial ...	11.01	1.03	12.04	12.08	1.90	13.98	12.43	2.55	14.98
IV. Transport and Communication.	7.41	.11	7.52	7.71	.19	7.90	8.50	.23	8.73
V. Industrial...	25.78	3.86	29.64	22.10	4.32	26.42	24.22	5.08	29.30
VI. Primary Producers	29.21	2.62	31.83	30.29	.84	31.13	28.06	.70	28.76
Total ...	81.83	18.17	100.00	80.65	19.35	100.00	81.04	18.96	100.00

The percentages for 1911 show considerable decreases in two classes—domestic and primary producers. The industrial class had improved on the position at 1901, but had not quite recovered to the position of 1891. Other classes all showed improvement. Detail figures in regard to the sub-classes of primary producers show the aggregate proportions, made up as follows:—

Primary Producers.	1891.		1901.		1911.	
	M.	F.	M.	F.	M.	F.
Agriculture ...	14.40	1.52	13.67	.31	10.93	.23
Pastoral ...	5.89	.07	5.64	.11	9.82	.46
Dairying ...	1.08	1.03	2.85	.41		
Mining ...	6.70	.00	6.91	.00	5.58	.00
Forestry ...	1.14	.00	1.22	.01	.90	.00
Other ...					.83	.01
Total ...	29.21	2.62	30.29	.84	28.06	.70

ANNUAL RECORDS OF PRIMARY AND MANUFACTURING INDUSTRIES.

For the intervals between the census periods, records as to the numbers of persons in occupations are restricted to the primary industries, and to the manufacturing section of the industrial group, concerning which groups annual returns are collected in the Bureau of Statistics. The following are the figures showing persons permanently employed in the principal industries of the State since 1901. In regard to women and girls engaged in agriculture and dairying, it must be remembered that the great majority are only partly so employed, in conjunction with, or in addition to, their usual domestic duties. In the manufacturing industry, employees

in establishments where no machinery is used are not recorded, unless at least four persons are engaged.

Year.	Agricultural.		Dairying.		Pastoral.	Mining.		Manufacturing.	
	Males.	Females.	Males.	Females.		Metal.	Coal and Shale.	Males.	Females.
					Males.	Males.			
1901	60,813	4,798	14,865	14,315	28,118	24,200	12,415	54,556	11,674
1902	61,057	5,261	13,293	11,148	27,862	20,581	13,114	54,326	11,943
1903	65,213	5,948	15,208	12,331	26,051	23,442	14,117	52,453	13,180
1904	63,111	5,742	17,641	13,750	27,886	23,691	14,146	53,457	14,579
1905	62,419	5,608	19,287	14,209	29,919	24,795	14,137	56,111	16,064
1906	63,448	5,715	21,476	15,626	32,598	27,347	15,199	59,979	17,843
1907	57,327	5,385	22,374	15,424	40,405	26,402	17,356	65,953	20,514
1908	55,324	5,409	24,887	16,908	39,625	20,881	18,084	67,616	21,482
1909	59,541	4,770	25,514	17,803	38,714	17,836	18,569	69,184	22,518
1910	59,091	5,228	27,449	19,404	40,008	19,369	18,044	75,419	24,327
1911	58,299	5,782	27,488	19,422	43,387	19,360	17,657	82,123	26,541

There has been during the whole period a steady increase in the labour permanently employed in all the principal industries, with the exception of agriculture and metal mining. In 1911 a slight reduction was observable in the numbers engaged in coal and shale mining as compared with the three years previous.

The retrogression in agricultural labour is probably more apparent than real, production having increased considerably; but as, in many cases, agriculture is associated with other rural occupations, persons may be returned as engaged in agriculture in one year, and in other rural pursuits another year.

A noticeable feature of the table is the rapidly-increasing extent to which women and girls are employed in factories, the numbers having more than doubled between 1901 and 1910; while the increase in the numbers of men and boys employed also was maintained steadily, though it is very evident that the two rates of progression are not comparable. This is discussed in detail in Part Manufacturing Industry, of this volume. The decline in the number of metal-miners since 1906 is a true reflex of the effect of low prices current for metals. Employees in pastoral industries increased rapidly in number until 1907; but the figures for 1910, though showing a recovery from the depression of 1908 and 1909, are slightly below the record of the earlier year. This decrease has, however, been counteracted by the increase in other rural occupations, notably in dairying.

Grouping the figures shown above as Primary and Secondary Industries, the following figures are obtained:—

Year.	Primary.					Secondary	Primary and Secondary.	
	Males.			Females.	Total.	Manufacturing.	Males.	Females.
	Rural.	Mining.	Total.	Rural.				
1901	103,796	36,615	140,411	19,113	159,524	66,230	194,967	30,787
1902	102,212	33,695	135,907	16,409	152,316	66,269	190,233	28,352
1903	106,472	37,559	144,031	18,279	162,310	65,633	196,484	31,459
1904	108,638	37,837	146,475	19,492	165,967	68,036	199,932	34,071
1905	111,625	38,932	150,557	19,817	170,374	72,175	206,668	35,881
1906	117,522	42,546	160,068	21,341	181,409	77,822	220,047	39,184
1907	120,106	43,758	163,864	20,809	184,673	86,467	229,817	41,323
1908	119,836	38,965	158,801	22,317	181,118	89,098	226,417	43,799
1909	123,769	36,405	160,174	22,573	182,747	91,702	229,358	45,091
1910	126,548	37,413	163,961	24,632	188,593	99,746	239,380	48,959
1911	129,174	37,017	166,191	25,204	191,395	108,664	248,314	51,745

Reviewing the proportional increases under each head as between 1901 and 1910, and 1911, the advance made, particularly in the female sections of the manufacturing or secondary group shows out most noticeably; taking the numbers at 1901 as a base, representing 100 in each case, following are the figures marking the relative positions at 1910 and 1911, viz.:—

	1910.			1911.		
	M.	F.	Total.	M.	F.	Total.
Primary—Rural	122	129	123	124	132	125
Mining	102	...	102	101	...	101
Total	117	129	118	118	132	120
Secondary—Manufacturing ...	138	208	151	151	227	164
Total	123	159	128	127	168	133

Contrasting Primary and Secondary Industries as above, it is noticeable that the Primary Industries experienced two adverse periods, viz., in 1902 and in 1908-9, when the numbers employed showed considerable decreases as compared with the figures for the year immediately preceding. In the first case, viz., in 1902, the restriction upon the primary industries, due to seasonal influences, was reflected promptly in the secondary industries, in which a corresponding shrinkage of the labour force was apparent in 1903, the shrinkage being confined to the male section. The decrease in the primary industries in 1908 and 1909 did not reflect in the secondary group, which in that period maintained its steady advance in both male and female sections.

LOCATION OF LABOUR FORCES.

In treating of the manufacturing industry, it has been shown that Sydney and Newcastle, with their suburban environments, constitute practically the sole centres of industrial activity on an appreciable scale. Apart from rural industries, which absorb little more than one-quarter of the total number of persons in specified occupations, and of necessity are dispersed more or less unevenly throughout the State (according chiefly to the facilities for transport and communication), all industries and occupations are found in a few well-defined localities. The records of the census in regard to occupations in defined localities are not yet available.

MOBILITY.

The question of the mobility of labour is closely associated with the question of the location of industrial forces generally. Unfortunately, no details are available concerning registry offices and agencies for the exchange of labour, beyond those of the State Labour Bureau, the operations of which are recorded in connection with the question of unemployment. Legislation for the supervision and regulation of registry offices and labour agencies is in contemplation.

SEASONAL CHANGES AND THE LABOUR MARKET.

Seasonable changes month by month affect the labour market of the State considerably, particularly as primary producers have hitherto represented the largest class, numerically, among the occupation groups, and even at the census of 1911 this class is most important among the occupations of males, although for the whole population it is second in importance, yielding place to the industrial group.

The State Labour Bureau collects monthly reports from about 200 agents in various parts of the State regarding the condition of the labour market generally, and the results of seasonal changes, &c. These reports for each month of the years 1911 and 1912 are summarised briefly as follow:—

1911.

January.—Some natural seasonal slackness in city and suburban business ; with abnormal rains, country prospects good ; only 6 per cent. of agents reported appreciable unemployment.

February.—Abnormal rains continue ; rural pursuits hampered, but prospects good. Depression in Newcastle coal trade, combined with wet weather to cause decline in trade ; 9 per cent. of agents reported appreciable unemployment. In city and suburbs trade was fair, but not so good as in the previous month. Business was slack among order tailors, maritime workers, coal-lumpers, bakers, pastrycooks, and slaughtermen.

March.—Slight retrogression industrially—seasonal slackness more pronounced—50 per cent. of country districts reported no unemployment ; 7 per cent. reported appreciable unemployment ; revival anticipated at Newcastle. Most trades in city and suburbs brisk. Furniture trades award limited hours of work of Chinese, thus distributing between ten and fifteen thousand hours more of work per week in the trade. Bakers slack, also slaughtermen and coal-lumpers. Storemen finished their busy season. First-class labourers greatly in demand.

April.—Rainfall very low ; winter slackness approaching ; felt by coal-lumpers, deep sea wharf labourers, cold storage employees, and lower grades of labour generally ; 45 per cent. of agents reported no unemployed ; only 6 per cent. reported appreciable unemployment. In city and suburbs most trades good—some agitation in the boot trade over the employment of women and children.

May.—Improvement visible ; rain general, and rural position better ; winter slackness less perceptible than for years previously ; 51 per cent. of agents reported no unemployed ; only 4 per cent. report appreciable unemployment. In city and suburbs the building, iron, clothing, and furniture trades good ; all available farm and bush workers sent out.

June.—Rain general ; prospects good ; shearing commenced in west and north ; numbers of men engaged in rabbit-trapping ; 52 per cent. of agents reported no unemployed ; 4 per cent. reported existing unemployment. City and suburban trades generally brisk—boot and printing trades and deep sea wharf labourers somewhat slack—most factories stock-taking.

July.—Fairly general rains—temperature mild ; lambing good ; for early shearing the weather was favourable, and the general outlook for rural industries was satisfactory. In the country some men unemployed, partly on account of the Lithgow strike, and partly in anticipation of the commencement of shearing ; 47 per cent. of districts reported no unemployed ; in 5 per cent. of districts unemployment existed. In city and suburbs the trade outlook bright, the boot trade only being at all unsettled.

August.—Rainfall capricious, but rural industries promised well ; 57 per cent. of agents reported no unemployment ; only 3 per cent. reported existing unemployment. In city and suburbs all trades busy. At Lithgow and Newcastle strike conditions still subsisted.

September.—Slight retrogression ; north-western districts needed rain ; 4 per cent. of districts reported existing unemployment ; 52 per cent. reported no unemployment. City and suburban trades prosperous.

October.—Prevailing dry weather necessitated the cutting of many crops for hay, but light rainfalls at the end of the month saved large areas ; in 51 per cent. of districts there were no unemployed ; in only 5 per cent. of districts was unemployment existent. In city and suburbs trade was brisk ; in the Lithgow iron trades work was still suspended ; on the wharves interstate shipping was hampered by a strike of the wharf labourers (interstate) for pay at the same rates as deep-sea wharf labourers. All bush workers available were in employment, and many second grade labourers were employed in first-class work.

- November.—Fairly general monsoonal rains at the end of the month broke a three weeks' dry spell, during which more crops were cut for hay. In 57 per cent. of districts agents reported no unemployment; in 5 per cent. of districts there were persons unemployed. City and suburban trades were good, but the iron trades strike at Lithgow was maintained. The interstate wharf labourer's strike terminated in a return to work pending a new award. With sections of slaters, miners, and gangers on railway works there were temporary stoppages of work.
- December.—Several districts benefited by good rainfalls, but records of north-east and southern districts were below November average; harvesting practically completed; timber industry particularly flourishing; no unemployment in 58 per cent. of districts; only in 5 per cent. were there unemployed; Lithgow strike continued, otherwise no industrial disturbances were recorded. In city and suburbs employment was satisfactory, the building, iron, furniture, and boot trades particularly being busy.
- 1912.
- January.—Weather hot and dry; injurious to crops, herbage, and stock; removal or forced sales of stock necessitated in many localities; industrial position less satisfactory than in December, 1911. Appreciable unemployment in 5 per cent. of reported cases. City and suburban business brisk.
- February.—Beneficial rains in many localities improved prospects. Harvesting completed, and 10 per cent. of agencies reported considerable unemployment. Conditions satisfactory in city and suburbs.
- March.—Dry weather throughout the State gave prospect of a hard winter. Nine per cent. of agents reported considerable unemployment in their districts; but in city and suburbs all trades were active.
- April.—Dry weather continued; western districts, particularly, suffered; crops failed, and removals of stock were enforced; these conditions, combined with an expansion of the rabbiting industry, to prevent the volume of employment in country districts from contracting greatly. Only 7 per cent. of agents reported appreciable unemployment. City and suburban trade continued good.
- May.—All but the coastal districts were still suffering severely for want of rain; over three-quarters of the State no useful rains had fallen for five months. In spite of work in feeding and removing stock, and in rabbit-trapping, 10 per cent. of the districts reported considerable unemployment. In city and suburbs usual seasonal slackness was commencing in a few trades.
- June.—Beneficial rains throughout the State replenished water supplies, and restored pastures, and gave wheat crops a start. Only 7 per cent. of districts reported appreciable unemployment; but the usual seasonal slackness prevailed in several trades in city and suburbs.
- July.—Abundant rains continued, and in the country signs of a good spring were evident; only 6 per cent. of districts reported appreciable unemployment. In city and suburbs the building trades were retarded by wet weather, and some seasonal slackness prevailed in other trades.
- August.—Showery weather prevailed in most districts, rain was superabundant, spring early, and rural industries were most satisfactory. Only 5 per cent. of districts reported appreciable unemployment. All city trades were recovering from winter seasonal slackness.
- September.—For the most part dry weather prevailed, but the season promised well. Some 5 per cent. of agents reported unemployment in an appreciable degree, and in city and suburbs only the boot trade showed slackness.
- October.—Rainfall was scanty and patchy; cereal crops ripened unevenly; late sowings generally promised to be failures. In many cases crops were fed off to sheep and cattle. Seven per cent. of districts reported appreciable unemployment. In city and suburbs boot and farriery trades were slack, and the milling trade experienced the usual inter-seasonal inactivity.
- November.—Localised rainfalls caused favourable conditions over the greater part of the State. The north-western district, and part of the Hunter River Valley, did not participate. Harvesting was in progress; wheat yields exceeded early expectations. Only 6 per cent. of districts reported appreciable unemployment. City and suburban trades were brisk, with the exception of stone-cutting.
- December.—Dry weather prevailed in several districts, but summer crops appeared satisfactory on the whole. Seven per cent. of districts reported unemployed in some numbers, but the Christmas season indicated general prosperity.

ADEQUACY OF THE LABOUR FORCE.

The adequacy of the labour force for the development of the resources of the State is measurable by numbers and by efficiency. Sparseness of population in every State is an outstanding feature of economic conditions throughout Australia, and in recent years the question has been raised in several States, including New South Wales, as to the adequacy of the labour force to continue the expansion of the natural resources of the States consistently with the progress of the past twenty years.

Shortage of Labour Commission.

During 1911, both in New South Wales and in Victoria, this phase of the population question was studied under the heading of "Shortage of Labour," and in New South Wales, in order to investigate the diverse views set forth in regard to labour conditions within the State, a Royal Commission was appointed on 9th June, 1911, with power to inquire into the following matters:—

- (1) The alleged shortage of labour in the State of New South Wales.
- (2) The hours and general conditions of employment of female and juvenile labour in factories and shops, and the effect on such employees.
- (3) The cause of the decline in the apprenticeship of boys to skilled trades, and the practicability of using technical and trade classes as aids to, or substitutes for, apprenticeship.

In October, 1911, a report was presented to Parliament, showing the conclusions reached from the evidence presented up to date upon the first point of investigation, viz., the alleged shortage of labour in the State. The evidence supported the truth of the allegation as regards skilled labour, the shortage under that head being estimated at 3,247 workers, in the particular sections investigated, viz.:—

	Number required.
Artisans—Metropolitan area	1,712
Country	210
Requirements of Public Bodies, including Railways	775
Women workers	550
Total	<u>3,247</u>

As employees' representatives throughout the State generally denied the truth of the shortage alleged by employers, the inquiry was resolved to a great extent into a case as between these parties, with the proviso that, in order to conserve the interest of employees then engaged in the various industries, importation must be restricted absolutely to the provable needs of the State.

The general conclusion of the Commission was that a great and permanent need existed for the introduction from abroad of trained and competent workers for most of the skilled trades, and for the manufacturing industries, this condition being ascribed to natural causes; the immediate cause of the congestion, however, lay in the relatively rapid accumulation of

wealth due to good seasons, as compared with the slower but steady growth of population. Figures evidencing this increase in material prosperity have been given in other parts of this Year Book.

The most sensitive gauge of the diffusion of the great wealth of the country was found in the amount of Savings Bank deposits as the usual treasury of people of moderate means. Figures quoted in Part "Private Finance" show that the average amount per depositor increased by £6 9s. 2d. or 17 per cent. in the period 1900-1910, as reviewed by the Commission, and the point was taken that these accumulations call for expenditure and investment in varying degrees of extent and urgency, and so require an increase of the labour force of the community. Hitherto, as is shown subsequently, State assisted immigration has been restricted to the introduction of farmers, agricultural labourers, and domestic workers, and their families; and the Commission demonstrated the necessity for increasing the influx of assisted and of unassisted immigrants, due regard being paid to the fact that within limits set by the productive and consuming power of the community, every efficient new worker creates, as well as performs, work; but to outrun those limits lays the present labour force open to loss in specific wages paid, in hours and conditions of work, and in continuity of employment. In conducting the inquiry the Commission assumed that all existing conditions must be maintained, or that no alterations would be permitted in the direction of relaxation of restrictions and prohibitions, *e.g.*, on child labour. The trades investigated are dealt with seriatim, the principal coming under the classification of Building Trades, Iron Trades, and Textile Trades, in which women workers predominate.

The branches of the building trades investigated included rockchoppers, quarrymen, masons, bricklayers, carpenters and joiners, plumbers, plasterers, and painters. With regard to rockchoppers and sewer-miners, quarrymen and masons, and bricklayers, the Commission found no opposition to the employers' assertion of serious shortage; of painters the available force appeared adequate for all requirements. In the iron trades, private work and Government workshops are interdependent to a great extent, but particularly in respect of boilermakers must a distinction be made between the two classes of work. Projected works at the Government Dockyard were hampered by the difficulty of securing material from local private works in accordance with contracts, and also by the difficulty of getting the necessary labour to cope with the work in hand and in prospect. A considerable proportion of the private trade consisted of repair work, which is peculiarly fluctuating in its nature; but for land work, such as girder and locomotive boiler and steel rail making, no surplus of labour was proven; as regards fitters there was no proved shortage; of moulders and shipwrights (for wooden ships) a shortage was disclosed.

In the electrical trades a remarkable extension of work, both of private and public bodies, in recent years, has been fairly met by unassisted immigration, particularly from England, where the trade is highly specialised, but somewhat slack. Necessarily, in the circumstances, incoming tradesmen have not the general knowledge required in the local trade, but they adapt themselves quickly to their new conditions.

In the brick and cement making, boxmaking, and timber trade there was no evident deficiency of labour, but for pottery works a few qualified hands were required to enable the local trade to be developed. Similarly, for the coach-building trade, notably body-building for the motor trade, labour was required.

Extent of Local Shortage.

The different industries and the extent of the shortage disclosed in each at the time are summarised as follow:—

ARTISANS—METROPOLITAN AREA.				RAILWAY CONSTRUCTION AND MAINTENANCE.			
Rockchoppers	...	...	400	Bricklayers	...	...	23
Masons	...	...	100	Carpenters and Joiners	...	...	61
Quarrymen	...	...	40	Bridge Carpenters	...	...	31
Bricklayers	...	...	300	Rough Carpenters	...	...	19
Carpenters and Joiners	...	...	200	Painters	...	...	60
Plumbers	...	...	50	Brush Hands	...	...	30
Plasterers	...	...	150	Plumbers	...	...	14
Boilermakers	...	...	100	Wood Machinists	...	...	2
Ironmoulders	...	...	60	Bridgeplaters	...	...	4
Shipwrights	...	...	40	Riveters	...	...	12
Wood Machinists	...	...	30	Riveters' Assistants	...	...	12
Joiners (timber yards)	...	...	50				
Bodymakers and Trimmers	...	...	100	Total	...	...	259
Jewellers	...	...	60				
Glassblowers	...	...	12	WOMEN WORKERS.			
Stovemoulders	...	...	20	Boot Machinists	...	...	100
Total	...	...	1,712	Bootfitters	...	...	50
				Mantle and Costume Machinists	...	...	100
ARTISANS—COUNTRY.				Clothing Machinists	...	...	150
Bricklayers	...	...	75	Shirt Machinists	...	...	40
Carpenters	...	...	50	Straw Hat Machinists	...	...	40
Plumbers	...	...	15	Paper Boxmakers	...	...	30
Plasterers	...	...	40	Tent Machinists	...	...	20
Bodymakers	...	...	15	Weavers	...	...	20
Trimmers	...	...	15	Total	...	...	550
Total	...	...	210				
REQUIREMENTS OF PUBLIC BODIES.				TOTAL.			
Sydney Harbour Trust—				Artisans (metropolitan area)	...	1,712	
Carpenters	...	...	100	Artisans (country)	...	210	
Government Dock—				Requirements of Public Bodies	516	} 775.	
Boilermakers and Riveters	...	...	400	Railway Construction	259		
Ironmoulders	...	...	16	Women Workers	...	550	
Total	...	...	516				3,247

Coincident Labour Shortage in Victoria.

Simultaneously with the call for more labour in New South Wales the demand was raised in Victoria for additional workers in various trades.

To discuss the matter the Government called a conference of representatives of the Chamber of Manufactures for the employers, of the Trades Hall Council for the employees, and of the Labour Bureau. Statements showing the number of workers required in each trade were submitted by the employers' representatives, and discussed before the conference. Important deputations, *e.g.*, from the Master Builders' Association, assisted to demonstrate the position of skilled trades, and, after some deliberation, it was arranged that the requirements of each trade should be investigated and reported upon by the Labour Bureau. The report ultimately presented dealt exhaustively with the claims made, and favoured the importation of 975 male artisans in various trades, excluding the building trades.

Reinforcements by Immigration.

The Commission appointed to investigate the question of a labour shortage within the State of New South Wales, demonstrated that the volume of unsubsidised immigration, induced by systematic advertisement of the State and its resources, was inadequate to meet the demand for labour; and assisted immigration was confined within fairly definite limits; the special training and preparation of young people for entrance to the skilled trades

hitherto has not been undertaken extensively, nor have the developments effected in recent years in the educational system yet had time to affect materially the influx of workers to such trades. The remedy suggested for the deficiency in the labour force was a more extensive system of immigration, in the direction of registering the applications of employers, arranging for guarantees where such could possibly be secured, and for priority of choice to those employers who tendered such guarantees. In this extension the Immigration Bureau would be developed into a labour exchange, and be enabled to adjust the flow of assisted immigration according to the volume of the voluntary inflow.

The latest figures regarding the population show that for New South Wales during 1911 the excess of arrivals from, as compared with departures to, countries outside the Commonwealth, was 26,032. For the same period the total of assisted immigration was 9,922, the average since 1st January, 1906, being 5,114 per annum.

Immigration.

Commonwealth Control.

Power to legislate with regard to immigration and emigration is conferred upon the Commonwealth Parliament, under section 51, subsection (27), of the Constitution Act, 1900, and the Commonwealth legislation under this section is contained in four enactments, viz.:—

Immigration Act, 1901-1912.

Pacific Island Labourers Act, 1901-1906.

Contract Immigrants Act, 1905.

Emigration Act, 1910.

The enactments relating to immigration operate in the direction of restricting the right of entry of persons to the Commonwealth; they supersede and embody, with necessary modifications, the pre-Federation policy of the several States, which generally imposed limitations upon the admission, within their boundaries, of alien races, or of persons regarded as undesirable for medical and other reasons.

General Conditions.

The Acts define the classes of persons who come under the heading of prohibited immigrants, including persons who fail to pass prescribed dictation tests, or do not possess the prescribed certificate of health, criminals, and immoral persons, or persons otherwise undesirable. Persons suffering from serious transmissible or communicable disease are debarred specifically; also idiots, imbeciles, feeble-minded or epileptic persons; and the Act of 1912 makes special provision for the establishment of medical bureaux at places outside the Commonwealth; and for the appointment of medical referees in the Commonwealth or outside it, to conduct the medical examination of immigrants, or intending immigrants. The onus of the introduction of prohibited immigrants lies chiefly upon the masters, owners, agents, or charterers of vessels, a penalty of £100 attaching in respect of each such entrant or stowaway, as well as the liability for maintenance and deportation. A stowaway is defined as any person other than a *bona fide* passenger, or a member of the crew duly entered on the ship's articles. The administration is empowered to search vessels for stowaways.

Exemption from the general provisions of the Acts is claimable by persons holding exemption certificates, by persons accredited by any Government, by members of the King's regular sea and land forces, and by masters

and crews of public vessels of any Government, and of vessels trading to Commonwealth ports, providing that if any of the crew be missing when the vessel clears the port, such person may be declared a prohibited immigrant, and the master, &c., held responsible. The prescribed dictation test may be imposed at any time within two years after the admission of an immigrant. Provision is made for the conditional entry of prohibited immigrants for a limited period.

In Part, "Population and Vital Statistics," particulars are given of the accretions to the population of the State due to immigration. Unfortunately, in regard to persons refused admission who passed the dictation test, or were admitted without submitting to the test, and regarding the nationalities of persons admitted, and of alien races who left the State, particulars are not available for New South Wales separately from the aggregate figures for the Commonwealth.

Contract Immigrants.

The Contract Immigrants Act, 1905, regulates the admission of immigrants under contract to perform manual labour. Contracts in this connection must be in writing, made by or on behalf of some person named and resident in Australia. They are subject to Ministerial approval, which may be withheld if the fulfilment of the contract is likely to be prejudicial to the public welfare, either as affecting an industrial dispute, or as to the conditions of, and standards prevailing in, local industry. It may be withheld, also, if there is insufficient evidence of difficulty in obtaining a worker of equal skill and ability within the Commonwealth. This latter provision is not applicable to contract immigrants who are British subjects, born in the United Kingdom or descended from a British subject there born; nor does the Act apply to domestic servants and personal attendants accompanying their employers.

The following statement shows the number of contract immigrants admitted to Australia since 1907, and also the numbers of those whose contracts designated some locality in New South Wales as the subject place of the contract:—

Year.	Contract Immigrants admitted to Australia.			Contracts relating to New South Wales.
	British.	Non-British.	Total.	
1907	731	241	972	56
1908	20	2	22	14
1909	152	6	158	34
1910	38	1	39	10
1911	332	20	352	12
1912	201	16	217	89

Particulars are not available to show the occupations or nationalities of contract immigrants engaged for New South Wales. In 1909, twenty had agreed to work in Sydney, twelve in Lithgow, and two in other parts of the State. In 1910, eight were bound for Lithgow and two for Sydney. In 1911, ten were engaged for Sydney and two for Helensburgh.

The Pacific Island Labourers' Act prohibits the importation, and regulates the deportation of Pacific Islanders engaged for labour on sugar plantations.

EMIGRATION.

The Emigration Act, 1910, operates in the direction of restricting the emigration of children and aboriginal natives from Australia, regulating contracts in relation thereto, and supervising the transportation or removal of prohibited emigrants.

ENCOURAGEMENT OF IMMIGRATION.

The Commonwealth.

Encouragement of immigration, as undertaken by the Commonwealth, has been confined to advertisement of the attractions of Australia generally, with a view to promoting the flow of voluntary immigration to the different States. To carry on this work, the funds made available for the year 1910-11 out of the revenue of the Commonwealth amounted to £25,000; and there is a similar amount for the year ended 30th June, 1912.

The amounts actually expended by the Commonwealth during the past four years are shown in the following statement, viz:—

Expenditure.	1908-9.	1909-10.	1910-11.	1911-12.
In United Kingdom—	£	£	£	£
For Newspaper advertising	2,110	2,037	5,325	4,839
For other purposes ...	305	3,518	4,675	8,444
In Australia	6,229	2,555	5,640	6,713
Total	8,644	8,110	15,640	19,996

The amounts expended in Australia are chiefly the costs of advertising, and of sustentation of special and of official publications, in which are described conditions of life and of industry as existent in Australia.

The State Policy.

State-assisted immigration was inaugurated in New South Wales in the year 1832, and maintained until 1885. After an interval of twenty years, the policy was resumed in 1905.

For the financial year 1910-11, the amount voted by the State Parliament for the promotion of immigration and the advertisement of the State's resources was £25,000, which amount was supplemented by a further vote of £10,000 for that year. For the year 1911-12 the amount was increased to £60,000, and for 1912-13 this vote was further supplemented by an amount of £11,000, making £71,000 in all. These votes are supplementary to the usual vote, approximating £20,000, for maintenance and administration of the officers of the Agent-General in London, and of the Immigration and Tourist Bureau in Sydney.

The following statement shows the expenditure on, and the resulting increase of population from, the encouragement of immigration by the State in each year since 1906:—

Financial Year.	Expenditure, exclusive of Administration.	Immigrants assisted.						Unassisted Immigrants placed in employment.
		Nominated.		Selected.		Total.		
		M.	F.	M.	F.	M.	F.	
*1906	£ 1,226	23		143		166		.....
1907	8,079	199		1,612		1,811		284
1908	13,184	835		2,088		2,923		966
1909	22,436	1,656		2,301		3,957		1,219
1910	26,815	1,068	1,184	1,455	526	2,523	1,710	1,730
1911	32,786	2,422	2,317	1,960	599	4,382	2,916	2,317
1912	59,186	4,577	4,304	2,942	1,033	7,519	5,337	3,269
Total ...	163,712	18,585		14,659		33,244		9,785

* Six months—January to June.

Nomination and selection of immigrants are confined chiefly to persons in the United Kingdom, and the following statement shows the proportion of British subjects, in comparison with foreign-born, among assisted immigrants, in the period 1906-1912:—

Financial Year.	Immigrants from—						Total.		
	United Kingdom.		Other British Possessions.		Foreign Countries.		Nomin-ated.	Selected.	Total.
	Nomin-ated.	Selected.	Nomin-ated.	Selected.	Nomin-ated.	Selected.			
*1906	23	143	...	...	...	...	23	143	166
1907	199	1,331	...	281	...	...	199	1,612	1,811
1908	795	1,898	33	189	7	1	835	2,088	2,923
1909	1,530	2,269	90	24	36	8	1,656	2,301	3,957
1910	2,210	1,958	20	12	22	11	2,252	1,981	4,233
1911	4,675	2,524	4	3	60	32	4,739	2,559	7,298
1912	8,781	3,958	1	...	99	17	8,881	3,975	12,856
Total	18,213	14,081	148	509	224	69	18,585	14,659	33,244

* Six months—January to June.

Assisted passages are granted to immigrants who are classified as selected or as nominated. The former include only farmers, agricultural labourers, and domestic servants. The selection of assisted immigrants is made mainly from the populations of the United Kingdom; but a proportion may be drawn from Canada, South Africa, and other parts of the British Empire, also from the United States of America, and European countries other than the United Kingdom, provided they are eligible under the Regulations of the Commonwealth Immigration Acts. Selected immigrants must be under 45 years of age, of good character, and in general must afford satisfactory evidence that they are likely to prove suitable settlers. Assistance is given also in respect of their wives and families. Selected immigrants are brought to the State for minimum net fares of £6 for domestic servants and £8 for agriculturists.

Arrangements subsist with various steamship companies for reductions in the ordinary rates for passages from the United Kingdom, Germany, Belgium, Italy, and other European countries. Besides these reductions a Government contribution, ranging from £4 to £8, is made towards the fares, these concessions being allowed to persons approved in London by the Director of Immigration and who settle in the State.

The following statement shows the distribution of selected immigrants in their respective occupational classes in each year:—

Financial Year.	Rural Workers.			Domestic Servants.	Other.	Families o foregoiing.	
	Farmers.	Farm Labourers.	Total.				
*1906	14	56	70	7	15	51	
1907	51	485	536	39	534	503	
1908	17	775	792	545	323	428	
1909	20	1,478	1,498	544	4	255	
1910	11	1,428	1,439	434	.....	108
1911	12	1,831	1,843	387	.....	329
1912	11	2,472	2,483	520	205	767	
Total	...	136	8,525	8,661	2,476	1,081	2,441

* Six months—January to June.

In 1912 the immigration of selected agriculturists did not proceed as vigorously as usual; and as to domestic servants the numbers, though increasing, are still judged inadequate to meet the demand, and, as a further encouragement to this class of immigrant, the Government decided to advance part of the fare to competent girls, the advance to be repaid in instalments after arrival. A feature of this section of immigration is the recent increase in the numbers persuaded to emigrate by their former friends, who are allowed to arrange positions for them, subject to the approval of the Immigration Bureau.

Persons nominated for assisted passage by friends or relatives in the State may be granted a reduction of £4 on each full fare. In the case of wives and families nominated by persons resident in the State, a reduction of £6 is made, which may be increased to £8 per adult if the nominator is a farmer or farm labourer. Thus the lowest net fares to nominated accepted immigrants are £6 per adult for wives and families of farm workers, £8 for wives and families of other workers, £10 for all other nominees. All nominees must be under 45 years of age (except in the case of a wife, whose age must not exceed 50 years). Sound health and good character are essentials.

Until the year 1912 the nomination system was available for farm labourers, domestic servants, artisans, and manual workers, and in case of nominees, who were near relations of the nominators, for other occupations. In 1912, the nomination system was restricted to the wives and children of nominators, but persons eligible and nominated before this alteration in policy are, of course, exempted from the restriction. Particulars are not available regarding the occupations of nominated immigrants who arrived in each year. Nominators are required to lodge the reduced steamer fare, and an undertaking that employment awaits the nominees, or that adequate provision will be made for their maintenance. Any immigrant who settles upon the land as owner, lessee, or labourer, within a reasonable time of his arrival, may be granted a remission of one-third of the railway fare for himself and family when travelling to the district in which he settles, and of one-third of the railway freight charged on his household furniture, stock, and agricultural implements. These concessions may be granted also to nominated immigrants proceeding to the homes of their nominators, or travelling to take up farm work or domestic service. In the continuance of immigration promotion, with the greater amount of money available in recent years the system of nomination is to be confined to persons in certain trades in which employment can be guaranteed, without causing any displacement of the present labour force within the State.

Private Agencies.

Various private agencies are engaged in the promotion of immigration or in advertising the resources of Australia. An important agency is the Dreadnought Farm Trust.

A mutually satisfactory agreement was arrived at early in 1911 between the Government of New South Wales and the Trustees of the Dreadnought Farm on the subject of introducing a number of lads from 17 to 20 years of age to this State for the purpose of following rural pursuits. Upon arrival, the boys are sent to the Pitt Town Training Farm, near Windsor, where they receive general training, and three months afterwards are engaged to farmers in different localities. From April, 1911, to 31st

December, 1912, 405 boys arrived. The training of these prospective farmers is under the care of the Director of Labour, who places them in remunerative employment at the end of their term.

Selection of Subsidised Immigrants.

Till 1912 intending immigrants from the United Kingdom were selected or nominated per medium of the Agent-General's office in London.

Following upon the recommendations of the Shortage of Labour Commission for a more extensive system of immigration, and to ensure in connection therewith efficiency of supervision, the Government, early in 1912, decided that selection should be undertaken conjointly by representatives of the three parties most intimately concerned, viz., the Government, the employers, and the employees. Accordingly, representatives of employers' and of employees' associations were sent in May, 1912, to London, to be attached for more or less definite periods to the Agent-General's Office, and so act conjointly with that officer in the selection of immigrants and the regulation of the volume of immigration according to the requirements of the industries of the State.

Reception of Immigrants.

Vessels carrying immigrants are met on arrival by officers of the Immigration Bureau, and in certain cases, where large numbers of immigrants are travelling from England, an officer joins the vessel at Melbourne. Suitable accommodation is secured for domestics pending their entry into situations, and advice is given freely to all immigrants. In the majority of cases they go to employment at once. Details have been given previously regarding the numbers of nominated immigrants placed in employment in each year through the agency of the Immigration Bureau.

The question of providing a Government Dépôt for the accommodation of immigrants was under the consideration of the Government during 1912. The provision of such a building was approved, but before a suitable site was secured accommodation was made available through the efforts of organisations, such as Church of England Welcome Home, and the Central Methodist Mission. The Government then arranged with the Church of England authorities to provide accommodation for 400 people.

Co-operation of the States.

In the early part of 1913 the Attorney-General of New South Wales, being in London, was enabled to arrange for conjoint action with Victoria in regard to the regulation and supervision of immigration. For this purpose the Immigration Offices in London of the State of Victoria was amalgamated with the New South Wales Office, as from 1st July, 1913. This action resulted practically from discussion at the Premiers' Conference of 1912 on immigration, particularly in relation to disparity of passage rates in force under the immigration policies of the different States. The resolutions of the Conference on this subject were:—

That, in the opinion of this Conference, it is desirable that uniformity should be secured in the degree of assistance given to immigrants, and that a schedule of rates be prepared and submitted at a later stage.

1. That the following immigration passage rates and bonuses to immigration agents recommended by the immigration officers of the States be agreed to by this Conference.

That all States charge the following minimum rates to immigrants:—

Farmers, farm-hands, skilled artisans, and all nominated, assisted, or indented male immigrants, £6.

Adult females, £3.

Children of immigrants—under 12 years of age, £1 10s.

It is to be understood that, while no States shall charge lower amounts than those mentioned, no objection will be made to higher rates being imposed.

That age limits for all State-aided immigrants be fixed as follows:—

Males, married women, and widows, 45 years.

Single women, 35 years.

The only free immigrants to be those whom the shipping companies carry free.

An adult immigrant is an adult within the meaning of the steamship companies' passenger rates regulations.

2. That the maximum bonus payable to immigration agents be as follows:—

(a) Per adult, £1.

Per child under 12 years, 10s.

(b) In the case of an assisted immigrant recruited by an agent nominating his wife and family within twelve months of his arrival in the State, a similar bonus on account of the wife and family be paid to the agent.

(c) In the cases of immigrants with capital of £200 and over, which capital is deposited with the Agent-General for transmission to the State, an additional bonus of 1 per cent. on the capital so deposited be paid to the agent.

That the immigration passage rates and bonuses to immigration agents recommended be brought into operation after the 31st day of March, 1912.

That the Commonwealth Government be asked to provide 25,000 assisted passages per annum for immigrants, arranging with the shipping companies and paying the cost of transportation on a uniform basic rate, the States to select the immigrants and place them, as at present, and any State being at liberty to supplement the number of assisted passages allotted to it at the same rate.

TRADE UNIONS.

The Trade Union Act of 1881 defines a "Trade Union" as "any combination, whether temporary or permanent, for regulating the relations between workmen and employers, or between workmen and workmen, or between employers and employers, or for imposing restrictive conditions on the conduct of any trade or business, whether such combination would or would not, if this Act had not been passed, have been deemed to have been an unlawful combination by reason of some one or more of its purposes being in restraint of trade."

The Act provides simple machinery for the incorporation, free of cost, of Unions, and the practical advantages of registration quickly became evident to those interested in industrial organization.

In regard to Trade Union contracts, an express stipulation of the Act is that nothing contained in it shall enable any Court to entertain any legal proceeding instituted with the object of directly enforcing or recovering damages for breach of—

(1) Agreements—

- (a) between members of a Trade Union as such concerning the condition on which any member . . . shall or shall not sell their goods, transact business, employ or be employed.
- (b) for the payment by any person of any subscription or penalty to a Trade Union.
- (c) for the application of funds of a Trade Union to—
 - (i) provide benefits to members, or
 - (ii) furnish contributions to any employer or workman not a member of such Trade Union, in consideration of such employer or workman acting in conformity with the rules or resolutions of such Trade Union, or
 - (iii) discharge any fine imposed upon any person by sentence of a Court of Justice.
- (d) made between one Trade Union and another.

(2) Bonds to secure the performance of any of the above-mentioned agreements.

This section does not, however, constitute any such agreements as are mentioned above unlawful, nor does any provision of the Act affect agreements—

- (i) between partners as to their own business;
- (ii) between employer and employee regarding such employment;
- (iii) in consideration of the sale of goodwill of a business or of instruction in any profession, trade, or handicraft.

The period of operation of the Act is broken historically into distinct periods by—

- (a) the industrial disturbance of 1890-1-2, which demonstrated the wisdom of the establishment and incorporation of Trade Unions for purposes of collective action and precipitated the first measure devised in New South Wales for the settlement of industrial disputes, viz., the Trades Disputes Conciliation and Arbitration Act, 1892.
- (b) by enactment of the Industrial Arbitration Act, 1901, which virtually relieved Trade Unions of the restrictions mentioned above in regard to legal proceedings, and encouraged their formation and incorporation by restricting registration as Industrial Unions of employees to Trade Unions and branches, or associations of Trade Unions.

The Industrial Disputes Act, 1908, while stripping registration for industrial purposes of its authority to confer any altered legal status, did not affect the incorporation of any Unions duly registered under the Act of 1901, at the time of its expiration. Similarly the Industrial Arbitration Act, 1912, preserved existing registrations, and still restricted to the registered Trade Union the right of being the only applicant which may obtain registration as an Industrial Union of employees.

The outcome of these events is reflected in the records of registrations for individual years. The maximum number of registrations in any year was 46 in 1902. The next highest numbers were 35 in 1890 and 35 in 1901,

and the registration in 1911, viz., 31, approach closely to the figures for 1901. The years 1890 and 1902 represent the central years in a period of sustained activity, and 1911 is the highest point attained in a scale which has risen steadily since 1905.

Incorporation and Dissolution.

In the thirty years, 1882-1911, 428 Unions have been incorporated under the Trade Union Act. The numbers, for quinquennial periods, of new Unions registered, of such registrations since cancelled or still effective, as at December, 1911, are as follows:—

Period.	Trade Unions Registered.	Registrations of each Period.	
		Since Cancelled.	Still Effective.
1882-6	49	28	21
1887-91	92	76	16
1892-6	23	19	4
1897-1901	43	17	26
1902-6	96	64	32
1907-11	125	33	92
Total ...	428	237	191

The great majority of Unions are clearly of comparatively recent formation, since 124 out of 191 existent are less than ten years old. The Unions between ten and twenty years old number thirty, while those between twenty and thirty years old number thirty-seven. The total number existent at the end of 1911, viz., 191, represents approximately 45 per cent. of the Unions formed throughout the period. Of the Unions formed in the last ten years, 44 per cent. have already disappeared. The average life of all extinct Unions was seven years.

Cancellations for the most part have been directly consequent upon non-compliance with the requirements of the law in regard to the rendition of returns as to the membership and funds, which default was usually attributable to the moribund condition of the Union. In a few instances registrations were terminated by amalgamation of Unions, or by their absorption in other bodies. The heaviest closures have been of Unions formed in 1890, 1891, 1902, and 1903, the numbers being 32, 20, 30, and 20 respectively—*i.e.*, of 59 Unions registered in 1890 and 1891, only 7 now remain; of 106 Unions registered in 1901, 1902, and 1903, primarily in order to secure the benefits of the Industrial Arbitration Act of 1901, only 42 now remain. At these two periods, viz., 1890-1891 and 1901-2-3, the heavy registrations were induced by pressure of development and forces external to the Unions. The steady progression of recent years points to a safer future, viz.:—

Year.	New Unions Registered.	Number of these Unions defunct at 31 Dec., 1911.	Average Membership of Unions Reporting.
1906	11	3	620
1907	13	9	693
1908	25	4	744
1909	27	15	860
1910	29	4	805
1911	31	1	843

Aggregate Funds and Membership.

The following statement shows the position of all Trade Unions for each of the last four years, as regards finances and membership:—

	1908.	1909.	1910.	1911.
Unions existent, end of year	153	166	174	191
Total income	£105,003	£148,202	£129,754	£163,448
Total expenditure	£102,402	£147,152	£123,794	£146,959
Total assets	£90,278	£94,900	£98,758	£114,687
Membership	113,918	127,402	130,346	153,504
Income per member	18s. 5d.	£1 3s. 3d.	19s. 11d.	21s. 3d.
Expenditure per member	18s. 0d.	£1 3s. 1d.	19s. 0d.	19s. 2d.
Amassed funds per member	17s. 10d.	14s. 11d.	15s. 2d.	14s. 11d.

These Unions are classifiable in three groups according to their constitution, viz., of employers, of employees, and a miscellaneous group of Labour Federations, and Eight-hour Demonstration Committees, without any membership of individuals. The following table displays the relative positions of the three classes as at December, 1911:—

Trade Unions.	Number.		Membership.			Funds.	
	Existent.	Reporting.	Aggregate.		Per Union Reporting (Males and Females).	Aggregate.	Per Union Reporting.
			Males.	Females.			
Employees	173	171	145,784	4,743	880	£ 103,657	£ 606
Employers	12	11	2,748	229	270	2,193	199
Other—							
Labour Federations	3	3	...	...	...	7,919	2,640
Eight-Hour Committees	3	3	...	...	...	918	306
Total	191	188	148,532	4,972	843	114,687	610

The following statement gives a general view of the numerical strength of all Trade Unions in the last three years:—

Membership.		1909.	1910.	1911.
Less than... ..	100	43	47	54
100 and less than	500	57	65	65
500 ..	1,000	20	22	24
1,000 ..	1,500	10	12	15
1,500 ..	2,000	7	6	6
2,000 ..	3,000	3	2	9
3,000 ..	4,000	2	2	2
4,000 ..	5,000	1	2	1
5,000 ..	8,000	3	2	4
8,000 ..	10,000	1	1	...
10,000 ..	20,000	...	...	1
20,000 ..	25,000	...	...	1
Exceeding	25,000	1	1	...
Not stated ... ..	...	18	12	9
Total ... ..	...	166	174	191

Non-employees' Unions.

The smallest group includes the Labour Federations and Eight-Hour Demonstration Committees, the financial operations of which for the year 1911 are summarised as follows:—

Group.	Receipts.				Management and Other Expenditure.	Assets.		
	Capitation Fees.	Interest.	Other Receipts.	Total.		Cash.	Other.	Total.
Labour Federations	£ 960	£ 1	£ 27	£ 988	£ 837	£ 123	£ 7,796	£ 7,919
Eight-hour Committees...	...	...	2,670	2,670	2,274	862	56	918

Local unions are affiliated with the Labour Federations, which have their headquarters at Sydney, Newcastle, and Broken Hill—the three largest industrial centres of New South Wales.

At June, 1912, there were affiliated with the Labour Council of New South Wales, at Sydney, 110 unions, viz., 5 industrial unions, and 105 craft unions.

For the eleven employers' unions which reported, the finances for the year 1911 were:—

Receipts.		Expenditure.		Assets.	
Contributions	£ 3,425	Legal Charges	£ 388	Cash—In Bank	£ 354
Interest	4	Management & Other	3,799	„ Hand	707
Other Receipts	1,072			Other Assets	1,132
Total	4,501	Total	4,187	Total	2,193

Arranged in groups, according to industry, these unions reporting, and their funds and membership, were as follows:—

Group.	Trade Unions reporting.	Assets.	Membership.	
			Males.	Females.
Builders and Contractors	2	£ 1,039	241	...
Farriers	1	6	197	...
Dairymen, Butchers, and Victuallers	3	464	1,389	228
Carriers and Carters... ..	3	640	867	1
Launderers	1	25	40	...
Tug-owners	1	19	14	...

EMPLOYEES' UNIONS.

Development.

Naturally, as regards numbers, membership, and funds, trade unions of employees constitute by far the strongest group. Though numbers of the early unions formed in New South Wales were branches of British or foreign organisations, for the most part unions were of local origin and independent governance. But as the conception of unionism has undergone radical revision in recent years, so has the constitution of unions been subject to alteration in the direction of replacement of isolation by solidarity. Throughout the first decade of registration, in fact practically till 1890, separate unions were constituted for the various branches of industries, and also for male and female workers in those branches. In the last ten years there has been apparent an effective movement towards consolidation of allied interests, so that but few local unions retain their absolute autonomy, and the sphere of influence of most unions has extended throughout the State, or even outside it. Practically all unions, whether Local, State, or Federated, are affiliated with Central Councils in Sydney, Newcastle, and Broken Hill, the three largest industrial centres. The movement towards consolidation received an added impetus during 1912 from the rearrangement of Wages and Industrial Boards under the Industrial Arbitration Act, 1912, on the basis of craft unionism, thus making allied interests subject to the oversight of one chairman. Necessarily this alteration is bound to accentuate the bias towards concentration.

Finance and Membership.

The financial operations of employees' unions in groups, according to the class of industry, are as follows for the year 1911:—

Industrial Classification.	Unions reporting.	Receipts.				Expenditure.							
		Contributions.	Interest.	Other.	Total.	Benefits.				Legal Charges.	Management and Other.	Total.	
						Funeral.	Accident.	Unemployment.	Other.				Total.
		£	£	£	£	£	£	£	£	£	£	£	£
Building	20	8,276	137	658	9,071	224	322	20	709	1,275	448	4,916	6,639
Pastoral, Agricultural, Farming	4	14,784	186	13,751	28,721	97	..	3	5	105	406	26,793	27,904
Mining, Quarrying, and Smelting.	21	40,004	103	804	40,911	2,105	3,495	13,491	534	19,625	1,848	16,092	37,565
Engineering and Metal Working.	16	15,885	254	1,539	17,678	281	296	1,116	2,177	3,870	1,820	10,847	16,537
Manufacturing :													
Clothing, Boots, Hats	8	2,800	29	422	3,251	32	..	..	3	35	346	2,386	2,767
Printing, Bookbinding, &c.	7	3,997	95	486	4,578	275	..	69	59	403	280	3,809	4,492
Food and Drink ..	22	7,059	46	907	8,012	32	..	..	63	95	1,107	5,810	7,012
Manufacturing, n.e.i.	19	6,488	89	753	7,330	39	..	171	363	573	457	5,211	6,241
Railways & Tramways	6	10,847	100	379	11,326	..	..	..	373	373	602	8,585	9,560
Other Land Transport	4	1,897	12	332	2,241	..	..	..	..	..	174	1,662	1,836
Shipping and Wharf Labour.	13	11,837	23	429	12,259	136	..	2	5	143	2,195	8,727	11,065
Clerical, Artistic, Teaching.	5	509	4	47	560	..	..	..	16	16	13	404	433
Domestic, Hotel ..	5	1,217	25	1,265	2,507	182	..	..	41	223	20	2,003	2,246
Miscellaneous ..	21	4,759	25	289	5,073	74	170	..	22	266	339	3,618	4,223
Total	171	130,359	1,128	22,061	153,548	3,477	4,238	14,872	4,370	27,002	10,055	100,863	137,920

The accumulated funds and the membership at December, 1911, are shown in the following table, which also discloses the relativity of expenditures for benefits and for legal charges to total expenditures:—

Industrial Classification.	Funds.	Membership.			Funds per member.	Percentage of Total Expenditure absorbed in—		Percentage of Group membership to Total.	
		Males.	Females.	Total.		Benefits	Legal Charges		
Building	£ 12,029	11,581	...	11,581	s. 20	d. 9	19·25	6·75	7·69
Pastoral, Agricultural, } Farming	15,120	23,595	10	23,605	13	1	·38	1·49	15·68
Mining, Quarrying, and } Smelting	23,376	19,73 ₅	...	19,735	23	8	52·24	4·92	13·11
Engineering and Metal } working	13,421	10,86 ₁	...	10,861	24	9	23·40	11·01	7·22
Manufacturing—									
Clothing, Boots, Hats ...	2,777	3,496	1,706	5,202	10	8	1·27	12·50	3·46
Printing, Bookbinding, &c	7,414	2,437	198	2,635	46	3	8·97	6·23	1·75
Food and Drink	5,205	7,963	264	8,227	12	8	1·35	15·79	5·47
Manufacturing, n.e.i. ...	6,417	8,359	723	9,082	14	2	9·18	7·32	6·03
Railways and Tramways ...	6,898	23,663	...	23,663	5	10	3·90	6·30	15·72
Other Land Transport ...	919	3,106	...	3,106	5	11	...	9·48	2·06
Shipping & Wharf Labour ...	4,377	15,628	...	15,628	5	7	1·29	19·84	10·38
Clerical, Artistic, Teaching	1,156	1,210	220	1,430	16	2	3·69	3·00	·95
Domestic, Hotel	1,576	2,151	1,100	3,251	9	8	9·93	·89	2·16
Miscellaneous	2,972	11,999	522	12,521	4	9	6·30	8·03	8·32
Total... ..	103,657	145,7*4	4,743	150,527	14	11	19·58	7·29	100·00

The strongest unions financially are those connected with the printing and bookbinding trades. Next in order of importance, measured by accumulated assets per capita of membership, are the engineering, mining, and building groups. In all three of the transport groups the accumulated assets are very low. Considering the four more or less definitely defined branches of manufacturing industry as a whole, the funds accumulated represent 17s. 4d. per head of membership, the expenditure for benefits and legal charges represent respectively 5·4 per cent. and 10·7 per cent. of total expenditure; and the combined membership is 16·7 per cent. of the total union membership. This group includes 2,891 female members, being 61 per cent. of the total female membership.

The relation of the expenditures for benefits, and for legal charges, to the total expenditure, discloses some interesting variations, *e.g.*, the expenditure on benefits rises to more than half the total expenditure in the mining and smelting group, and falls as low as ·38 per cent. in the rural industries group, while on the average it represents 19·58 per cent. of the total. Legal charges, including expenditure in connection with wages boards, &c., rise to 19·84 per cent. of total expenditure in the shipping and sea transport group, and fall to 1·49 per cent. in the rural group, the average being 7·29 per cent. for all groups.

In the domestic group, legal charges constitute only ·89 per cent. of expenditure, the low proportion being due chiefly to the absence of wages board costs, as for several branches of industry in this group industrial boards have not yet, or only recently, been constituted.

As regards expenditures for benefits, the largest outlay is for unemployment benefit, and practically the whole amount was expended by the Unions in two years, *viz.*, mining, quarrying, etc., and engineering and metal working. In regard to the direction of these expenditures no details are available, but it is matter of common knowledge that the demands of closer

unionism, entailing the federation of Unions, or even the formation of Australasian Associations, entail also the extension of financial assistance to Unions, and quite apart from any regular unemployment benefit, expenditures are incurred for strike levies, etc. The relativity of Trade Union records to the broad question of unemployment is discussed later.

Concerning costs of management, no general conclusions can be derived, as expenditure under this head is not dissociated in the tabulations from incidental or miscellaneous expenditures.

Trade Unions of employees embrace all types of occupations, and the majority of wage-earners, the impetus towards organisation being derived immediately from the necessity of establishing the status of the Union as an industrial body.

The most noticeable features of their recent development are the extension of organisation to embrace more particularly the trades in which women workers are numerous, and the consolidation of branches of industries.

Consolidation.

The numerical strength of employees' unions in 1911 is displayed in the following statement:—

Membership.	Unions.	Membership.	Unions.
Exceeding 20,000	1	Exceeding 1,000	14
„ 10,000	1	„ 500	23
„ 5,000	4	„ 100	60
„ 4,000	1	less than 100	49
„ 3,000	2	not stated	3
„ 2,000	9		
„ 1,500	6	Total	173

During recent years considerable progress has been made in the direction of closer unionism of subsidiary or allied industries; various conferences held had as their object promotion of uniformity of trade conditions and of wages throughout Australia. Organisations in process of federating included the following trades:—

General labourers.	Ropemakers.
Shop assistants.	Fire Brigade employees.
Painters.	Hospital and Asylum attendants.
Plumbers.	

In 1912 this procedure was extended still further—a federation of unions of Transport workers, and another of Rural workers, being the chief features. The amalgamation of various unions of General Labourers, also, was practically effected.

Organisation of Women Workers.

For 1910 preliminary figures were available to show the extent to which women workers were organised into unions. At the end of that year there were 2,226 women members, representing 1·7 per cent. of the total Union membership. The following figures show the strength of the women unionists in the various groups, as compared with the full strength of the Unions in those groups, viz.:—

Group.	Membership at 31 Dec., 1910.			Percentage in each Group.	
	Males.	Females.	Total.	Males.	Females.
Textiles	803	727	1,530	47·5	52·5
Factories generally	2,084	779	2,863	27·2	72·8
Domestic	859	317	1,176	27·0	73·0
Shops and Stores	2,744	272	3,016	88·1	11·9
Other	8,879	131	9,010	99·6	·4
Total	15,369	2,226	17,595	87·3	12·7

At the end of 1911 women unionists numbered 4,743 and represented 3.15 per cent. of the total membership. In industrial groups the women unionists were distributed as follows:—

Group.	Membership.			Percentage of Total.	
	Males.	Females.	Total.	Males.	Females.
Rural	23,595	10	23,605	15.68	.00
Textiles	3,496	1,706	5,202	2.33	1.13
Printing	2,437	198	2,635	1.62	.13
Food and Drink	7,963	264	8,227	5.29	.18
Other manufacturing	8,359	723	9,082	5.55	.48
Professional	1,277	221	1,498	.85	.15
Domestic	2,151	1,100	3,251	1.43	.73
Shops and stores	4,549	356	4,905	3.02	.24
Caretakers	393	165	558	.26	.11
Other Groups	91,564	...	91,564	60.82	...
Total	145,784	4,743	150,527	96.85	3.15

Trade Union Congress.

Congresses of Trade Unions of Employees are held annually in Sydney. At the Congress of 1912 the most prominent question was the possibility of a Federation of Labour on a more comprehensive scale than now subsists within the State. The objective of the Federation is the maintenance of industrial peace consistently with the betterment of industrial conditions. Unions in the Federation would be grouped on industrial lines, or lines of trade affinity.

REGULATION OF INDUSTRY.

Two methods are applicable in mitigation of industrial unrest: (i) Removal of the causes by regulating the conditions obtaining in the different industries; and (ii) settlement of disputes as they arise. Throughout Australia, for the most part the regulation of industry and the settlement of disputes are functions of the Government of each particular State, the Constitution of the Commonwealth restricting the power of the Federal Parliament as to mediatory legislation to the making and administration of laws with respect to conciliation and arbitration for the prevention and settlement of industrial disputes extending beyond the limits of a single State.

In the following pages are indicated the extent and effect of the intervention of the State and the Federal authorities in connection with industrial activity in New South Wales.

The power of the Commonwealth Government to make laws in relation to industry is defined in section 51 of the Constitution Act under the following captions:—

- (i) Trade and commerce with other countries and among the States.
- (xx) Foreign corporations, and trading or financial corporations formed within the limits of the Commonwealth.
- (xxxv) Conciliation and arbitration for the prevention and settlement of industrial disputes extending beyond the limits of any one State.

The enactments up to the end of 1912 session, under clauses (i) and (xxxv) supra, were as follows:—

<i>Trade and Commerce.</i>		<i>Conciliation and Arbitration.</i>	
Customs	1901-1911	Commonwealth Concilia- tion and Arbitration*	1904
Sea Carriage of Goods ...	1904	Contract Immigrants ...	1905
Secret Commissions ...	1905	Arbitration (Public Service)	1911
Commerce (Trade Descrip- tions)	1905		
Australian Industries Pre- servation	1906-1910		
Spirits	1906		
Seamen's Compensation ...	1911		
Customs (Interstate Ac- counts)	1910		
Lighthouses	1911		

* Declared by High Court invalid as purporting to affect State Railways.

In regard to foreign corporations, &c., no specific legislation was enacted up to the beginning of 1912 session of the Federal Parliament.

Enactments incidental to the execution of the powers conferred on the Parliament of the Commonwealth include the Royal Commission Acts, 1902 and 1912, and the Interstate Commission Act, 1912.

The legislation with regard to trade and commerce is regulative chiefly of the conditions governing the conduct of industry; excepting the Seamen's Compensation Act, 1911, the tenor of which is indicated in part "Shipping and Commerce" of this Year Book, the enactments do not directly affect the relationship of employee to employer.

In regard to conciliation and arbitration the Contract Immigrants Act, referred to in some detail previously, has bearing in so far as it specifically excludes from its application ouster or abridgment of jurisdiction or control of any constituted industrial tribunal.

ROYAL COMMISSIONS.

Commonwealth.

The degree to which Royal Commissions as constituted from time to time, perform functions of investigation, and, to the extent of their recommendations, of mediation, is considerable.

Royal Commissions of the Commonwealth include the following:—

Royal Commission on Postal Services, 1908, which investigated the Postal Telegraphic, and Telephonic services of the Commonwealth particularly as to—

- (a) Management.
- (b) Finance.
- (c) Organisation and discipline.
- (d) Extensions.
- (e) Complaints in relation to services.

Royal Commission on Insurance, 1908.

The Interstate Commission Act, 1912, provides for the erection of a permanent Commission, in the nature of a Board of Trade, a Board of Advice, and a Commerce Court, charged with the duty of investigating from time to time matters affecting—

- (a) production of trade in commodities.
- (b) encouragement, improvement, and extension of Australian industries and manufactures.
- (c) markets outside Australia, and the opening up of external trade generally.

(d) effect and operation of legislation affecting revenue, Australian manufactures, and industry and trade generally.

(e) prices of commodities.

(f) profits of trade and manufacture.

(g) wages and social and industrial conditions.

(h) labour, employment and unemployment.

(i) bounties.

(j) population.

(k) immigration.

(l) other matters.

River questions and interstate traffic are special matters for inquiry. The Commission is armed as to its judicial work with the powers of a Court of Record; as to its investigational work with the powers of a Royal Commission; its orders are enforceable as rules or orders of the High Court, and appeal from the Commission lies to the High Court on questions of law only.

State.

Particulars were given in Part I of this Year Book of the more important Royal Commissions of Inquiry which reported to the Parliament of the State between 1856 and 1911. Many of these Commissions were *de facto* investigatory tribunals as to the conditions obtaining in industries, and their scope and subject matter were supplementary to, or but little more ample, than those of permanent industrial tribunals. The Commission as to the shortage of labour, &c., is a case in point. During 1913 a Royal Commission was appointed, and commenced to inquire into the working of the Industrial Arbitration system. The cost of several recent Commissions were recorded as follows:—In October, 1912—

Subject.	Fees.			Other Costs.			Total.		
	£	s.	d.	£	s.	d.	£	s.	d.
Iron Industry	2,480	0	0	696	8	3	3,176	8	3
Thick Coal Seams Working ...	696	3	0	406	5	4	1,102	8	4
Food Supply and Distribution...	Nil.			1,862	1	6	1,862	1	6*
Shortage of Labour	1,617	0	0	1,110	8	4	2,727	8	4
Railway Workings—Congestion at Darling Harbour ...	189	0	0	209	19	4	398	19	4
Congestion of Goods Traffic ...	661	10	0	540	4	4	1,201	14	4
Shortage of Locomotives ...	105	0	0	32	3	4	137	3	4
Tick Administration	Nil.			234	6	1	234	6	1
Total	5,748	13	0	5,091	16	6	10,840	9	6

* President T. R. Bavin, appointed sole Commissioner. Commission still sitting.

INTERVENTION.

COMMONWEALTH ARBITRATION OPERATIONS.

The legislation of the Commonwealth Parliament relating to arbitration, is embodied in the Commonwealth Conciliation and Arbitration Acts, 1904, 1909, 1910, and 1911, and the Arbitration (Public Service) Act, 1911. These Acts are both mediatory and regulative. The former constitutes an Indus-

trial authority which, in the matter of intervention in Industrial Disputes, has jurisdiction only when such disputes extend beyond the limits of a single State. Organisations, whether of employers or of employees, must, to qualify for registration, represent, as the minimum, 100 employees. Stringent provisions of the Act applying to registered organisations absolutely prohibit the use of funds for political purposes, and participation in strikes or lockouts.

As at the end of the year 1912 the number of organisations registered under the Act was 101, viz., ninety-eight of employees and three of employers. Subsisting awards of the Court apply to fourteen of these organisations, and agreements subsist in connection with seven organisations, as noted on the following complete list of the organisations registered. This list is arranged to show the industries concerned in the general group-order which is followed in connection with Trade Unions. It will be noticed that the majority of awards are concerned with the shipping industry:—

Industry—Group.	Organisation.
Building :—	
Saw Mill and Woodworking	Federated Saw Mill, Timber Yard and General Woodworkers' Association of Australasia, Victorian Branch.
Timber Trade	Federated Saw Mill, Timber Yard and General Woodworkers' Association, Adelaide Branch.
Saw Mill, Timber, Yard and General Woodworkers.	Federated Saw Mill, Timber Yard, and General Woodworkers Employees' Association of Australasia.
Plumbing and Gas Fitting...	United Operative Plumbers' and Gas Fitters' Society of Victoria.
„ „	Australian Plumbers and Gas Fitters Employees' Union
House and Ship Painting ...	Federated House and Ship Painters, Paper Hangers and Decorators Employees' Association of Australia.
Building	Australian Builders Labourers' Federation.
Carpentry and Joinery	Australian District of Amalgamated Society of Carpenters and Joiners.
„ „	Australian Society of Progressive Carpenters and Joiners.
Coach and Rolling Stock Making.	Amalgamated Coach and Rolling Stock Makers' Union of Australia.
Pastoral, Agricultural, and Farming :—	
Pastoral (Award)	Australian Workers' Union.
Agricultural, Viticultural, Fruit Growing, Market Gardening and Dairying. (Award covering Fruit Harvesting Agreements.)	Rural Workers' Union of Australia.
Horticultural... ..	Australian Gardeners and Nursery Employees' Union.
Fellmongering, Woolsorting, and Scouring.	Amalgamated Fellmongers, Woolsorters and Wool scourers Union of Australia.
Mining Quarrying and Smelting :—	
Coal Mining	Victorian Coal Miners' Association.
Mining	Barrier Branch of the Amalgamated Miners' Association of Broken Hill.
„ „	Federated Mining Employees' Association of Australia.
Dredging and Sluicing	Federated Dredge Workers' Association of Australia.
Quarrying	Victorian Quarrying Employees' Association.
Engineering and Metal Working :—	
Engineering	Amalgamated Society of Engineers.
„ „	Australian Society of Engineers.
Masters and Engineers ..	Federated Masters' and Engineers' Association of Australasia.
Land Engine-driving and Firing (Award).	Federated Engine-drivers' and Firemen's Association of Australasia.
Agricultural Implement Making (Excise Tariff Act).	Federated Implement Machinery and Iron Workers' Association of Australasia.

Industry—Group.	Organisation.
Engineering and Metal Working (<i>continued</i>) :—	
Iron and Metal	Federated Iron Workers' Association of Australia.
Tinsmithing, Sheet Metal Working, Canister, and Gas Meter Making.	Sheet Metal Workers' Industrial Union of Australia.
Ironworkers	Federated Society of Boilermakers and Iron Ship Builders of Australia.
Small Arms Manufacture ...	Small Arms Factory Employees' Association.
Manufacturing :—	
Clothing, Boots, Hats :	
Boot, Shoe, and Slipper Manufacturing Award.	Australian Boot Trade Employees' Federation.
" " " ...	Victorian Branch of the Australian Boot Trade Employees' Association.
" " " ...	Australian Boot Trade Employees' Federation, Queensland Branch.
Bootmaking	Australian Boot Trade Employees' Federation, Adelaide Branch.
Boot Manufacturing ...	Australian Boot Trade Employees' Federation, N.S.W. Branch.
Clothing and Tailoring ...	Federated Clothing Trades of the Commonwealth of Australia.
Straw Hat Making	Federated Straw Hatters' Association of Australia.
Felt Hatting	Federated Felt Hatting Employees' Union of Australasia.
Woollen Mills	Federated Woollen Mills Operatives' Union of Australia.
Printing, Bookbinding ...	Nil.
Food and Drink :—	
Candle, Starch, Soap, and Soda.	Manufacturing Grocers' Employees' Industrial Union of Victoria.
" " " ...	Federated Candle, Soap, Soda, and Starch Employees' Union of Australia.
Sugar	Sugar Works Employees' Union of Australia.
Jam, Sauce, Pickle, and Food Preserving ...	Jam, Sauce, Pickle, and Food Preserving Employees' Union of Australia.
Grain Milling (Agreement)...	Federated Millers and Mill Employees' Association of Australasia.
Baking and Flour and Sugar Goods.	Federated Pastry-cooks, Biscuit-makers, Ornamenters' and Flour and Sugar Goods Union of Australia.
Butchering and Meat ...	Australasian Meat Industry Employees' Union.
Manufactures, n.e.i. :—	
Tanning, Currying, and Leather Dressing.	Federated Tanners and Leather Dressers' Employees' Union of Australia, Victorian Branch.
Tanning and Leather Dressing.	Federated Tanners and Leather Dressers' Employees' Union of Australia.
Saddlery, Harness, and Whipthong.	Australian Saddlery Trade Employees' Federation.
Glass Bottle Making (Agreement).	Amalgamated Glass Bottle Makers' Union of Australia.
" " " ...	Federated Glass Founders' Association of Australia.
Furnishing Trade	Federated Furnishing Trade Societies of Australasia.
Artificial Manure	Artificial Manure Trades' Union.
Jewellery	Federated Jewellers, Watchmakers, and Allied Trades' Union of Australia.
Baby Carriage and Wicker Work.	Australian Baby Carriage and Wickerworkers' Association.
Cycle Electroplating and Japanning.	Australian Cycle, Electro-plating, and Japanning Trade Employees' Union.
Firewood, Coal, Chaffcutting, and Corncrushing.	Firewood, Coal, Hay, and Corn Trade Employees' Association of Australasia.
Rubber-workers	Rubber Workers' Union of Australia.
Gas Production and Sale ...	Federated Gas Employees' Industrial Union.
Hairdressing, Wigmaking, and Hairworkers.	Australian Hairdressers, Wigmakers, and Hairworkers Employees' Federation.
Hairdressing and Wigmaking	Australian Master Hairdressers and Wigmakers' Federation [Employers].
Match and Matchbox-making	Australian Matchworkers' Union.
Brick, Tile, and Pottery ...	Federated Brick, Tile, and Pottery Industrial Union of Australia.

Industry—Group.	Organisation.
Carrying :—	
Railways and Tramways : Tramway (Award and Agreements).	Australian Tramway Employees' Association.
Other Land :	
Breadcarting	Bread Carters' Industrial Federal Union of Australia.
Carting and Carrying	Federated Carters and Drivers' Industrial Union of Australia.
Carrying	Australian Carriers' Union.
Passenger and Luggage Lifts	Federated Lift Attendants' Union of Australia.
Transport	Motor Transport and Chauffeurs' Association.
Shipping and Wharf Labour :—	
Shipping and Marine (Award)	Merchant Service Guild of Australia.
Interstate Shipping	Commonwealth Steamship Owners' Association. [Employers.]
Shipping (Award)	Federated Stewards and Cooks' Union of Australia.
„ „	Australian Institute of Marine Engineers.
„ „	Federated Seamen's Union of Australia.
Shipping	Waterside Workers' Federation of Australia.
„ (Award)	Marine Cooks, Bakers, and Butchers' Association of Australia.
„ „	Federated Marine Stewards and Pantrymen's Association of Australasia.
Shop and Storemen :—	
Grocery, Tea, and Dairy Produce.	United Grocers, Tea, and Dairy Produce Employees' Union of Victoria.
Drapery, Grocery, Ironmongery, Dairy Produce, Boots, and Fancy Goods.	Shop Assistants' Union of Victoria.
Reception, Sale, and Delivery of Merchandise.	Shop Assistants and Warehouse Employees' Association of Australia.
Wool, Skin, Hide, Tallow, and Grain Stores Employees (Agreements).	Wool and Skin Stores Employees' Union of Australia.
Liquor Trade (Agreement) ...	Federated Liquor Trade Employees' Union of Australasia.
Storing and Packing	Federated Storemen and Packers' Union of Australia.
Fodder and Fuel	Federated Fodder and Fuel Trades' Industrial Union of Australia.
Clerical, Artistic, Teaching :—	
Stage Operatives	Sydney Stage Employees' Association.
Theatrical (Agreement)	Australian Federated Theatrical Employees' Association.
Professional Musicians (Agreement).	Musicians' Union of Australia.
Clerical	Federated Clerks' Union of Australia.
Newspaper (Agreements)	Australian Journalists' Association.
Picture Show	Federated Picture Showmen's Association of Australia. [Employers.]
Domestic, Hotels :—	
Hospital and Asylums	Hospital and Asylum Attendants and Employees' Union.
Hotel, Club, and Restaurant	Hotel, Club, Restaurant, and Caterers' Employees' Union of N.S.W.
Hotels, Caterers, Shops, Restaurants, Cafés, and Boarding-houses.	Hotel Caterers' and Boarding-house Female Employees' Association.
Hotels, Clubs, Restaurants, &c.	Federated Hotel, Club, Restaurant, and Caterers' Employees' Union of Australia.
Miscellaneous :—	
Postal Electrical (Award)	Australian Postal Electricians' Union.
Electrical	Federated Electrical Trades' Union of Australia.
Post and Telegraph	Post and Telegraph General Division Association of Workers of Western Australia.
Public Service	Australian Letter-carriers' Association.
Postal Service of Commonwealth.	Australian Commonwealth Post and Telegraph Officers' Association.
Telegraph and Telephone Lines.	Australian Telegraph and Telephone Construction and Maintenance Union.
Sewerage and General Labouring.	Sewerage and General Labourers' Association of Victoria.
Fire Brigades	United Firemen's Union of Victoria.
Municipal	Municipal Employees' Association of Australia.

The following statement shows the number of awards made by the Commonwealth Court of Conciliation and Arbitration in each year from 1906 to 1912 :—

Year.	Awards made.	Compulsory Conferences			
		Called.	Resulting in		
			Agreement.	Reference to Court.	No Agreement.
1906	1	...	...	...	...
1907	1	...	...	...	...
1908	1	...	...	...	...
1909	3	...	...	...	...
1910	3	3	2	...	1
1911	3	11	5	1	5
1912	5	5	3	1	1

STATE INTERVENTION IN INDUSTRY.

The year 1851 marks the starting point in the history of industrial development in New South Wales. Till that time Australia seemed destined to rank as a purely pastoral country, distance from the world's markets and sparseness of population militating against decided progress in agriculture or other more intensive forms of production. The period immediately preceding the discovery of payable gold deposits was marked by over-speculation in land, culminating in acute financial distress in 1842; and subsequently there occurred an appreciable fall in wages concurrently with a fall in the cost of living. During 1849, the labour market in Sydney, where the conditions prevailing throughout the country were reflected promptly, were relieved of a proportion of its surplus labour by the commencement of emigration to California consequent upon gold discoveries in that State. In 1851, the discovery of gold in payable quantities in New South Wales occurred opportunely to relieve the still prevailing depression; and from 1851 to 1858 the attention of the population was directed chiefly to gold-seeking. The discoveries and developments of this period have been far-reaching in their economic effects upon standards of living, prices of commodities and of remuneration for labour, expansion of industry, extension of means of communication, distribution of population, and particularly upon the direction of immigration. Between 1859 and 1862 a degree of stability in industry was evolved, though the period was essentially one of transition, characterised by decreasing gold-winnings, with a corresponding diminution in the earnings of working miners. Naturally, many gold-seekers were diverted to their original or to other pursuits. The Land Act of 1861 helped materially in the renewal of activity in agrarian pursuits; and the history of the half-century between 1862 and 1912 is written in the fairly steady and consistent development of a varied industrial life, though marked by vicissitudes of season and by variations in policy and procedure consequent upon the necessarily experimental nature of much legislation.

A landmark in this half-century is the critical period which closed with financial distress in 1893. Considerable expenditure of public moneys and a vigorous policy of immigration combined to attract population to New South Wales, and with the curtailment or cessation of expenditure on public works, the story of fifty years before repeated itself in a labour market again congested. The year 1885 witnessed the attainment of the highest point in

a scale of wages which had improved steadily for some fifteen years; and in 1886, coincidently with the restriction in public and private business, came a fall in prices of commodities and a more or less general reduction in wage standards.

In the six years, 1886-1892, strikes and trade disputes were common occurrences, not merely in New South Wales, but throughout Australia, and thenceforward strikes figure more or less prominently in the industrial history of the State.

The more important of the early dislocations are remarkable for their extensiveness and duration. In 1886-7 in New South Wales collieries in the southern district were idle for nearly twelve months as the result of disputes and strikes. In 1888 coal-miners in the northern mining district were on strike for several months. In 1888-9 the completion of various public works released some 12,000 men, mainly unskilled labourers, from the ranks of industry. In 1890 the maritime and the pastoral industries were in upheaval; and in 1892 silver mines at Broken Hill were idle for nearly three months in consequence of strikes. The year 1895 represents the turning point. The wage rate, which may be taken as the industrial barometer, and which for ten years previously had been low and variable, evidenced a degree of stability, and since that date no extraordinary fluctuations have been apparent, but the wage standard has been improved consistently.

These complications affecting the industrial community between 1886 and 1896 are reflected in the Statute Laws of New South Wales, particularly as relating to the regulation of industry. Various Bills prepared, and one introduced in the Legislature, foreshadowed legislative intervention as between employer and employees. In 1890 the Census and Industrial Returns Act empowered the Government Statistician to report upon the conditions prevailing in the factories within the State; but in spite of an accumulation of evidence as to the urgent necessity for regulative supervision, legislative action was deferred till 1896, when the Factories and Shops Act was passed, following the lead of the Victorian Act of 1885. In December, 1899, as a corollary to the regulation of the manufacturing industry, regulation of shops, in regard to hours during which goods might be sold, was initiated by the Early Closing Act, 1899. Coincidentally with these efforts to regulate the conditions prevailing in manufacturing and retailing establishments, attention was given to the problem of regulating the relations subsisting between employers and employees generally, so as to obviate dislocations of industry. In 1882 a Bill was introduced into Parliament for the establishment of a council composed of members of Employers' Unions and of the Trades and Labour Council, to provide for conciliation on the lines adopted in France. The Bill was shelved. In 1887 a scheme, based upon English precedent, was drawn up by a joint committee of the Employers' Union and of the Trades and Labour Council, but was rejected. In the same year a Trades Conciliation Bill was introduced to the Legislature, the machinery projected being purely voluntary, following the lines of the voluntary conciliation which had for some years proved satisfactory in the building trade. This measure also failed to become law; but Parliamentary attention was focussed on the subject of mediation in industry, and during the last twenty years the Parliament of New South Wales has given much attention to legislation having for its object the improvement of the industrial conditions of the people generally, and involving particularly the settlement of trade disputes and regulation of the hours of employment and rates of wages.

Necessarily, as no community of workers has yet been able to display a perfected and satisfactory code of industrial legislation which might be adapted to suit local conditions, the legislation yet enacted in this State has been of an experimental nature, and subject to modification in the light of experience gained, and of the exigencies of time and the ever-changing conditions of an advancing civilisation, involving new conditions of labour and new methods of production and distribution.

DEVELOPMENT OF MEDIATORY AND REGULATIVE LEGISLATION.

1. *Conciliation and Arbitration.*

The effective history of mediatory legislation dates from 1890, when a Royal Commission of Inquiry was appointed, following on the maritime strike in that year, to investigate the causes of industrial disputes and to indicate means for their prevention. A result of this Commission was the Trades Disputes Conciliation and Arbitration Act, 1892. As the preamble of the Act declares, the establishment of Councils of Conciliation and of Arbitration for the settlement of disputes between employers and employees should conduce to the cultivation and maintenance of better relations, and of more active sympathy, between employers and their employees, and be of great benefit in the public interest by providing simple methods for the prevention of strikes and disputes, through which industrial operations are liable to serious and lasting injury, against the welfare and peaceful government of the country.

The Act was intended to be operative for four years from 31st March, 1892; its initiation was facilitated by the progress made by trade unionism, both in the way of organisation of trades and by securing direct representation in Parliament.

Councils of Conciliation and of Arbitration were established, to which applications were to be referred from employers and employees regarding disputes or claims. Pending the division of the State into industrial districts, a general Council of Conciliation was projected, to be composed of twelve to eighteen representatives elected by employers and employees. The district councils were to be elected for two-year terms, and to be composed of two representatives of employees registered under the Trade Union Act, and two of registered employers' associations. Apart from the ordinary Councils of Conciliation, special conciliators might be appointed by the parties to a dispute. Then, supplementary to the Councils of Conciliation, there was a Council of Arbitration elected for a similar term of two years, but composed of three members, being representatives selected by employers and by employees, with a third chosen by mutual agreement of the first two. To this council matters might be referred after failure of the Council of Conciliation, or directly, and the Council of Conciliation might sit as assessors to the Council of Arbitration, if the parties so agreed. The latter council sat as an open court, and was guided by the principles of equity and good conscience. Representation by attorney was not permissible, but the council had full power to summon witnesses, and to enter upon premises for inspection. Awards, which had to be issued within one month of conclusion of sittings, were enforceable by legal process only by prior agreement of the parties, but the claims were made to deal with matters of wages, workmanship, conditions of work, quality of food supplied to employees, and sanitation of workshops.

As this Act did not compel either party to a dispute to submit its case to the Council of Arbitration and Conciliation, nor to abide by any award made if a case were submitted, it proved ineffective. From the date of appoint-

ment of the two councils to the end of 1894 only one case for conciliation and one for arbitration were taken. Negotiations in other cases were unsuccessful. The Parliamentary vote for administration lapsed on 31st December, 1894; and though the Act remained in force till 31st March, 1896, its machinery having broken down, it was inoperative. During this period, however, the first regulative legislation in regard to factories and shops was passed, viz., the Factories and Shops Act, 1896.

The Conciliation and Arbitration Act, 1899, aimed at the prevention, as well as the settlement, of trade disputes; it authorised the Minister, in cases where a disagreement was pending, or probable, between an employer and employees, to direct inquiry into the causes and circumstances of the difference, and to take steps to enable the parties to meet together under the presidency of a chairman mutually selected, with a view to an amicable settlement. In the event of failure, the Minister could direct a public inquiry into the causes of the difference, and on the application of either employers or employees, or of both, could appoint a board of conciliation. On the application of both parties an arbitrator could be appointed, but parties to a dispute were not compelled to submit their cases, and to remedy the imperfections disclosed further legislation was enacted.

These initiatory enactments were aimed at the elimination of the strike as an instrument in the settlement of industrial disputes, or at least at minimising the disastrous consequences to which the community becomes liable. Contemporary with these mediatory measures legislation was originated in Victoria to deal with sweated industries, and to determine fair wage rates generally. Subsequent legislation in this State, associated these two ideals by embodying in a specific enactment the combined objective, the prevention of strikes and lock-outs, and the assessment of fair wages and working conditions.

II.—*Arbitration.*

The Industrial Arbitration Act, 1901, provided for the registration and incorporation of industrial unions and the making and enforcing of industrial agreements; constituted a Court of Arbitration for the hearing and determination of industrial disputes and matters referred to it; defined the jurisdiction, powers, and procedure of such Court, and provided for the enforcement of its awards and orders. This Act remained in force until the 30th June, 1908; but in the year 1905 it was so extended by the Industrial Arbitration (Temporary Court) Act that if the Registrar, or in cases of appeal the Court, were satisfied that compliance had been made with the Act, there could be registered, as an industrial union, any person or association of persons, or any incorporated company or any association of incorporated companies, employing on an average, taken per month, not less than fifty employees; and any trade union or association of trade unions.

An industrial union could make with another industrial union or with an employer, an agreement in writing relating to any industrial matter; the Court had jurisdiction to hear and determine, according to equity and good conscience, industrial disputes and industrial matters referred to it, and to make orders or awards in pursuance of such hearing and determination. An industrial dispute was defined to be a dispute in relation to industrial matters arising between an employer, or industrial union of employers, and an industrial union of employees or a trade union, and included a dispute arising out of an industrial agreement.

This Act, in providing for the prevention of strikes and lock-outs, made it a misdemeanour for any person who, before a reasonable time had elapsed

for a reference to the Court of the matter in dispute, or while any proceedings were pending in the Court in relation to an industrial dispute, did any act or thing in the nature of a lock-out or strike; or suspended or discontinued employment or work in any industry; or instigated to or aided in any of the abovementioned acts.

Industrial Unions.

The following statement shows the membership of the unions, both of employers and employees, registered during the currency of the Act of 1901:—

Year.	Membership of Unions.	
	Employers.	Employees.
1902	2,302	58,203
1903	2,916	63,510
1904	3,204	71,631
1905	3,343	78,665
1906	3,172	85,199
1907	3,229	93,581

The Industrial Arbitration Act, 1901, was a tentative measure which was intended to remain in operation for seven years. Principally on account of the slowness of the Court in dealing with disputes, and the consequent congestion of cases, it was superseded, on its effluxion, by the Industrial Disputes Act, 1908.

III.—*Industrial Disputes and Wages Boards.*

In the Industrial Arbitration Act, 1901, the principal innovation lay in the extension of the definition of industrial disputes, so as to include consideration of conditions prevailing in industries in which no legal dispute existed. Under the Act of 1908, which represents the third stage in the development of a perfect industrial code, a social ideal was evolved into a definite process by which every normal individual is entitled to a reasonable standard of comfort consistent with the welfare of the community.

All awards, orders, and directions of the Court of Arbitration, and all industrial agreements current and in force at the commencement of the Act, remained binding on the parties, and on the employers and employees concerned, for the period fixed by the Court, or by the award, or agreement, or where no period was fixed, for one year from the 1st July, 1908. Any industrial agreement might be rescinded or varied in writing by the parties, any such variation, if filed with Registrar, to be binding as part of the agreement.

Provision was made for the registration of trade, as industrial unions, and the expiration of the Industrial Arbitration Act, 1901, did not affect the incorporation of industrial unions registered under that Act, while any trade union registered under the Act might make a written agreement with an employer relating to any industrial matter.

The Industrial Court consisted of a judge, sitting with assessors, when necessary.

A board could be constituted for an industry on application to the Industrial Court by—

- (a) an employer or employers of not less than twenty employees in the same industry;

- (b) a trade union registered under the Act having a membership of not less than twenty employees in the same industry;
- (c) an industrial union whose members are such employers or employees; or
- (d) where there is no trade or industrial union of employees in an industry having membership and registered as aforesaid, or where such union fails to make application, then not less than twenty employees in such industry.

Each board consisted of a chairman and not less than two (nor more than four) other members as determined by the Industrial Court, one half of whom were employers and the other half employees at some time engaged in any industry or group of industries for which the board was constituted. Where the employers or employees consisted chiefly of women and girls, the Court could waive this qualification of quondam employment.

A board with respect to the industry or group of industries for which it was constituted might—

- (a) decide all disputes;
- (b) fix the lowest prices for piece-work, and the lowest rates of wages payable to employees;
- (c) fix the number of hours and the times to be worked in order to entitle employees to the wages so fixed;
- (d) fix the lowest rates including allowances as compensation for overtime and holidays and other special work;
- (e) fix the number or proportionate number of apprentices and improvers, and the lowest prices and rates payable to them, according to age and experience;
- (f) appoint a tribunal, other than the board itself, for the granting of permits allowing aged, infirm, or slow workers, who are unable to earn the lowest rates of wages fixed for other employees, to work at the lowest rates fixed for aged, infirm, or slow workers. If no such tribunal is provided by the board, the Registrar has jurisdiction to grant such permits;
- (g) determine any industrial matter;
- (h) rescind or vary any of its awards.

At any time within one month after publication of an award by a board, any trade or industrial union or any person bound by the award could apply to the Industrial Court for leave to appeal to such Court. The Court alone had power to rescind or vary any award or order made by it, or any award of a Board which had been amended by the Court, or any award of a Board which had been dissolved or was no longer in existence; but where public interests were endangered, the Crown might intervene in proceedings, and make any necessary representations; or, further, the Crown might at any time after the making of an award, apply for leave, and appeal to the Industrial Court. Under the Amending Act of 1910 proceedings for the enforcement of awards and penalties were made referable to a Magistrate's Court, and in accordance with this proviso the Industrial Registrar's Court was constituted as a Court of Petty Sessions.

IV. *Conciliation and Arbitration.*

The laws in force in the first period of attempted legislative intervention in industrial difficulties, viz., the Trades Disputes Conciliation and Arbitration Act, 1892, and the Conciliation and Arbitration Act, 1899, were based on the principle of voluntary conciliation as the most effective instrument in the adjustment of grievances. The latter Act was short-

lived, being replaced by the Arbitration Act of 1901, which remained in force for seven years of the second decade, viz., from 1901 to 1908. From this Act the principle of pure conciliation was omitted, its ineffectiveness having been shown, primarily in the lack of a legal tribunal to enforce the findings of the Court. The basis of the rejection of conciliation lay in the precedent established in New Zealand, where also its ineffectiveness was regarded as proven, and the principle was being abandoned in favour of arbitration. Into the Act passed by the State Parliament in 1901 was introduced a principle quite new to the earlier arbitration enactments, viz., the extension of the arbitration principle beyond the area of an existing dispute, to the regulation of wages and working conditions generally.

On account of the large number of cases promptly cited before the Industrial Court, and the possibility of securing an injunction against the Court, there ensued a state of congestion ultimately culminating in considerable industrial unrest, when experience had proved the Act to be cumbered by technicalities.

In the Industrial Disputes Act of 1908 an effort was made to combine the relatively simple procedure of conciliation courts with the compulsory powers of the Arbitration Court as to enforcement of findings and awards, while still maintaining the machinery for regulating wages and working conditions in industry generally. But after some three years' experience, adverse criticism was directed against this the fourth attempt at settlement of the industrial problem, the most serious objection being found in the multiplicity of boards and the danger of overlapping of awards, due to an entire absence of co-ordinating principles.

Though each specific enactment made between 1892 and 1912 has not been wholly effective, it is significant that the periods of industrial unrest, alternating with periods of quiet and freedom from disruption, have supervened precisely when there has been no machinery available for adjustment of difficulties or when the machinery available has demonstrated its ineffectiveness. Experience shows that many of these disturbances originated in small disputes, which were capable of peaceful settlement, if machinery for immediate inquiry had been available. In 1911-12, while the Industrial Disputes Act, 1908, and its amendments, were still operative, provisional conciliatory machinery was established pending reconsideration by Parliament of the whole position as to mediatory and regulative legislation.

The operations of this investigational tribunal are shown subsequently in connection with the operation of conciliatory machinery. The results of this measure of intervention were deemed so satisfactory as to be worthy of permanence; and in the Industrial Arbitration Act, 1912, mediation is a prominent feature.

COSTS OF INTERVENTION.

The cost of State intervention between employers and employees is considerable. The several systems established by legislation, in respect of all features of administration have resulted in aggregate expenditures, as follows:—

Year ended June—	£	Year ended June—	£
1902 (six months) ...	1,625	1908	5,750
1903	4,134	1909	7,927
1904	5,919	1910	13,367
1905	5,240	1911	13,507
1906	5,476	1912	16,234
1907	5,056		

Cost of Boards.

The expenditure for Boards, apart from administration, for years ended 30th June, has been as follows:—1909, £3,498; 1910, £9,665; 1911, £8,795; 1912, £11,264.

The distribution of expenditure in the last two years was as follows:—

	1911.		1912.
	£		£
Chairmen's fees ...	4,674	...	6,473
Members' fees... ..	3,233	...	3,819
Other charges	888	...	972
Total	8,795	...	11,264

Fees, in addition to fares, payable to members of Boards and Committees, as determined by Regulation of 23rd October, 1912, are as follows:—

Chairman—£1 per hour for the aggregate of hours occupied by sittings of the Board.

Members—6s. 8d. per hour for the aggregate of hours occupied by sittings of the Board.

When his place of residence is so situated that he cannot reasonably return home at night from the place of meeting—

Chairman, at the daily rate of 17s. 6d. ; minimum payment, 10s.

Member at the daily rate of 12s. 6d. ; minimum payment, 7s. 6d.

SUBSISTING LEGISLATION.

The subsisting legislation of the State for the constitution of industrial tribunals is comprised in two enactments, the Industrial Arbitration Act, 1912, and the Clerical Workers Act, 1910; in intimate relationship with these Acts, as constituting arbitral tribunals, is the Gas Act, 1912, providing for regulation of a specific industry.

Industrial Arbitration.

A summary of the provisions of these enactments is given hereafter in the section relating to the industrial laws of the State; and the principal points of the Industrial Arbitration Act, 1912, are featured in connection with the operations of Industrial Boards, &c; but for the clear understanding of the details which follow, it is necessary to review the most important innovations. Provision is made for the registration of industrial unions of employers and employees, and also for the cancellation of registration by request, or by determination of the Court. Unions of employees may make industrial agreements with employers, or with any other industrial union, such agreements to be filed, and binding for five years.

In the constitution of the Court of Industrial Arbitration, as a superior Court, and Court of Record, governed in procedure and decisions by the rules of equity and good conscience, provision was made for the appointment of an additional Judge or of a deputy, and for the constitution of Industrial Boards, of two or four members equally representing employers and employees, with a Chairman appointed by the Minister. The Court is empowered to recommend "such transposition, division, combination, re-arrangement, or regrouping of" scheduled industries as may be desirable, and where question arises as to the demarcation of callings, may constitute a special board to determine such question. The maximum tenure of office by Board members is three years. Concerning the jurisdiction and procedure of Boards and of the Court, details are given hereafter. Where public interests are, or would be, likely to be affected, the Crown may intervene in proceedings before a Board or the Court, or appeal from an award of a Board, and make such representation as may appear necessary to safeguard the public interests.

Conciliation committees and special commissioner are features of the Act, which are discussed in detail subsequently, as also is the procedure regarding lockouts, strikes, and breaches of awards. In the enforcement of awards and orders, "any property of a union, whether in the hands of trustees or not, shall be available to answer any such order."

Appeal from the Registrar or other Industrial Magistrate lies to the Court, any decision of the Court to be final.

Penalties imposed are recoverable in courts of summary jurisdiction, and are payable to the public revenue.

Clerical Workers.

Complementary to the Industrial Disputes Act, 1908, and its amendments, the Clerical Workers Act, 1910, was passed to enable the constitution of a tribunal to fix a minimum wage for persons engaged in clerical work, as difficulty was experienced in applying the machinery of the Industrial Disputes Act as to Wages Board to work of this nature, which, moreover, was not an industry or calling scheduled under the Act. The Clerical Workers Act provides that, on application to the Industrial Court by any employer of not less than ten clerks, or by not less than ten clerks in the same or similar employment, the Court may—

(1) Fix the minimum wages and rates for overtime payable to clerks, such minimum to be a real minimum, based on the wage which, in the Court's opinion, should be paid to

(a) The lowest grade of efficient clerical labour, if it does not classify such labour; or

(b) The lowest grade of efficient labour in each class, if it classified such labour.

The classification is determinable by age, experience, qualification, nature of employment, or in any other way practical, expedient, and just.

(2) Provide specially for aged, infirm, or slow workers.

The provisions of the Industrial Disputes Act, 1908, were applicable for the making and enforcing of awards, which would be binding for three years.

No tribunal has been constituted under this Act, which remains supplementary to the Industrial Arbitration Act, 1912; nor have any proceedings whatever been taken under its provisions.

Gas Industry.

The Gas Act, 1912, is designed to prescribe standards of illuminating power, purity, and pressure for gas, and to regulate the price of gas and the operations of suppliers. In regulating the price of the commodity, the regulative authority must allow for variations in cost of production, due to alterations in labour conditions, including wages, made by award of a constituted tribunal.

JURISDICTION AND PROCEDURE OF REGULATIVE TRIBUNALS.

Development of Jurisdiction.

The Industrial Arbitration Act, 1901, aimed at the determination of disputes referred to it rather than at the constitution of a regulative tribunal. The jurisdiction of the Court of Arbitration extended to all industries except domestic service, and its awards applied without limitation of area throughout the State.

The Industrial Disputes Act, 1908, aimed at the constitution of Wages Boards to determine the conditions which should govern employment in specified industries. Boards could be constituted for industries or occupa-

tions or local sections of industries or for any division or combination of employees in industries as might be judged expedient by the Court. In practice, boards were constituted for industries, but employees were associated according to trades, to materials worked in, or to goods made, with the result that there were boards for trades, for business, and for industries or associations of trade—all with exemptions for certain classes of employees or employers.

Under the Industrial Arbitration Act, 1912, the powers of the Court and of its subsidiary tribunals are not limited to the relationships of employment. The range of industries and callings is defined by schedule, and boards may be constituted for any industry or calling or for division or combination in such industry or calling. In practice, old boards have been re-established so far as is consistent with the conditions of the Act. Thus a material distinction between the Wages Board system as operative under the Industrial Disputes Acts, 1908-1910, and the Industrial Boards, provided under the Industrial Arbitration Act, 1912, lies in the grouping of allied industries under one chairman, and in the arrangement of such boards more upon the basis of craft or calling than of industry, the ultimate aim being the maintenance of some twenty-eight subsidiary Arbitration Courts, each having power to deal with a group of allied industries, but subject to the general control of the Court of Industrial Arbitration, which in its supreme direction will co-ordinate the work of the minor courts.

Industries and Callings.

Schedule I.

The following extended form of the schedules I and II to the Act displays the method of grouping of industries and callings, as at the end of 1912. The first schedule covers the majority of industries, and is capable of extension from time to time to meet the requirements of advancing opinions. The additions made to the original schedule 1, published in July, 1912, are indicated in heavy type:—

Designation of Group.	Industries and Callings.
Building trades ...	Carpenters, joiners, stonemasons, bricklayers, slaters, tilers, shinglers, plasterers, gantry and crane men, painters, paper-hangers, decorators, signwriters, plumbers, gasfitters, builders' labourers, and all other employees engaged in the erection, alteration, or demolition of buildings, monumental masons and assistants, marble and slate workers, tuckpointers, tile-layers.
Clothing trades ...	Tailors, tailoresses, machinists, cutters and trimmers, pressers, felt and straw hat makers, textile workers, and all other persons engaged in the manufacture of clothing, felt, and straw hats, and textile goods.
Coal-mining (North)	Coal-miners, wheelers, surface hands, and other persons employed in or about coal-mines north of Sydney.
Coal-mining (South)	Coal-miners, wheelers, surface hands, and other persons employed in or about coal-mines in the Metropolitan and the South Coast Districts.
Coal and shale-mining (West).	Coal-miners and shale-miners, wheelers, surface hands and other persons employed in and about coal and shale mines west of Sydney.
Domestic ...	Hotel, club, restaurant, caterer, tea-shop, boarding-house, and oyster-shop employees, hairdressers, barbers, wig-makers, laundry employees, hospital nurses, and attendants, ambulance employees; employees of insane asylums and public charitable institutions, billiard markers, medical school laboratory and microbiology department attendants.

Designation of Group.	Industries and Callings.
Engine-drivers ...	Shore engine-drivers, firemen, greasers, trimmers, cleaners and pumps.
Gas-makers ...	All persons employed in the making, distribution, supply and lighting of gas, or the reading of gas-meters.
Food supply and distribution (No. 1).	Bakers and assistants, bread-carters, pastrycooks, employees in biscuit and cake factories, confectioners; butchers employed in shops, factories, slaughter-houses, and meat-preserving works, including carters; fruit preparers and canners and jam factory employees; candied-peel makers, employees in meat-preserving works, poultryers and assistants ; and yardmen, grooms, carters, and labourers employed in connection with any such callings.
Food supply and distribution (No. 2).	Milk and ice carters, milk weighers and receivers, aerated water cordial and beverage makers, brewery employees, malt-house and distillery employees, bottlers, washers, wine and spirit store employees, ice manufacturers, cold-storage employees, freezing and cooling chamber employees; persons engaged throughout the State of New South Wales in the manufacture of butterine and margarine and in butter, cheese, and bacon factories, and persons employed in the milk industry in the county of Cumberland, including employees of dairymen and milk vendors ; grooms, labourers, and carters employed in connection with any such callings.
Furniture trades ...	Cabinetmakers, wood-turners, french-polishers, upholsterers, chair-makers, blindmakers, mattress-makers, wire-mattress makers, picture-frame makers, carpet-planners, broom-makers, brush-makers, glass-workers, sawmill and timber yard employees, wood machinists, coopers; wicker, pith-cane, and bamboo workers; wood-carvers, pianoforte makers, billiard-table makers, loose cover cutters, carpet cutters and fixers, and box and case makers ; and yardmen, carters, grooms, and labourers employed in connection with any such callings.
Government Railways.	The employees of the Chief Commissioner of Railways and Tramways engaged on and in connection with the railways of the State.
Government Tramways.	The employees of the Chief Commissioner of Railways and Tramways employed on and in connection with the tramways of the State.
Government employees.	The employees of the Sydney Harbour Trust Commissioners, The Metropolitan Board of Water Supply and Sewerage, The Hunter District Water Supply and Sewerage Board, and Fire Brigade employees, and all employees on Government dredges.
Iron and ship building trades.	Engineers, smiths, boilermakers, iron-ship builders, angle-iron smiths, fitters, turners, pattern-makers, ironmoulders, black-smiths, coppersmiths, tinsmiths, sheet-iron workers, makers of gas-meters, makers, repairers, and fitters of cycles and motor cycles, makers, fitters, repairers, and installers of electrical apparatus and installations, and persons employed in the maintenance of electrical apparatus and installations or in running electrical plant, engine-drivers, firemen, greasers, trimmers, cleaners, and pumps employed on land, ship and boat builders, and ship painters and dockers, farriers, employees engaged in the manufacture of iron or steel, wire-netting makers, wire-workers, wire-fence, nail and tubular gate makers, iron-pipe makers, moulders, grinders, dressers, and polishers of any metal, and brassfinishers, canister makers, metal-ceiling employees, and sheet-metal fixers ; employees engaged in the manufacture of metallic bedsteads, metallic cots, metallic chairbeds, and metal parts of perambulators, waggon and carriage makers and repairers, agricultural and pastoral implements, and machinery makers and repairers, stove, oven and grate makers and repairers, and piano-frame makers, ship joiners and ship carpenters, and all other persons engaged in the iron and ship-building trades; and all labourers and assistants employed in connection with any such callings.

Designation of Group.	Industries and Callings.
Leather trades ...	Boot, shoe, and slipper makers, coachmakers, coachpainters, coach-trimmers, and wheelwrights, saddle, harness, portmanteau, and bag makers, leather makers, tanners and curriers, fellmongers, woolclassers, wool and basil workers, leather dressers, and boot, shoe, and slipper repairers ; and all labourers and assistants employed in connection with any such callings.
Labourers ...	Persons engaged in the construction of railways, tramways, roads, bridges, and water conservation and irrigation works, cement makers, concrete workers, rock-choppers, plate-layers, hammer and drill men, timberers, pipe-layers, manhole builders, tool-sharpeners, navvies with or without horses and drays, gangers, employees of shires or municipal councils, and of the City Council, timber-getters and carters; persons engaged in the demolition of buildings, sewer miners, lime-burners and makers, surveyors' labourers ; and all labourers and assistants employed in connection with any such callings.
Manufacturing (No. 1).	Brick, tile, pipe, pottery, terra-cotta, and chinaware makers, and carters, tobacco, cigar, and cigarette makers and employees, bag and sack makers, boiling-down employees, bone-millers and manure makers, makers of kerosene, naphtha, and benzine, or any other shale products, sail, tent, and tarpaulin and canvas makers ; and all labourers and assistants employed in connection with any such callings.
Manufacturing (No. 2).	Cardboard box makers, grain, starch, and mill employees, condiment makers, tea, starch, pickle, and condiment packers, soap and candle makers, jewellery manufacturers and jewellers, electroplaters, goldsmiths, silversmiths, gilders, chasers, engravers, lapidaries, persons engaged in the manufacture or repair of watches, clocks, electroplate ware, spectacles, optician employees (mechanical), wholesale drug factories' employees, coffee and other mill employees, persons employed in or in connection with the manufacture and refining of sugar, and in all the products of sugar-cane ; and all labourers and assistants employed in connection with any such callings.
Metalliferous Mining (Broken Hill).	Miners and all persons engaged in and about the mines and quarries and ore smelting, refining, treatment, and reduction works of Broken Hill.
Metalliferous Mining (General).	Metalliferous miners, limestone miners, quarrymen, and all persons engaged in and about metalliferous and limestone mines, quarries, mining dredges, or sluicing processes, ore smelting and refining treatment and reduction works; employees engaged in or in connection with mining for minerals other than coal or shale, and all persons engaged in and about diamond and gem-bearing mines.
Pastoral and rural workers.	Wool-classers in charge of wool-rooms in shearing-sheds, or in charge of both wool-rooms and shearing-boards in shearing-sheds, shearers, shearing-shed employees, shearers' cooks, wool-pressers, rouseabouts.
Printing trades ...	Compositors, linotype, monoline, and other type-setting or type-casting machine operators and attendants, letterpress machinists, book-binders, paper-rulers, lithographic workers, metal varnishers, stone polishers, guillotine machine cutters, process engravers, paper makers, and all persons employed in paper mills, stereotypers, electrotypers, readers, feeders, flyers, publishing employees, book-sewers, folders, numberers, wire-stitchers, perforators, embossers, tin-box makers, copper-plate printers, metallic printers, box cutters and cardboard box makers, and all other persons employed in or in connection with the callings herein mentioned or the printing industry.
Professional and shop workers.	Professional musicians, journalists, and paragraph writers, and newspaper and magazine illustrators, shop assistants, cashiers in shops and office assistants in shops, warehouse employees, employees in any branch of the process of photography, employees in dental workrooms, and theatrical employees.

Designation of Group.	Industries and Callings.
Shipping	Shipmasters, officers, marine engineers, sailors, lamp-trimmers, donkeymen, greasers, firemen, trimmers, deckhands, stewards, cooks, persons employed on ferry boats, dredges, tug boats, and ferry boats, turnstile hands, ticket and change hands, wharf cleaners, and all other persons employed in connection with ferry services.
Transport	Drivers and loaders of trolleys, drays, and carts, wharf labourers and stevedores, coal-lumpers and coal-trimmers, cab and omnibus drivers, motor-wagon drivers, wood and coal carters, yardmen, grooms, and stablemen, storemen and packers; and all persons in any way employed in connection with the carting of goods, produce, or merchandise.
Miscellaneous ..	Billposters, undertakers, and undertakers' assistants and drivers, livery stable employees; cab, omnibus, taxi-cab, and motor-car drivers; coke-workers, rope-makers, lift attendants, office cleaners and caretakers, watchmen, caretakers and cleaners employed in or in connection with any place of business, employees engaged in the working and maintenance of privately owned railways.
	Any such division, combination, arrangement, or re-grouping of the employees in the industries or callings mentioned in this Schedule, whether according to occupation or locality, as the Minister, on the recommendation of the Court, may direct.

In the constitution of Boards, the demarcation of callings, and the designation of special boards, the guiding principle was the numerical limitation of awards and the prevention of overlapping, consistently with the preservation of established conditions and the curtailment of administrative expenses. In regard to Government employees, section 26 of the Act specifies that "Employees employed by the Government of New South Wales or by any of its departments . . . shall be paid rates and prices not less than those paid to other employees not employed by the Government or its departments doing the same class of work under similar circumstances. But the fact that employment is permanent or that additional privileges are allowed in the service by the Government or its departments shall not of itself be regarded as a circumstance of dissimilarity. The Court or an Industrial Board shall not fix rates and prices for such first-mentioned employees lower than those fixed for such other employees."

A judgment of the Industrial Court, as recorded on 19th February, 1913, after the hearing of argument in regard to applicant Government employees being Microbiology Department attendants under the Domestic group, decided that direct employees of the Crown are excluded from the jurisdiction of boards.

Industries which are in the nature of home industries are scheduled separately, viz. :—

Schedule II.

Dressmakers, shirt, blouse, and costume makers, milliners and makers of underclothing (including outdoor workers).

This schedule also is capable of extension. The members of boards constituted under this heading are to be appointed by the Minister, the employers' and employees' representatives and the jurisdiction of the board being recommended by the Court. Where employers or employees in the industries or callings consist largely of females, members may be appointed

who are not engaged in those industries or callings; otherwise for the most part representative board members are men intimately connected with the particular industry or calling.

Functions of Boards.

The powers of the boards in making awards include—

- (a) fixing the lowest prices for work done by employees, and the lowest rates of wages payable to employees, other than aged, infirm, or slow workers;
- (b) fixing the number of hours and the times to be worked in order to entitle employees to the wages so fixed;
- (c) fixing the lowest rates for overtime and holidays and other special work, including allowances as compensation for overtime, holidays, or other special work;
- (d) fixing the number or proportionate number of apprentices and improvers and the lowest prices and rates payable to them;
- (e) determining any industrial matter;
- (f) rescinding or varying any award made in respect of any of the industries or callings for which it has been constituted;
- (g) declaring that preference of employment shall be given to members of any industrial union of employees over other persons offering their labour at the same time, other things being equal: Provided that where any declaration giving such preference of employment has been made in favour of an industrial union of employees such declaration shall be cancelled by the Court of Arbitration if at any time such union, or any substantial number of its members, takes part in a strike or instigates or aids any other persons in a strike; and if any lesser number takes part in a strike, or instigates or aids any other persons in a strike, such court may suspend such declaration for such period as to it may seem just.

Where an institution carried on wholly or partly for charitable purposes provides for the food, clothing, lodging, or maintenance of any of its employees or any of its inmates who are deemed to be employees, the board in its award as to the wages of such employees or inmates, shall make due allowance therefor. The board may exempt such institution from all or any terms of the award, where the food, clothing, lodging, and maintenance provided by the institution, together with the money (if any) paid by the institution to such employees or inmates as wages, are at least equal in value to the value of the labour of such employees or inmates.

Awards are binding for a maximum period of three years on all persons engaged in the industries or callings and within the locality covered. Appeal lies to the Court, but the pendency of an appeal does not suspend the operation of the award.

Proceedings before a board may be commenced by—

- (a) reference to the board by the Court or the Minister; or
- (b) application to the board by employers or employees in the industries or callings for which the board has been constituted.

To induce agreement in case of an application or reference the board will inquire expeditiously and carefully into the matter and anything affecting the methods thereof; it is empowered to enter, for inspection, premises used in the industry, to conduct its proceedings in public or in private, and in respect of witnesses to compel attendance and evidence as under section

136 of the Parliamentary Electorates and Elections Act, 1902. Advocates or agents appearing before the board must be, or have been, actually and *bona fide* engaged in one of the industries or callings in respect of which proceedings are taken.

In the first constitution of Industrial Boards under the Industrial Arbitration Act, 1912, the Court, recognising that industries in Broken Hill could be regulated best by local tribunals, excluded the county of Yancowinna from the jurisdiction of State-wide boards excepting those for textile workers, wire-mattress makers, broom-makers, brush-makers, glass-workers, fire brigade employees, gas-meter makers, motor and cycle makers and repairers, electrical fitters and repairers, wire-netting makers, tinsmiths, rock-choppers, cigar-makers, oil-workers, soap and candle makers, cardboard box makers, paper-makers, and musicians.

Subsequently local boards were constituted for three industries—painters, tailors, and bakers of Yancowinna.

Difficulty of administration ensued on the requirement of one chairman for a group of industries throughout the State, and ultimately the Court, using its power of transposition, dissolved the board covering tailors, etc., varied other boards, and constituted a Metalliferous Mining (Broken Hill) Group No. 1 board for members in county Yancowinna of the industries and callings mentioned in schedules 1 and 2 of the Act, not already included in any existing board, and excepting miners and all persons engaged in and about mines and quarries, and ore smelting, refining treatment, and reduction works at Broken Hill.

A conciliation committee for county Yancowinna was designed with a magisterial tribunal for the enforcement of awards and claims.

Investigation and Inspection.

Industrial Inspection.

In May, 1911, while the Industrial Disputes Act, 1908, and its amendments, were still operative, an Investigation Officer was appointed, whose chief function was to receive and record complaints as to breaches of awards and failures to comply with obligations imposed under the Act, to review the reports of inspectors, and to direct prosecutions consequent thereon. In October, 1911, an active policy of conciliatory intervention between industrial disputants was undertaken, anticipating by voluntary processes the expedients subsequently embodied in the Industrial Arbitration Act, 1912.

To the 30th June, 1912, some 2,841 complaints were received; 730 prosecutions were initiated, of which 18 were withdrawn, 5 were struck out by consent or otherwise, and 24 were dismissed upon the merits. The penalties in fines and costs amounted to £978 10s. 6d. Then 683 prosecutions effected applied to 42 industries, and were classified as to subject-matter and results as under:—

Subject matter.	Cases.	Fines and Costs.		
		£	s.	d.
Publication and operation of awards	166	189	1	0
Breaches of awards	342	620	8	0
Keeping of time and pay sheets	175	169	1	6

Concurrently with this procedure for the enforcement of awards, &c., the Investigation Officer was engaged in mediatory services wherever disputes

or dislocations were known to be pending. To the beginning of July, 1912, intervention in thirty-six cases had resulted in a final settlement in fifteen cases, in a temporary arrangement in twenty, and had failed in one case only. With the commencement of the Industrial Arbitration Act, 1912, statutory authority was given to this process of intervention. The Investigation Officer was appointed an Industrial Commissioner on the 1st July, 1912, and subsequently in practice his intervention was sought in many cases.

Factory Inspection.

The provisions of the Factories and Shops Acts are applicable only in localities specifically proclaimed as factory districts, and records of the proclamations have kept pace with the extensions of the manufacturing industries. The Metropolitan district was originally defined by proclamation on 1st February, 1897, as an area of 535 square miles, and extending westward to Parramatta, northward to Broken Bay, and southward to George's River. Additions in 1904, and again in 1911, have brought the area up to 3,446 square miles. Newcastle district was declared in 1899, and extended in 1904. Broken Hill municipality was constituted a factory district in 1903. The Western factory district, as originally proclaimed in 1904, covered 657 square miles in the southern part of Hartley electorate. Extensions in 1911 included the towns of Bathurst, Blayney, and Orange. Goulburn district, proclaimed in 1907, was extended in 1911. Albury district was proclaimed in 1909.

Altogether, the six factory districts embrace 19,748 square miles, and include practically the whole area in which manufacturing is carried on.

	Factory District.	Area—sq. miles.
Metropolitan	...	3,446
Newcastle	...	1,659
Broken Hill	...	26
Western...	...	7,348
Goulburn	...	3,919
Albury	...	3,350
Total	...	19,748

Inspectors under the Factories Act, Early Closing Act, and those under the Industrial Arbitration Act are under the control of the Department of Labour and Industry. The total number of inspectors administering the different Acts is twenty-five, and each inspector can be called upon to deal with complaints relating to any phase of industrial legislation. A legal officer is attached to the administrative staff for the purpose of advising and assisting the administrative officer in control of the inspectors.

Inspection of Lifts and Scaffolding.

The inspection of lifts and scaffolding, like industrial inspection, is undertaken with a view to safeguarding the interests and well-being of employees and other persons. This function of supervision is carried out by the Department of Public Works.

Lifts.

The numbers of lifts erected during the last five years are as follows:—

Financial Year.	Electric.	Hydraulic.	Belt Driven.	Total.
1908	52	33	9	94
1909	75	35	8	118
1910	70	15	4	89
1911	114	28	14	156
1912	167	21	12	200

The lifts in commission in the Metropolitan area in June, 1912, were classified as follows:—

	Electric.	Hydraulic.	Belt Driven.	Total.
Passenger	283	173	1	457
Goods	207	496	90	793
Service	62	24	8	94
Whips, &c.	28	106	32	166
Total	580	799	131	1,510

The inspections made averaged six per lift per year. Two fatalities were recorded; several minor casualties also were reported. In Newcastle district eighty-four inspections were made; and no accidents were reported.

Lifts in Sydney carry some 500 persons per day each, or, approximately, 68,000,000 passengers per year.

Scaffolding and Hand-cranes.

Superintendence of scaffolding and lifts in course of erection is a further function of the Department of Public Works. Notices of intention to erect have to be submitted. During 1911-12, 1,375 such notices were received, viz:—

As to scaffoldings...	..	..	..	..	..	1,025
„ hand cranes...	..	..	..	..	..	350

As to power and other cranes, hoists, and shearlegs, inspections made during the year, and new buildings erected, were summarised as follows:—

		Inspections.	Erections.			Inspections.	Erections.
Cranes—				Hoists—			
Steam		173	3	Steam		64	15
Electric		324	20	Electric		248	52
Hand—not on				Oil-engines		6	...
buildings ...		975	16	Shearlegs ...		61	...
Hydraulic ...		3	...	Total... ..		1,854	106

In regard to accidents, particulars are given subsequently in connection with Industrial Accidents and Disease.

CONCILIATION.

The procedure in investigation and mediation indicated above formed the basis of the machinery for conciliation featured in the Industrial Arbitration Act, 1912, for the efficient discharge of the two functions associated in the enactments it replaced, viz:—

- (I) Prevention and settlement of industrial disputes.
- (II) Determination of minimum wage standards, so as to guarantee to all workers in the community a reasonable standard of comfort, and the elimination of sweating and oppression.

The machinery for conciliation provided is as follows:—

- (a) The Conciliation Commissioner, charged with the responsibility of intervening in all cases where he becomes aware, directly or indirectly, of an actual or threatened dispute, which might emerge into a strike.
- (b) Conciliation Committees, to fulfil the same functions as the Commissioner, but in large-scale industries.
- (c) The power of the Minister for Labour and Industry to refer any matter to a Board, without formality.
- (d) The power of the Court of Industrial Arbitration to exercise the functions of a Board in dealing with any matter referred to it.

In the larger industries liable to minor disputes, Conciliation Committees will promote settlement, while in smaller industries the Industrial Commissioner usually will intervene.

Simultaneously with the formal constitution of Industrial Boards in July, 1912, certain conciliation districts were proclaimed, and the industries entitled to Conciliation Committees specified, as follows:—

Northern Colliery District.	Broken Hill Metalliferous District.
Southern ,,	Gas Industry, as to persons employed in
Western ,,	the making, distribution, supply, and
Cobar Metalliferous District.	lighting of gas and the reading of gas
	meters.

The privately constituted Joint Conciliation Committee, operative from 28th February, 1912, in connection with the coal-mining industry at Newcastle, was accepted as the equivalent of a Conciliation Committee constituted under the Act. The operations of this Committee from February to July, 1912, included the following:—

- Shortland Colliery.—Award for shooting and filling and yardage; award for tonnage and yardage rates for machine men.
- Rhondda Colliery.—Award settling cavilling conditions.
- Northumberland Colliery.—Award covering yardage payment for cut-throughs.
- Pelaw Main Colliery.—Consolidated rate fixed for working special places, mode of determining deficient places, &c., and other matters settled. Wheelers dispute *re* horses settled.
- Wallsend Colliery.—Payment for soft coal and pillar work settled.
- Whitburn Colliery.—Filling dirt. Conditions laid down and penalties established.
- Teralba series of Collieries (five).—Award covering all conditions.
- Abermain Colliery.—Method of and payment for working tops. Method of working cut-throughs. Interpretation of several agreements.
- Bellbird Colliery.—Award covering all conditions. (A new pit.)
- Hebburn Colliery.—Method and price for working pillars.
- Lambton B Colliery.—Cavilling rules and payment for crossing faults, &c.
- Stockton-Borehole Colliery.—General working conditions.
- Afternoon shift abolition.—Award.
- Wheelers, tophands, and shiftmen.—Award.
- Payment for small coal.—Claim pending.
- Hetton Colliery.—Claims in respect of a number of matters in dispute pending.
- Hetton Colliery.—Award.
- Hebburn Colliery.—Award. Upset skips.

The Committee consists of five representatives each of the Hunter River District Colliery Proprietors' Defence Association, and the Northern District Colliery Employees' Federation, and a Chairman. A rule of the Committee is, that all work must continue pending the hearing and settlement of disputes.

The question of wages and classification of tophands and underground employees (non-miners) has been prominent before this Committee.

The Southern Colliery District Conciliation Committee consists of two representatives each of employers and employees, with a Chairman.

The business before this Committee has arisen chiefly out of alleged deficient places, the claims received up to September, 1912, being Mount Kembla, 9; Corrimal, 17.

In September a threatened strike of wheelers at the Metropolitan Colliery was settled by the Committee.

BOARDS AND AWARDS.

From February 1902, to July, 1908, the Court of Industrial Arbitration made eighty-nine awards. From July, 1908, to April, 1912, 213 Wages Boards under the Industrial Disputes Acts, 1908-1910, issued 430 awards.

During the four years ended June, 1912, the transactions of the Industrial Court in regard to Boards and awards were as follows:—

Year.	Constitution of Boards.		Boards dissolved.	Awards—	
	Applications received.	Recommended.		Made.	Varied.
1909	105	100	3	45	...
1910	44	38	13	102	35
1911	34	34	7	54	60
1912	...*	...*	1†	153	6

* The figures for this year cannot be used for comparative purposes, as under the system of the 1912 Act (operating from April, 1912) the Court, on its own motion, and without application to it, recommends the constitution of Boards.

† Until the 17th April.

The operations of the year ended June, 1912, are subject to two enactments, the Industrial Disputes Act, 1908-1910, and the Industrial Arbitration Act, 1912, which was operative from 18th April, 1912, between which date and 30th June, 1912, the transactions included above were as follows:—

Boards applied for	...	...	...	...	142
„ recommended	...	...	...	...	136

Of recommendations for the constitution of Boards during the four years reviewed above, two were cancelled subsequently. At 18th April, 1912, 213 Boards constituted under the repealed Act were in existence.

On 11th July, 1912, pursuant to the recommendations of the Court, Boards to the number of 135, were constituted under the Industrial Arbitration Act, 1912.

ENFORCEMENT OF AWARDS.

Proceedings before the Industrial Court for the enforcement of awards, and recovery of penalties, included the following:—

Year.	Orders for Recovery of moneys due under Awards.	Convictions for		
		Lock-outs.	Strikes.	Unlawful dismissal.
1909	8	2	5	3
1910	20	2	5	1
1911	12	...	132	...
1912	4	...	108	...

Proceedings in the Industrial Court, subsequent to awards made, including appeals and actions for breaches of awards, covered the following, viz. :—

Year.	For breaches of Awards.		Applications granted for leave to appeal.	Appeals from Registrar upheld.
	Convictions.	Cases dismissed, withdrawn, &c.		
1909	7	12	...	1
1910	172	288	18	1
1911	72	145	18	1
1912	798	300	29	3

Of the appeals upheld, two were subsequent to 17th April. In the Industrial Registrar's Court, constituted under the Industrial Disputes (Amending) Act, 1910, and maintained under subsequent legislation, the chief proceedings were as follows:—

Year.	Recovery of money.			Breaches of—			Agreements. Convictions.
				Awards.			
	Orders made.	Dismissals withdrawn.	Total.	Convictions.	Dismissals withdrawn.	Total.	
1911	46	59	105	403	189	592	7
1912*	14	36	50	148	41	189	...
†	5	3	8	111	40	151	...

* To 17 April. † From 17 April to 30 June.

Proceedings incidental to awards before the Industrial Registrar, and matters taken under his statutory powers, are summarised as follows:—

Year.	Registrations of Industrial Unions—			Agreements filed.	Proceedings incidental to Awards.
	Effectuated.	Disallowed.	Cancelled.		
1909	71	2	4	16	163
1910	34	4	4	27	520
1911	33	5	4	18	664
1912*	12	3	1	24	730
†	9	...	...	7	156

* To 17 April. † Between 17 April and 30 June.

BREACHES OF AWARDS.

Since 1901, breaches of awards and industrial agreements have constituted grounds for prosecution of offences in the Arbitration and lower Courts of the State, the penalties recoverable being subject to some limitations. The practice of leaving the onus of enforcement of awards upon the parties interested proved unsatisfactory, and efficiency has been assured by the recent allocation of the duty of enforcing awards and orders to a professional prosecuting officer, aided by a staff of industrial inspectors.

In the last ten years summonses for penalties for breaches of awards were dealt with as follows:—

Year.	Summonses for Breaches of Awards.			
	Convictions.	Dismissals.	Withdrawn or Struck-out.	Total.
1902	5	3	1	9
1903	75	41	28	144
1904	30	38	115	183
1905	11	41	50	102
1906	17	2	4	23
1907	14	11	13	38
1908	56	11	171	238
1909	234	84	241	559
1910	447	162	306	915
1911 (to 30th June)	124	40	20	184
1912 (1st July, 1911, to 30th June, 1912)	798	177	123	1,098

AWARDS IN INDUSTRIES.

Details as to awards and variations of awards in force in New South Wales are given in Part Manufactures and Works of the "Statistical Register of New South Wales."

The majority have a currency of three years. A minority made under the Industrial Disputes Act, 1908 were for two years; awards of a shorter currency are infrequent.

To facilitate comparison of the area of industry covered by these awards the allied trades have been grouped, those relating to manufactures, &c., being classified as shown in part "Manufacturing Industry" of this Year Book.

CLASS.	MANUFACTURING.	AWARDS.
i.	Treating Raw Materials..	{ Tanning. Wool-classing. Fellmongering.
ii.	Oils and Fats, &c.	...Soap and Candle Making.
iii.	Processes in Stone, Clay, Brickmaking—County Cumberland, Bulli, and Woonona. Glass, &c.	Cement { Granville, Northumberland. Portland. Glassworks—Cumberland and Newcastle. Marble and Slate Workers.
iv.	Working in Wood	...Coopering. Sawmilling—Country. Rous and Richmond. Sawmills, Timber-yards, and Box and Case Factories— Metropolitan and Newcastle. Woodworking—Carpenters and Joiners—Country. Cumberland. Ships' Carpenters, &c.
v.	Metal Works, Machinery, Farriery—Country. &c.	Metropolitan. Iron Trade.—Boilermakers. Ironworkers' Assistants and Labourers. State. Brassfinishers. Stove and Piano Frame Makers. Moulders. Metallic Bedstead Makers. Smelting—Cockle Creek. Electrolytic.

CLASS.	AWARDS.
v. Metal Works, Machinery, &c.— <i>continued.</i>	Wire Mattress Making. Netting—Weavers and Carriers. Galvanizing. Ironworkers—Metropolitan Tinsmiths and Sheet metal Workers.
vi. Food and Drink, &c.	...Aerated Waters. Baking—Bread Carters—County Cumberland. Metropolitan Machine Bakers. " Hand " Newcastle Bakers. " Bread Carters. South Coast Bakers. Biscuit and Cake Making—County Cumberland. Newcastle. Butchering—Metropolitan. Newcastle and District. Country—North Coast Districts. Broken Hill and Cobar Districts. " " Municipality Abattoirs. South Coast. Retail—Armidale and District. Goulburn " Wholesale—Carters. Glebe Island and Metropolitan. Sydney Meat Preserving Co. Butterine and Margarine. Caterers. Cigar Trade. Cold Storage and Ice Manufacturers—Metropolitan. Hotel, Club and Restaurant Employees. Clubs. Hotel and Restaurant Employees—Newcastle. Jam Industry. Meat Packing, Canning and Preserving. Milk—Carters. Dairy Employees—Cumberland. Milling—Grain. Condiments. Pastrycooks.
vii. Clothing & Textiles, &c....	Boot Trade. Clothing—Cutters and Trimmers. Pressers (Male). Tailoring. Women's Tailors. Ropemaking. Sail, Tarpaulin, and Tentmakers.
viii. Books, Papers, Printing, &c.	Papermilling. Printing—Bookbinding. Compositors and Operators (hand composing). " " (machine " "). Compositors. Country Printers. Letterpress Machinists. Lithographic Workers. Process Engravers.
ix. Musical Instruments.	.....
x. Arms and Explosives.	.....
xi. Vehicles, Saddlery, &c. ...	Coachmaking—Rail. Road. Cycle and Motor-cycle. Saddlery. (See also N.S.W. Govt. Railway and Tramway Service.)
xii. Shipbuilding, &c.	...Ships' Carpenters—(See Class iv.) Shipbuilding—Port Jackson Painters and Dockers.
xiii. Furniture, Bedding, &c....	Blindmaking. Picture Frame Making.

CLASS.	AWARDS.
xiv. Drugs, Chemicals.	...Drug Warehousemen. ,, Packers.
xv. Surgical Instruments.	.....
xvi. Jewellery ... ..	.. Electroplating—Metropolitan and Newcastle. Jewellers—Metropolitan. Watch and Clockmaking.
xvii. Heat, Light and Power ..	..Coke Works—Illawarra. Coke Workers (Northern). Electrical Trades. Sydney Municipal Council. Engine-driving and Firing— Coast. Mining. ,, Southern Collieries (<i>vide infra</i>). Sundry Industries—Dairying and Agriculture. Commonwealth Oil Corporation. Locomotives, Traction Engines, and Cranes. G. & C. Hoskins, Ltd. Mining n.e.i. Industries n.e.i.
xviii. Leatherware, &c.	.....
xix. Minor Wares, n.e.i.	...Broom-making. Wicker-working—Cumberland and Northumberland.
Mining.	
Coal ... ..	...Newcastle Collieries—Non-miners. Southern Collieries—Engine-drivers. Miners. Sydney Collieries. Western Collieries and Shale Mines—Invincible Colliery— Machine Workers. Shale Miners.
Metal ... ..	...Copper, Silver, Tin and Gold Miners—Mt. Boppy.
Building ... ..	...Bricklayers. Painters—Cumberland. Painting Trades—Newcastle. Plasterers. Plumbers and Gasfitters—Cumberland. Newcastle. Quarries. Slaters—Cumberland. Stonecutters—Monumental Workers. Stonemasons. Tile-layers—Cumberland and Northumberland. Tuck Pointing.
Shipping... ..	...Ferry—Port Jackson Steam Lighters and Launches. Harbours and Rivers. Newcastle. Tugboats.
General Labourers ...	...Government Railway Loco. Labourers. Hunter River District Board of Water Supply and Sewerage. Metropolitan Board Water Supply & Sewerage— Contractors. General Workers. Unskilled—Building. Country Sewers. Sydney Municipal Council Labourers. United Labourers. Waterside Workers—Deep-sea Wharf Labourers. Newcastle Coal Shippers. Sydney Wharf Labourers. Wood and Coal Labourers.

CLASS.	AWARDS.
Shop and Store Hands...	...Metropolitan—Drapers, Confectioners and Fruiterers, Retail Grocers. Shop Assistants—Country. Pharmaceutical Assistants. Tobacconists. ,, Newsagents, &c. Storemen and Packers—Bonded and Free Stores—Cumberland. Newcastle. Wholesale Grocery. Wholesale Oil Stores. ,, Oil & Color Stores. Wool and Station Produce Storemen.
Carters and Draymen ...	...Trolley Draymen—Country. Cumberland. Newcastle. Coal Carters. Grooms—Stablemen and Yardmen. Loaders. Timber Carters, Coal Carters. Tip Carters—Country. Cumberland. Bread Carters } See Class VI—Food and Drink, &c. Butchers }
Miscellaneous ...	...Billiard Markers. Billposters—Cumberland. Hairdressers—Cumberland. Laundries (Metropolitan Public). Lift Attendants—Cumberland. Metal Ceiling and Sheet Metal Fixers. Municipal and Shire Councils' Employees. Musicians. Undertakers. Cab and Livery Stables' Cabmen. Commercial Buggy Drivers. Watchmen, Caretakers and Cleaners—Cumberland.
Railway & Tramway Service ...	Rail—Boilermakers. Car. Electrical Trades. Examiners, &c. Interlocking. Loco. Labourers. (See General Labourers.) Permanent Way. Quarrying. Sawmilling. Traffic (Wages) Staff—Ticket Collectors, &c. Tram—Electrical Staff. Permanent Way. Running Staff. Construction—Road and Water Conservation.

INDUSTRIAL AGREEMENTS.

Trade Unions were empowered under the Industrial Arbitration Act, 1901, to make written agreements with employers in regard to any industrial matters, the practice of collective bargaining, which had been followed by well-organised unions for years, then first receiving statutory sanction. Agreements relating to any industrial matter could be made by an industrial union with another industrial union or with an employer, and when filed, were binding between the parties. Recissions and variations of agreements also had to be made in writing and duly filed.

Between 1901 and 1903 twenty-eight industrial agreements were filed, of which eleven were subsequently extended as common rules of the industry concerned. The validity of this procedure being questioned the High Court of Australia, decided in December, 1904, that it was a condition precedent to the exercise of the power of the Court of Arbitration to declare a common rule, that there should be in existence an award, order, or direction made by that Court in pursuance of a bearing or determination upon a reference under the Act. In November, 1905, the Court of Arbitration declared, by judgment, that the Court had no power to make an award, unless a dispute had been initiated and referred to the Court for determination. Thus an agreement was not convertible into an award for the purpose of making it a basis for a common rule. Under the Industrial Disputes Act, 1908, the power of the industrial union of employees to make an agreement was continued. Each agreement would be binding on the parties, and on every person while remaining a member of the contracting trade union or branch. Under the Industrial Arbitration Act, 1912, the agreement is enforceable in the same manner as an award; its maximum duration is fixed at five years, as against three years under the previous enactments. Otherwise, conditions relating to agreements were not altered materially.

Following is a statement of the number of agreements filed in each year since 1902:—

Year.	Agreements Filed.	Year.	Agreements Filed.	Year.	Agreements Filed.
1902	} 28	1906	13	1910	21
1903		1907	11	1911	27
1904		1908	12	1912	44
1905		1909	28		

The noticeable increase in the number of industrial agreements made between 1909 and 1912 as compared with previous years, reflects the measure of encouragement afforded to voluntary collective bargaining.

In October, 1912, ninety-six agreements were in force, to which thirty-seven unions had been contracting parties. Following is the number of agreements current arranged according to the industries concerned, as at October, 1912:—

Industries.	Agreements.	Industries.	Agreements.
Biscuit and Cake-making ...	3	Musicians ...	9
Brickmaking ...	1	Oil Refining and Works ...	1
Butchering—Slaughtermen ...	4	Painting ...	5
Clothing—Pressing ...	1	Pastry Cooks... ..	1
Colliery—Mechanics ...	1	Printing	11
Dentistry	1	Sawmilling	1
Engine-driving and Firing ...	20	Shipping—	
Engine-driving and Firing—Loco-		Ferries and Tugboats ...	6
motive... ..	1	Masters and Engineers ...	5
Ferriery	1	Seamen	1
Gas Employees	3	Shipbuilding	1
Glass Working	1	Wharf Labourers	1
Hotel, Club, Restaurants, and		Smelting	2
Caterers	2	Stonemasonry	1
Iron Working	1	Storing and Packing ...	1
Labouring—Unskilled ...	1	Trolley Draymen	2
Mining—Coal	2	Wire-netting Working ...	1
Copper	1		
Shale	2		
Masonry—Monumental ...	1		
		Total	96

PREFERENCE TO UNIONISTS.

The question of preference to unionists is of vital importance in relation to industrial organization.

In the majority of awards made by boards, a clause has been inserted granting, unconditionally, preference to unionists, all other things being equal. In occasional cases preference has been made subject to a restriction, viz., in the case of Trolley Draymen (Newcastle) providing that the existing employment of non-unionists should not be prejudiced, and in the Caterers (Metropolitan) Award, in which the preference was not extended to women.

Awards granting preference are far more numerous than those in which restricted preferences are given; of 153 awards in August, 1912, 119 granted preference absolutely or with some limitation.

Apparently there has been no general rule governing the decisions of boards in this matter, for where there are several awards relating to various branches in an industry, it will generally be found, as in the iron trades, that in one or two branches the preference is unconditional, while in other branches there is no preference whatever in favour of unionists.

In a few cases the preference clause is in the nature of a prohibition of discrimination against unionists.

WAGES.

From 1880 to 1887 was, perhaps, the brightest period in the State from the industrial standpoint; except in the five years, 1853-57, wages previously were never so high, moreover the purchasing power of money was also high. Between 1887 and 1891 there was little variation in the nominal rate of wages in skilled trades, though for unskilled labour the rates experienced a decided decline. In 1893 there was a heavy fall generally; wages, as compared with the previous year, dropped 10 per cent. for mechanics, and still more for unskilled labourers. The second half of that year marked the beginning of a new industrial period, under vastly changed conditions; during 1894 employment became further restricted, and through 1895 the decline continued, the wage-rate of that year for skilled workmen being 22 per cent., and for unskilled labourers about 17½ per cent., below the rates of 1892. During 1896 wages in several trades improved, and subsequently steady advances and regular employment have been the rule. In 1898, 1899, and 1900, employment in the building trades was plentiful, and wages generally recovered, rising to the level of 1889. During the period of depression there was a stoppage of nearly all forms of speculative activity; on the other hand, there was a marked extension of agriculture and mining.

After the inauguration of the Commonwealth of Australia in 1901 there was a decided impetus in developmental work, thus leading to increased production. At the close of the same year an Industrial Arbitration Act was passed by the State Parliament; and the operation of this Act, with the succeeding legislation in the direction of adjustment of wages and conditions of work, has assisted materially to improve the status of the workers.

Variations in the Principal Industries.

Adhering to the general classification of the principal industries as (a) rural, viz., agriculture, dairying and pastoral, (b) mining, (c) manufacturing, a comparison of wages paid in typical branches of such industries at intervals in the fifteen years between 1895 and 1910 reveals some interesting facts.

The following statement indicates the range of wages paid, in addition to board and lodging, for various classes of rural work:—

Trade or Calling.	1895.		1900.		1905.		1909.		1910.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Boundary riders ... per week	15	0 to 20	16	3	20	0	20	0 to 22	6	20 0 to 25
Bush carpenters ... ,,	15	0 ,, 30	21	3	25	0	25	0 ,, 30	0	25 0 ,, 30
Cooks—Station ... ,,	20	0 ,, 40	21	3	20	0	22	6 ,, 27	6	22 6 ,, 30
Farm labourers ... ,,	10	0 ,, 15	16	3	20	0	20	0 ,, 25	0	20 0 ,, 25
Milkers ... ,,	10	0 ,, 18	15	0	16	3	20	0 ,, 22	6	20 0 ,, 25
Shearers, no rations per 100	17	6 ,, 20	18	9	20	0	24	0		24 0
Married Couples... per annum	£50	to 80	£70	to 75	£70	to 80	£90	to 110		£90 to 120
Stockmen... ,,	50	,, 70	58	,, 100	52		52	,, 65		52 ,, 65
Vignerons... ,,	60	,, 70	37	10s	39		39	,, 52		52 ,, 55

In the above table, average wages for 1900 and 1905, as deducted from the data available, have to be compared with the range of nominal wages in other years, and it is therefore possible to review the figures only on very broad lines. The main feature of the comparison is that the general level of wages has been raised in almost every case, any exceptions being traceable to the exigencies of a particular season. Thus, for farm labourers, the wage rose from the range of 10s.-15s. per week in 1895, to the range of 20s.-25s. per week of 1909 and 1910. Similar variations of the wage-level followed for other branches of rural work, in which class, are embraced the trades hitherto least organised, and necessarily, least capable of being organised, both on account of the inherent difficulties of seasonal occupations and of the character of the work, which does not generally call for technical training.

In the mining group, the figures show a change of rates over the 15 years, 1895-1910, which is not, however, nearly so marked as in the rural industries, because more skilled workers and better organisation have prevailed in the mining group:—

Trade or Calling.	1895.		1900.		1905.		1909.		1910.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Coal-mining—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Miners ... per ton	2	0 to 2 11	1	10 to 3 2	1	9½ to 3 0	2	0½ to 4 2	2	0½ to 4 2
Wheelers... per day	s. d.		s. d.		s. d.		s. d.		s. d.	
	7	0	7	0 ,, 8 6	6	6 ,, 9 0	6	9 ,, 9 3	7	0 ,, 9 6
Screenmen ,,	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	6	6 ,, 8 3	6	6 ,, 7 6	6	6 ,, 7 6	6	9 ,, 8 3	7	0 ,, 9 6
Engine-drivers ,,	7	6 ,, 10 0	11	0 ,, 12 6	11	0 ,, 12 6	8	9 ,, 13 0	8	9 ,, 13 0
Labourers... ,,	5	6 ,, 8 6	6	6 ,, 7 6	6	6 ,, 7 6	6	9 ,, 7 9	7	0 ,, 8 0
Metal-mining—	s. d.									
Miners ... ,,	9	0	9	0	9	0	10	0	11	0
Truckers ... ,,	7	6	7	6	7	6	8	7½	9	6
Engine-drivers ,,	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	9	0 to 10 0	9	0 to 10 0	9	0 to 10 0	10	0 to 11 0	11	0 to 12 0
Labourers... ,,	s. d.		s. d.		s. d.		s. d.		s. d.	
	7	6	7	6	7	6	8	7½	9	6

In the manufacturing industry, comparison becomes more difficult, with the increasing variety and complexity of the work, and the rapid development of the past ten years, accompanied by the extension of wages board

awards to so many branches. The following may be taken as typical of different branches of this class of work, the figures here, as in the previous tables, applying to adult workers:—

Trade or Calling.	Average Rates.										Minimum Award Rates.								
	1895.		1900.		1905.		1909.		1910.		1910.								
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.							
Bakers... .. per week	1	5	0	to	2	15	0	2	11	9	2	13	3	2	14	10	2	12	6
Confectioners... ..	1	10	0	„	2	10	0	2	6	3	2	15	6	2	17	1	2	16	0
Millers	3	0	0	„	3	10	0	2	7	6	2	12	6	2	14	6	2	10	0
Boot-clickers	1	10	0	„	3	0	0	1	14	3	2	3	6	2	9	4	2	8	0
Tailors (slop)	2	0	0	„	2	10	0	2	3	3	2	19	0	3	0	3	2	15	0
Tailoresses (slop)	0	10	0	„	1	15	0	0	18	3	1	2	4	1	3	1	1	8	0
Picture-frame makers (joiners)	1	7	6	„	2	12	0	2	0	3	2	8	9	2	3	1	2	10	0
Bookbinders	2	12	0	„	3	5	0	2	9	6	2	11	4	2	16	1	2	16	0

To make these comparisons more complete and representative of the whole circle of industrial activity, figures relating to various branches of the building and allied trades and to domestic service, are given for the same periods. For such service the rates current at the close of 1911, are also quoted. In connection with domestic service, the question of a rising wage is a question primarily of supply and demand for such labour, which has not hitherto been subject to regulation by award.

Trade or Calling.	1895.	1900.	1905.	1909.	1910.	1911.										
Building :— <i>Males, per day, without board and lodging.</i>																
	s. d.															
Carpenters	8	0	9	6	9	4	10	0	11	0	11	0				
Bricklayers	8	6	11	0	11	0	11	0	12	0	12	0				
Masons	7	8	11	0	11	0	11	0	12	0	12	0				
Plasterers	7	0	9	6	10	0	10	0	11	0	11	0				
Painters	7	0	9	0	9	4	10	0	10	0	10	0				
Boilermakers	8	0	10	3	10	3	10	4	10	4	11	0				
Labourers and navvies	6	0	6	10	7	0	7	0	8	0	8	0				
Domestic :— <i>Females, per week, with board and lodging.</i>																
	s. d.	s. d.	s. d.	s. s.	s. s.	s. s. d.										
Housemaids	10	0	11	3	12	0	14	to	16	14	to	16	14	to	17	6
Laundresses	14	0	18	9	18	0	17	„	20	20	„	25	20	„	25	0
Nursemaids	7	6	7	0	10	0	10	„	12	10	„	12	10	„	12	0
General servants	11	6	11	0	15	0	10	„	20	10	„	20	12	„	20	0
Cooks	14	0	20	0	17	0	15	„	25	17	„	25	15	„	30	0

It is noticeable that the rate of wage progression in the different industries has been very uneven; and a detailed study of the whole question would probably yield valuable results. But in reviewing the figures quoted in all the tables above, particular stress must be given to the fact that they are taken only as representative of adult workers in skilled or unskilled trades, and no special deductions can be made from them in the absence of figures to show the extent and effect of factors such as juvenile or slow workers. Further, in discussing the extent of the admitted increase in wages generally, consideration must be given to the relativity of wages to the question of food and prices, as evidencing the spending power of money, and to the degree

to which the increase of wages corresponds to the generally increased cost of living. The relative force of the two increases and the distinction of cause and effect are not ascertainable without reliable data.

Regulation.

Fixation of wages by specific legislation is confined practically to the Minimum Wage Act, 1908, noted hereunder. The Truck Act, 1900, regulates contracts made with respect to, and the payment of wages, so as to prohibit such payments being made in goods or otherwise than in money. The service of legal process also is subject to the conditions of this Act. Other legislation touching the matter of wages has relation to methods and conditions of work, rather than to rates of payment, excepting, of course, recent legislation already described in regard to industrial arbitration and industrial disputes, where the assessment of equitable wages is specified as an important function of the tribunals under the Acts.

Minimum Wage.

The Minimum Wage Act, 1908, which is consolidated with the Factories and Shops Act, 1912, provided that the minimum wage should be not less than 4s. per week in respect of any person employed in preparing or manufacturing any article for trade or sale, or in any factory under the Factories and Shops Act, or working at any handicraft; or any shop-assistant as defined by the Early Closing Act.

The provisions do not apply where all persons employed as workmen and shop-assistants are members of the employer's family, related in the first or second degree by blood or first degree by marriage to the employer.

Overtime for the workman is any time worked beyond forty-eight hours per week, or after 6 o'clock in the evening, or, for a shop-assistant, after half an hour after the closing time of the shop.

When any boy under 16 years of age, or any girl or woman is employed overtime after 6 o'clock in the evening, a sum, not less than 6d., must be paid as tea money on the day such overtime is worked.

An amount not less than 3d. per hour, or portion of an hour, must be paid for overtime to any boy under 16 years of age, or any girl or woman; the full rate of time and a half, however, is to be paid in cases where the overtime pay would exceed 3d. per hour.

Every employer must keep a record of overtime worked by such of his workmen or shop-assistants (boys under 16 years of age, and all girls and women), and must produce such record and furnish extracts therefrom to inspectors.

No person may pay or give or receive any consideration, premium, or bonus for the employing by him of any woman or girl on the manufacture of any article of clothing or wearing apparel.

Contraventions or breaches of the Act, or of the regulations, are reported to the Minister for Labour and Industry by inspectors, and proceedings may be instituted with the authority of the Minister. During the year 1910 twenty-six informations were laid in this connection; eleven cases resulted in convictions, seven were withdrawn on payment of costs; seven were withdrawn in view of other convictions against the particular employers, and one case only was dismissed. In 1911 only two informations were laid, both in Newcastle and both resulting in convictions.

The provisions as to the Minimum Wage are in operation over the whole State.

They are observed carefully throughout those districts, subject to inspectorial supervision, as to Factories and Shops, though in many large country towns outside these areas, and not ordinarily included in the inspector's itinerary, infringements may occur, particularly in dressmaking and millinery establishments, the breaches being due mainly to ignorance. Overtime is classified under two heads, viz., by the week of forty-eight hours, and also, on any working day, after 6 p.m., when tea money is payable. Many clothing factories complete the week's work in five days, and all work done on Saturday is actually overtime. A case being submitted it was held, on appeal to the High Court, that tea money is payable only in the instance when work is done on any day after 6 p.m.

The minimum wage system has tended to destroy systems of night-work for women, carried on really in violation of the international agreement entered into by Great Britain.

Current Standards as to Wages.

Since 1908 the number of trades in which wages are regulated by awards has extended so rapidly that but few occupations remain without the jurisdiction of industrial tribunals. The principle running through the awards of boards, &c., is the stipulation of an adequate living wage, and the minimum adult wage ranges between 7s. 6d. and 8s. per day for any class of labour. The question of the cost of living enters into the determination of a living wage, and judgments and awards tend more and more to embody all the factors determining effective wages, rather than to compromise between the standards of employer and employee. Details as to minimum wage rates fixed by awards are shown in part "Manufactures and Works" of the Statistical Register.

Aged, Infirm, and Slow Workers.

Applications for variations from award rates were made, under the Industrial Disputes Act, 1908, and its amendments, to the Registrar of the Industrial Court, and to any tribunal which might be constituted for the purpose by an Industrial Board.

Under the Industrial Arbitration Act, 1912, the Registrar alone has power to determine when and how such variations shall be permitted.

From 18th April, 1912, to November, 1912, 332 applications were lodged for permits to pay less than award rates; 237 were granted and 91 refused. Of twenty-three appeals made against permits issued, twenty-two were upheld.

HOURS OF WORK.

In 1855, after a strike, the principle of an eight-hour working day for operative masons was established. In the fifteen years following, the spread of the movement was not great, but in 1871 the Eight-hour Day celebration (since held annually) was inaugurated by the four classes then working the eight-hour day, viz., stonemasons, brickmakers, carpenters, and general labourers; in the thirty-one years since that inauguration, a forty-eight hour week has become the standard of custom for the majority of trades, and in recent years has been fixed by the awards of Boards as the legal standard. In practice the eight-hour principle is expressed in five working days of eight and three-quarter hours each and four and a quarter hours on Saturday.

Early Closing of Shops.

Under a voluntary system of early closing of shops in the city of Sydney and in adjacent suburbs, the working hours of many employees were reasonable. Infringement of agreements in regard to this voluntary system caused considerable dissatisfaction, and in December, 1899, the Early-closing Act was passed, to operate from 1st January, 1900. It was applicable to the Metropolitan and Newcastle districts as delimited in the schedules to the Act, and to all municipalities, while its operation might be extended to unincorporated areas. The Act provided that in metropolitan and Newcastle districts each shopkeeper should be given the option of closing his shop at 1 o'clock on either Wednesday or Saturday of each week, and where this option was not taken Wednesday was deemed to be the day chosen. During 1900, 566 shopkeepers, chiefly importers and warehousemen, notified Saturday as their early-closing day. All others selected Wednesday. In many country municipalities the early-closing day has been altered, after a poll, from Wednesday as originally fixed by proclamation to Saturday, and Friday substituted for Saturday as the late-closing night. Subsequent amendments of the Early Closing Act were necessitated by the conflicting interests between scheduled and non-scheduled shops.

Universal Half Holiday.

In 1905 a movement in favour of a universal half holiday was initiated; in 1909 a Royal Commission of Inquiry was appointed to investigate the desirableness of amending the Early Closing Acts so as to provide for a universal half holiday in the Metropolitan and Newcastle districts. In September, 1909, the Commission reported adversely. In August, 1910, the Saturday Half Holiday Act was passed; it was applicable to metropolitan and Newcastle districts, and to all other country shopping districts in county Northumberland. In July, 1911, its operation was extended by proclamation to country shopping districts as follows:—Liverpool, Cabramatta and Cauley Vale, Smithfield and Fairfield, Portland, Gulgong and Inverell.

Shops are permitted to remain open till 10 p.m. on Friday, the closing hour remaining 6 p.m. on other week nights, and 1 p.m. on Saturday.

In relation to the working hours in factories, reference has been made to the growing practice of completing the full week's work within five days, so leaving the Saturday a full holiday.

General Conditions.

In prescribing limits to the hours of work of women and boys, legislation both in England and in Australia has been concerned with the following subjects:—

- (a) The aggregate hours to be worked per week.
- (b) Overtime in excess of this aggregate.
- (c) Number of hours' work per day.
- (d) Night-work.
- (e) Number of hours of continuous work.
- (f) Meal times.

In factories in New South Wales, as in other States of the Commonwealth, the maximum working week for women and juveniles is forty-eight hours, under the Factories and Shops Act, 1912, with a maximum period of five hours' continuous labour and an overtime limitation of three hours per day.

In regard to the question of hours and general conditions of employment, the second sectional report of the Royal Commission of Inquiry into the Shortage of Labour, (1911) had for its subject-matter the hours and general conditions of employment of female and juvenile labour in factories and shops, and the effect on such employees. Details as to the class and amount of labour employed in factories are given in Part "Manufacturing Industry" of this Year Book. As to the effect of supervision relative to material surroundings, the Commission was of opinion that the net result of the regulative clauses of the Factories and Shops Act, after fifteen years' operation, is that from the point of view of health the factory buildings in the metropolis (to which locality inquiry was confined) vary between wide extremes of fitness, the older factory buildings being far below a fair standard, while buildings originally erected for stores or warehouses have been adapted to factory work, at the expense of essentials of ventilation and lighting, and provisions for safety from fire, and for comfort of the employees.

Emphasis was placed upon the necessity for prohibition of factory work in buildings of galvanized iron, or insistence upon lining of roof of buildings in occupation, as is required by statute in Queensland and in West Australia.

Adequacy of safety provisions in case of fire is determinable by Inspectors, and the Commission recommended that standardised requirements in this direction should be embodied in the statute law.

Air space requirement under the Factories and Shops Act is 400 cubic feet per person employed. To prevent overcrowding, aggregate air space is insufficient, and the Commission suggests a definite interval of air space as the minimum between individual workers and the prevention of vitiation of air by gas-heaters, &c.

As to dust, the statutory requirement is that any factory or shop, or any portion thereof, shall be ventilated in such a manner as to render harmless, as far as practicable, all the gases, vapours, dust, or impurities, generated in the course of the manufacturing process or handicraft carried on therein, that may be injurious to health. . . ." Where grinding, glazing, or polishing on a wheel or any other process is carried on, whereby dust is generated, which is inhaled by the employees to an injurious extent, such inhalation could be to a great extent prevented by the use of a fan, or by other mechanical means of ventilation. The necessity for definite stipulation is obvious.

Standardisation by Award.

The majority of Wages Boards awards have legalised the 48-hour normal working week, but the awards in which that standard is not specified are numerous. On the other hand, there are cases in which a shorter working week has been prescribed. The shortest week fixed is 36 hours, and this applies to rock-choppers and sewer-miners, and to employees engaged on night-duty for the Metropolitan Board of Water Supply and Sewerage and the Sydney Municipal Council.

A strict eight-hour day is observed only by two trades of the full number of 105 which in October, 1912, were working a 48-hour week; the strict eight-hour day, with a half day of four hours on Saturday, involves a 44-hour week.

Out of 153 awards listed, 105 cover limitations of the working week to 48 hours or less. The industries for which less than 44 hours per week

are stipulated are notably unhealthy trades, *e.g.*, rock-chopping and sewer-mining, 36 hours per week, or $6\frac{1}{2}$ hours per day; printing trade machine operators on night work are limited to 42 hours per week.

In six trades the limit ranges between 44 and 48 hours per week; stonemasons and quarrymen have a 44-hour week, or a strict eight-hour day; process engravers a $44\frac{1}{2}$ hour week; jewellers (watch and clock makers and repairers) and clerical workers under the Government Railway and Tramway award, $46\frac{3}{4}$ hours; storemen and packers in two sections of the industry a $47\frac{1}{2}$ -hour week.

In two industries the hours of female workers have been specially limited, *viz.*, in meat packing, preserving and canning, to 44 hours; and sail, tent, and tarpaulin making to 47 hours.

In several awards relating to the Government Railways and Tramways, the hours are limited by fortnightly computation to ninety-six, but subject to a provision that such hours are to be worked, as far as practicable, in twelve shifts of eight hours each. The persons affected by this provision are chiefly shunters, guards, labourers, firemen, signalmen, conductors, drivers, pointsmen, starters, examiners, shed foremen, checkers, and washers.

Of the trades working more than forty-eight hours per week, the most prominent are those connected with transport services and food supplies.

It is to be noted that most of the occupations for which the short week is fixed are regarded as more than usually unhealthful or strenuous.

In most cases in which a working week in excess of 48 hours is prescribed, it is to be noted that the workers are regarded generally as unskilled, the chief groups being carters and shop assistants. Yet there are occasional and notable instances of long working weeks in occupations which might appear entitled to a short week; *e.g.*, cement workers, in continuous processes, employees at the steel and blast furnaces in the iron trades at Lithgow, and pharmaceutical shop assistants, in all which cases a 56-hour week is prescribed. The maximum working week allowed under any award is 91 hours, alternating with a 78-hour week, for horse-cab drivers; taxi-cab drivers, under the same award, with alternating weeks of 84 and 72 hours, occupy the second highest place on the list.

The following statement shows the hours of labour in Industries covered by awards:—

Trades and Industries which work 48 hours or under per week.

1. Aerated Water Manufactories : all employees except Carters, Grooms, and Waggou Boys.
2. Bakers.
3. Bill-posters.
4. Biscuit and Cake Makers.
5. Blind Makers.
6. Boilermakers, under several awards.
7. Boot Trades (all branches).
8. Brass-finishers.
9. Bricklayers.
10. Brickmaking Industry (except Carters).
11. Broom Workers.
12. Buggy Drivers (Commercial).
13. Butchering Industry (Slaughtermen only).
14. " " Broken Hill.
15. Butterine and Margarine Makers.
16. Caretakers and Cleaners, 48-36 hours.
17. Caterers in Shops.
18. Cement Workers, all employees (except those on continuous process).
19. Cigar Makers.

20. Clothing Trades (all branches).
21. Coach Makers, including—
Waggon Builders.
Painters.
Wheelwrights.
Carriage Trimmers.
Blacksmiths, Machinists, and Labourers.
22. Coke Workers, employed at ovens, and Labourers.
23. Cold Storage Employees (except in Cheese Factories).
24. Confectioners.
25. Coopers.
26. Copper, Silver, Tin, and Gold miners, Labourers, and Workers Underground.
27. Cycle and Motor Cycle Makers (all branches).
28. Electroplaters.
29. Electrical Trades (excepting Lamplighters).
30. Engine-drivers, Firemen, Pumpers, Cleaners, under "Coast Award," "Ironworks Award, Lithgow," and Sundry Industries Award.
31. Engineering Trades, all branches.
32. Farriers.
33. Fellmongering Trades.
34. Furniture Trades (all branches).
35. Gas-Meter Makers.
36. Government Railways and Tramways—Painters and French-polishers [Car].
37. Employees bedding brasses; repairing bogies; Lifters.
38. Electrical Trades.
39. Examiners.
40. Locomotive Labourers.
41. Employees on Permanent-way, except Watchmen and Flagmen.
42. Quarrymen.
43. Sawmill Employees.
44. Clerical Workers 35½—46¾ hours.
45. Traffic Wages—Guards and Assistant Guards, Labourers, Firemen, and Signalmen.
46. Tramway—Conductors, Drivers, Shunters, Pointsmen, Signalmen, Starters, Examiners, Shed Foremen, Checkers, and Washers.
47. Ironworkers' Assistants.
48. Jam Industry, all employees.
49. Jewellers (Manufacturing).
50. " Watch and Clock Making and Repairing, 46½ hours.
51. Laundry Workers.
52. Marble and Slate Workers.
53. Meat Packing, Preserving, and Canning Employees: Females, 44 hours.
54. Metal Ceiling and Sheet Metal Fixers.
55. Metropolitan Board of Water Supply and Sewerage Employees.—Sewer Miners, 36 hours; Rock-cutters, 36 hours.
56. Milk Industry (Receivers, Tasters, Pasteurisers).
57. Milling Trades.
58. Moulders.
59. Municipal Employees (except Watchmen).
60. Newcastle Collieries employees (non-miners as far as practicable).
61. Painting Trades, Newcastle: 44 or 48 hours, optional.
62. Paper Mill Workers (except shiftmen).
63. Pastrycooks: 48 and 54 hours.
64. Picture-frame Makers (all branches).
65. Plasterers.
66. Plumbers and Gasfitters.
67. Printers—Bookbinders and Paper-rulers.
68. Compositors.
69. Letterpress Machinists.
70. Lithographic Workers.
71. Machine Operators' Night Staff (42 hours).
72. Process Engravers, 44½ hours.
73. Quarrymen (general industry), 44 hours.
74. Railway, Tramway, and Water Conservation Works (Employees).
75. Ropemakers.
76. Saddlers.
77. Sail, Tent, and Tarpaulin Makers: Females, 47 hours.
78. Sawmill Employees (Country).
79. " " Timber Yard Employees, Box and Case Makers.
80. Ship Painters and Dockers.
81. Shunters at Sydney, Newcastle, and Bullock Island.

- 82. Slaters.
- 83. Smelters.
- 84. Soap and Candle Makers.
- 85. Southern Collieries ; Miuers, 8 hours, bank to bank.
- 86. Stone-cutters, including Labourers.
- 87. Stonemasons, 44 hours.
- 88. Storemen and Packers (Bonded and Free Stores), 47½ hours.
 Drug Warehouses, 47½ hours.
 Oil and Colour Stores.
 Wholesale Groceries.
 Wool and Station Produce Stores, 44-48 hours.
- 89. Stove and Piano Frame Makers.
- 90. Straw Hat Makers.
- 91. Tanning Trades.
- 92. Tile-layers.
- 93. Tinsmiths and Sheet Metal Workers.
- 94. Tuck-pointers.
- 95. Unskilled Labourers—Builders' Labourers, Gantry Men.
- 96. Machine Gutterers, 44 hours.)
- 97. Rock-gutterers, Sewer-miners, 36 hours.)
- 98. Water and Sewerage Employees (Hunter River District), Rock-gutterers and
 Labourers in sewers, 36 hours.
- 99. Wharf-labourers, Sydney, 46½ hours.
- 100. Western Collieries, 8 hours, bank to bank.
- 101. Wicker Workers.
- 102. Wire Mattress Makers.
- 103. Netting Workers.
- 104. Wood Workers—Carpenters, Joiners, &c.
- 105. Ship Carpenters and Joiners, Shipwrights, &c.

Trades and Industries which work more than 48 hours per week.

- 1. Bread-carters, Co. Cumberland (52½-60 hours).
- 2. Newcastle, 52½ hours.
- 3. Country, 59 "
- 4. Billiard-markers, 58 "
- 5. Butchers (Metropolis), 59 "
- 6. Newcastle, 56½ hours ; country, 57 hours.
- 7. South Coast 58 "
- 8. Broken Hill, 52-55 hours.
- 9. Carters, 61 hours.
- 10. Slaughtermen (Metrop.), 52 hours ; country, 50 hours.
- 11. South Coast, 52 hours.
- 12. Cement Workers, on continuous process. 8 hours, 7-day week, including Stone-
 Crushers, Milling Department, Rotary Kiln, Coal House.
- 13. Cheese Factory Employees, 56 hours.
- 14. Engine-drivers and Firemen, Lithgow—
 Blast or Steel Furnace, 7 shifts of 8 hours.
- 15. Government Railways and Tramways, Examiners, 108 per fortnight.
- 16. Permanent-way, Watchmen and Flagmen, no definite hours fixed.
- 17. Traffic Wages Staff—
 Barrier Porters, 60 hours. Block Porters, 60 hours.
 Ticket Collectors, 54 " Signalmen, 54 "
 Car Conductors, 60 " Telephone Boys, 60 "
 Shunters, 54 " "
- 18. Tramway Employees—
 Maintenance, Tower-waggon Drivers, 54 hours.
 Linesmen, 54 "
 Watchmen, Overhead Lines Staff, 10 hours each day or night.
 Telephone Boys, shifts of 7, 8, and 9 hours.
- 19. Hairdressers, 58 hours.
- 20. Hotel, Club and Restaurant Employees—
 Bar and Billiard-room, Porters, Storemen, Cellarmen, Dining-
 room, Cashiers, &c. 58 hours.
 Night Watchmen and Generally Useful Men 60 "
 Housemaids 63 "
 Cooks and Butchers... 60 "
 Kitchenmen 63 "

21. Milk Industry—
 Carters 56 hours, 7 days.
 Weighers and Measurers... .. 50 " 7 "
 Can and Tank Washers 52 " 7 "
 Yardmen and Useful Hands 54 " 7 "
 Grooms and Stablemen 54 " 7 "
 Ice-carters, summer 57 " winter, 54 hours.
 Dairy Employees, adults 70 " youths, 50-60 hours.
22. Shipping, Ferry Hands, 60 hours.
 23. Harbours and Rivers, 57 hours (all employees).
 24. Newcastle, 57 " "
 25. Port Jackson (Public Lighters and Tugs), 54 hours.
 26. " " (Launches and Private Lighters), 51 hours.
 27. Shop Assistants, Males, 52 hours; country, 52 hours.
 Carters, 54½ hours.
 28. Metropolitan Drapers, 50 hours.
 29. Retail Grocers, 53½ hours.
 30. Shop Assistants (Pharmaceutical Chemists), 114 per fortnight.
 31. (Tobacconists), as under Early Closing Act.
 32. (Newsagents), 52-54 hours.
 33. Storemen and Packers, Newcastle, 49 hours.
 34. Sydney Council (Watchmen), 78 hours.
 35. Public Conveniences (Attendants), 59 hours.
 36. Tip-carters (County of Cumberland), 58 hours.
 37. Trolley, Draymen—summer 60 hours; winter 58 hours.
 38. (Coal-carters), 56 hours.
 39. (Grooms), 58 hours to 60 hours.
 40. (Loaders), 48½ hours.
 41. (Newcastle), 73½ hours.
 42. (Timber-carters), 56 hours.
 43. (Country), summer 55½ hours; winter 54 hours.
44. Undertakers—Cab and Livery Employees—
 Drivers of Horse-cabs, 91-78 alternate.
 " Taxi-cabs, 84-72 "
 Livery men, 77 hours (7 days of 11 hours).
45. Undertakers—Shopmen, 49½ hours.
 Yardmen and Coachmen, 55 hours.
 Watchmen, 72 hours.
46. Watchmen, Water and Sewerage Employees Board, 63 hours.
 Lamplighters " " " " 63 "
 Valve Attendants " " " " 56 "
47. Waterside Workers (Newcastle Shipping)—
 Hookers-on, Horse-drivers from } Worked in 6 shifts, less 2 hours per day, and
 Cranes, 66 hours ... } on night shifts, less one hour for meals.
48. Wood and Coal Labourers (Carters, &c.), 53½ hours.

APPRENTICESHIP.

Under the Apprentices Act of 1901, any person resident and trading in New South Wales may take apprentices under certain conditions regulating the apprenticeship, *e.g.*, as to age limitation and probation before completion of indentures. The Act limits the working time of apprentices to forty-eight hours per week, with saving clauses as to rural industries and domestic service. The minimum age of apprentices is 14 years, and limitations upon the proportion of apprentices to adults are fixed in the majority of cases in awards of wages boards. Usually the proportion of apprentices or improvers to adult workers is one to three, with a maximum, as in the printing trades, of seven apprentices in any institution or business. Information is not available as to the total number of persons now serving in this State under indentures of apprenticeship (which are three-party contracts binding the employer, the employee, and his guardian); nor as to extent of instruction imparted, premiums usually paid, and rate of wages, &c.

The third sectional report of the Royal Commission of Inquiry in New South Wales as to the Shortage of Labour, &c., in 1911-12, covered investi-

gations as to the cause of the decline in the apprenticeship of boys to skilled trades, and the practicability of using Technical and Trade classes as aids to or substitutes for apprenticeship.

The decline of the apprenticeship system is a characteristic feature of industrial development in practically every community, and is common to all trades and industries, both to factory trades in which machinery is developed to a high point of specialisation and to the handicrafts which also are being subdivided into specialties.

An important contributory factor in the decline of apprenticeship in New South Wales is, according to the findings of the Commission, the facility with which highly remunerative wages may be obtained in unskilled trades, *e.g.*, rabbit-trapping. While Technical education is unlikely to give satisfaction as a substitute for apprenticeship its value as an adjunct is realised, and the Commission recommended that the school-leaving age be raised from 14, as required under the Public Instruction Act, 1880, to 16 years of age, so as to obviate the hiatus between the cessation of general education and the commencement of the specialised trade or technical training, which usually is not entered on till age 16.

The classification of industries to determine which are skilled trades, and the delimitation of the essential requirements of each are conditions precedent to the restoration of the apprenticeship system.

Generally, wages or industrial boards have exercised control over apprenticeship in individual trades, but the Commission recommends the constitution of an Apprenticeship Commission with power—

- (a) to classify for apprenticeship trades and branches of trades, determinable as skilled.
- (b) to determine, with regard to apprenticeship, the period, rates of pay, length of attendance at Technical classes, and amount of pay for certificated attendance.
- (c) to supervise the carrying out by masters and apprentices of the apprenticeship agreement and transfers from one master to another.

A new apprenticeship law was suggested to determine—

- (a) compulsory apprenticeship for future juvenile labour in skilled trades.
- (b) technical education, if procurable, to be obligatory on all apprentices.
- (c) additional pay to apprentices for certified technical study.

Outworkers.

Under section 14 of the Factories and Shops Act, 1896, occupiers of factories are required to keep, and to supply to the factory inspectors, full records regarding outworkers employed. In New South Wales the number of outworkers reported to the inspectors is not available.

Shearers' Accommodation.

The Shearers' Accommodation Act, 1901, was intended to become operative on 1st January, 1902, but in view of the fact that the State was then experiencing a drought the provisions of the Act were suspended temporarily. The Act is administered in conjunction with the inspectorial work under the Factories and Shops Acts, &c. During 1911, 1,586 stations

were visited, 2,154 huts inspected, of which 2,010 were regarded as satisfactory. The new huts built numbered 101. One summons issued for infringement of conditions resulted in a conviction. During 1912 a Bill to regulate accommodation for shearers and agricultural labourers reached the second reading stage in the Legislative Council, having been passed by the Legislative Assembly.

Derangements to Industry.

Interruptions to industry from such causes as fires and floods, the blocking of bar harbours, &c., necessarily supervene, periodically, but no reliable records are available to show the extent of the resultant suspension or slackening of industrial operations or the amount of loss or depreciation of perishable products. In regard to the manufacturing industry, it is shown that the average time worked in all classes of manufacturing is slightly more than eleven and a half months per year, and an analysis of the details given shows the extent of the variations from that average.

Seasonal Slackness.

In the summer-time industries, particularly manufacturing, in the city and suburbs suffer to a certain extent from seasonal slackness. For instance, in January, and even in February, slackness and half-time working are to be anticipated in trades such as order tailoring, mantle, and costume making. But such slackness is the necessary corollary to high-pressure work and overtime, which usually prevail in the weeks before the Christmas season. In the clothing trades, manufacturers for retail shops have to face the difficulty of rush orders, it being the practice of such shops to allow their stocks to run out entirely before placing fresh orders. Further, the practice of indenting surplus English stocks to catch the corresponding Australian season's trade causes some uncertainty regarding estimates of local requirements. In the tailoring trade, and especially in the highest class work, the on-and-off character of the employment is particularly apparent.

Intermittency.

The question of continuity of employment affects particularly the building trades, and in a less degree seasonal occupations.

As regards the building trades, the reserves of workers cannot, under normally favourable conditions, be great; but, on the other hand, no system of organisation yet devised can adjust the volume of work to the waiting labour force so as to ensure absolute continuity of employment while obviating delay in the fulfilment of contracts. So long as the general volume of trade is maintained, however, no abnormal intermittency need be feared.

Trade Disagreements.

The following statement records the history of trade disagreements during 1911-1912, as recorded by the Labour Bureau:—

1911.

January.—Cockle Creek Sulphide Works, protest against retention of certain employee; Australian Gaslight Co.'s Works, Kent-street and Mortlake.

February.—Ore miners at Carcoar, involving smelters at Lithgow; settlement reached in April.

March.—Darling Island, wheat loading, 400 men idle for twenty-four hours, increased wages accorded; Lockhart-Clear Hills Railway Works.

April.—Portland Cement Works, temporary discharge of 300 men on account of refusal of wharf labourers (Sydney) to handle cement in bags.

May, June.—Neither strike nor lock-out was recorded.

1911.

- July.—Hoskins' Ironworks, Lithgow, strike of 600 men; Port Kembla Electrolytic Works, 300 men on strike for one week; Metters' Stove Factory, 250 on strike against piece-work rates, or in sympathy.
- August.—Lithgow strike continued; Metters' Stove Factory strike determined after three weeks by return to work pending settlement of claim.
- September.—Lithgow strike continued; Wallsend and Newcastle Collieries, wheelers struck for two weeks—returned to work under unaltered conditions.
- October.—Lithgow strike continued; Railway Deviation Works, 900 men on strike for one day; interstate wharf labourers struck on 19th October for increased rates of pay.
- November.—Lithgow and interstate wharf labourers' strike continued; deep-sea wharf labourers struck in sympathy—settlement reached on 6th November by return to work pending award; slaters struck for extra pay on high buildings—terms granted after two days' stoppage; Newnes miners struck against dismissal of wheelers; gangers on Railway Construction Work struck for increased wages.
- December.—Lithgow strike maintained.

1912.

- January.—Lithgow strike continued. Brief strikes occurred at Metters' Stove Factory, Pelaw Main Colliery, and among interstate wharf labourers.
- February.—Lithgow strike continued; slaughtermen, Glebe Island, struck for one week against grading and variation in wages; stoppages occurred at Kosciusko (day-labourers), and at Abermain Colliery, and among interstate wharf labourers.
- March.—Lithgow strike continued; hotel employees, Broken Hill, were on strike for one week. Brief strikes occurred as follows:—Wharf labourers, Byron Bay; wheat loaders, Darling Island, one day; railway navvies, Grafton; brick-carters, North Sydney, one day—extra pay conceded; wheelers, Mount Pleasant Mine, Wollongong.
- April.—Lithgow strike settled on 17th April; Abermain and Stockton Borehole Collieries' employees (400) on strike.
- May.—Pelaw Main Coal-mine, Kurri Kurri, five days' strike against dismissal of employee—reinstated.
- June.—Wallsend Colliery, dispute *re* working of pillars and soft coal; Elmore Vale Colliery, strike of wheelers; sewer workers, Botany, strike for one week for extra pay for wet work.
- July.—Maitland Coal-field, wheelers' dispute; wharf labourers, cessation of one day.
- August.—Pelaw Main and Hebburn Collieries, stoppage for one afternoon.
- September.—Municipal employees, Broken Hill, stoppage for one day.
- October.—No strikes or lock-outs reported.
- November.—Casual mutton-butchers, eleven days' strike against speeding-up; Pelaw Main Coal-mine, stoppage for one afternoon; Neath Colliery, stoppage for one day—dispute as to top-ply coal.
- December.—No strikes recorded.

STRIKES AND LOCK-OUTS.

The primary object of the mediatory and regulative legislation enacted in New South Wales is to obviate strikes; but, though a large measure of success has resulted from the operation of the various Acts, the absolute elimination of strikes from industrial operations has not yet been secured.

The provision for repression of strikes and lock-outs in the Industrial Arbitration Act, 1901, in which the principles of mediation and regulation were first displayed as converging ideas, implied misdemeanour only if the action or condition occurred (a) before a reasonable time elapsed for reference to the Court of the matter in dispute or (b) during the pendency of proceeding in the Court in relation to an industrial dispute. Actions tending to suspension or discontinuance of employment, in circumstances with which the arbitral system was not capable of dealing, were not imputable as misdemeanours.

Penalising provisions were embodied in the Industrial Disputes Act, 1908, enacted "to prohibit strikes and lock-outs." Its discipline for offences met with opposition from a section of the community to whom strikes appeal as the readiest means of redress of all grievances; and in

spite of the prohibition and penalising of strikes and lock-outs, a strike was declared which involved all the coal-fields of the State—Northern, Southern, and Western.

To cope with the position, the Industrial Disputes Amendment Act, 1909, provided for a penalty of twelve months' imprisonment for any attempt to instigate or aid in anything in the nature of a strike or lock-out or discontinuance of work in any industry. Power was given to officers of police to enter buildings, by force if necessary, and to seize documents, when there was reasonable ground for the belief that such buildings were being used for the purpose of fostering the continuance of a strike or lock-out; and where the strike or lock-out related to a necessary commodity (defined as coal, gas, water, or any article of food, the deprivation of which might tend to endanger human life or to cause serious bodily injury) meetings intended to foster such a strike or lock-out were illegal. Persons taking part in such meeting became liable to imprisonment for twelve months. A penalty of £500 was attached to any attempt to restrain the trade of the State in a necessary commodity, or to monopolise or combine to the detriment of the public.

The Industrial Arbitration Act, 1912, in replacing the Act of 1908, aims at obviating strikes and lock-outs. The inefficiency of penal proceedings for all cases is postulated, and the characterisation of a strike or lock-out as criminal gives way to its characterisation as an extravagant expedient, liable to penalisation extending to a charge on any moneys then or thereafter due to the person ordered to pay such penalty. The Court also may grant a writ of injunction to restrain any person from continuing to instigate or to aid in a lock-out or strike, the maximum penalty attaching being imprisonment for six months.

The following table summarises the more serious strikes recorded in each year since 1908:—

Strikes.

Industry.	July-Dec. 1908.	Year.			Industry.	July-Dec. 1908.	Year.		
		1909.	1910.	1911.			1909.	1910.	1911.
Coal-mining	8	3	3	15	Biscuit Factory ... ..	...	1	...	...
Coal-carters	1	Slaughtermen ... ..	...	...	1	...
Ironworks	3	...	1	Smelting ... ..	...	...	...	2
Iron Mines	2	Gas Employees ... ..	...	...	...	1
Rockchoppers and Sewer Miners	1	...	1	2	Glass-works ... ..	...	...	...	1
Silver and Lead Mines	2	...	...	Shipping (Wheat Loaders) ... ..	...	...	...	3
Coke-works	1	1	...	Wharf Labourers ... ..	...	...	...	3
Engine-drivers	1	...	...	Railway Construction Workers ... ..	...	...	...	1
Shale and Oil Workers...	...	1	...	...	Stove-makers ... ..	...	...	...	1
Commercial Buggy- drivers	1	...	...	Cane-cutters ... ..	...	...	...	1
Carters (Railway Works)	1	Slaters ... ..	...	...	...	1
Quarries	1	...	...			
Cement-workers	1	...	...	Total... ..	9	15	6	36

This list of strikes appears somewhat formidable, but it is to be noted that the majority of them were of brief duration, and comparatively unimportant, as regards the area affected and the cause of the dispute. This is evident from an inspection of the detailed statement respecting the more important strikes and lock-outs which occurred in New South Wales during the period 1st July, 1908, to 31st December, 1911:—

Nature of Industry affected.	Duration.		Cause.	Nature of Settlement and Remarks.	Number of Employees concerned (approx.).
	From—	To—			
Coal-mining (South Bulli Wheelers).	1908. 11 Aug.	1908. 14 Aug.	Owing to full shift not being worked by miners, wheelers were paid by results, but contended that they should be paid for full shift.	Miners direct the wheelers to resume work.	27
Coal-mining (South Greta).	11 "	14 "	Withdrawal by management of promised pay of 3d. per ton for jigging work.	Compromise; the terms of settlement not available.	120
Coal-mining (South Bulli Wheelers).	20 "	22 "	Refusal by management to withdraw summonses issued against certain wheelers for absentsing themselves from work.	Returned to work; summonses issued against certain of the strikers.	20
Coal-mining (Lambton B. Mine).	1 Sept.	2 Sept.	Drivers demanded increased rate of pay.	Compromise effected; terms of settlement not available.	30
Coal-mining (Gunnedah).	2 Nov.	26 Nov.	Demand for increased wage, and other grievances.	Work resumed on Royal Commission being appointed to inquire into whole industry.	200
Coal-mining (Duckenfield Colliery).	5 "	7 "	Wheelers dissatisfied with commencing-hour of work, and with having to harness and unharness horses.	Miners decided to do the wheeling, whereupon wheelers resumed work.	200
Coal-mining (Borehole Colliery).	12 Dec.	12 Dec.	Alteration by management of the hours of work.	Men returned to work; matter further considered by management.	250
Coal-mining (South Greta Colliery).	18 "	19 "	Question of rates of pay, consequent on installation of machines.	Work resumed; complaint investigated by local committee.	300
Coal-mining (South Clifton).	1909. 28 April	1909. 1 May.	Demand for increased wages.	Returned to work	6
Coal-mining (Hetton Colliery).	2 May	5 May.	Men demanded own inspection as to deficient places; also objection to reduction of explosives; and as to additional pay for wet places.	Board appointed under Act to deal with conditions generally.	1,485
Coal-mining (South Clifton).	23 Sept.	25 Sept.	Non-payment by members of fines inflicted by union; employees refused to work with them until paid.	Resumed work on management stating they would insist on fines being paid. This strike merged into the succeeding one.	....
Coal-mining (Clifton).	7 Oct.	1910. 14 Feb.	Similar cause to preceding, combined with other grievances.	Board appointed under Act; men resumed work; award made by Board.	300
Coal-mines (Newcastle Mines).	8 Nov.	14 Mar.	Demand for increased wages, lesser hours, and other grievances.	Merged into general strike of coal-miners in Northern, Western, and Southern Districts of State. Prosecutions initiated, and leaders imprisoned. Men returned to work.	10,000
Coal-mining (Haddon-Greta Colliery).	1910. 1 Aug.	17 Oct.	Adoption by management of contract system of driving tunnels.	Conference between management and men; settlement reached.	300
Coal-mining (Vale of Clwydd Colliery).	24 Nov.	1911. 21 Jan.	Demand for increased pay	Conference between management and men; increase granted; resumption of work.	100
Coal-mining (South Clifton Colliery).	1911. 21 Mar.	24 Mar.	Demand for increased wages from 8s. 6d. to 9s. per shift.	Summonses issued against certain of the strikers; fines inflicted.	50
Coal-mining (Balmain Colliery).	4 April	19 May	Decision of management to change system of daily wage for 8 hours to 2s. 6d. per ton for 9 hours, bank to bank.	Voluntary Board appointed, and work resumed.	120
Coal-mining (Teralba Mines).	1 May	27 June	As a protest against reduction in selling price of coal.	Men returned to work on original tonnage rate paid. Proposed to submit new agreement to Board.	600

Nature of Industry affected.	Duration.		Cause.	Nature of Settlement and Remarks.	Number of Employees concerned (approx.).
	From—	To—			
Coal-mines (Balmain Colliery) (Miners).	1911. 5 Oct.	1911. 19 Oct.	.....	Referred to Special Board	....
Coal-mines (Vale of Clwydd Colliery).	20 "	27 "	.....	Conference .. .. .	....
Coal-mines (Pelaw Main Colliery).	19 Mar.	25 May	Dispute between management and men as to working the top coal.	Compromise effected, and men returned to work.	600
Coal-mines (Ben Bullen Mine).	26 April	1 "	Dismissal of a miner for refusing to go to another place after his former place stopped.	Compromise effected, and resumption of work.	40
Coal-mines (Wallsend Colliery) (Wheelers).	13 July	18 July	Struck in sympathy with wheelers at Elermore Vale Colliery who struck for increased pay from 24d. per ton for round coal to same rate for all coal.	Compromise effected by payment of 24d. per ton for all coal wheeled.	1,000
Coal-mines (Iron-works Colliery Lithgow).	17 July	1912. 17 April	Dismissal of miner (Jodge delegate) who absented himself from work to attend meeting of district delegates.	Merged into general strike of employees at iron-works. Certain strikers prosecuted and fined.	500
Coal-mines (Coal Cliff Colliery).	9 Aug.	1911. 11 Aug.	Wheelers struck against dog watch shift, and other matters.	Settlement by conference and work resumed.	30
Coal-mines (New Lambton Mine).	10 "	.....	Owing to management enforcing "dirt scales."	No information re settlement.	15
Coal-mines (Wallsend Colliery).	16 "	.....	Dispute between management and men as to wheeling timber into the mine.	Reference to Board ..	600
Coal-mines (Irontdale Colliery).	25 "	... ..	Dispute as to payment for hewing rate.	.....	50
Coal-mines (Hetton Colliery) (Wheelers).	4 Sept.	21 Sept.	.....	.....	....
Coal-carters (Sydney).	30 May	30 May	Owing to dismissal of a carter	Dismissed man reinstated; work resumed within 14 hours of stoppage.	40
Ironworks (Phoenix Iron-works).	1909. 12 Feb.	1909. 23 Feb.	Men contended against labourers being put on to do boiler-makers' work.	Men returned to work unconditionally.	54
Ironworks (Meadowbank Works).	22 "	24 "	Refusal of demand of employees for reinstatement of dismissed employee.	Men returned to work unconditionally.	50
Ironworkers (Lithgow Smith Mill).	31 Mar.	8 April	Decision by Company to reduce number of "roughers."	Men returned to work pending investigation.	40
Iron-mines (Carcoar).	1911. 7 Feb.	1911. 8 Mar.	Men demanded increased wages. Strike spread from the mines to the iron mills at Lithgow.	Prosecutions initiated; fines inflicted. Conference arranged, and men returned to work.	600
Iron-mines (Tallewang).	27 June	27 June	Demand by jumper for increased pay.	Work resumed on grievance being adjusted.	4
Iron-works (Lithgow).	26 July	1912. 17 April	Men in ironworks refused to use coal gotten by non-union labour employed in place of men who went on strike. (See also under heading "Coal Mines—Iron-works Colliery—Lithgow").	.....	500
Rockchoppers and Sewer Miners.	1908. 23 Oct.	1908. 16 Nov.	Refusal of demand made by men for dismissal of foreman	Leaders prosecuted, and work resumed.	500
" " ..	1910. 20 Nov.	1910. 13 Dec.	Demand for increased pay from contractors refused.	Arrangements made to cancel contract, State to undertake work.	30
" " ..	28 Dec.	1911. 7 Jan.	Demand for increased pay refused.	Work resumed; matter referred to Board appointed under Act.	11

Nature of Industry affected.	Duration.		Cause.	Nature of Settlement and Remarks.	Number of Employees concerned (approx.).
	From—	To—			
Rockchoppers and Sewer Miners.	1911. 9 Mar.	.....	Dispute as to payment for working in wet places.	Board granted amendment of award increasing rate of 2d. per hour for working in wet places, and defined procedure for determining whether a place is wet.	13
Silver and Lead Mines (Broken Hill).	1909. 2 Jan.	1909. 25 May	Refusal by management to allow men to work on 1st Jan., 1909, and in consequence men refused to work on 2nd Jan., 1909.	Award made by Court ..	3,000
” ” ..	1 Mar.	16 Mar.	Dismissal of certain men for refusing to work with non-unionists.	Men returned to work—Dismissed men reinstated on guarantee as to giving notice re quitting work.	70
Coke-works (Bellambi).	13 Jan.	12 Feb.	Demand for increased pay refused.	Compromise effected, and work resumed.	12
Coke-works (Lithgow).	1910. 12 Sept.	1910. 14 Sept.	” ” ” ..	” ” ” ..	20
Engine-drivers (Newnes).	1909. 16 Feb.	1909. 27 Aug.	” ” ” ..	Merged into succeeding strike.	...
Shale and Oil Works (Newnes).	20 ”	27 ”	” ” ” ..	Private Arbitration Board agreed to; settlement effected, and work resumed.	400
Commercial Buggy-drivers.	8 Mar.	10 Mar.	Demand for increased pay ..	Boys returned to work on same conditions.	40
Carters (Railway Works, Warialda).	1911. 10 May	1911. 14 May.	Proposed reduction in rate of pay.	Places of strikers filled by other men being engaged.	14
Quarries (Ryde)	1909. 30 Mar.	1909. 31 Mar.	Demand for increased pay ..	Returned to work and increased demands granted.	20
Cement-workers (Portland).	3 Sept.	6 Sept.	” ” ” ..	Compromise effected, and work resumed on understanding that Board would be appointed, the award to be retrospective.	550
Biscuit Factory.	9 Dec.	11 Dec.	Demand for increased pay ..	Leaders prosecuted and fined.	20
Slaughtermen (Glebe Island).	1910. 8 Aug.	1910. 18 Oct.	Refusal of men to work piece-work.	Amicable settlement and resumption of work.	300
Smelting (Cockle Creek).	1911. 12 Jan.	1911. 3 Mar.	Refusal of management to dismiss non-unionist.	Investigation of matter in dispute by Industrial Registrar as arbitrator. Resumption of work after decision given. General award made by Board appointed under Act.	400
Smelting (Port Kembla).	21 July	29 July	Management refused to reinstate man removed from one position to another, involving loss in wages of 6d. per day.	Work resumed. Question to be considered by Board appointed under Act.	80
Gas Employees ..	13 Jan.	14 Jan.	Dismissal by Company of employee—Secretary of Employees' Union.	Men return to work on matter being investigated by arbitrator agreed to.	1,000
Glass Works ..	1 Feb.	4 Feb.	Demand for increased wages by boys.	Boys returned to work on same conditions.	30
Shipping (Wheat Shippers, Darling Island).	13 Mar.	14 Mar.	Demand for increased wages..	Terms conceded, and work resumed.	750
Wheat Loaders (Darling Harbour).	3 Sept.	17 Sept.	.....	Conference; mediation by Minister.	....
” ” ..	29 Oct.	6 Nov.	” ” ” ..	” ” ” ..	....
Wharf Labourers	2 May	6 May	Refusal to load cement unless in paper-lined bags, so as to be dust-proof.	Request granted; work resumed with increased pay.	710
Wharf Labourers (Interstate and Coastal).	19 Oct.	6 Nov.	} Increased rates of pay	{ Conferences compulsory; conference by Judge Higgins and Ministerial intervention.	} 5,000
Wharf Labourers (Deep-sea.)	2 Nov.	6 Nov.			

Nature of Industry affected.	Duration.		Cause.	Nature of Settlement and Remarks.	Number of Employees concerned (approx.)
	From—	To—			
Railway Construction Workers (Glenbrook).	1911. 20 July	1911. 21 July	Demand for pay for time lost by wheelers in breaking rock, after being blasted in pieces small enough to load and cart away.	Settled, and immediate resumption of work.	300
Stovemakers	12 Oct. 25 July	13 Oct. 14 Aug.	Refusal to work piece-work	Piecowork abolished, and work resumed.	900 250
Cane-cutters (Grafton).	31 "	3 "	Increased pay and more rations demanded.	Resumed work on old allowance of rations and extra punting allowance	128
Slaters (Sydney)	13 Oct.	20 Oct.	.....	Referred to Wages Board.	200

Lock-outs.

Nature of Industry affected.	Duration.		Cause.	Nature of Settlement and Remarks.	Number of Employees concerned (approx.)
	From—	To—			
Ironworks (Lithgow).	1908. 9 July	1908. 16 Aug.	Closing of works by management.	Management prosecuted. Men resumed work and Board appointed under Act.	500
Ironworks (Lithgow).	20 Aug.	21 Aug.	Men in coal-mines not allowed to start work owing to refusal to work on Pay Saturday, thereupon works closed down.	Management prosecuted.	500

Causes of Strikes.

An analysis of the proximate causes of strikes, as set down by the participants, reveals that the majority of strikes in the past three years have been the result of disagreement as to wages and rates of payment. Following is a statement showing strikes, as recorded in the list given previously, classified according to proximate cause, viz. :—

Proximate Cause.	1908 (Half-year to 31 Dec.)	1909.	1910.	1911.
Question of hours	3	1	...	2
" wages	4	9	4	14
" persons	2	3	1	7
Sympathy ... ..	...	...	...	2
Miscellaneous ... ..	...	2	1	11
Total	9	15	6	36

Time Lost through Strikes.

From the records previously quoted as to strikes which have occurred in the past three years the following particulars are deduced, as to the time lost to the strikers through the strike, and further, taking the approximate numbers of employees concerned, the total number of days work lost to the industry:—

	1908 (Half-year to 31 Dec.)	1909.	1910.	1911.
Strikes	9	15	6	36
Period of strike—days	61	460	521	861
Men affected (approximately)	1,647	5,747	10,950	14,700

The number of strikes allotted to each year has been taken according to the date of termination of the strike. The period of loss in 1910 was more than double the period of loss in 1909, and for 1911 the period was even greater than for the year 1910.

Strikes according to Industries.

In the following table, the sixty-six strikes previously recorded between July, 1908, and December, 1911, are grouped according to the industry concerned, and the nature of the settlement reached:—

Industry.	Total number of Strikes.	Nature of Settlement.										
		Arbitration.	Unconditional.	Resumption with			Compromise.	Prosecution.	Merger.	Reinstatement.	Other.	
				Inquiry.	Increase of Wage.	Adjustment.						
Coal Mines	29	2	4	6	2	...	7	2	3	...	3	
Iron Works	4	...	2	1	...	...	...	...	...	...	1
Rockchopping	4	...	...	1	...	...	1	1	...	...	1
Iron Mines	2	...	...	...	...	1	...	1	...	...	...
Silver and Lead Mines	2	1	...	...	...	...	...	...	...	1	...
Shale and Oil Works	2	...	...	...	...	...	1	...	1	...	...
Coke Works	2	...	...	...	...	...	2	...	...	...	...
Railway Works	2	...	...	...	...	1	...	...	...	...	1
Smelting Works	2	1	...	1	...	...	...	...	...	...	...
Coal Carting	1	...	...	...	...	...	...	...	...	1	...
Commercial Buggy Driving	1	...	1	...	...	...	...	...	...	...	...
Quarrying	1	...	...	1	...	...	...	...	...	...	...
Cement Works	1	...	...	1	...	...	...	...	...	...	...
Biscuit Factory	1	...	...	...	...	...	...	1	...	...	...
Slaughtering	1	...	...	...	...	...	1	...	...	...	...
Gas Works	1	1	...	...	...	...	...	...	...	...	...
Glass Works	1	...	1	...	...	...	...	...	...	...	...
Shipping—												
Wheat Loading	3	...	...	...	...	1	2	...	...	...	...
Wharf Labouring	3	...	...	...	1	...	2	...	...	...	...
Stovemaking	1	...	...	...	...	1	...	...	...	...	...
Cane-cutting	1	...	...	...	...	...	1	...	...	...	...
Slaters	1	1	...	...	...	...	...	...	...	...	...
Total	66	6	8	10	4	4	17	5	4	2	6	

Nearly 50 per cent. of the strikes recorded affected the coal-mining industry. Of this total (twenty-nine) four were terminated by resumption of work without any recorded alteration in conditions; in six cases work was resumed after an inquiry or the promise of an inquiry; in seven cases also a compromise was effected. Of the cases subject to inquiry, one investigation took the form of a Royal Commission, two were determined by wages boards appointed under the Industrial Disputes Act, and one was submitted to a voluntary board for adjudication; in the other two cases inquiry was made by a local committee or the management.

Of the total number of strikes recorded, viz., sixty-six, it is noticeable that seventeen were settled by compromise, with concession of part of the strikers' demands, ten were subject to inquiry, eight resulted in adjustment of the particular grievances, or concession of an increased wage, while eight apparently failed to secure any of their objects, and five resulted in prosecutions, while four merged into more extensive strikes.

PROSECUTIONS.

Under the Industrial Arbitration Act, 1910, there were six prosecutions on account of strikes and lock-outs, and as, in the first case cited before the Court of Arbitration, the Court held that proceedings must be by indictment at common law only, these prosecutions were conducted as misdemeanours in Courts of Quarter Sessions in the jurisdiction of the Supreme Court.

Particulars of prosecutions for lock-outs and strikes undertaken in terms of the Industrial Disputes Act, 1908, and its amendments, are shown in the following statement, the total prosecutions being two each for strikes and lock-outs for the year ended 30th June, 1909, three for strikes and two for lock-outs for 1909-1910, and six for strikes in 1910-1911:—

Date.	Nature of Prosecution.	Industry.	Particulars re Defendants.	Result of Prosecution (Fine or Imprisonment).
Lock-outs, under Section 42 of Act No. 3 of 1908.				
1909.				
2 Mar.	Lock-out ...	Iron Works, Lithgow.	1 Employing Company.	£50.
2 Mar. 1910.	Aiding in Lock-out.	„ „	„	£10, or 7 days.
9 Mar.	Lock-out ...	Coal-mining (Western).	„	£31 10s., or 1 month.
9 „ ...	„ ...	„ „	„	£2 2s.
Strikes, under Section 42 of Act No. 3 of 1908.				
1911.				
24 Mar.	Strike ...	Ironworks (C. and G. Hoskins, Ltd.)	Thirteen (13) ...	£3 3s., or 31 days each.
24 „ ...	„ ...	Iron Quarries ...	Thirty-four (34)	£5 5s., or 1 month each.
24 „ ...	„ ...	„ „ ...	Seventy-two (72)	70 at £4 4s., or 28 days each; 2 at £1 1s., or 7 days each.
5 Sept.	Strike—common action.	Ironworks ...	114 ...	29 men at £4 4s., or 28 days; 40 men £3 3s., or 21 days; 30 men £2 2s., or 14 days; 15 men £1 1s., or 7 days; and 10s. 6d. costs in each case.
1909.				
29 Dec.	Instigating strike.	Coal-mining (Newcastle).	Twelve (12) ...	£100, or 2 months each.
1908.				
11 Sept.	Strike ...	Coal-mining (South Bulli)	Forty-three (43)	1s., or 24 hours each.
1911.				
28 April	„ ...	Coal-mining (South Clifton wheelers).	Fourteen (14) ...	£3 3s., or 21 days each.
1908.				
2 Nov.	Instigating strike.	Sewer Miners ...	Four (4) ...	£30, or 6 weeks; £40, or 2 months; £30, or 6 weeks; £30, or 2 months.
1909.				
14 Dec.	Strike ...	Biscuit Factory	Three (3) ...	£3, or 8 days each.
Under Section 42b of Act 26 of 1908, as amended by Section 4 of Act 26 of 1909.				
1910.				
27 Jan.	Taking part in meeting for purposes of aiding in continuance of strike.	Coal-mining (Illawarra).	Four (4) ...	One, 12 months' imprisonment; three, 8 months' imprisonment.
5 Sept.	Aiding to strike	Ironworks (C. and G. Hoskins, Ltd.)	One (1) ...	2 months' imprisonment with hard labour.

INDUSTRIAL ACCIDENTS.

Deaths due to accident or negligence are discussed in section "Vital Statistics" of this Year Book. The accident record for the State in 1910 and 1911 may be summarised as follows:—

Year.	Fatal Accidents Recorded.			Accident Rate per 10,000 of Population.
	Males.	Females.	Total.	
1910	721	197	918	5.66
1911	795	222	1,017	6.12

The chief causes under which these accidents are classified, and the proportion per 10,000 accidents attributed to these causes, are as follow:—

Causes.	Distribution per 10,000 Accidents.	
	1910.	1911.
Burns and scalds	1,570	1,640
Drowning	1,520	1,550
Vehicles and horses	1,440	1,460
Falls	820	890
Railways and tramways	740	780
Mines and quarries	520	470
Weather agencies	510	380
Other causes... ..	2,880	2,830

Records are not available to show what proportion of fatalities under each head may be classed immediately as industrial accidents.

Factories.

In regard to the largest declared factory districts, viz., Metropolitan and Newcastle, accidents, fatal or otherwise, are reported from year to year, the responsibility resting upon factory inspectors of seeing that all dangerous portions of machinery are properly and securely fenced and guarded. Following are the recorded accidents for the past four years:—

	1908.		1909.		1910.		1911.	
	Fatal.	Non-fatal.	Fatal.	Non-fatal.	Fatal.	Non-fatal.	Fatal.	Non-fatal.
Metropolitan District	4	348	2	386	1	405	2	451
Newcastle ,,	1	44	2	35	1	26	1	50
Total... ..	5	392	4	421	2	431	3	501

The non-fatal accidents may be classified further as resulting in permanent or partial disablement, or merely temporary incapacitation, viz.:—

	1908.	1909.	1910.	1911.
Permanent disablement	5	6	2	5
Partial ,,	95	60	86	91
Temporary incapacitation	292	355	343	405
Total	392	421	431	501

These figures represent only a partial statement of the case against the manufacturing industry as the immediate cause of fatalities and mishaps; a truer presentation of the case would be seen if the accident rate could be derived by referring the total accidents to the number of persons exposed to risk.

The following table shows in comparative form for each district the mishaps which occurred in each of the last four years, viz.:—

		Fatal Accidents.	Non-fatal Accidents.			Total.
			Disablement.		Temporary Incapacita- tion.	
			Permanent.	Partial.		
Metropolitan District ...	1908	4	5	82	261	348
	1909	2	5	53	328	386
	1910	1	1	83	321	405
	1911	2	5	80	366	453
Newcastle District ...	1908	1	...	13	31	44
	1909	2	1	7	27	35
	1910	1	1	3	22	26
	1911	1	...	11	39	51
Total		14	18	332	1,395	1,745

Accident Rates.

Relating the accidents as reported to the mean of the number of employees in factories recorded for each year, the rates per 10,000 employees are as shown in the following statement:—

		Mean Number of Employees.	Fatal Accidents.	Non-fatal Accidents.		
				Disablement.		Temporary Incapacita- tion.
				Permanent.	Partial.	
Metropolitan District ...	1908	60,307	·663	·829	13·597	43·297
	1909	64,332	·311	·777	8·238	50·985
	1910	68,678	·146	·146	12·085	46·740
	1911	74,295	·269	·673	10·768	49·263
Newcastle District ...	1908	5,406	1·850	.....	24·047	57·344
	1909	5,056	3·955	1·978	13·844	53·397
	1910	4,918	2·034	2·034	6·101	44·738
	1911	5,265	1·890	.....	20·893	74·074
Total		288,257	·486	·624	11·518	48·394

On the figures shown above, temporary incapacitation is the result of approximately 80 per cent. of the accidents; and it is unfortunate that records are not available to show the time lost through these mishaps. The remaining 20 per cent. of accidents result in death, or disablement which, whether permanent or partial, means the practical removal of the disabled person from the ranks of the labour force.

If comparison be made of the extent of the serious accidents (fatalities and disablements) in these principal factory districts for 1911, it will be seen that for Newcastle was above the average of both districts for the four years. In the Metropolitan district for 1911 the rate was fairly close to the average, thus:—

	Serious Accident Rate, per 10,000 Employees.	
	Metropolitan.	Newcastle.
1908	15·089	25·897
1909	9·326	19·777
1910	12·377	10·169
1911	11·710	22·792
1903-1911	12·628	

Broken Hill constitutes an important factory district, but details regarding accidents are not readily available.

Lifts and Scaffolding.

The construction of high buildings, particularly of steel and concrete, involves considerable risk of accident.

During 1911-12 ten fatalities were reported in connection with building operations, and sixty minor casualties were recorded. One accident was due to the collapse of a scaffolding. Seven accidents occurred in connection with cranes and hoists in operation.

Particulars are not available to enable the correlation of the recorded accidents with the area of exposure as represented by the numbers of persons liable to risk.

Mining.

In the chapter of this Year Book dealing with the mining industry, full particulars are given of the fatalities and accidents occurring in this industry, which is generally quoted as the typical hazardous occupation. The incapacitation rate per 10,000 employees for 1911 is shown as 47·01.

General.

It is regrettable that accident figures for other industries are not procurable, *e.g.*, in connection with shipping and wharves, where also there is a considerable liability to accidents.

A noticeable provision is contained in the Factories and Shops Act, as re-enacted in Victoria in 1911, *viz.*, that an ambulance chest must be provided in every factory or shop in which machinery is worked by motive power. This clause was inserted as the first step in a policy of minimising the risks and effects of accidents for which employees can recover no compensation, except in case of negligence of the employer.

INDUSTRIAL DISEASES.

As regards industrial diseases, no reliable records are available; but certain avocations are, with good reason, regarded as unhealthful; *e.g.*, rock-chopping and sewer-mining, insulating work involving handling of charcoal,

and, notably, manufactures in which industrial poisons are employed, as in the manufacture of metals, lead colours, and electric accumulators, in the pottery, painting, gem-polishing, file-cutting, and similar industries.

In this connection it may be of interest to summarise the report made in 1910 by the International Association for Labour Legislation regarding the nature of industrial poisons, the method of their entry into the human body, the extent of danger, and measures for combating such poisons.

Nature of Industrial Poisons.—Industrial poisons include those substances which in their production, their use, or, to a less extent, occurring as by or intermediate products, endanger by chemical processes the working capacity of the labourer, the deleterious effect arising from chemical reaction with the compounds or elements of the body.

Methods of Entry.—(1) Through the mouth and digestive system. (2) By the respiratory system. (3) By the skin.

Extent of Danger.—Complete statistics are lacking for every country both as regards the handicap to industry and the impairment of the worker's efficiency and the extent to which sickness insurance funds are affected by the frequency of industrial poisoning. This failure of facts and figures is attributed in a large degree to lack of toxicological knowledge as much as to lack of leisure to investigate the specific nature of employment of patients presenting themselves to physicians or in hospitals. And it is beyond question that the necessary information can be secured only by means of a legal obligation placed upon medical authorities.

Methods of Combating Industrial Poisons.—Preventive measures largely rest with factory owners and managers because of their responsibility for provision of proper technical arrangements for removal of gases, vapours, dust, &c., and for effective protection in the form of washing facilities, respirators, helmets, and gloves.

List of Industrial Poisons.—A comprehensive list of industrial poisons was quoted in Bulletin No. 86 of the Department of Commerce and Labour of the United States of America.

A revised list, as prepared by the International Association for Labour Legislation, is published in Bulletin No. 100 of the same Department.

Realisation of the importance and necessity of accurate knowledge, as opposed to mere opinion, concerning the existence of dangers from industrial poisoning in various industries, led to the enactment during 1911 in various parts of the United States of America of laws requiring reports by physicians of all cases of occupational disease discovered in the course of medical practice.

In the majority of unhealthful trades there are frequent compensating advantages in the way of short hours and high wages; but in New South Wales these matters are regulated rather by the ratio of supply and demand in the labour market than by statute or award based upon a full appreciation of the element of risk.

In the industrial code as printed hereafter, palliatives to the risks of industry are to be found in different legislative enactments, *e.g.*, the Miners' Accident Relief Fund, as outlined in part "Mining Industry," and the Workmen's Compensation Act, which is most recent of these measures.

UNEMPLOYMENT.

Unemployment in any community is traceable to one of three causes, one personal, and two impersonal and beyond control of the individual, viz:—

- (a) Disability to perform work.
- (b) Inability to find employment.
- (c) Compulsory cessation of work, arising from trade disputes, seasonal slackness, &c.

In the first category are found those who from incapacity incidental to extreme youth, old age, or mental or physical unfitness, are dependent on others for subsistence. Necessarily relief not obtainable for such types from assurance, either private or national, must be sought from eleemosynary institutions.

The third cause involves considerations of strikes and lock-outs, concerning which many theories and plans have been broached and ventilated since labour questions have become the subject of scientific inquiry. The modern method of treatment of this cause is to be found in legislative enactments constituting authoritative tribunals for free inquiry and awards in settlement.

The above two causes present problems which admit of solution, although remedies have not yet been found which are acknowledged universally to be successful. Only with respect to the second cause, dearth of work, or inability to find it, is it to be admitted that real difficulty exists as to resolution of the problem. The more the question is studied, the more plainly does it appear that a multitude of factors are at work in our civilisation, of which the existence is admitted, but the remedial measures are not so readily perceptible. While the much desired means of prevention of this cause of unemployment are being sought, it is eminently desirable to relieve the individual sufferers from its effects, but the difficulty of measuring accurately the volume of unemployment is considerable.

Census Records.

In the census records for 1911 shown previously, an indication was given of the measure of unemployment at the census date. The following table summarises the numbers and proportion for each industrial group of employed and unemployed persons in New South Wales in April, 1911:—

Class of Occupation.	Persons Employable.			
	Unemployed.		Employed.	
	Males.	Females.	Males.	Females.
Professional	388	262	32,280	16,278
Domestic	696	1,466	17,394	51,859
Commercial	1,891	312	80,572	15,565
Transport and Communication ...	1,398	5	57,243	1,588
Industrial	7,617	582	156,428	34,841
Primary Producers	3,544	...	184,855	4,791
Total Breadwinners	15,534	2,627	528,772	124,922
Unspecified	676	73	3,489	261
Total	16,210	2,700	532,261	125,183

The percentage of unemployed to total population was 1.89 for males and .34 for females.

Comparison with previous census records is impossible, for lack of data. At the census of 1901 some particulars were collected as to the degree of unemployment subsisting on account of sickness and old age. The figures, which are exclusive of aborigines and of inmates of public institutions, are as follows for 1901:—

Cause.	Unemployed.	
	Males.	Females.
Sickness	2,753	215
Old age	1,656	70
Total Unemployed	4,409	285
Total Population	710,005	644,841
Percentage of Unemployed to Total Population	·62	·04

Trade Unions and Unemployment.

Preliminary statistics relating to unemployment, as affecting Trade Unions, were collected for 1910. The general trend of these records indicated that the degree of unemployment amongst union members was not extensive, but this was the first year of collection of the figures, and only 78 out of a total of 174 unions reported. Following are the records gathered from the reports relating to unemployment in the various groups of industries at the end of 1910, viz.:—

Group.	Unions Reporting.	Members.	Period.			Members Unemployed—Cause.			
			Under 2 Weeks.	Over 2 Weeks.	Total.	Lack of Work.	Accident.	Sickness.	Other.
Building	3	2,334	2	65	67	67	...	...	...
Clothing	2	1,986	...	94	94	94	...	...	...
Engineering and Metal	7	3,410	53	22	75	73	1	...	1
Food and Drink	9	3,466	326	242	568	438	...	...	130
Land Transport	4	5,849	49	394	443	326	72	45	...
Mining	3	1,549	9	15	24	24	...	...	...
Printing, &c.	1	5,332	...	300	300	300	...	...	...
Shipping, &c.	1	908	18	9	27	27	...	...	...
Manufacturing, n.e.i... ..	5	1,893	20	186	206	203	...	3	...
Other industries	2	479	...	10	10	10	...	...	...
Total	37	27,206	477	1,337	1,814	1,562	73	48	131

From forty-one other unions, reports were obtained to the effect that no members were out of employment at the end of the year, but as these unions have not been grouped as to industries it is not possible to relate the number of members unemployed in each group to the total membership concerned in that group.

Regarding each industrial group of the unions affected by unemployment, the following summary has been prepared for 1911 from returns collected from ninety-four unions of employees:—

Group.	Unions.							
	Reporting.						Not reporting.	
	No Unemployment.		Unemployment		No record of Unemployment.			
	Unions.	Members.	Unions.	Members.	Unions.	Members.	Unions.	Members.
Building	9	3,001	4	3,917	4	3,456	2	618
Clothing	2	722	1	101	2	4,018	2	283
Engineering and Metal Working ...	3	678	6	5,519	2	2,995	2	829
Food and Drink	6	1,045	9	3,947	5	1,826	4	3,534
Land Transport (exclusive of Railways and Tramways)	2	2,766	...	...	...	...	2	340
Mining and Smelting... ..	5	785	7	7,194	2	592	6	10,989
Pastoral	1	373	...	...	2	22,482	1	750
Printing, Bookbinding, &c.	3	1,910	3	527	...	...	1	198
Railways and Tramways ... ..	...	...	...	...	1	121	...	...
Shipping and Sea Transport	4	5,843	1	5,580	2	378	4	3,594
Manufacturing, n.e.i.	13	3,667	4	1,892	7	5,202	...	...
Miscellaneous	8	983	3	826	3	2,326	0	6,719
Total	56	21,773	38	29,503	30	43,396	33	27,854

Group.	Members Unemployed.			Causes of Unemployment.				
	Under Two Weeks.	Over Two Weeks.	Total.	Lack of Work.	Accident.	Sickness.	Industrial Disputes.	Other Causes.
Building	67	3	70	70	...	...	...	...
Clothing	6	...	6	6	...	...	...	...
Engineering and Metal Working ...	25	149	174	121	1	40	9	3
Food and Drink	43	673	716	693	2	...	...	21
Land Transport (exclusive of Railways and Tramways) ... ..	...	...	...	...	...	...	...	...
Mining and Smelting... ..	39	497	536	369	69	84	...	14
Pastoral ... ..	...	...	...	...	...	...	...	...
Printing, Bookbinding, &c.	5	9	14	14	...	...	...	...
Railways and Tramways ... ..	...	...	...	...	...	...	...	...
Shipping and Sea Transport ... ..	...	250	250	250	...	...	...	...
Manufacturing, n.e.i.	435	25	460	457	...	3	...	...
Miscellaneous	3	44	47	47	...	...	...	...
Total	623	1,650	2,273	2,027	72	127	9	38

* Including 30 Females.

† Including 1 Female.

‡ Including 31 Females.

RELIEF OF UNEMPLOYMENT.

The question of relief of unemployment first received practical political attention in 1885, when, following upon a period of severe pastoral, commercial, and industrial depression, a Casual Labour Board and State Soup Kitchen were instituted. Between that date and 1890 extensive relief works were undertaken till a normal condition of the labour market was attained. Subsequently unemployment again became prevalent, and in place of the Casual Labour Board, a Government Labour Bureau was constituted in

February, 1892. By 28th February, 1893, some 18,600 persons were registered for employment, and 18,154 persons were sent to employment, chiefly in unskilled trades. In 1893-4 Newcastle was included in the area of operations of the Board, and fossicking on the old gold-fields of the State became accepted as a form of relief.

During the year ended February, 1896, the expenditure of the State in relief of unemployment reached its highest point, £201,591 being spent in this connection, the main items being:—

	£
Rations—Free	500
In return for work	30,000
Shelter	300
Grants to municipalities to assist destitute unemployed ...	1,710
Christmas special grants	6,000
Government relief work—Excluding cost of plant and supervision	154,000
Railway and steamer tickets	19,000

Labour Settlements.

For the period February, 1896, to June, 1897, the cost of works and relief was £77,795, the acuteness of distress having passed.

In 1893, to systematise relief, the Labour Settlements Act was passed, to establish and regulate labour settlements on Crown land, and to enable the setting apart of land for labour settlements upon various principles. Three settlements were established, at Bega, Wilberforce, and Pitt Town respectively. Wilberforce settlement partook of the nature of a company of shareholders, who were first called upon to contribute a certain sum of money before the extension of Government aid to them. Some 129 individuals, comprising 38 men, 22 women, and 69 children, were included in the settlement. Under the Bega settlement, each settler had his own area of land, but might be called upon to co-operate for communal purposes. In that settlement there were 18 men, 18 women, and 61 children. The settlement at Pitt Town was mainly co-operative and communistic. The settlers were selected from those of the unemployed who had no means, and advances were made by the Crown on the basis of £25 for married men with a family, £20 for married men without families, and £15 for single men. At the end of the year there were at Pitt Town 90 married men, with wives and children numbering 265, and 6 single men. In 1896, financial assistance was withdrawn from the co-operative village at Pitt Town, which had been subsidised to the extent of £7,700 in three years, and the settlers finding it impossible to support themselves, the site was vested in the Minister for Labour and Industry as a Casual Labour Farm for destitute and homeless unemployed. The farm was opened for this purpose in January, 1898.

In 1896 scrub cutting and the improvement of country lands for settlement was undertaken as another form of relief. From September, 1896, to June, 1898, some 432,724 acres of land in West Bogan were cleared, the cost of clearing averaging 2s. 4¾d. per acre.

In 1899 an Advisory Board was constituted to assist the Government in dealing with the question of unemployment, the persons to be dealt with being classified as follows:—

1. Able-bodied unemployed, equal to any reasonable degree of manual labour.

2. Unemployed unable to do a fair day's manual labour, through age or physical incapacity, and
3. The "work-shy," who wish to live at the expense of others.

Labour Bureau.

In 1900 a Royal Commission of four members of the Advisory Board to the Department of Labour were appointed to inquire into all matters of surplus labour (male and female) not absorbed by private enterprise, and to advise the Government thereon. In 1905 the Commission, which had been operative for five and a half years, was revoked, and a Director of Labour appointed.

The Commission summarised its financial operations as follows:—

<i>Expenditure and Returns.</i>		<i>Assets.</i>	
	£		£
Gross expenditure during the five years	52,273	Permanent improvements on Pitt Town Casual Labour Farm ...	6,878
Cash revenue	9,213	Stock, plant, and crops	1,730
Refunds of advances	11,437	Permanent improvements on Labour Dépôt, Bunnerong-road	4,745
	£31,623	Stock, plant, and crops on same	1,264
The net expenditure, therefore, was	£31,623	Total	£14,617

The average cash revenue was £1,842 10s. 9d. per annum, the average yearly refund of advances £2,287 7s. 4d., and the average net expenditure £6,324 12s. 10d. per annum.

Stated succinctly, the functions of the State Labour Bureau include:—

- (a) Maintenance of a free registry office for men in Sydney, with forty-three branch offices in as many of the principal centres of population. At any of these, men wanting work may register their requirements, capabilities, and characters; and employers may state what class of labour they desire. Constant endeavour is made to suit the one to the other, and men are assisted to reach employment available. All these operations are conducted at the cost of the State, no fees of any kind being charged to employers or employees.
- (b) Issue of railway and steamer fares on credit, repayments being required after the lapse of one month or longer, according to circumstances; and payment being accepted, where considered necessary, by easy instalments. Usually the payment of such fares is guaranteed either by the employer or some responsible person; but at the discretion of the Director, such fares are at times issued on the personal acknowledgment of the recipient, and his promise to repay the same. Occasionally wives and other relatives are removed from one part of the State to another, also furniture, farm animals, &c.
- (c) Provision of rabbit traps, tents, blankets, and some few other things, on satisfactory guarantee of repayment, which is accepted in whole or in part, as in the case of rail and steamer tickets.

- (d) Management of an agricultural farm, for training city lads for farm life at Pitt Town, 5 miles from Windsor. One hundred lads can be accommodated during a course of instruction lasting three months. They take part in turn in all the operations of the farm which, besides the usual areas under crop, has a dairy, pigs, poultry, an irrigated vegetable garden, and a good orchard, mainly of citrus fruits. Broom millet is also grown and manufactured into brooms on the farm. All horse-shoeing, other than blacksmithing, saddle and harness making, and tin-smithing required are done on the place, and most of the vehicles used are built on the farm, so that the students have opportunity of gaining a preliminary knowledge of farm work and cognate occupations.
- (e) Management of a pig, poultry, vegetable, and flower farm at Randwick, $5\frac{1}{2}$ miles from the city, to which destitute men unable to maintain themselves may resort; and where, in exchange for labour, they are given lodging, food, and a small money allowance. Competent tradesmen, if employed at their trade, are paid extra. The period of residence must not exceed three months, nor recommence without a similar interval. A certain amount of training is given, and whenever possible trainees are sent to employment with private employers.
- (f) Marketing of produce from these farms. The revenue from this service in 1912 was £6,475.
- (h) Provision of food to destitute families which have an adult male at the head. Three days' work in each week at the Randwick Dépôt is offered to such family head, who is housed and fed, and on the conclusion of his three days' work, given an order for 7s. 6d. worth of goods. These orders are addressed to approved storekeepers only, and are inconvertible. Articles to be supplied are listed, and from this list choice may be made by the recipient. Articles not listed are not paid for. Breaks are made in this relief from time to time so as to induce recipients to make other arrangements.
- In exceptional cases orders are issued in advance of work, and sometimes without work being exacted. These, however, especially the latter, are rare, and are only used to meet cases of real and immediate destitution and want of food.
- (i) Collection and dissemination by means of the Press and otherwise of information concerning labour conditions in all centres of population in the State. Forty-three Clerks of Petty Sessions are agents for the Director, and report at the commencement of each month on business done, condition of district, state of labour market, wages ruling, new avenues for labour, &c. They also frame special reports, when required, on any subject cognate to industrial matters. In addition the police of 200 principal stations all over the State make a similar monthly report, and specially report to the Director whenever any opening for labour of any kind comes under their notice.

A registry for women was maintained from 1902 till January, 1906, since which date registrations have been restricted to men.

The following table shows a summary of registrations since the system was commenced in the year 1901:—

Financial Year.	Re-registra- tions.	New Regis- trations.	Net Regis- trations for the year.	Financial Year.	Re-registra- tions.	New Regis- trations.	Net regis- trations for the year.
1901	6,343	3,099	9,442	1907	249	2,316	2,565
1902	1,391	2,243	3,634	1908	187	2,839	3,026
1903	740	2,114	2,854	1909	609	2,800	3,409
1904	2,513	1,482	3,995	1910	327	3,393	3,720
1905	885	998	1,883	1911	792	2,599	3,391
1906	361	1,257	1,618	1912	333	2,363	2,696

The following is a statement of the persons registered and sent to work during each year by the Bureau and branches since its inauguration on 17th February, 1892. Country branches were opened on 1st March, 1896:—

Financial Year.	Head Office.		Branches.	
	Registered.	Sent to work.	Registered.	Sent to work.
*1893	18,600	8,154	.....	.....
*1894	12,145	10,349	.....	.....
*1895	13,575	16,380	.....	.....
*1896	14,062	20,576	.....	.....
18 Feb.-30 June, 1896 ...	3,283	5,327	1,104	143
1897	6,427	13,718	1,253	534
1898	4,167	7,817	715	288
1899	3,843	7,228	686	224
1900	5,487	6,495	516	319
1901	10,639	9,654	1,613	149
1902	3,634	5,151	1,252	238
1903	2,854	6,498	218	65
1904—Dawes' Point... ..	3,995	15,731	22	11
† Trades Hall	758	1,156	.....	.....
1905—Dawes' Point... ..	1,883	4,317	31	46
† Trades Hall	306	1,556	.....	.....
1906—Dawes' Point... ..	1,602	3,934	37	35
† Trades Hall	16			
1907	2,565	3,639	24	24
1908	4,027	3,237	37	24
1909	3,409	3,299	20	21
1910	3,720	3,883	26	24
1911	3,391	3,277	6	6
1912	2,696	3,341	5	4
Total	127,084	164,717	7,565	2,155

* Year ended February.

† The total registrations at the Trades Hall Registry from its inauguration on 15th December 1901 to 31st July, 1905, when it was abolished, were 4,070.

At the end of February, 1911, a registration bureau for unemployed was opened in Newcastle, as a branch of the Labour Bureau; to enable the Government to assist in relieving distress which was said to prevail chiefly among colliery workers. The operations of the Newcastle Office were as follows:—

Registrations—		Men sent to work—		Government.	Private.
Colliery Workers	... .. 661	Locally	... .. 569		1
Others	... .. 944	In other parts of the State	80		39
	1,605			649	40
				689	

Of the total registrations, 743 represented single men for whom employment offered on the North Coast Railway work. The second month's operations being on a very small scale, the branch was closed after the end of April.

The distribution of those assisted and sent to work during the year 1911-12 will be seen from the following table:—

	Assisted and sent to work.		
	City and Suburbs.	Country.	Total.
Government work	87	123	210
Private work	530	1,765	2,295
Do (Country branches)...	.....	4	4
*Labour Depot	767	.....	767
Agricultural Training Farm ...	.....	69	69
Total	1,384	1,961	3,345

* Includes 250 "Specials," or married men earning food for their families.

The number of registrations is not regarded as a satisfactory indication of the number of persons really desirous of employment, a more reliable estimate being furnished by the number who, by making the required monthly report, keep themselves eligible for work and may therefore fairly be classed as desirous of obtaining it at the time of their last previous report. This number does not fluctuate greatly during ordinary years; while the total number of registrations affected must, of course, continually increase, as the following table shows as at the end of each month of the last financial year:—

Date.	On books as unemployed.	Eligible for work.	Date.	On books as unemployed.	Eligible for work.
1911.			1912.		
July	2,564	214	January	3,782	141
August	2,817	203	February	3,968	150
September	3,024	206	March	4,159	154
October	3,214	131	April	4,424	167
November	3,426	131	May	4,685	234
December	3,533	127	June	4,968	300

The following statement gives particulars of registrations in each classification for 1911-12:—

Classification.	Registered for the year 1911-12.	Eligible for work on 30 June, 1912.
Professional and clerical	28	5
Mechanics, tradesmen, and skilled labourers of definite occupations ...	1,811	225
Labourers	857	70
Total... ..	2,696	300

The statements given show that, though the Labour Bureau is prepared to deal with men of all classes, its main business concerns the distribution of manual labour, skilled or unskilled. A friendly society, the Sydney Clerks and Warehousemen's Benefit Association, endeavours to regulate clerical labour, to which Association the greater portion of the unemployed of the professional class would gravitate.

The following figures show the extent of out-of-employment benefits granted to members of the Association in recent years:—

Year.	Mean Membership.	Aggregate Benefits.	Year.	Mean Membership.	Aggregate Benefits.
	No.	£		No.	£
1905	362	261	1909	706	211
1906	456	245	1910	775	231
1907	491	212	1911	791	252
1908	579	330	1912	876	377

Particulars as to the number of beneficiaries in each year are not available. The extent of out-of-employment benefits provided by trade unions has been shown previously in this chapter.

WORKMEN'S INSURANCE.

State Legislation.

Legislation in relation to employers' liability in New South Wales is based upon English statute law, which embodies the modern English conception of the function of government, as subserving industrial welfare, in a series of legal enactments in addition to the common law, *i.e.*:—

Employers' Liability and Workmen's Compensation Acts, 1880-1907.

Old-age Pensions Act, 1908.

National Insurance Act, 1911.

Local legislation has not advanced to the principle of social insurance developed in the English law. It is restricted, so far as the State is concerned, to the Employers' Liability Act, 1897, and the Workmen's Compensation Act, 1910, the provision of old-age and invalid pensions being a function of the Federal Government.

The Employers' Liability Act, 1897, gave to a workman, who had suffered personal injury in the course of his employment, the same common law remedies against his employer as if he had been injured by one not his employer.

The Workmen's Compensation Act, 1910, which came into operation in January, 1911, follows the lines of the English Act of 1897. It provides for compensation to workmen for injuries suffered in the course of their work, and applies to employment in or about any railway, tramway, factory, workshop, mine, quarry, wharf, vessel, engineering or building work, except mines where benefits are afforded under the Miners' Accident Relief Act. Employers of less than four persons are exempt from the provisions of the Act. Casual workers are not entitled to benefits, nor is compensation payable in respect of injury which does not disable the workman for at least two weeks, or which is caused by misconduct of the workman.

Compensation in case of death ranges from £200 to £400 when there are several relatives wholly dependent on the earnings of the workman, the amount being reducible proportionately with the number of dependents and the degree of their dependence. If the workman leaves no dependents, the compensation is limited to medical and funeral expenses up to £12. Where total or partial incapacity results, the employer must make a weekly payment, not exceeding 50 per cent. of the average weekly earnings during the preceding twelve months, up to a maximum of £1 per week, and a total liability to the employer of £200. In the case of employees under 21 years of age receiving less than 20s. a week, 100 per cent. of average earnings is substituted for 50 per cent. up to a maximum of 10s. per week. Aged and infirm workmen may contract themselves out of these general provisions, or the maximum amount of compensation may be reduced by agreement made between the employer and workman.

In substitution for these benefits any scheme of compensation is admissible which is certified by the Registrar of Friendly Societies as not less favourable to the workman and dependents than the corresponding scales contained in the Act.

The Act does not exclude the operation of the common law or the Employers' Liability Act, 1897, but the employers' liability, even when apparent, must be established by processes of litigation. The employers' risk is for the most part covered by insurance, but concerning this section of the business of insurance companies, no details are available.

Miners' Accident Relief.

As regards the mining industry, which is exempted specifically from the jurisdiction of the Workmen's Compensation Act, full particulars of the Miners' Accident Relief Fund are given in part "Mining" of this Year Book. The provisions of this measure for compensation to injured workmen differ considerably from the general theory as to the employers' liability for injuries to his workmen, in that the burden of the risk is carried by three parties—the employer, the employee, and the Government of the State. The fund provides benefits or compensation on a contributory basis, the employer contributing 50 per cent. of the amount subscribed by the employee, and the Government subsidising the scheme to the extent of 50 per cent., also of the employees' contributions. In 1911-12 the Government subsidy, exclusive of administration, which is undertaken by the Government, was £13,892; concerning which see part "Social Condition" of this Year Book.

The Commonwealth.

In addition to the general enactments of the State, specific enactments of the Commonwealth provide for compensation to men in a particular class of work which is subject to special risks, and to officers in the Service of the Commonwealth Government.

Seamen's Compensation.

The Seamen's Compensation Act, 1911, provides for compensation to seamen for injuries suffered in the course of their employment. It is applicable to seamen (a) on ships in the service of the Commonwealth, other than naval or military service; (b) on ships trading with Australia or engaging in any occupation in Australian waters, and being in territorial waters of any territory which is part of the Commonwealth; and (c) on ships engaged in trade and commerce with other countries or among the States. In case of ships not registered in Australia, the two last clauses apply only in relation to seamen shipped under articles of agreement entered into in Australia, and while the ships are subject to the law of the Commonwealth. Liability runs only after one week's incapacitation; in case of death the amount of compensation, when deceased leaves dependents, is the equivalent of three years' wages in the particular employment, or £200, to a maximum amount of £500.

The compensation is reducible with the measure of dependence, but the minimum for a seaman leaving no dependents is the cost of medical attendance and burial to the value of £30.

In case of total or partial incapacity, the maximum compensation is 50 per cent. of average earnings during the twelve months previous to the injury.

Periodic returns as to compensation are required from the owner or master of every ship on which seamen are employed to whom the Act is applicable, the returns to specify—

- (a) The number of injuries in respect of which compensation has been paid.
- (b) Amount of such compensation.
- (c) Other particulars as required.

INDUSTRIAL LEGISLATION.

For many years subsequent to the establishment of Responsible Government in New South Wales in 1855, the majority of the population were engaged chiefly in pastoral or mining industries, in sparsely-settled districts. Local conditions neither promoted nor necessitated the concentration of attention upon industrial activity, with consequent legislation in that direction. Between 1871 and 1881, however, manufacturing came into prominence as an integral part of the industrial life of the State: the increasing population displayed an obvious tendency aggregation in defined localities, and for some ten years, till 1892, legislative interest expressed itself in a desultory way in specific enactments intended for the betterment of conditions obtaining in industry. In this period world-wide interest was displayed in the question as to the necessity and the wisdom of protective legislation for the betterment of environment for the great body of workers.

The Legislature of New South Wales was alert to the general trend of thought and opinion. The Parliamentary session of 1892 constitutes a land-

mark in the industrial history of New South Wales, for three vastly differing enactments were passed, which signalised a new era of activity in legislation, viz. :—

- Protection of Children Act.
- Diseased Animals and Meat Act.
- Trade Disputes and Conciliation Act.

These enactments formed the nucleus of a body of statute law which has been expanded by subsequent legislation, and is being amended constantly in the effort to give concrete form to advancing standards and ideals.

The enactments which initiated the era of consistent consideration for the welfare of the general body of the people are notable in that they apply to three diverse aspects of life—(a) the dependent stage of infancy; and (b) the adult period as to (1) health, (2) working conditions. In codifying the industrial laws in New South Wales, as enacted in the last twenty years, the sequence of introduction which displays the direction of attention of legislators indicates also the trend of popular thought.

Historically, the earliest subjects to receive attention were such as related to industrial conditions and safeguards in trade. The sequence of treatment of individual trades placed shipping in the first rank, followed in order by retail trading, mining, agricultural, and pastoral industries. Health interests and matters relating to food and drink and bodily welfare were antecedent to the subject-matter of general welfare and protection; while in regard to the helpless and extreme stages of life, youth received consideration as being proximate to the working years, before the extremes of infancy and old age, which were concerned more remotely with the industrial problems.

In 1901 the Commonwealth of Australia was inaugurated, and its Parliament was empowered, under the Commonwealth of Australia Constitution Act, 1900, to make laws under stated conditions for the peace, order, and good government of the Commonwealth, particularly in matters of trade and commerce, taxation, bounties on production, borrowing money on public credit, postal, telegraphic and telephonic services, defence, light-houses, astronomical and meteorological observations, quarantine, fisheries, statistics, currency, banking, insurance, bills of exchange, bankruptcy, copyright, and patents, naturalisation, marriage, divorce, pensions, migration, external affairs, and railway control in relation to defence and railway construction subject to the consent of the State concerned.

With the translation of these subject-matters to the Federal arena, an acceleration is noticeable in the attention given by the Parliament of the State to economic measures for the advancement of industrial efficiency and well-being, which acceleration is in part attributable to the expanding popularity of protective regulation by statute law, and in part to the additional opportunity afforded for attending to subjects of social reform. Thus, New South Wales now possesses a body of statute law which forms an industrial code sufficiently comprehensive to compare favourably with similar codes governing other advanced communities.

An analytical list of the principal industrial laws of New South Wales is given below. The provisions of a number of these Acts, which have for their object the amelioration of the conditions of the industries, have been discussed in various chapters of this Year Book.

COMMONWEALTH LAWS.

The Federal enactments overlying the older body of State laws are numerically less extensive, but are applicable over a wider area. The more important enactments affecting industrial activities are summarised in the following list:—

Australian Industries Preservation, 1906-10.
 Bills of Exchange, 1909-1912.
 Bounties, 1907-1912.
 Commerce (Trade Descriptions), 1905.
 Commonwealth Workmen's Compensation, 1912.
 Conciliation and Arbitration, 1904-9-10-11.
 Contract Immigrants, 1905.
 Copyright, 1912.
 Designs, 1906-1912.
 Distillation, 1901.
 Emigration, 1910.
 Evidence, 1905.
 Extradition, 1903.
 Franchise, 1902.
 Immigration, 1901-12.
 Invalid and Old Age Pensions, 1903-1912.
 Jury Exemption, 1905.
 Life Assurance Companies, 1905.
 Manufactures Encouragement, 1903-1912.
 Marine Assurance, 1909.
 Pacific Island Labourers, 1901-6.
 Patents, 1902-6-9-10.
 Quarantine, 1903-1912.
 Royal Commissions, 1902-1912.
 Sea Carriage of Goods, 1904.
 Seamen's Compensation, 1911.
 Secret Commissions, 1905.
 Shale Oil Bounties, 1910.
 Spirits, 1906.
 State Laws and Records Recognition, 1901.
 Sugar Bounty, 1905-1912.
 Sugar Rebate Abolition, 1903.
 Trade Marks, 1905-1912.
 Wood Pulp and Rock Phosphates Bounties, 1912.

The chief provisions of enactments of 1912 which are applicable to industrial conditions, are as follow:—

ROYAL COMMISSIONS, 1912.

7. 6 d. Witness need not disclose secret process of manufacture.
 6 n. Indictable offence for employer to dismiss or prejudice any employee for or on account of appearing or giving evidence before a Royal Commission; onus of proof on employer.

SUGAR BOUNTY, 1912.

2. 9 (1) Minister may make application to Commonwealth or State Industrial Court or Authority for declaration as to fair and reasonable wages and conditions for white labour in the growing of cane or beet.
 (2) Authority to have powers under Excise Procedure Act, 1907, of President of Commonwealth Court of Conciliation and Arbitration as to witnesses and evidence.
 (3) Growers claiming bounty to certify conditions of employment and rates of wages paid.
 (4) Bounty may be withheld if conditions and wages are below prescribed standards.

NAVAL DEFENCE, 1912.

5. 40 b. Seamen may be granted leave of absence without pay to undergo training.

MANUFACTURES ENCOURAGEMENT, 1912.

3. 11. (i) Minister may apply to Industrial Authority of Commonwealth or State for declaration of fair and reasonable wages and conditions of employment in manufacture.
- (ii) Authority to have power of President of Commonwealth Court of Conciliation and Arbitration under Excise Procedure Act, 1907.
- (iii) Persons claiming bounty to certify wages and conditions.
- (iv) Minister may withhold bounty if wages and conditions are below prescribed standards.

INTER-STATE COMMISSION, 1912.

4. Constitution of Commission.
16. Commission to investigate matters relating to trade and industry, in general and in detail.
17. Investigations of river questions.
18. Rates fixed by common carrier in traffic affecting interstate commerce to be reasonable and just.
19. Undue preference on State Railways disallowed.
20. Savings as to rates deemed by the Commission necessary for development.
21. Common carriers, other than State Railways, not to give undue preference.
22. Burden of proof to lie on the common carrier or Authority.
29. General relief.
30. Power to award damages.
31. Injunction.
32. Avoidance of State regulation.
33. Power to prescribe future action.
58. Witness need not disclose secret process.

COMMONWEALTH WORKMEN'S COMPENSATION, 1912.

4. Compensation payable for personal injuries to manual, clerical, or other workmen of the Commonwealth Government.
5. Time for taking proceedings.
6. Sub-contracting.
7. Remedies both against Commonwealth and a stranger.
8. Medical referee.
9. Remuneration of arbitrator appointed by Court.
10. Departmental returns as to compensation.

BOUNTIES, 1912.

3. 6. (i) Minister may apply to Commonwealth or State Industrial Authority for declaration as to fair and reasonable wages and conditions in the manufacture of goods on which bounty is claimable.
- (ii) Powers of Authority as to witnesses and evidence.
- (iii) Persons claiming bounty to certify to conditions of employment and rates of wages.
- (iv) Minister may withhold bounty if conditions and wages are below prescribed standards.
4. 8 A. Annual returns to be made to Parliament in respect of bounties paid.

ENACTMENTS OF THE STATE LEGISLATURE.

The history of industrial legislation in New South Wales may be analysed according to the stages of life concerned, in four groups, affecting infancy, youth, manhood (specific and general), and old age. As legislation affecting other than the years of manhood has only a remote influence upon industry, the prominent and essential enactments which regulate industrial conditions naturally will be found in the classification relating to manhood, and embracing the working years of life. In 1896, and the immediately succeeding years, consolidation of the statute laws was effected, and in 1912 the process of consolidation was recommenced, a series of consolidating enactments being passed in that year.

The record of enactments up to the commencement of consolidation in 1912, classified according to the stage of life concerned, was as follows:—

Infancy and Youth.—Eighteen enactments relating to the protection, custody, and education of children generally, the care of neglected and destitute children, the control and reformation of juvenile offenders against the law, the control and supervision of apprentices and young people generally.

Manhood (Specifically).—This section is best reviewed under the headings of the various industries which embrace the principal classes of labour thus:—

- (a) *Agricultural.*—Twenty-one enactments relating to the financial assistance of settlers, the supervision of fruit pests, and the promotion of agricultural interests.
- (b) *Pastoral.*—Twenty enactments embracing regulations for the protection of pastures, the prevention of diseases of stock, and the conservation of water for pastoral purposes.
- (c) *Mining.*—Eighteen enactments concerning the regulation of mining on private and Crown lands, the promotion and control of mining companies, the relief of persons injured in accidents, the inspection of mines, and the safeguarding of miners' interests.
- (d) *Shipping.*—Six enactments relating to the duties of masters, and the rights and privileges of apprentices and seamen, and the control of navigation.
- (e) *Other.*—Four enactments embracing regulations affecting the forestry and fisheries industries.

Manhood (Generally).—This section is of primary importance, and embraces all matters relating to the health, food, drink, and general welfare of the community. Considered in these aspects the enactments included (150) are distributed in the following subsections:—

- (a) *Food, Drink, Health.*—Thirty-four enactments, regulating the sale and supply of meat, milk, bread, liquors, poisons, &c., the spread of disease, control of inebriates, and other such matters which have material influence on the health of the community.
- (b) *Industrial Conditions.*—Thirty-six enactments relating to points of primary importance in the promotion of trade, immigration, the restriction of Chinese and other alien races, the liability of employers, settlement of trade disputes, limitation of working hours, compensation for injuries and accidents, and the accommodation and protection of employees.
- (c) *General Welfare and Protection.*—Eighty enactments relating to the formation and regulation of labour settlements, erection of trade institutes, provision of working-men's homes, protection of wages of workmen, control of gaming and wagering, limitation of vagrancy, prevention of crime, regulation of debts and loans, extension of local government, and adult suffrage, &c.

Old-Age.—Seventeen enactments, providing for sustentation by pensions in sickness and old-age, the supervision of friendly societies, and the extension to those societies of State subventions; the regulation of insurance societies—fire, life, and marine—and of building and co-operative societies.

The enactment and administration by the Commonwealth Government of uniform systems of old-age, invalid, and accidents pensions for Australia,

for which the way was prepared by the pioneering work of New South Wales, rendered local legislation superfluous. Accordingly all the enactments of this State under this head being inoperative were revoked by the Old-Age Pensions and Invalidity and Accidents Pensions (Repeal) Act, 1911.

Recent Legislation.

The scope of the reforms affected by recent laws is considerable; and the extent to which the citizen is educated and tended has afforded material assistance to the deterrent forces which diminish crime and promote good citizenship and industrial peace.

An enumeration of the vital enactments affecting industrial life passed during the last seven years is given below under the headings referred to in the present section :—

INFANCY AND YOUTH.

- | | |
|-----------------------|--------------------------|
| 1906. Free Education. | 1912. Bursary Endowment. |
|-----------------------|--------------------------|

MANHOOD (SPECIFICALLY).

Agricultural, Pastoral, &c.

- | | |
|--|---|
| 1906. Barrinjuck Dam and Murrumbidgee Canals Construction, Closer Settlement (Amendment), Government Savings Bank, Pastures Protection (Amendment), Vine and Vegetation Diseases, Water and Drainage and Artesian Wells (Amendment). | 1908. Crown Lands (Amendment). |
| 1907. Closer Settlement (Amendment), Department of Agriculture Establishment. | 1909. Closer Settlement (Amendment), Crown Lands (Improvement Purchase). |
| | 1910. Closer Settlement Promotion, Crown Lands (Amendment). |
| | 1912. Crown Lands, Careless Use of Fire, Vine and Vegetation Diseases, Pastures Protection. |

Mining.

- | | |
|---------------------------|--|
| 1906. Mining. | 1908. Coal Mines Regulation (Amendment). |
| 1907. Mining (Amendment). | 1910. Miners' Accident Relief. |

Other.

- | | |
|----------------------------|------------------|
| 1908. Grass-tree Licenses. | 1910. Fisheries. |
| 1909. Forestry. | |

MANHOOD (GENERALLY).

Food, Drink, Health.

- | | |
|--|--|
| 1906. Hunter District Water and Sewerage (Amendment), Illawarra Suburbs Sewerage Construction, Sydney Abattoir Construction. | 1909. Inebriates (Amendment). |
| 1907. Liquor (Amendment). | 1910. Diseased Animals and Meat (Amendment), Lithgow Sewerage. |
| 1908. Private Hospitals, Pure Food. | 1911. Pharmacy (Amendment). |
| | 1912. Inebriates. |

Housing.

- | |
|--|
| 1912. Gas, Housing, Sydney Corporation (Dwelling Houses), State Brickworks-(Amplification of Plant). |
|--|

Industrial Conditions.

- | | |
|--|---|
| 1906. Banks and Bank Holidays (Amendment), Early Closing (Hairdressers). | 1909. Factories and Shops, Industrial Disputes (Amendment) |
| 1908. Industrial Disputes (and Amendment), Minimum Wage, Scaffolding and Lifts Amendment). | 1910. Clerical Workers, Industrial Disputes (Amendment), Saturday Half-holiday, Workmen's Compensation. |
| | 1912. Industrial Arbitration. |

MANHOOD (GENERALLY)—*continued.*

General Welfare and Protection.

1906. Companies (Amendment), Gaming and Betting (and Amendment), Local Government, Local Government Extension, Parliamentary Elections, Second-hand Dealers and Collectors, Sydney Corporation (Amendment).	1909. Aborigines Protection, Fire Brigades, Motor Traffic.
1907. Companies (Amendment), Gaming and Betting (Amendment), Poor Prisoners Defence.	1910. Crimes (Girls' Protection), Fire Brigades (Amendment), Parliamentary Elections (Second Ballot).
1908. Local Government (Amendment), Police Offences (Amendment), Prisoners Detention, Sydney Corporation (Amendment).	1911. Criminal Appeal, Crimes (Girls' Protection)—Amendment.
	1912. Supreme Court and Circuit Courts (Amendment), Criminal Appeal, District Courts, Jury, Defamation, Small Debts Recovery.

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APPRENTICES, 1901.

Clause.

3. Exceptions as to professions.

Masters and Apprentices.

4. Age limitations.

5. Orphan apprentices.

6. Certain children may be bound, notwithstanding parental objections.

APPRENTICES, 1901—*continued*.*Masters and Apprentices—continued.*

Clause.

7. Parent may apply for custody of such apprentice.
8. Justices may bind as apprentices children in respect of whose maintenance an order has been made.
9. Failing father, mother, or guardian, justices may act.
10. Any person resident and trading in New South Wales may take apprentices.
11. Government officials may take apprentices.
12. Company managers may take apprentices.
13. Three months' probation, before completion of indenture.
14. Assignment of indentures, by masters or executors.
15. Expiry of apprenticeship by effluxion of time on attainment by apprentice of age 21, or on marriage (with consent) of a minor.
16. Hours of labour: maximum forty-eight hours per week; savings as to rural and domestic service.

General.

17. Court may settle disputes and award costs.
18. (1) Absence of apprentice without leave, and proceedings thereon. (2) Warrant may be issued and security ordered.
19. Penalty in case of transfer or discharge of apprentice without his consent.
20. Enticing, employing, or harbouring apprentices: penalty.
21. Procedure under this Act; application of moneys recovered.
22. Exemptions from imprisonment, of apprentices under age 16, or of female apprentices.
23. Supervision of orphan apprentices.
24. Appeals against conviction or order.
25. Savings as to construction, subject to Act 71, 1900 (Justices Acts Amendment).

BANKRUPTCY, 1898.

48. (1 and 2) Priority of debts; wages or salary to a maximum of £50, for services rendered within six months of the sequestration order, to rank equally *inter se*, and be paid in full, or abated in equal proportions.
49. (1) Preferential claim of apprentice or articulated clerk in recovery of proportion of premium; sequestration order to rank as discharge of indenture or article.
(2) Official assignee or trustee may transfer indentures or articles.
78. Filing of periodical statements showing realisation and distribution of assets.
114. Exclusion of limited companies.
125. Savings of Rights under Life Assurance Act.

BANKS AND BANK HOLIDAYS, 1912.

Part III.

15. Bank holidays to be close holidays.
 16. Obligations falling due on a bank holiday to apply to the day following.
 18. Payments or other acts not compellable on a bank holiday if not compellable on Sunday.
 19. Appointment of special bank holidays.
 20. Bank holiday vetoable by proclamation.
 21. Reference in industrial or other agreements to a public or bank holiday, to be deemed to relate to the day on which the holiday is observed publicly.
 22. Half-holidays permissible on precedent public notice; effect of closing.
Scheduled holidays—First day of January.
Twenty-sixth day of January.
Good Friday and the day after.
Easter Monday.
Christmas Day and the day after.
King's Birthday
Prince of Wales' Birthday
First day of August
- } Movable to following Monday
} if occurring on any day other
} than Monday.
- New Year's Day and Christmas Day falling on a Sunday, those holidays and Boxing Day are moved forward to the next days.

BLOCKHOLDERS, 1901.

Leases of Small Blocks for Working Men.

Clause.

3. Land may be set apart and leased: conditions.
4. Qualifications of lessees.
5. Forfeiture for default.
6. Residence.
7. Impounding rights.
8. Reports by Local Land Board.
9. Fund for advances to be created out of Consolidated Revenue.
10. Advances: conditions.
11. Applications for advances.
12. Repayment of advances.
13. Extension of time for repayments.
14. Interest, 5 per cent.
15. Agreements.
16. Breach of conditions.
17. Subleases and mortgages to be void.
18. Endorsement as homestead block.
19. Effect of endorsement in protecting lease.
20. Application of proceeds of repayments.
21. Accounts.
22. Penalty for fraud or misrepresentation.

BUILDING AND CO-OPERATIVE SOCIETIES, 1901.

Benefit, Building, Loan, and Investment Societies.

6. Purposes for which societies may be established; rules; shares.
7. Provisions in the rules.
8. Proviso as to dividends.
9. A society may receive money by way of bonus on shares.
10. Forms of conveyance, &c., may be specified and scheduled.
11. Receipts of trustees to act as reconveyances.
12. Evidence of appointment of trustees; efficacy of signed copy of resolution.
13. Application of certain provisions.
14. Dissolution of societies; procedure; division of funds; discharge at law and in equity to trustees and other officers; claims of members; penalty for unlawful determination of society.
15. Appropriation of funds may be referred to award of Registrar of Friendly Societies, who may investigate also in case of alleged insufficiency, and give an award; notice in writing to be sent to officers prior to investigation.
16. Registrar's award to be conclusive; expenses to be paid out of society's funds.
17. Award of dissolution to be advertised, and to operate after three months, if not opposed.
18. Registrar's annual report to contain particulars of award.
19. Societies may amalgamate, or transfer engagements; votes of absent members.
20. Appointment of trustees.
21. Minors may be elected as members, and execute instruments, &c., but not hold office.
22. Society to furnish correct lists of charges payable by members; such charges to be alterable by resolution of three-fourths of the members.
23. Buildings may be purchased or leased for holding meetings; receipt in writing of trustees to be a legal discharge; moneys spent in purchasing, &c., shall be raised as provided in rules.
24. Property of societies vests in trustees, and on death or removal, in succeeding trustees; efficacy in action of statement of property as so vested.
25. Trustees may bring or defend actions, such actions not to be abated by the death or removal of a trustee.
26. Limitation of trustee's responsibility to moneys actually received by him on account of society.
27. Proceedings: officer may be made defendant by name and title—no abatement or prejudice by death, resignation, or removal. Summons may be served at place of business of society.
28. Treasurer and other officers to give security; bond to be conditioned for just and faithful execution of office and given to trustees, who are officers empowered to sue upon it.
29. The treasurer to account.
30. Recovery of property on decease or bankruptcy of officer.
31. Returns.
32. Penalty for default.

BUILDING AND CO-OPERATIVE SOCIETIES, 1901—*continued.**Co-operative Trading and Industrial Societies.*

Clause.

33. Constitution.
34. Provisions in rules.
35. Certificate to effect incorporation.
36. Certificate to vest property in society.
37. Change in registry.
38. Name not to resemble that of another society.
39. Limitation of members' interest.
40. Display of name.
41. Penalty for misrepresentation.
42. Registered office.
43. Notification.
44. Signature, and effect, of rules.
45. Winding up.
46. Dissolution not to exclude winding up.
47. Liability of present and past members.
48. Members' right to dispose of interest by nomination.
49. Members' right to inspect books.
50. Annual returns.

General Provisions.

51. Taking money prior to registration.
52. Rules to be submitted to Registrar and certified.
53. Alteration of rules.
54. Notice of change of place of business.
55. Circulating false rules.
56. Rules in evidence.
57. Punishment of fraud in withholding money, &c.
58. Settlement of disputes.
59. Reference to District Court.
60. Enforcement of District Court orders.
61. Disputes between members of non-registered societies to be settled according to Act.
62. Society may be constituted as a company.
63. Power to change name.
64. Recovery of penalties.

BURSARY ENDOWMENT, 1912.

2. Constitution of fund.
7. Establishment and Maintenance of bursaries to cover education in the University or a State school or a registered secondary school.
8. Allotment of bursaries; examination standards.

BUTCHERS' SHOPS SUNDAY CLOSING, 1902.

3. (1) Butchers' shops within the Metropolitan Police district not to be kept open for the sale of meat between the hours of 12 on Saturday night and 12 on Sunday night; penalty.

CARELESS USE OF FIRE, 1912.

2. Penalties for endangering growing crops, grass lands, &c., by igniting, using, or carrying ignited inflammable material within specified distances.
3. Penalty for non-extinction of fire used or lighted in open air.
4. Savings as to occupiers, upon notice to occupiers of contiguous lands.
5. Damage by fire to dividing fence caused by negligence of owner or occupier to be made good by him.
6. Regulation of sale, distribution, or use of matches.
7. Regulation of use or sale of phosphorus baits, and of burning of firebreaks on railway land.
8. Liability of persons resisting apprehension.
9. Savings as to rights to sue for compensation for damage by fire.

CLERICAL WORKERS, 1910.

3. (1) Application to Industrial Court; minimum wage to be fixed; classification of clerical labour; overtime.
- (2) Aged, infirm, or slow workers.
4. Duration of award [one to three years].
5. Provisions of Industrial Disputes Act, 1908, to apply, subject to this Act with regard to jurisdiction.
6. Regulations to be made by Judge of Industrial Court.

CLOSER SETTLEMENT PROMOTION, 1910.

Approval of Applicant and Valuation of Land.

Clause.

3. Application by purchasers of private lands to bring lands under the Act.
4. Valuation of land.
5. Valuation below purchase price fixed.
6. Change in number or personnel of applicants.
7. Surrender by vendor to Crown.

Vesting of Land in Purchaser.

8. Land to vest as settlement purchase; conditions.

Loans and Securities.

9. Loans by Government Savings Bank.
10. Repayment by instalments.
11. Liability of minor as mortgagee.
12. Maximum amount of loan.
13. Extension to apply to Closer Settlement Promotion, Government Savings Bank Act, 1906.
14. Limit of total annual advances by Bank.
15. Advances on improvements.
16. Forfeiture of holdings.
17. Issue of grant.

General and Supplemental.

18. Application of proceeds of debentures to advances.
19. Deposit of moneys set apart for advances and not required.
20. Deficiency in reserve fund of Bank.
21. Reference to Advisory Board.
22. Suspension of proclamation.
23. Statements to Parliament.

COAL LUMPERS' BASKETS, 1900.

2. Maximum inside dimensions and weight of baskets, viz., 23 inches top diameter, 19 inches depth, 16 inches bottom diameter, maximum weight 30 lb.
3. Penalty on conviction of infringing this regulation.
4. Adjudication of offences, and recovery of penalties.

COAL MINES REGULATION, 1912.

Mines Regulation.

Managers, under-managers, and winding engine-drivers.

4. Appointment of manager compulsory; registration of persons qualified; penalty for working without a manager; permits from inspectors.
5. Daily personal supervision to be exercised by manager or under-manager; certification of under-manager; contractors for getting mineral in any mine, or their deputies, disqualified for post of manager or under-manager.
6. Certificates of competency for managers and under-managers; constitution of board for appointing examiners; appointment and removal of members; proceedings and power of board; reports.
7. Rules as to examinations.
8. Grant of certificates of service to existing managers and under-managers.
9. Certificates after examination.
10. Certificates of competency as winding engine-drivers; examinations.
11. Penalty on unqualified person taking charge of machinery.
12. Certificates of service as winding engine-driver.
13. Engine-driver's certificates granted outside New South Wales may be approved.
14. Register of certificates.
15. Inquiry as to competency and cancellation of certificate in case of unfitness.
16. Costs and expenses of inquiry.
17. Records of cancellations; restorations.
18. Copy of certificates in case of loss.
19. Expenses in relation to certificates and application of fees.
20. Penalty for forgery of, or false declaration as to certificates.

Electricians.

21. Certificates of competency.
22. Penalty upon unqualified persons.

COAL MINES REGULATION, 1912—*continued.**Mines Regulation—continued.*

Inspection.

Clause.

23. Existing inspectors continued.
24. Appointment of inspectors; certificates required.
25. Disqualifications for inspectorship.
26. Appointment of electrical inspector.
27. Powers of inspectors; penalty for obstruction.
28. Notice by inspector of causes of danger not expressly provided against.
29. Annual reports of inspectors.
30. Special reports of inspectors.
31. Formal investigation of accident at Minister's direction.
32. Publication of reports.

Arbitration.

33. Provisions as to arbitration in disputes between owners, agents, or managers, and inspectors.

Returns, plans, notices, and abandonment.

34. Annual returns to be made by owner or agent; publication of aggregate statistics.
35. Plan of mines and workings, &c., to be kept at office of the mine.
36. Notice to be given of accidents in mines.
37. Notice to be given of opening and of abandonment of workings.
38. Fencing in case of abandoned mine.
39. Plan of abandoned mine or seam to be supplied to Minister.
40. Service of notices.

Employment of boys and females.

41. Prohibition of boys under 14 years, and of females.
42. Limitation of working hours, and regulations as to employment of boys.
43. Penalty for employment of persons in contravention of the Act.

Wages.

44. Prohibition of payment of wages at places connected with sale of spirituous or fermented liquors.
45. Payment of employees by weight of mineral obtained; regulations.
46. Owner or agent may be summoned for wages due not in excess of £50.
47. Appointment and removal of check weigher on behalf of employees of mine.
48. Remuneration of check weigher.
49. Inspection of weights, &c., used in mines.

Single shafts.

50. Prohibition of single shafts.
51. No agreement to preclude compliance with the Act.
52. Exceptions from provisions as to shafts.

Division of mine into parts.

53. Separate workings; notice; directions; reference to arbitration.

Rules.

General rules.

54. Ventilation of mines: ventilation by fire; by machinery; stations and inspections of conditions as to ventilation; inspection of machinery above and below ground; fencing of entrances; withdrawal of workmen in case of danger; use of safety lamps in certain places; construction and examination of safety lamps; lamp stations; use of explosives below ground; water and bore holes; signalling and manholes for travelling planes worked by machinery; manholes for other travelling roads; manholes to be kept clear; dimensions of travelling roads; fencing of shafts; trolley over pit mouth; fencing of entrances to shafts; securing of shafts; sinking pit to be clear of gas; securing of roofs and sides; timbering; option of using downcast shaft; attendance of engineman; means of signalling for working shafts; overwinding; cover over head; chains; prevention of rope slipping on drum; brake and indicator; fencing machinery; safety valves and gauges for boilers; barometers and thermometers; stretchers; wilful damage; observance of directions; books of records and rules; copies; periodical inspection of mine by practical miners on behalf of workmen; inexperienced persons prohibited from employment in coal getting; interference with office of check inspector or check weigher.
55. Directions of inspectors against inexperienced employees.
56. Non-compliance with rules; penalty.

COAL MINES REGULATION, 1912—*continued.**Rules—continued.*

Special rules.

Clause.

57. Special rules to be formulated for every mine.
 58. Formulation.
 59. Minister's objection.
 60. Amendment.
 61. False statements and neglect to transmit for approval.
 62. Certified copies in evidence.
 63. Special rules made by Governor.
- Publication of Abstract of Act and of Special Rules.
64. Abstract of Act and of special rules to be posted up and supplied to employees.
 65. Pulling down or defacing notices.

Supplemental.

Legal Proceedings.

66. Procedure at inquests.
67. Offences.
68. General penalty.
69. Imprisonment for wilful neglect endangering life or limb.
70. General provisions as to summary proceedings.
71. Liability for misrepresentation as to age, &c.
72. Prosecution of owners, agents, managers, &c.
73. Report to inspector of result of proceedings against workmen.
74. Saving for proceedings under other Acts.
75. Owner of mine or agent or relative, &c., not to act as Justice, &c., in proceedings under this Act.
76. Application of fines.

Miscellaneous.

77. Savings as to repealed enactments.
78. Decision to lie with Minister of question whether a mine is under this Act.
79. Making and revoking orders; power of Minister.
80. Entry on adjoining mine to ascertain if owner is encroaching; deposit and authority; prior statutory declaration compulsory; penalty.

COAL MINES REGULATION (AMENDING), 1905.

8. Holders of certificates to be deemed registered under Mines Inspection Act, 1901.

COMPANIES (AMENDMENT), 1906.

7. Foreign companies to register.
9. Lists of debenture and stock holders to be made.
10. Lists and balance-sheet to be filed.

CONTRACTORS' DEBTS, 1897.

3. Workman or tradesman suing a contractor may obtain a certificate of cause of debt.
4. Certificate not to be given if workman could have had a lien.
5. Certificate to be for not more than sixty days' wages.
6. Limit of action.
7. Process for obtaining payment of debt out of moneys due to contractor.
8. Service of notice to operate as assignment of moneys due to contractor.
9. After service contractee to pay proved debt out of moneys due to contractor.
10. Priority of assignments; in order of service of notice on contractee; equal rating of notices served within seven days of first notice.
11. If contractee fail to pay, workman or tradesman may sue for moneys assigned.
12. Assignment to cease to operate upon satisfaction of debt.
13. Discharge to be signed, on receipt of money.
14. Moneys may be attached, after notice of action served on contractee.
15. Mode of obtaining leave to serve notice.
16. Proceedings after judgment.
17. Contractor to furnish information as to contractee: penalty.
18. Contractor liable for wages or moneys due by sub-contractor.
19. Savings as to rights and remedies.

CORONERS, 1912.

Accidents in Mines.

Clause.

17. Coronial inquests on deaths from accident in mines; representative of Secretary for Mines to be present; no person having a personal interest or employed in, or in the management of the mine concerned, to be a juror.

CRIMES, 1900.

155. Definition of clerk or servant.
 156. Larceny by clerk or servant.
 157. Embezzlement.
 158. Manipulation of accounts by clerk or servant.

CRIMES (AMENDMENT), 1905.

2. Fraudulent misappropriation of moneys collected or received.

CRIMINAL APPEAL, 1912.

13. Solicitor and/or counsel to be provided for appellants not financially able to provide such.

DISTRICT COURTS, 1912.

117. Attachment of debts enjoinable, but only wages or salary in excess of £2 per week to be attachable.

EARLY CLOSING, 1899.

The Closing of Shops.

Shops not mentioned in Schedule I.

Metropolitan and Newcastle districts.

1. Closing times.

Country districts.

2. Each municipality, outside Metropolitan and Newcastle districts, to be a country shopping district.

Shops mentioned in Schedule I.

6. Closing time.

General Penalties.

7. Shops to close and be kept closed; savings; pharmacists exempted.

Shop Assistants and Carters.

8. Overtime employment of shop assistants prohibited (shops excepted from Schedule I); savings; records to be kept; penalty.
 9. Hours of work of assistants in shops listed in Schedule I; half-holidays; penalties.
 10. Butchers' and milk vendors' carters weekly half-holiday; bakers' carters monthly holiday.

Supplemental.

11. Governor may alter boundaries of shopping district.
 12. Appointment of inspectors.
 13. Powers of inspectors.
 14. Obstruction of inspectors.
 15. Penalty for offences.
 16. *Prima facie* evidence of employment, in case of prosecution.
 17. Release of shopkeeper upon proof of real offender.
 19. Informations for offences; appeals.
 20. Mixed trading shops.
 22. Time assumption for Broken Hill and Sturt.
 23. Exemptions of refreshment stalls, book-stalls, and hotels.
 24. Savings as to Factories and Shops Act.

EARLY CLOSING (AMENDMENT), 1900.

Closing times.

Clause.

3. Closing times of shops in country shopping districts, viz., 1 p.m. on one day, 10 p.m. on one day, 6 p.m. on four days; memorial for poll.
4. Proclamation of country shopping districts.
5. Closing of newsagents and booksellers' shops.
6. Closing time in Newcastle shopping district.
7. Shopkeepers occupying more than one shop.
8. Closing times in case of holiday occurring: shop assistants, minors, and carters.
9. Overtime (section 8 (1), 1899 Act) prohibited about the business of, as well as in, any shop.
10. Assistants may be employed for extra hours on full pay in lieu of holiday.
11. Half-holidays in hotels, restaurants, &c.
12. Bread-carters' monthly holiday.
13. Regulation of half-holidays or holidays for carters.

Supplemental and exemptions.

15. Exemptions (section 23, 1899 Act) extended to tramway or ferry stalls.
16. Hairdressers' shops exempted from overtime employment on ordinary days (section 8, 1899 Act).
17. Proof of closing.
18. Suspension of operation of Act in certain cases.
19. Exemption of bazaars.

EARLY CLOSING (HAIRDRESSERS' SHOPS), 1906.

Hairdressers' shops.

2. Hairdressers' shops to close at 7.30 p.m. when other non-scheduled shops close at 6 p.m.
5. Hairdressers' shops included under section 9, 1899 Act.
11. Hairdressers' assistants disallowed employment on full pay in lieu of holiday, section 10, Early Closing (Amendment), 1900.
13. Penalty for doing work for customer after closing time; savings as to waiting customers.

Shopkeepers.

14. Liability of shopkeeper sub-leasing shop for less than one week.

EARLY CLOSING (AMENDMENT), 1910.

2. Closing time for butchers', poultryers', and hairdressers' shops in country shopping districts.
3. Closing time of newsagents' and booksellers' shops—8 p.m. on four nights, and 10 p.m. on Friday and Saturday.
6. Poultryers' shops exempted from operation of Saturday Half Holiday Act, 1910.
7. Savings as to Christmas holidays.

EMPLOYERS' LIABILITY, 1897.

4. Right to compensation for personal injury.
5. Limitations.
6. Notice of injury; commencement of action; absence of notice of injury no bar if reasonable excuse adjudged.
7. Defective notice may be amended.
8. Form of notice; defect or inaccuracy no bar unless adjudged prejudicial to defence.
9. Service of notice.
10. Limit of sum recoverable as compensation.
11. (i) Money paid as penalty to be deducted from compensation.
(ii) No penalty to be recoverable under any other Act for any injury, for which action has been brought.
(iii) Expenses paid by employer on account of injury to be deducted from compensation awarded.
12. Employer entitled to credit for insurance effected by him.

FACTORIES AND SHOPS, 1912.

(a) *Factories and Shops.*

Appointment of Inspectors, Registration and Inspection of Factories, and Inspection of Shops.

Clause.

3. Interpretations.
4. Applicability of Act in declared districts; exemption of establishments.
5. Appointment of inspectors.
6. Registration of Factories; issue of permits to occupy pending alterations, and subsequent registration.
7. Penalty for occupation of unregistered factory.
8. Notification by inspector, to occupier or applicant for registration, of defects in buildings; appeal; determination and order; prohibition of use of building certified as unsuitable.
9. Powers of inspectors to enter, examine, and otherwise ensure observance of requirements; assistance of interpreter; institution of proceedings.
10. Occupiers to allow entry and inspection.
11. Obstruction.
12. Inspector to produce certificate of appointment.
13. Penalty for forging certificate.

Records.

14. Occupier to keep records of names of employees and of ages, &c., of employees under age 21; copy of Act and regulations to be posted up.
15. Scale of wages and piece-work rates to be supplied to Minister on demand.
16. Occupiers to keep and supply records for inspectors, of outside workers: penalty.
17. Definitions of occupier and out-worker.
18. Inspectors not to divulge records.
19. Inspectors to make annual reports to Minister.

Sanitary Arrangements.

20. Factories and shops to be kept clean and well ventilated, and free from overcrowding.
21. Periodical renovation and cleaning of factory interior; papered walls; records of dates of renovation, &c.
22. Exemptions: power of Minister to make exemptions.
23. Bakehouses not to be used as sleeping places; outhouses; penalty.
24. Meals: provision of dining rooms.
25. Ventilation; dust; humidity; inspector's directions.
26. Seating accommodation for females in shops and factories.
27. Dressing rooms for females.
28. Avoidance of infection from disease, &c., in factories or shops dealing with wearing apparel, or issuing materials.
29. Premises occupied in connection with factory to be open to inspection.
30. Nuisances punishable under other Acts to be notified by inspector.

Fencing of Machinery and Protection from Fire.

31. Traversing carriage of self-acting machine: limit of projection.
32. Liability of employer for injury caused by act or default of person in charge of boiler.
33. Dangerous machinery, power generating engines, and cog-wheels to be fenced.
34. Safeguards: inspectors' directions.
35. Prohibition of use of dangerous machinery or mill-gearing.
36. Hoists and lifts to be protected: prohibition of unsafe or dangerous elevators or lifts.
37. Restriction on employment of females, and males under 18 years.
38. Notice of accidents in factories.
39. Doors to open outwards; provision for fire extinguishers and external fire-escapes; arbitration in case of occupiers' objections to Minister's requirements.

Ages of Factory Employees, and Certificates.

40. Prohibition of employment of children; special permission for children over age 13.
41. Employment may be prohibited of women and of juveniles under age 16, in undesirable occupations.
42. Intervals for meals; maximum of five hours continuous work for females, and males under age 18.

FACTORIES AND SHOPS, 1912—*continued*.*(a) Factories and Shops—continued.*Ages of Factory Employees, and Certificates—*continued*.

Clause.

43. Maximum working week of 48 hours for females, and males under age 16; overtime by written permission of Minister to meet exigencies of trade; notices to be posted; records of overtime to be kept; overtime payable at time and a half at maximum intervals of one month.
44. Prohibition of employment of women and of juveniles in scheduled industries, including :—Silvering of mirrors by mercurial process; annealing or melting glass; making or finishing bricks, tiles, salt, or white lead; dry metal-grinding; dipping of lucifer matches; casting from molten lead.
45. Certificates of fitness and of age precedent to employment of juveniles; occupier to produce certificate to inspector.
46. Restriction on employment of women and juveniles between 6 p.m. and 6 a.m.
47. Inspector empowered to prohibit employment of juveniles adjudged incapacitated by disease or bodily infirmity.
48. Employment of women prohibited for four weeks after confinement.
49. Restriction of hours of employment in Chinese and other furniture factories; prohibition as sleeping-place; circumstantial evidence in prosecution; suspension of operation in exigencies of trade.

Shops.

50. Limitation of hours of work of women and juveniles to 52 per week; exemption of shops connected with food and drink, chemists, tobacconists, and newsagents.
51. Regulations may be made applicable to exempted shops.
52. Prosecutions for contravention of the Act to be by authority of Minister.
53. Occupier may not contract with employee against liability.
54. Summary recovery of penalties.
55. Service of order, notice, or summons.
56. Failure to conform to requirements: penalty.
57. Employment contrary to Act: penalty.
58. Liability of parents.
59. Proof of age: onus on employee.
60. Forged certificate and false declaration: penalty.
61. Exemption of occupier from fine on conviction of actual offender.
62. Governor to make regulations.

(b) Minimum Wage.

63. Interpretations under this part.
64. Definition of overtime.
65. Minimum wage (4s. per week irrespective of overtime) for workmen and shop assistants: penalty.

Minimum Wage.

66. Consideration, premium or bonus barred in clothing industries; recovery; penalty.

Overtime and Tea Money.

67. Minimum overtime pay, three pence per hour or part thereof—payable at maximum intervals of one month; exemption of males under 16 years of age; claims for overtime payments preferable under this part, or under section 43 relating to Factories and Shops; penalties.
68. Tea money in case of overtime work of males under 16 years or females; minimum, sixpence.

Supplemental.

69. Records of overtime to be kept by employers, and to be open to inspection.
70. Powers of inspectors; obstruction.
71. Regulations to be made.
72. Contraventions to be reported to the Minister; institution of proceedings.
73. Recovery of penalties; commencement of proceedings within three months after contravention.
74. Savings as to members of employers' family.

FISHERIES, 1902.

Clause.

4. Fisheries Board : institution and duties.
5. Constitution.
10. Right of entry of inspectors.
11. Notification of close fisheries.
14. Licensing of boats.
15. Licensing of fishermen.
16. Weekly returns to be furnished by market sellers.
17. Liability of other sellers to supply returns.
18. Nets and mesh to be specified.
19. Exemption of néts, &c., used for scientific purposes.
21. Methods of dragging or drawing nets.
22. Waters not to be stalled.
23. Undersized fish : disposal and penalties.
24. Prohibition of explosives.
28. Prohibited periods for holding salmon and trout.
29. Restriction of salmon and trout fishing to rod and line.
31. Penalty for holding salmon and trout roe.
33. Leasing of Crown lands for oyster culture.
34. Conditions of lease : rights pending.
35. Property and rights conferred by lease.
40. Resumption of leases given under repealed Acts.
42. Cancellation of leases.
44. Closing of natural oyster-bearing areas.
46. Unlawful dredging or taking of oysters.
48. Protection of leased areas.
49. Prohibition of burning live oysters for lime.
50. Licensing of oyster dealers.

NET FISHING (PORT HACKING), 1901.

3. Restriction of net fishing in Port Hacking.
4. Notification of portions of Port Hacking as open to net fishing.
5. Penalty for taking nets into prohibited areas.
8. Tidal waters of Port Hacking open to handline or rod and line fishing.

FISHERIES (AMENDMENT), 1910.

2. Dissolution of Fisheries Board : powers to vest in the Minister.
3. Advisory Board : constitution.
4. Appointment of inspectors and officers.
6. Purview to include regulation of sale of fish and oysters, whether local production or imported.
7. Placing materials for catching spat.
8. Infringement of close-fishing regulations : penalties.
9. Removal of spawn.
18. Nets for use in ocean waters and on sea beaches.
19. Prohibition of fixed engines, &c.
20. Seizure and forfeiture of nets and implements illegally used.

FORESTRY, 1909.

14. Licenses to be granted to obtain timber and other products.
17. Sawmills to be licensed and books kept.
18. Royalties on timber.
19. Royalties on products.
20. Permits to graze or to occupy.
23. Transfer of licenses.

FREE EDUCATION, 1906.

(To be construed with the Public Instruction Act, 1880.)

2. Education in public schools to be free.
 Repeal of section 11 and amendment of section 27 of the Public Instruction Act, 1880.

FRIENDLY SOCIETIES, 1912.

Registrations.

Registry Office.

Clause.

5. Institution.
6. Functions.
8. Registrar's annual report.
9. Deposit of documents, and keeping of records.

Registry of Societies.

10. Compulsory registration of societies and branches within six months of commencing business; exemption of dividing or levy societies.
11. Certain authorised societies for mutual benefit and advantage to members may register; binding effect of rules; recovery of sums due.
12. Co-operative trading and industrial societies may elect to register.
13. Minimum membership of seven persons in a society.
14. Conditions of registration; list of members and rules.
15. Acknowledgment of registry to issue, and be evidence.
16. Appeal from refusal of registry to lie to Supreme Court.
17. Rules inoperative till registered.
18. Amendments; registration; acknowledgment; appeal.
19. Tables of contributions to be certified by actuary.

Societies with Branches.

20. Unregistered branch disentitled to privilege of statutes.
21. Conditions of registry of societies with branches.
22. Establishment of new branches: registration.
23. Previous provisions to apply to branches, as to appeal from refusal to register.
24. Conditions of registry of branches as societies; appeal on refusal.

Cancellation and Suspension of Registry.

25. Cancellation on request or for non-compliance with requirements; suspension; precedent notice; advertisement; effects; appeal to Supreme Court.

Financial.

Audit, returns, and report.

26. Annual audit of accounts and of returns by appointed auditors.
27. Annual returns to be furnished; contents; copy of special report to accompany.
28. Quinquennial returns; contents; valuation to be effected by Registrar; exemptions.
29. Copies of returns and reports to be kept available for inspection by each society and branch.
30. Government auditors may be appointed; actuary to make valuations no fee chargeable therefor.
31. Registrar to make recommendations authorised by valuations.

Property and Trustees.

32. Three trustees to be appointed for each society and branch; appointment; copy of resolution to be transmitted to Registrar; secretary or treasurer not to be trustee.
33. Transactions in land and buildings for holding of meetings and furtherance of business authorised.
34. Property to vest in trustees; liability of trustees limited to trust moneys received by them respectively.
35. Devolution by death without conveyance or assignment.
36. Transfer of stock standing in name of trustee may be authorised by Registrar; transfer by continuing trustees.
37. Description in legal proceedings as property of trustees, for the society or branch.

Accounts and Investments.

38. Moneys received or paid for specific funds to be kept in separate accounts; expenses connected with property of funeral or sick funds chargeable out of earnings in excess of 4 per cent.; savings out of management applicable to any funds or benefits; moneys misapplied to be restored to proper funds.
39. Investments authorised in approved securities.
40. Receipts of trustees to act as reconveyance.
41. Loans to members on personal security may be made out of separate loan fund.

FRIENDLY SOCIETIES, 1912—*continued.**Financial—continued.*

Accumulation of Surplus.

Clause.

42. Provision may be made for accumulation at interest of surplus contributions : and for withdrawals.

Contributions to other Societies and subscriptions to Hospitals.

43. Societies may contribute to funds and take part in government of other societies; notice of withdrawal requisite.
44. Subscriptions may be paid to hospitals, infirmaries, &c.

Officers in receipt or charge of money.

45. Security of a guarantee society required from secretary and treasurer.
46. Officers to render account; proceedings on default.
47. Priority on death, bankruptcy, &c., of officer.

Benefits.

Limitation.

48. Limitations of aggregate benefits to £50 per annum by way of annuity or £2 2s. per week as sick pay; statutory declarations may be required by society paying benefits.

At Death generally.

49. Power of member to dispose by nomination of sums payable at death; officer not to be nominee; revocation; by nomination and by marriage.
50. Proceedings on death of nominator; receipt valid.
51. Intestacy: reversion of unclaimed balances, after six years, to society.
52. Validity of payments; remedy of recovery against receiver; marriage of nominee.
53. Certificates of death prerequisite to payment; exception as to deaths subject of coronial inquiry or when body cannot be found.

At Death of Children.

54. Limitation of aggregate amount payable to £10.
55. Payment to parent or personal representative; upon production of certificate of death.
56. Amounts claimable to be stated to Registrar of Deaths; endorsed on certificates; numeration.
57. Certificates not to issue for greater aggregate amount than £10; certificate of coroner or medical practitioner requisite.
58. Onus of inquiry on society paying claim on other than the first certificate.
59. Savings as to insurable interest.

Amalgamation, Conversion, and Dissolution.

Amalgamation and Conversion.

60. Amalgamation allowable with transfer of engagements; terms to be agreed on and approved by Registrar.
61. Society may by special resolution convert to company; copy of resolution to have effect as memorandum of association; effect of registration.
62. Conversion of society into branch; amendment of rules; copies to be filed; method of conversion; limited application of section.
63. Saving rights of creditors.

Dissolution.

64. Termination or dissolution: procedure to complete.
65. Instrument of dissolution; registration; effect.
66. Award dissolution; investigation by Registrar; procedure.
67. Dissolution of societies having branches.
68. Notice of proceedings to set aside dissolution.

Inspection.

69. Appointment of inspectors.
70. Authority of Registrar to inspect books.
71. Books to be available for inspection of members.

Disputes.

72. Disputes to be settled as provided by rules; enforcement by District Court.
73. Disputes referable to Registrar; determination; power to call evidence.
74. Procedure where rules are not applicable.

FRIENDLY SOCIETIES, 1912—*continued.*

Clause.

Subventions.

75. Subventions payable out of moneys authorised by Parliament.
 76. Applicant society.
 77. Administration by Registrar.
 78. Procedure in application.
 79. Subvention for sick pay.
 80. Subvention for medical attendance.
 81. Subvention for funeral donations.
 82. Subventions applicable to specific funds : trustees certificate thereto.
 83. Returns to be tabulated; Registrar's certificate of sickness for which subvention is payable.
 84. Compliance with Friendly Society law condition precedent to payment of subvention.
 85. Claims barred for periods prior to 1st January, 1909.
 86. Claims preferable for six months after close of each year.
 87. Trustees to supply to Registrar information requisite in furtherance of this part.
 88. Penalty for false statement; reduction of subsequent subvention claims.
 89. Misapplication of moneys.
 90. Recovery of penalties.
 91. Regulations to be made.

Offences, Penalties, and Legal Proceedings.

92. Savings as to subventions.
 93. Offences.
 94. Offences by societies to be offences by officers.
 95. Continuing offences to be new offences for every week of continuance.
 96. Fraud in respect of rules; false declaration; fraudulent misapplication of property of society; complaints and proceedings.
 97. Falsification of documents.
 98. General penalty—maximum £5.
 99. Offence in respect of amalgamation or dissolution.
 100. Recovery of fines, and prosecution of offences.
 101. Legal proceedings; nominal defendant; non-abatement; service.
 102. Recovery of subscriptions.

*Miscellaneous.**Minors.*

103. Admission; membership; prohibition from holding office.

Names of Societies and Branches.

104. Similarity of names prohibited.
 105. Seceding or expelled branch not to use name implying continuance.
 106. Power to change name.

Registered Office.

107. Registered office requisite.

Special Resolution.

108. Meaning.
 109. Registration.

Advertisements.

110. Advertisement of notices.

Evidence.

111. Documents bearing seal or stamp of Registrar to be received in evidence.

Copies.

112. Copies of rules to be supplied on demand for maximum payment of 1s.
 113. Members or persons interested entitled to copies of returns.

Military and Naval Forces.

114. Enrolment in military or naval forces no bar to membership; variation of contributions and benefits pending service out of the State.

Fees.

115. Fees for transaction of official business determinable; no fee for registration of rules.
 116. Fees payable to Registrar of Births and Deaths for certificates and copies.

Forms.

117. Acknowledgment of rules, returns, receipts, certificates.

Regulations.

118. Regulations : publication enjoined.

FRIENDLY SOCIETIES, 1912 (AMENDMENT).

Clause.

3. Registrar empowered to authorise allocation of surplus moneys of any fund after valuation.

FRUIT CASES, 1912.

3. Savings as to application to fruit in tray, basket, cask, or bucket.
4. Size or capacity of cases for sale of fruit to be regulation standard.
5. Cases to be clean and for exported goods, new.
6. Maker's name, address, and guarantee, to be displayed on case.
7. Enforcement of Act by inspectors.
8. Contraventions.
9. Tampering with brands.
10. Regulations.

GAS, 1912.

3. Application to existing companies, and to any to be formed, for supplying of gas.

Testing of gas.

4. Illuminating and heating power of gas; purity; standards and methods of testing.
5. Defects in illuminating power: penalties.
6. Defects in purity: penalties.

Pressure.

7. Pressure: to balance water column, midnight to sunset, at least six-tenths of an inch in height; sunset to midnight, at least one inch in height.
8. Meters issued to be tested and stamped by Government examiner.
9. Regulations to be made for testing and stamping.
10. Penalty for defect in pressure.
11. Savings as to circumstances beyond company's control.

Gas examiners.

12. Appointment of examiners; testing.
13. Reports of tests.
14. Companies to afford facilities to examiners.

Standard rate of dividend.

15. Standard dividend rates; maximum, 10 per cent.

Special Purposes Fund.

16. Appropriation from revenue; restrictions; application; maximum, one tenth of paid-up capital including premiums; investments.

Reserve Funds.

17. Reserve fund may be built up out of divisible profits and used to maintain standard dividends.

Profits.

18. Divisible profits account, to be constituted of excess of clear profits over amount of authorised dividend.
19. Profits to be utilised only to provide special purposes fund, and reserve fund, divisible profits account, and extra dividends as warranted by decreased prices.

Prices.

20. Standard price of gas three shillings and six pence per 1,000 cubic feet, to vary by one penny per 1,000 cubic feet with variations in cost of production and reducible below standard price in proportion as dividends payable are above authorised rates.

Additional Shares.

21. Conditions of issue of additional shares.

Accounts and Audit.

22. Annual statements of accounts to be supplied to Minister.
23. Accounts may be examined and audited by Auditor-General.
24. Amendment of schedules, except as to standard price, by resolutions of Parliament.
25. Regulations.
26. Recovery of penalties.
27. Cost of pipes to be defrayed by gas company and by owner; notice when requiring supply of gas.
28. Maximum inclusive charge for hire of prepayment meter not to exceed ten pence per 1,000 cubic feet of gas.
29. Right of companies to raise additional capital, borrow money, and consolidate, and divide share capital.

GOVERNMENT RAILWAYS, 1912.

Clause.

24. Tolls enforceable for carriage of passengers and goods, and chargeable equally in like circumstances.
35. Undue or unreasonable preference not to be afforded.
36. Reasonable, proper, and equal facilities to be afforded for interchange of traffic.

Superannuation Allowances and Gratuities.

108. Superannuation allowances and gratuities payable as from 1 November, 1910.
110. Constitution of board.
111. Deductions from salary and emoluments: maximum $1\frac{1}{2}$ per cent.
112. Deductions and parliamentary appropriations payable to Government Railways Superannuation Account from which authorised payments to be made.
113. Persons to whom allowances payable.
114. Period and amount of allowance payable during each year of life of officer.
115. Abatements on allowances of officers in service at date of commencement of account.
116. Gratuities to officers incapacitated.
117. Gratuities to officers compelled to retire.
118. Reports on officers unfit for duty.
119. Medical examination of officers receiving allowances or gratuities; restoration to health and resumption of duty.
120. Refunds on account of officers dying while on service.
121. Refunds on account of officers dying shortly after retirement.
122. Refunds on voluntary retirement.
123. Limits to amount of allowance or gratuity.
124. Payments to be certified by board.
125. Rights of officers dismissed for misconduct.
126. Surrender or transfer of officer's policy of insurance.
127. Determinations of board to be final, as to deductions, service-period, effectiveness of dismissal.
128. Allowances not to be assigned or charged.

GOVERNMENT SAVINGS BANK, 1906.

Advance Department.

Issue of Debentures.

16. Moneys, securities, property held under Advances to Settlers Acts, to vest in Commissioners of Government Savings Bank.
17. Commissioners to collect advances and interest thereon, loss or deficiency in collection being guaranteed by Government.
18. Advance Department to issue debentures to amount of advances outstanding.
19. Provisions applicable to advances under Advances to Settlers Acts.
21. Rights of action, and under contracts, to attach to Commissioners.
26. Net profits of Advance Department to constitute reserves.
49. Debentures issuable; liability chargeable against moneys and securities held by Commissioners on account of Advance Department and guaranteed by Government out of Consolidated Revenue Fund.
50. Aggregate of debenture issues limited to £2,000,000, nor shall any debentures issue while the amount issued and uncanceled exceeds by £50,000 the amount of advances then unpaid.
51. Debentures to issue in series.
52. Signature and seal of Commissioners and certificate of Auditor-General.
53. Debentures of £50 each or some multiple; maximum interest 4 per cent.
54. Issue and redemption of debentures.
55. Transfer by delivery.
56. Purchase and cancellation of debentures.
57. Defaced debentures exchangeable.
58. Provision for debentures lost.
59. Power of trustees to invest in debentures as Government securities.
61. Application of proceeds of debentures issues to Advance Department.

Loans.

62. Loans upon mortgages of estates and lands and on deposit in Treasury, in any bank of issue, or in Savings Bank Department.
63. Mortgage loans, applicable in purchase or improvement of lands and building of homes thereon.
64. Advances on purchase of farms to facilitate closer settlement on private estates.

GOVERNMENT SAVINGS BANK, 1906—*continued.*

Clause.

Loans—continued.

65. Priority of applications for loans under £500.
66. Repayments, in whole or in part.
67. Costs and expenses chargeable in respect of advances.
68. Provisions as to loans—maxima and minima.
69. Provisions applicable to land mortgaged.
70. Conditions annexed to land whilst subject to advances.

GRASS-TREE LICENSES, 1908.

2. Issue of licenses.
3. Regulations to be made.

HEIGHT OF BUILDINGS (METROPOLITAN POLICE DISTRICT), 1912.

3. Application within Metropolitan Police District as defined.
4. Buildings other than places for public worship, chimney stacks, or sewer ventilators, to be not higher than 150 feet; limit outside City of Sydney, 100 ft.
5. Contravention: penalties; removal of building.

HOUSING, 1912.

3. Constitution of Housing Board.
4. Acquisition of lands by purchase or resumption and appropriation.
5. Subdivisional plans of acquired lands to be submitted for ministerial approval.
6. Subsequent power of board to undertake improvement works, dedicate reserves, &c.
7. Buildings; ministerial authority; maintenance and repair; costs.
8. Disposal of lands and buildings: by lease for maximum term of seven years; by sale; conditions.
9. Leases in writing; subletting prohibited and assignment subject to approval.
10. Qualifications of holders.
11. Grants for religious, charitable, or municipal purposes: covenants attaching.
12. Surrender of lands leased or granted.
13. Leasing of buildings erected for public use.
14. Institution of Housing Fund; capital and revenue accounts.
15. Moneys received in respect of lands and buildings sold or leased, to be paid into fund.
16. Costs and charges; sinking fund.
17. Board chargeable with management of any lands purchased, resumed, or appropriated.
18. Government Savings Bank buildings: board authorised to construct, purchase, sell, or manage, lands and buildings for Commissioners.
19. Apportionment of expenses of management to Consolidated Revenue or Housing Funds.
20. Accounts: board not chargeable with values of lands set apart for public purposes.
21. Annual statements to be submitted to Parliament, detailing operations of board.
22. Appointment of officers. Public Service Acts applicable.

INCOME TAX, 1911.

4. Taxation of income derived from land.
5. Exemption from schedule taxation of incomes of persons other than companies exceeding £300 per annum, and all incomes of companies.
6. Reductions in assessment of income; allowances for children under age 18, and for income derived from personal exertion.
9. Tax payable by companies to be one shilling and two pence per pound of income chargeable.

INCOME TAX (MANAGEMENT), 1912.

10. Exemptions from taxation of incomes: of—
 - (a) Municipal or local authorities.
 - (b) Mutual life assurance societies.
 - (c) Government Savings Banks and Savings Bank of New South Wales.
 - (d) Registered Friendly Societies and trade unions.
 - (e) Ecclesiastical, charitable, and educational institutions of a public character and arising from.
 - (f) Government debentures, inscribed stock, and Treasury bills.
 - (g) Sources outside the State.

INDUSTRIAL ARBITRATION, 1912.

Industrial Unions.

6. Registration of industrial union of employers.
7. Savings as to registration under repealed Acts (1908-10) and Act of 1901.
8. Registration of industrial union of employees.
9. Cancellation of registration at request of union.
10. Power of court to cancel registration.

INDUSTRIAL ARBITRATION, 1912—*continued.*

Clause.

Industrial Agreements.

11. Power of industrial union of employees to enter into agreement.
12. Such agreement to be filed in office of Registrar: variation.

Industrial Court and Boards.

Constitution of Court.

13. Constitution of court as Superior Court and Court of Records, with powers under Industrial Arbitration Act, 1912, and Clerical Workers Act, 1910; appointment of additional or deputy judges; terms of appointments.
14. Powers of court to include jurisdiction of industrial boards, registrar and magistrate.

Constitution of Boards.

15. Dissolution of boards under repealed Acts; savings as to part heard cases.
16. Boards for industries in Schedule 1; appointments; demarcation of callings and constitution of special boards.
17. Boards for industries in Schedule 2; jurisdiction as specified by court.
18. Liability of board members to penalty, maximum £5, for failure to attend or to vote.
19. Liability of board members to penalty, maximum £50, for disclosing matter or evidence before board or court relating to trade secrets, or books, or business of an employer or a witness.
20. Dissolution of board; removal of members; replacement.
21. Appointment to vacancies.
22. Gazetteal of appointments.
23. Fees payable by board members to be determinable by Governor.

Jurisdiction of Boards and Court.

24. Power of board to make recommendation; subject matter; exemption of charitable institutions.
25. Award of board; applications to court to vary; award operative pending determination by court.
26. Wages of Government employees to be not less than rates and prices paid by other employees under similar circumstances.
27. Permit issuable on application of aged, infirm, or slow worker, to work for less than prescribed minimum wage.
28. Variation of award.
29. Binding nature of award.
30. Right of Crown to intervene in proceedings or appeal from award where public interests are or would be likely to be affected.

Procedure of Boards.

31. Commencement of proceedings; convening of board meetings.
32. Inquiry by board.
33. Right of entry to, and inspection of premises used in any industry subject to inquiry.
34. Conduct of proceedings of board; power as to witnesses and evidence.
35. Evidence to be given on oath; admissibility to be decided by chairman; questions of jurisdiction subject to appeal to court.
36. Procedure at board meetings.
37. Advocate or agent appearing for parties, to be or have been *bona fide* worker in industry or calling subject to inquiry.

Conciliation Committees.

Committees for Colliery Districts.

38. Notification of colliery or mining districts.
39. Constitution of Conciliation committees for such districts.
40. Inquiry by committee.
41. Agreement in committee to have effect, on being filed, as an industrial agreement between employers and unions.
42. Conciliation committees may be constituted for any occupation or calling in which more than 500 persons are employed.

Special Commissioner.

43. Appointments of special commissioner; power to summon conference and induce agreement in case of lock-out or strike threatening.

INDUSTRIAL ARBITRATION, 1912—*continued.**Lock-outs and Strikes.*

Lock-outs.

Clause.

44. Instigating to or abetting anything in the nature of a lock-out to involve liability to maximum penalty of £1,000.

Strikes.

45. Any person doing any act or thing in the nature of a strike to be liable to a penalty, maximum £50, such penalty to be a charge on wages then or thereafter due.
 46. Union of which any such penalised person is then a member may be charged to the maximum of £20 of the penalty; union to have right to prove before court its endeavour to prevent members from doing acts complained of.
 47. Any industrial or trade union instigating to or aiding in any penalisable act becomes liable to a penalty, maximum £1,000, with cancellation of registration, and subject to consent of the other parties thereto, of awards or agreements operating.

Injunction.

48. Writ of injunction issuable to restrain any person from continuing to instigate to or aid in a lock-out or strike. Disregard of injunction to involve liability to imprisonment, up to six months.

Breaches of Awards and other Offences.

Payment of wages awarded.

49. Employer liable to pay wages in full without deduction from price or rate fixed by award or agreement. Order for recovery issuable by registrar or magistrate; alternative power to sue.

Breach of award or industrial agreement.

50. Penalty for breach of award or agreement, maximum £50; injunction, where breach is wilful; proceedings for penalty open to Minister administering the Act, an employer, or secretary of industrial union concerned.
 51. Secretary of union or other person receiving money for breach of award to be liable to penalty, maximum £20.

Unlawful dismissal.

52. Unlawful dismissal to render employer liable to penalty, maximum £20: onus of proof of substantial reason to lie on employer.
 53. Fines and subscriptions payable to unions may be enforced by order of registrar, or industrial magistrate.
 54. Order for payment of money due to have effect as judgment of District Court or Court of Petty Sessions; any property of a union to be available to answer any such order.

Appeal to Court.

55. Appeal from registrar or magistrate to lie to the court: procedure.

Procedure and Decisions of Court and Boards.

56. Court or Board governed by equity and good conscience, and not bound to observe rules of law governing admissibility of evidence.
 57. Adjournment of court.
 58. Decision of court to be final.
 59. Reserved decision.

Evidence of Award.

60. Copy of gazetted awards, &c., to be evidence.

Penalties and Costs.

61. Recovery of Penalties.
 62. Payment of penalties recovered to Consolidated Revenue.
 63. Orders for costs: enforcement.
 64. Wilfully false statement punishable as perjury.

Registrar, Industrial Magistrate, and Inspectors.

65. Appointment of registrar; deputy; powers and duties of registrar.
 66. Appointment and powers of industrial magistrates; deputy.
 67. Appointment and powers of inspectors; penalty for obstruction.
 68. Time-sheets and pay-sheets to be kept by employer; award operative to be kept exhibited.
 69. Notice of change affecting conditions of employment to be given by employers and employees.

INDUSTRIAL ARBITRATION, 1912—*continued.*

Clause. *Registrar, Industrial Magistrate, and Inspectors—continued.*

70. Contract or combination in restraint of trade in any necessary commodity penalisable, maximum £500.
71. Monopoly or combination thereof with intent to control supply or price of necessary commodity penalisable, maximum £500.
72. Regulation for carrying out Industrial Arbitration Act, 1912, and Clerical Workers Act, 1910, to be made by the judge.
73. Regulations to be gazetted.

IRRIGATION, 1912.

6. Constitution of irrigation areas.
7. Conditions as to proclamation.

Powers and Duties of Commissioner.

8. Powers of commissioner, savings as to matters of policy.
9. Construction of works.
10. Determination of fares and rates on rail or tramways vesting in commissioner.

Supply of Water.

12. Annual allotment of water-rights as fixed charge; payment therefor.
13. Additional water-rights, at same rates.
14. Water may be supplied under pressure.
15. Charges payable in advance; interest on overdue charges at 5 per cent.; recovery.
16. Possession of lands and reversion to Crown after four years' arrears accumulate.

LABOUR SETTLEMENTS, 1902.

3. (1) Establishment of labour settlements; dedication of available Crown lands; appointment of board of control.
- (2) Incorporation of board; powers in relation to lease of land; provision for dissolution.
- (3) Land leased or to be leased under this Act may be withdrawn for roads, school sites, recreation, &c.
4. Assessment and payment of rent by board.
5. Governor's power to remove trustees from board.
6. Duties of board.
7. Loans and repayment.
8. Advances may be made to board by Treasurer; conditions; proof of improvements.
9. Provision for advance equal to appraised value of improvements in settlements initiated with moneys provided by enrolled members.
10. Powers of board; subleasing.
11. Regulations to be made by Governor regarding—
 - (a) Class of persons to be enrolled.
 - (b) Accounts to be kept by boards.
 - (c) Duties of boards.
 - (d) Other matters.
12. (1) Regulations to be made by boards regarding—
 - (a) Conduct of its business.
 - (b) Work to be done in the settlement.
 - (c) Finances.
 - (d) Order and government.

LIQUOR, 1912.

15. Publicans licenses to authorise trading only between the hours of 6 a.m. and 11 p.m.
40. Supply of liquor prohibited to young persons, aboriginal natives, Pacific Islanders &c.
50. Sending of children under age 14 for liquor proscribed.
51. Removal of juveniles under age 17 from bar of licensed premises enjoined upon licensee.
52. Barmaids to be of minimum age, 21 years.
53. Trading prohibited on Sunday; on Good Friday, and Christmas Day, except from 7 to 9 a.m., 1 to 3 p.m., and 8 to 10 p.m., for sale of liquor not to be consumed on premises; on parliamentary polling days in electorates where and while poll is in progress; savings as to lodgers and travellers.
69. No action for price of less than two gallons of liquor; meals and accommodation to be paid for; operation of Vagrancy Act.
76. Penalty on taking goods in pledge or as payment for liquor.
77. Payment of wages in public houses prohibited.
99. Brewers and spirit merchants to be licensed.
100. Application of Pure Food Act to liquors.

MASTERS AND SERVANTS, 1902.

Remedies against Servants.

Clause.

4. Servant not entering into service according to contract or absenting himself is liable to penalty, or forfeiture of wages due.
5. Fraudulent breach of contract involves liability to imprisonment.
6. Wilful or neglectful spoliation, destruction, or loss involves liability to pay compensation.

Remedies against Masters.

7. Wages, not in excess of £50, due and payable to any servant, are recoverable summarily with costs and damages.
8. An agent, manager, or overseer may be summoned for wages: a draft upon the employer for the amount and costs relieves agent from imprisonment in default.
9. Payment by cheque; if dishonoured no servant is thereby deprived of remedy for recovery.
10. Penalty on unlawful detention of servant's property by master.

General Provisions and Procedure.

11. Jurisdiction.
12. Penalty on harbouring deserting servants or inciting to desertion.
13. Differences between master and servant to be settled by award of magistrate or two justices.
14. Warrant not to issue, except on reasonable cause to believe defendant has absconded.
15. Clerk of petty sessions may issue summons.
16. Agreements may be proved as if there were no attesting witnesses.
17. Females not to be imprisoned, except as under Justices Act, 1902.

MINERS' ACCIDENT RELIEF, 1900.

Committees for Mines.

4. Appointment and constitution of committees.
5. Owners to deduct miners' contributions and to pay to committees.
6. Granting of allowances in case of death or disablement; payments of allowances and of balances to fund; assignment void.

The Board.

8. Constitution.
10. Fees.
11. Powers and duties of boards.

The Fund.

12. Constitution and administration; payments into fund; temporary payments; disbursements.
13. Board's accounts to be audited.
14. Quinquennial actuarial investigation of fund; allowances and rates of contribution; insufficiency.

MINERS' ACCIDENT RELIEF (AMENDMENT), 1901.

2. Extension of definition of mine to cover neighbouring works where mined material is treated.
3. Institution of joint committee for several mines.
4. Payment of contributions to fund where committee is not constituted.
5. Committees' expenses.
6. Owners' contribution to represent one half of the aggregate deduction from wages of miners.
7. Disbursements.
8. Allowances and expenses.
9. Committee's power of disposal of moneys payable in respect of children.
10. Schedule of allowances extended.
11. No allowances to affect any claims under Employers' Liability Act, 1897.

MINERS' ACCIDENT RELIEF (VALIDATING), 1904.

2. Validation of appointment of certain officers.
3. Validation of appointment of certain committees and of their acts.

MINERS' ACCIDENT RELIEF (AMENDMENT), 1910.

Clause.

3. Local inspector of mines to act on committee.
4. Minister's power to dissolve committee or remove member.
5. Cover of Act extended to check-weighmen and pickmen.
6. Variation of allowances.
7. Grants of allowances may be reconsidered by committee, or inquiry held.
8. Continuance of payment of allowance, after closing of mine.
10. Examination of applicants by specially appointed medical practitioners.
13. Contribution for mine in which less than fifteen persons are employed.
15. Extension of allowances.
17. Liability of owner, manager, or contractor for failure to deduct contributions.

MINERS' ACCIDENT RELIEF (AMENDMENT), 1912.

3. Extension of Principal Act to include mine from which sandstone, basalt, andesite, syenite, trachite, granite, or porphyry is obtained.
4. Application of Acts to any mine in or about which ten or more persons are employed.
5. Deductions chargeable for a whole week if part has been worked.
6. Payments to fund to be made as prescribed.
7. Reconstitution of board: to include Under Secretary of Mines as chairman, and representatives of owners and employees, in (a) coal and shale, (b) other mines; deputy chairman.
8. State subsidy to be increased by one-third of aggregate contributions of check-weighmen and pickmen.
9. Inspection of employers' lists of employees by officer of board.
10. Limitation of expenses of committees.
11. Owners' contributions payable quarterly, within thirty days of due date.
12. Special committees may be constituted for mining divisions.
13. In inquiry, board or warden to have powers of Court of Petty Sessions.
14. Allowance, for dependent father and mother, 15s. per week during joint lives.
15. Allowance for child increased to 5s. per week.
16. Allowances to guardians limited to maximum of 10s. per week.
17. Allowances for partly dependent father, mother, or sister.
19. Wife deserted, or whose husband is insane, to rank as widow.
20. Discontinuance of allowances to persons while resident outside Australia.

MINES INSPECTION, 1901.

1. Application to all mines except coal and shale; provision for exemptions.
3. Savings as to exemptions granted under earlier enactments.

Managers and Engine-drivers.

Managers.

5. (1) and (2) Appointment of manager of mine.
- (3) Qualifications.
- (4) Permits.
- (5) Temporary appointments.
- (6) Penalties for working without a manager.
6. (1) Board of examiners for managers.
- (2) Regulations to be made regarding procedure of board and holding of examinations.
7. Certificates of competency to be granted.
8. Certificates of service as managers.
9. Certificates granted outside New South Wales may be approved and registered.
10. Form of certificate.
11. Register of certificates.

Engine-drivers.

12. Penalty on unqualified person taking charge of machinery.
13. Board of examiners for engine-drivers.
14. Certificates of competency as engine-drivers.
15. Certificates of service as engine-drivers.
16. Certificates granted outside New South Wales.
17. Specifications in certificates.
18. Register of certificates.

MINES INSPECTION, 1901—*continued.**Rules.*

Clause.

General Rules.

65. Ventilation; escape drives; use of explosives. Change in shift; inspection at change of shift; manager's daily inspection; withdrawal of workmen in case of danger. Inspection by miners' representative. Control of machinery; condition of machinery: fencing. Gauges to boilers and safety valves; cleansing of boilers; means of signalling for working shafts. Verbal signals. Danger signal line. Clear view for engine-driver. Signalling along drives in alluvial drives. Signalling and manholes for travelling planes worked by machinery. Employees to be acquainted with signals. Code of signals: manholes for other travelling roads: manholes in shafts. Manholes to be kept clear. Fencing of entrance to shafts and of abandoned shafts or dangerous excavations. Doors at plats. Horizontal bar in case fence or cover is removed temporarily. Securing of shaft. Drive and excavation to be protected. Protected lights in main drives. Division of shaft; cages in shafts; cover overhead. Carriage of materials in cages with persons: safety catches and hooks; monthly examination; clearance. Testing safety cage and rope or chain. Gates in haulage shafts. Coupling chains. Brakes and indicators. Rate of speed; protection in ascent or descent; rope slipping; spring catches or tumblers on skids. Restricted use of whip. Protection in braces: open hooks prohibited. Ladder-way compulsory. Boring rods. Escape drives in alluvial mines. Dressing rooms. Angle of batter in open cut. Undermining face of open cut. Stretchers. Observance of directions. Supply of books of rules, &c. Wilful damage.
56. Governor to make and amend general rules.
57. Non-compliance with rules.

Special Rules.

58. Inspectors to direct formulation of special rules.
59. Conditions governing formulation.
60. Chief Inspector's power of objection.
61. Amendment of special rules.
62. False statements, and neglect to transmit special rules.
63. Certified copy of special rules in evidence.
64. Special rules may be made by Governor.

Publication of Rules.

65. Abstract of Act, and special rules to be posted up, and supplied to employees.
66. Pulling down or defacing notices.

Legal Proceedings.

67. Offences: penalty.
68. Imprisonment for wilful neglect, endangering life and limb.
69. Summary proceedings for offences, fines, &c.; general provisions.
70. Appeal against conviction.
71. Authority for prosecution of owners, managers, &c.
72. Result of proceedings against workmen to be reported to inspector.
73. Savings as to proceedings under other Acts.
74. Application of fines.
75. Service of notices.

Miscellaneous.

76. Minister to decide whether mine is under this Act.
77. Right of Government Geologist and Geological Surveyors to enter and examine mines.
78. Minister's power to make and revoke orders.
79. Employees to notify employers of breaches of Act.
80. Entry on adjoining mines, &c., to discover encroachments, &c. Action under authority: prior statutory declaration compulsory. Provision for cost of inspection.

MINING, 1906.

4. Establishment and control of schools of mines and museums.
5. Proclamation of gold-fields and mining districts.
7. Savings as to beneficial interest of officers.
8. Savings as to Royal prerogative.

Miners' rights and business licenses.

9. Issue of miners' rights.
10. Issue of business licenses.
11. Renewals.
12. Transfers.
13. Duplicates.

MINING, 1906—*continued.*Clause. *Miners' rights and business licenses—continued.*

14. Exempted Crown lands.
15. Rights conferred by miners' rights.
16. Residence areas.
17. Authority to prospect; report of discovery.
18. Rights conferred by business licenses.
19. Tenement holders to register.
20. Division of interest; amalgamation; assignment.
21. Rights held on behalf of owners.
22. Default to contribute.

Leases of Crown Lands.

23. Granting of leases.
24. Conversion of applications.
25. Conditions of applications.
26. Priority of applications.
27. Irregular applications; modifications; refusal.
28. Occupation by and rights of applicant.
29. Claiming damages.
30. Pendency of application.
31. Survey of land.
32. Lodging and service of objections.
33. Procedure.
34. Inquiry by warden.

Conditions.

35. Area and dimensions of leases.
36. Rent and royalty.
37. Labour conditions.
38. Duration and renewal of leases.
39. Savings as to renewals from repealed Acts.

Special leases.

40. Conditions.

Minerals not included in lease.

41. Authority to mine for minerals not specified: unauthorised mining.
42. Mining for gold under mineral lease.
43. Mining for other minerals under gold-mining lease.

Ownership of tailings and ore.

44. Tailings on abandoned Crown land.

Mining on Private Land.

45. Interpretation.

Lands open to mining.

46. Mining for gold and other metals: minerals: exemptions.
47. Restriction on authority to enter gardens or improved land.
48. Exemption of surface of cultivated land.

Authority to enter.

49. Interim permits.
50. Application for and grant of authority.
51. Rent: compensation: non-payments.
52. Duration and extension of authority.
53. Areas and extension.
54. Lawful prospecting; contravention of conditions; labour.
55. Residences.
56. Occupation after cancellation of authority.

Leases.

57. Mining leases: conditions governing issue.
58. Refusal of leases.
59. Stipulations in leases.
60. Leases for mining purposes: interim permits: special provisions.
61. Leases of surface.
62. Terms of leases.
63. Extent.
64. Rent and compensation.
65. Rights and duties of lessees.

MINING, 1906—*continued.**Mining on Private Land—continued.*

Clause.

Leases—*continued.*

- 66. Restrictions.
- 67. Impounding or molesting stock.
- 68. Prospecting by owner; no preferential rights.
- 69. Lease by owner.
- 70. Owner mining or contracting for mining.

Resumption.

- 71. Coal and shale lands.
- 72. Private lands.
- 73. Notification of resumption.
- 74. Preferential rights of discovery.
- 75. Rights of former owners.
- 76. Resumption of lands held without reservation of minerals.

Compensation.

- 77. Assessment of compensation for resumption.
- 78. Claims to payment.
- 79. Payment.
- 80. Costs.
- 81. Interest.

General Provisions.

- 82. Royalties.
- 83. Right of way.

Dredging Leases.

- 84. Interpretation.
- 85. Application.
- 86. Leases.
- 87. Marking of land: authority.
- 88. Entry in pursuance of authority.
- 89. Interim possession.
- 90. Applications for leases.
- 91. Inquiry by warden.
- 92. Inquiry by Minister.
- 93. Reports to Minister.
- 94. Minister's power to grant or refuse lease, and specify conditions.
- 95. Warden's order for necessary roads or sites.
- 96. Warden's order for other roads or sites.
- 97. Rent—first year's payment.
- 98. Rent and royalty.
- 99. Grant of lease.
- 100. Right to water.
- 101. Penalty for anticipating lease.
- 102. Authority to holder of miner's right.
- 103. Washing dirt.

Tenements and Leases Generally.

- 104. Leases for railways and tramways for mining purposes.
- 105. Suspension of pastoral lease.
- 106. Exemption of Crown lands from alienation.
- 107. Execution of lease.
- 108. Form and conditions of lease.
- 109. Registration.
- 110. Construction of works on roads.
- 111. Tunnels.
- 112. Easement over Crown lands to continue notwithstanding alienation.
- 113. Suspension of labour conditions.
- 114. Exemption.
- 115. Returns of minerals won.
- 116. Coal-mining lessees.
- 117. Reward area.
- 118. Amalgamations of leases.
- 119. Encroachment.
- 120. Inspection by mining surveyor as to encroachment.
- 121. Surveyor's declaration.
- 122. Sludge abatement.

MINING, 1906—*continued.**Tenements and Leases Generally—continued.*

- Clause.
 123. Surrender of leases.
 124. Cancellation.
 125. Removal of machinery.
 126. Surveyor to define road.
 127. Inquiries.
 128. Inspections.
 129. Nature of holding and evidence of title.
 130. Mining towns.

Wardens' Courts.
Jurisdiction.

131. Establishment of Wardens' Courts.
 132. Register to be kept.
 133. Jurisdiction.
 134. Wages to be a first charge.
 135. Decisions; finality.
 136. Suitor to hold miner's right or lease.
 137. Minors may sue.

Hearing and Procedure.

138. Instigation of case.
 139. Hearing.
 140. Amendment of proceedings.
 141. Adjournment, in absence of warden.
 142. Payment into court.
 143. Subsequent proceedings.

Orders.

144. Payment by instalments.
 145. Complaints for injury to property.
 146. Deposit pending decision.
 147. Injunctions.
 148. Delivery of specific chattels.
 149. Costs.

Execution.

150. Form and service of orders.
 151. Writ of execution.
 152. Writ to be obeyed: seizure by bailiff.
 153. Order for delivery of gold or mineral in possession.
 154. Enforcement of orders not specially provided.

Assessment of Compensation.

155. Method of assessment.
 156. Procedure in court.
 157. Additional assessments.
 158. Appeal to arbitration.
 159. Appeal against assessment.
 160. Rules and orders on appeal.

Appeals.

To District Court.

161. Right of appeal from Warden's Court.
 162. Hearing.
 163. Procedure.
 164. Injunction and stay of proceedings.
 165. No costs on appeal under £20, unless special circumstances.
 166. Enforcement of decision after appeal.
 167. Appeal to Supreme Court.

Supreme Court.

168. Stating case.
 169. Security to be provided by appellant.
 170. Warden's refusal to state case.
 171. Direction of Supreme Court.
 172. Appellant to give notice.
 173. Powers of Supreme Court.
 174. Powers of Judge in Chambers.
 175. Enforcement of order as warden's order.
 176. Abandonment of appeal to District Court.

MINING, 1906—*continued.**General Provisions.*

- Clause.
 177. Conditional purchases conversion.
 178. Notices.
 179. Documents and affidavits.
 180. Contempt of court.
 181. Interpleader.
 182. Recovery of fees.
 183. *Certiorari* prohibited.

Regulations and Rules.

184. Regulations to be prescribed.
 185. Power to make rules of practice.
 186. Rules and regulations to be laid before Parliament.

Penalties.

187. Unauthorised mining.
 188. Unauthorised occupation of Crown land.
 189. Breach of regulation.
 190. Witness neglecting to appear.
 191. Disobedience of order.
 192. Obstruction of warden.
 193. Wrongful exaction of money.
 194. Forgery of documents.
 195. Wrongful obstruction on private lands.
 196. Wrongful mining on private lands.
 197. False quantity or value.
 198. Recovery of penalties: civil remedies to remain.

MINING (AMENDMENT), 1907.

2. Rent for leases in force at commencement of Principal Act.
 3. Minor Amendments, Principal Act.

MOTOR TRAFFIC, 1909.

3. Regulations to be made governing use of motor vehicles.

Offences.

4. Negligent, furious, or reckless driving.
 5. Duties of police; identification of driver.
 6. Driver to be licensed and vehicle numbered.
 7. Unlawful transfer of license.
 8. Accidents.
 9. Production of licenses in court.
 10. Penalties for convictions; suspension of licenses.

General and Supplemental.

11. Conflicting by-laws; superiority of Act.
 12. Records of registrations and licenses.
 13. Publication of regulations.
 14. Compensation for damages.
 15. Compensation for loss of time.
 16. Application of Act to officers of Crown.
 17. Savings as to common law or statute liability.
 18. Facilitation of proof in proceedings.
 19. Recovery of penalty.

NEWCASTLE IRON AND STEEL WORKS, 1912.

4. Vesting lands in the Broken Hill Proprietary Company, Limited, for fifty years.
 5. Lands described to vest as an estate in fee simple, free of all reservations and dedications.
 6. Resumptions to complete required area.
 7. Estimation of land value to exclude increment from improvements proceeding.
 8. Powers of local Land Board for completing assessment.

PARLIAMENTARY ELECTORATES AND ELECTIONS, 1912 (No. 2).

92. Polling-day a public holiday, as from 12 o'clock noon.
 96. Employees (not having advantage of the half-holiday) to be allowed reasonable time to go to a polling-place.

POLICE OFFENCES, 1901.

16. Business hours of houses for public resort generally to be 6 a.m. to 12 p.m.
 61. Prohibition of Sunday trading: exemptions.

Clause.

POOR PRISONERS' DEFENCE, 1907.

2. Provision for legal aid for poor persons.

PURE FOOD, 1908.

5. Adulteration, or false description.
6. Institution of an Advisory Committee.
10. Sale of adulterated food or drugs.
11. Mixing food or drugs, so as to be injurious to health.
12. Mixing food or drugs, so as to increase bulk.
13. Sale of mixtures.
14. Labels to show description, weight of contents, &c.
15. Liability of person named on packages.
16. Examination and reports on food, &c., advertised.
17. Prohibition of sale of injurious drugs or appliances.
18. Sale of disinfectants and preservatives.
19. Labelling.
21. Prohibition of sale of milk from diseased cow.
22. Entry and inspection, removal of food, &c.
23. Purchase of samples for analysis.
26. Analysis by direction of councils.
27. Appointment of analysts.
28. Analysts acting for local authorities.
29. Certificate of analyst as evidence.
31. Mode of determining strength of liquors.
32. Disqualification of analyst for infringement of regulations.
35. Analysis not to be used for trade purposes.
39. Articles of food, &c., liable to forfeiture.
46. Onus of proof.
47. Guarantee a defence to prosecution; penalty on guarantor.
48. Liability of agent or servant in addition to principal.
50. Prosecution of employee for selling adulterated articles.
52. Suggestive names for articles of food.
53. Publication of names of offenders.

REGISTRATION OF FIRMS, 1902.

4. Firms and persons to be registered.
5. Manner and particulars of registration.
6. Attested statement required; fee.
8. Changes in constitution of firm.
9. Re-registration on change of firm name.
10. Penalty for default in registration.
12. Proceedings against non-registered firms.
13. False returns: penalty.
14. Informations for offences.
15. Registrar-General to file statement and issue certificate of registration.
16. Register and index to be kept.
17. Statements to be available for inspection: fee; certificate of registration to be admitted as *prima facie* evidence.
18. Registrar-General to reply to postal inquiries.
19. Registrar-General to report offences against Act.

SATURDAY HALF-HOLIDAY, 1910.

2. Incorporation with Early Closing Act, 1899, and amendments.
3. Closing time of non-scheduled shops in Metropolitan, Newcastle, and county of Northumberland shopping districts, viz., Saturday, 1 p.m.; Friday, 10 p.m.; other week days, 6 p.m. Savings in case of holiday occurring.
4. Penalties.
5. Power to extend the Act to country shopping districts by proclamation, based on a resolution of both Houses of Parliament.

SCAFFOLDING AND LIFTS, 1912.

4. Applicability to metropolitan area, and to other areas on gazettal.
5. Appointment of inspectors.

Erection and regulation of scaffolding, engines, steam cranes, lifts, and gear

6. Notice required of intention to erect; emergencies.
7. Gear and erection to be in accordance with regulation.
8. Subject matter for new regulations.
9. Mode of proclaiming amendments of regulations.

SCAFFOLDING AND LIFTS, 1912—*continued.*

Clause.

Lifts.

10. Notice of intention to erect.
11. Authorised attendants to be in charge of passenger lifts.
12. Name of attendant to be displayed in lift.

Inspection.

13. Periodical inspections ; right of entry of inspectors.
14. Suspension of incompetent attendant.
15. Inspectors directions as to scaffolding, &c. ; orders for cessation of work ; appeals.
16. Obstruction of inspectors.

Drivers of Steam Cranes.

17. Driver in charge to be certificated ; issue of certificates.

SEAMEN'S, 1898.

6. Appointment of shipping masters at ports.
7. Duties of shipping masters.
8. Fees payable to shipping masters on engagements and discharges.
9. Shipping master to hear and decide questions referred by parties : his award binding.
10. In such proceedings shipping master may call for ship's papers, and summon witnesses : penalty.
13. Indentures : mode of execution and attestation.
14. Indentures to be in duplicate ; records to be kept by shipping master ; assignment of indentures : penalty for infringement.
15. Apprentices from charitable institutions.
16. Apprentices on foreign-going ships : records in ship's articles : penalty for default ; apprentices on interstate ships.
17. Agreements to be made ; details and stipulations ; duplicates.
18. Seamen to be engaged before shipping master or on board the ship in which they are to serve. Attestation of agreements : production of discharges.
19. Rules respecting agreements : foreign-going ships.
20. Running agreements : fees payable.
21. Running agreements : duplicates.
22. Special agreements for interstate ships of same owners. Twenty-four hour interval on changing ship.
23. Penalty for shipping seamen without agreement duly executed.
24. Changes in crew to be reported : penalty.
25. Alterations in agreements voided unless attested as made with consent of parties ; proof of consent.
26. Falsifying agreements : penalty.
27. Seamen not bound to produce agreement.
28. Unsigned copy of agreement to be posted on board.
29. Compensation for discharge before termination of agreement.
30. Penalty for unlawfully supplying seamen, or employing others so to do, or receiving seamen unlawfully supplied, or receiving remuneration from seamen for shipping them.
31. Pacific Islanders to be engaged before shipping masters. Agreements unenforceable if not made before shipping master or consul.
32. Procedure in making agreements with Islanders : stipulations ; duplicates : explanation by shipping master.
33. Contravention : penalty. Limitation regarding proceedings.
34. Pacific Islanders to be discharged and paid before shipping masters : penalty.
35. Mode of discharging seamen ; shipping master to retain discharge till applied for : penalty.
36. No discharge necessary on immediate re-engagement.
37. On discharge, master to deliver account of wages : deduction not allowed unless on account ; to be recorded in master's book ; production.
38. Loss or absence of discharge ; license to ship.
39. Master to report as to character of seamen discharged ; false discharges or reports.
40. Right to wages : commencement.
41. Inalienable right to recovery of wages, and to lien upon ship for such recovery stipulations abandoning rights to be void ; exemption of salvage service.
42. Wages not to be dependent on the earning of freight ; saving wreck or loss of ship.
43. Sale of and charge upon salvage on wages invalid. Payment good as against assignment, attachment, &c.
44. Right to wages in case of termination of service by wreck or illness.
45. Wages not to accrue during refusal to work or imprisonment.
46. Wages to be paid within given time limit ; exemption in case of profit-sharing adventures : penalty.

Clause.

SEAMEN'S, 1898—*continued.*

47. Payment of wages to seamen left behind on ground of inability; indorsement on bill drawn on owner; absence of full account; false account.
48. Rules for settlement of wages: release signed before, and attested by, shipping master: to act as discharge, and to be evidence; no other receipt to operate as discharge: voucher to be given to master.
49. Ascertaining amount of forfeiture.
50. Questions of forfeiture may be decided in suits for wages.
51. Proving desertion as concerning forfeiture of wages.
52. Costs of procuring conviction may be deducted from wages.
53. Allotment notes: stipulations necessary in agreements.
54. Relatives may sue summarily upon allotment notes: procedure: evidence: forfeiture; deserting wife voids her rights.
55. Seamen may sue summarily for wages not exceeding £50: orders payable within limited time: no appeal from orders.
56. Restrictions on suits for wages in superior courts.
57. Master's remedies similar to seaman's: Court of Admiralty may decide counter-claims.
58. Master to take charge of or sell effects of deceased seamen left on board; records in *l.g.*
59. Effects and wages to be delivered to shipping master with full account.
60. Infringement; owner to account on default of master: proceedings in recovery of wages and effects.
61. Wages and effects of seamen dying in New South Wales.
62. Wages and property of less value than £50 may be paid over without probate or administration; Minister may require probate.
63. Wages and effects valued in excess of £50 to be paid to legal personal representative.
64. Payments under wills made by seamen.
65. Payment of just claims by creditors: prevention of fraudulent claims.
66. Unclaimed wages of deceased seamen to be paid into Treasury; rights after six years at discretion of Minister.
67. Punishment of forgery and false representations to obtain wages and property of deceased seamen.
68. Recovery of wages, &c., of seamen lost with their ship.
69. Chest of medicine to be kept on board; annual overhaul and replenishment; penalty.
70. Lemon juice, sugar, and vinegar to be kept on board and served out; default of owner.
71. Masters to keep weights and measures.
72. Allowance for short or bad provisions; substitutes.
73. Expenses of medical attendance, &c., to be defrayed by owner; exception in cases of misconduct of seamen, &c.
74. Wrongfully leaving seamen behind: misdemeanour.
75. Discharging or leaving seamen without sanction of responsible official.
76. Onus of proof of sanction or certificate to lie upon master.
77. Penalty for overcharge by lodging-house keeper.
78. Penalty for detaining seamen's effects.
79. Penalty for boarding a ship before actual arrival at place of discharge.
80. Penalty for solicitation by lodging-house keeper, or for removal of seamen's effects.
81. Misconduct endangering ship, or life, or limb.
82. Offences of seamen and apprentices: desertion; neglecting to join ship; quitting; disobedience; assault; combining to disobey; wilful damage or embezzlement; smuggling.
83. Absence without leave for institution of legal proceedings: penalty on master or officer for refusal of such leave; limitations.
84. Entry in log of offence and offender's defence.
85. Deserters may be sent on board in lieu of imprisonment.
86. Penalty for false statement of name, or last ship.
87. Penalties for enticing to desert and for harbouring deserters.
88. Desertion to be prosecuted, after departure of ship, by shipping master.
89. Penalty on deserting seaman for secreting himself on board any other ship.
90. Drunk or disorderly seamen may be given in custody by master.
91. Detention of seamen deserting from one ship to another: limitations.
92. List of crew to be delivered to shipping master on arrival of ship.
93. Masters of foreign-going vessels to supply to shipping master verified copies of ship's articles, and of entry of desertions: penalty.
94. Coasters liable to be searched for deserters: penalty for obstruction.
95. A man to be at all times in charge of deck, and respond to challenges by police or Customs: penalty.
96. Masters, before clearing, to deliver lists of crew and passengers, &c.: penalty; exemption if on Customs House clearance.

Clause.

SEAMEN'S, 1898—*continued*.

97. Persons found on board after clearance may be detained.
98. Vessels not to put to sea till searched, not to cast anchor after search in limits of port: exceptions: penalty.
99. Penalty on master of vessel for concealing a person on board.
100. Persons dying on board ship, in port or harbour, to be buried ashore.
101. Insubordination upon vessels in port.
102. Persons going alongside or aboard between sunset and sunrise.
103. Damaging boats: penalty.
104. Obstructing or resisting search for offenders.
105. Vessels may be boarded and searched.
106. Appropriation of penalties.
107. Appeal to Quarter Sessions: time limits.
108. Costs against unsuccessful appellant: indemnity to justices.
109. No *certiorari*; process not to be void by defects.
110. Penalty on witnesses.
111. No action to lie against peace officers without proof of malice; defendant's costs.
112. Governor to make regulations.
113. Police boats to patrol Port Jackson.
114. Magistrates' power to cancel waterman's license.
115. Printed forms to be supplied by shipping masters.
116. Penalties for offences not specified.
117. Recovery and application of penalties.
118. Documents may be proved without calling attesting witnesses.
119. Sums ordered to be paid leviable by distress, on vessels.

SECOND-HAND DEALERS AND COLLECTORS, 1906.

Dealers.

3. Dealers to be licensed.
4. Applications for license or transfer: currency.
5. Notice to be given: police may show cause.
6. Applications to be made by proposed transferee.
7. Endorsement of transfer upon license.
8. Name to be painted outside premises; entry to be made on letting truck; records to be kept of old wares purchased or received, sold, or disposed of; police to be notified regarding supposed stolen articles; form of old wares not to be changed for five days.
9. Dealer to operate only on licensed premises; dealer to produce license on demand; trucks to be lent to licensed collectors only; charges not to be excessive; old wares not to be purchased from persons under age 14; restriction of hours.

Collectors.

10. Collectors to be licensed; license not to issue to persons under age 14; currency of license; fee.
11. Collector's address to be notified; change of address; license to be shown on demand. Special wares to be kept for four days.

Licensing and Inspection.

12. Licenses not to be hired; hours of business; trucks to show address; to be attended by two persons only; entry to, and departure from, premises at command; good behaviour; license void on second conviction; arrest without warrant.
13. No person to act as collector without being licensed; license not to be hired; only licensed dealers to purchase old wares; only licensed collectors to accompany truck.
14. Expiry of license.
15. Presumption that persons are unlicensed.
16. Presumption of possession of old wares.
17. Presumption that records in dealer's book were made by him.
18. License may be revoked.
19. Register of licenses to be kept at each licensing court.
20. Right of entry of inspectors, &c., to dealer's premises.
21. Search may be authorised.
22. Suspicious offering of old wares.
23. Proceedings for offences.
24. Matters to be provided for by regulations.

SHEARER'S ACCOMMODATION, 1901.

2. Savings as to sheds employing less than six shearers.
4. Division of State into inspectorial districts.
5. Appointment of inspectors.
6. (1) Sufficient accommodation in buildings apart from shearing shed.
(2) Requirements as to proper and sufficient accommodation.

Clause.

SHEARER'S ACCOMMODATION, 1901—*continued*.

7. (1) Buildings, other than shearing sheds, to be kept clean by shearers.
(2) Shearers not to permit buildings to be damaged.
(3) Shearers to be responsible for costs of cleaning and repairing.
8. Shearing sheds and buildings shall be inspected and reported upon at least once per annum.
9. Inspector's rights of ingress and egress.
10. Notice to comply with Act in cases of inadequate accommodation.
11. (1) Failure to comply: complaint to a justice, and summons.
(2) Order of court on such complaint.
(3) Penalty on failure to carry out order.
12. Obstruction of inspector.
13. Notice of shearing to be delivered to inspector.
14. Hearing of information in Court of Petty Sessions; penalties.

SMALL DEBTS RECOVERY, 1912.

13. Actions for debt may be brought in residential district of defendant or in district where debt was contracted.
50. Realty and leaseholds not liable to be levied on under writs of execution issued out of Courts of Petty Sessions.
56. Only wages or salary in excess of £2 per week attachable.
75. Arbitration award may be entered as a judgment.

STATE COAL MINES, 1912.

Setting apart and acquisition of land.

2. Setting apart of Crown lands: conditions.
3. Purchase of lands and coal mines authorised.
4. Resumption of land for coal mines.
5. Authority to enter, inspect, and report: notice to be given.
6. Subject matter of report and method of valuation: notice of inquiry.
7. Appeal.
8. Provisions of Public Works Act applicable as regards acquisition of landed interests.
9. Costs of appeal.
10. Setting apart of private lands: compensation to owner and occupier.

Establishment and Management of State Coal Mines.

11. Authority of Minister to open or establish coal mine.
12. Authority to control and operate coal mine.
13. Appointment of officers.
14. Appointment of general superintendent of State coal mines authorised.
15. Mines to vest in general superintendent.
16. Accounts and balance sheet.
17. Coal for railways to be purchased from Minister.
18. Parliamentary appropriations for expenditure.
19. Moneys receivable to go to consolidated revenue.
20. Operations of State coal mine subject to Coal Mines Regulation Acts.
21. Prohibition of residences within half-mile of coal shafts.
22. Regulations to be made.

SYDNEY CORPORATION (DWELLING-HOUSES), 1912.

2. Council empowered to purchase or resume lands as sites for dwelling-houses, within the city boundaries.
3. Power to erect dwelling-houses and to let them.
4. Expenses defrayable out of loan funds.
5. Power to raise loans to provide dwelling-houses and sites therefor

TRADE UNIONS, 1881.

2. Trade union not criminal.
3. Trade union not unlawful for civil purposes.
4. Enforceability of contracts.
5. Savings as to certain Acts.

Registered Trade Unions.

6. Registry.
7. Power to purchase or lease buildings.
8. Property vesting in trustees.
9. Actions by or against trustees.
10. Limitation of responsibility of trustees.
11. Provision in case of absence of trustees.
12. Accounts.
13. Withholding moneys.

TRADE UNIONS, 1881—*continued.**Registry of Trade Unions.*

Clause.

14. Regulations for registry.
15. Withdrawal or cancellation of certificate.
16. Provisions of rules.
17. Registered office.
18. Annual returns.
19. Membership of minors.
20. Nominations.
21. Change of name.
22. Amalgamation.
23. Registration of change of name and amalgamations.
24. Dissolution.
25. Failure to supply returns and notices.
26. Registrar; annual report.
27. Circulating falsified rules.

Legal proceedings.

28. Summary proceedings.
29. Appeal to Quarter Sessions.
30. Interested persons not to act as Court of Appeal.

TRUCK, 1900-1.

1. (1) Wages payable in money only; advances due by agreement, by custom, or otherwise not to be withheld; no deduction to be made on account of poundage, discount, interest, &c.
(2) Contracts made in contravention of this section so far voided; such promises or consideration to be severable from other parts of the contract.
2. Employer not to be a party to any contract stipulating the mode of spending wages nor to require workmen to reside upon the lands of such employer; employer not to dismiss any workman from his employ on account of such matters.
3. The entire amount of wages to be paid in money, and, if demanded, at intervals not exceeding fourteen days; every workman shall be entitled to recover from his employer, in any court of competent jurisdiction, such wages earned as have not been paid in money.
4. No set off allowable to defendant employer for goods supplied to a workman by the employer directly, or by his order.
5. Employer not to have any right of action for goods supplied to his workmen.
6. No deduction to be made from wages for sharpening or repairing tools, except by agreement.
7. Payment of wages may be made by cheque, with consent of workman; remedies of workman; in case of dishonour, workman may recover wages and reasonable damages, in any court of competent jurisdiction.
8. Service of legal process to be effected by delivery to manager or overseer of works; other legal modes of service not barred.
9. Penalties for breaches of the Act.
10. Savings—
 - (1) As to contracts to supply—
 - (1) Medicine, fuel, tools, implements, &c.
 - (2) Tools, outfit to bushmen to extent of two months' wages.
 - (3) Provender for horses.
 - (4) Use of tenement, or house, or other privileges.
 - (5) Advances of money in cases of sickness.
 - (6) Subscriptions to hospitals, county Yancowinna. [Amendment, 1901.]
 - (2) Seamen, domestic servants, and persons employed in agricultural and pastoral pursuits are not bound by this Act.

VINE AND VEGETATION DISEASES AND FRUIT PESTS, 1912.

Vine Disease.

Prevention.

5. Regulation of introduction of vines into New South Wales: quarantine or isolation of vineyards.
6. Inspection.
7. Power of inspectors.
8. Inquiry and action on inspectors' reports.
9. Neglected vineyards.
10. Notification of appearance of disease.
11. Replanting of diseased vineyard prohibited.
12. Penalty for selling infected vines or fruit.
13. Obstruction of inspectors.

VINE AND VEGETATION DISEASES AND FRUIT PESTS, 1912—*continued.*

Clause.

Vine districts.

14. Proclamation.

Vegetation Diseases.

- 68. Regulation of importation of plant likely to introduce disease or insect.
- 69. Conditions of prohibition.
- 70. Importation of insect or fungus prohibited: savings as to scientific purposes.
- 71. Destruction of prohibited imports.
- 72. Inspection of vessels, ship, or place.

Fruit Pests.

- 76. Appointment of inspectors.
- 77. Inspection; treatment of fruit pests.
- 78. Destruction of fruit, diseased plants.
- 79. Certification of nurseries.

WORKMEN'S COMPENSATION, 1910.

- 3. Application to employment, in—
 - (a) Stated (hazardous) callings.
 - (b) Other employments, declared to be dangerous.
- 4. Application to employees by or under the Crown.
- 5. Liability of employers; subject to Schedule 2.
- 6. Savings as to employers' liability in case of—
 - (a) Incapacitation for less than two weeks.
 - (b) Serious or wilful misconduct of the workman.
- 7. Procedure in recovery of compensation—
 - (a) Under District Courts Act, 1901.
 - (b) Under Small Debts Recovery Act, 1899.
- 8. Right of workmen—
 - (a) No bar as to civil liability of employer.
 - (b) Optional claim under this Act, or independently.
- 9. Procedure when action wrongly brought.
- 10. Proceedings for fines not affected.
- 11. Deductions from compensation.
- 12. Notice of accident and of proceedings.
- 13. Form and service of notice.
- 14. Contracting out.
- 15. Sub-contracting.
- 16. Claims of workmen in case of bankruptcy of employer, or winding up of a company; first charges.
- 17. Remedies against employer and stranger—
 - Recovery of damages and compensation barred; indemnity of sub-contractor.
- 18. Existing contracts.
- 19. Annual returns, specifying injuries and compensation paid; penalty.

Schedules.

- I. Members of workman's family.
 - 1. Scale and conditions of compensation when results from injury are—
 - (1) Death or
 - (2) Total, or partial, incapacity
 - 2. Calculation of "average weekly earnings."
 - 3. Fixing amount of weekly payment.
 - 4. Payment to representatives or dependents.
 - 5. Settlement by court.
 - 6. Investment or application of compensation.
 - 7. Remarriage or misconduct of widow.
 - 8. Medical examination of workman after notice of accident.
 - 9. Medical examination of workman receiving weekly payments.
 - 10. Regulations as to medical examination.
 - 11. Review of weekly payments.
 - 12. Payment of aggregate sum.
 - 13. Compensation not assignable.
 - 14. Payments to minors.
 - 15. Suspension of right to compensation.

FOOD AND PRICES.

FOOD SUPPLY.

NEW South Wales is capable of producing in abundance most of the materials essential to the sustenance of human life, and so far as actual necessities are concerned the State is practically independent of external assistance. Despite the comparatively high rate of wages which prevails, food of all kinds is obtainable readily, and articles of diet, which in other countries are almost within the category of luxuries, are consumed by all classes of the people in New South Wales, indicating a fairly high standard of living.

In the portions of this Year Book dealing with primary and manufacturing production, sufficient evidence is given in detail as to the various industries, viz., pastoral, agricultural, dairying, mining, forestry and fisheries, and manufacturing, to show the extent to which the State is independent of external sources of supply, though as the community is yet in an early stage of development, it is to be expected that raw materials should form a much larger proportion of the volume and value of production than the products of manufactures which are usually coincident with a more advanced stage of development. Although in the production of necessities the State may be considered self-contained, there is vast opportunity for further and systematic development of its resources, as may be gathered by a study of the import and export trade figures in relation to primary products.

For purposes of review, a summary is given of the production from local industries. The extent to which food products are imported may be seen by reference to the section of this Year Book relating to Commerce.

VALUES OF LOCAL INDUSTRIES.

The total value of production from the principal industries reached the very satisfactory sum during 1911 of £66,201,000, which is far in advance of the total of any former year, and constitutes a record. The pastoral industry has for many years been the chief source of the wealth of the State, the production of 1911 being £19,434,000. The production from the manufacturing industry has increased very rapidly during the last 6 years, and in 1911 was almost equal to the pastoral, being valued at £19,143,000; the pastoral production was, however, affected by an adverse season.

The statement below shows the estimated value of production of the various industries, at the place of production, at intervals since 1891. The figures are the best approximations from the data available:—

Value of Production. (*In thousands, 000 omitted.*)

Year.	Pastoral.	Agricultural.	Dairying.	Poultry, Bees, Rabbits.	Mining.	Forestry and Fisheries.	Manufacturing.	Total, all Industries.
	£	£	£	£	£	£	£	£
1891	14,725	3,615	2,735	.....	6,434	758	7,799	36,066
1896	11,774	5,374	2,546	.....	4,465	715	7,302	32,176
1901	12,552	7,060	3,046	.....	5,681	733	9,742	38,814
1902	10,731	4,139	3,403	.....	5,102	695	10,000	34,070
1903	12,777	8,359	3,276	.....	5,958	779	9,601	40,750
1904*	13,373	5,414	2,753	799	6,243	900	9,899	39,381
1905	17,113	6,543	3,123	1,228	6,897	1,190	10,631	46,725
1906	19,743	7,518	3,425	1,693	7,913	1,536	11,906	53,734
1907	22,231	6,588	3,567	1,708	10,295	1,382	13,481	59,302
1908	18,846	8,319	4,064	1,732	8,384	1,165	13,633	56,143
1909	19,040	10,908	3,983	1,990	7,463	1,096	14,536	58,956
1910	21,028	9,493	4,796	2,119	8,455	1,108	16,794	63,793
1911	19,434	9,749	5,215	2,055	9,410	1,185	19,143	66,201

Prior to 1904 the value of production from poultry and bee farming was included with Dairying, but has subsequently been included with rabbits under a separate heading.

In the next statement are shown the equivalent values, per head of population, of the products of local industries over the same periods, viz. :—

Year.	Pastoral.	Agricultural.	Dairying.	Mining.	Forestry, Fisheries, and Other Primary.	Manu- facturing.	Total all Industries.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1891	12 13 5	3 2 2	2 7 1	5 10 9	0 13 1	6 14 2	31 0 8
1896	9 4 0	4 4 1	1 19 10	3 9 10	0 11 2	5 14 2	25 3 1
1901	9 3 8	5 3 4	2 4 7	4 3 1	0 10 9	7 2 6	28 7 11
1902	7 14 7	2 19 7	2 9 0	3 13 6	0 10 0	7 4 1	24 10 9
1903	9 1 7	5 18 9	2 6 7	4 4 8	0 11 1	6 16 5	28 19 1
1904	9 7 2	3 15 10	1 18 6	4 7 5	1 3 9	6 18 7	27 11 3
1905	11 15 3	4 9 11	2 2 11	4 14 10	1 13 3	7 6 2	32 2 4
1906	13 6 0	5 1 3	2 6 2	5 6 7	2 3 6	8 0 5	36 3 11
1907	14 13 7	4 6 10	2 7 0	6 15 8	2 0 8	8 17 7	39 1 4
1908	12 3 10	5 7 7	2 12 7	5 8 6	1 17 6	8 16 5	36 6 5
1909	12 1 5	6 18 4	2 10 6	4 13 10	1 19 2	9 4 4	37 7 7
1910	13 0 2	5 17 6	2 19 4	5 4 8	1 19 11	10 7 10	39 9 5
1911	11 13 6	5 17 2	3 2 8	5 13 0	1 19 0	11 10 0	39 15 4

The following table shows the total value of production in various years from 1871 onwards, and the resultant return per head of population :—

Year.	Value of Production.		Year.	Value of Production.	
	Aggregate. (,000 omitted).	Per head of Population.		Aggregate. (,000 omitted).	Per head of Population.
	£	£ s. d.		£	£ s. d.
1871	15,379	30 5 3	1907	59,302	39 1 4
1881	25,180	32 18 3	1908	56,143	36 6 5
1891	36,066	31 0 8	1909	58,956	37 7 7
1901	38,812	28 7 11	1910	63,793	39 9 5
1906	53,734	36 3 11	1911	66,201	39 15 4

These figures show that since 1871 the aggregate value of production has increased by nearly 51 million pounds, and the value, per head of population, by £9 10s. From the primary industries alone the return in 1911 was £47,058,000, equal to £28 5s. 4d. per head, or what is perhaps a better standard, £151 12s. 5d. per square mile. The figures are unsurpassed by any country outside Australasia, and afford ample justification for the investment of the capital which has secured such results.

Variations in prices, mainly due to causes quite beyond local control, and the general conditions of the season, are the most powerful factors in regulating the volume and value of production; but making due allowance for these factors, the steady advance noticeable throughout the period covered by the figures given above is a magnificent testimony to the wealth of the State, and the bountiful returns which it yields.

The steady progress of the value of production from the various industries during the last fifteen years may be seen in the following statement, which shows the average annual value during quinquennial periods since 1897.

As in previous tables, the figures represent the actual value received by the primary producers at the place of production, and, in the manufacturing industry, the value added to raw materials by the processes of treatment, not the value of articles manufactured or work done :—

Industry.	Average Annual Value of Production.					
	Total (,000 omitted.)			Per head of Population.		
	1897-1901.	1902-1906.	1907-1911.	1897-1901.	1902- 006.	1907-1911.
	£	£	£	£ s. d.	£ s. d.	£ s. d.
Pastoral	13,166	14,747	20,126	9 17 9	10 5 10	12 14 1
Agricultural	5,930	6,395	9,012	4 9 1	4 9 3	5 13 9
Dairying	2,923	3,940	4,325	2 3 11	2 15 0	2 14 7
Poultry, bees, rabbits }						
Forestry and fisheries...	743	1,020	1,189	0 11 2	0 14 3	0 15 0
Mining	5,475	6,423	8,789	4 2 3	4 9 8	5 10 11
Total Primary	28,237	32,525	45,362	21 4 2	22 14 0	28 12 7
Manufacturing	9,022	10,407	15,517	6 15 6	7 5 3	9 15 11
Total all Industries...	37,259	42,932	60,879	27 19 8	29 19 3	38 8 6

Taking the annual average for the quinquennium 1897-1901 as 100 in each case, the average for all industries for the second period was 115, and for the third quinquennium 1907-1911, 163. The dairying industry showed the largest relative increase during 1907-1911 as compared with 1897-1901, 114 per cent., then the manufacturing industry, 72 per cent. :—

Industry.	1902-1906.	1907-1911.
Pastoral	112	153
Agricultural	108	152
Dairying, Poultry, &c.	135	214
Forestry and Fisheries	137	160
Mining	117	161
Total, Primary... ..	115	161
Manufacturing	115	172
Total, All Industries	115	163

IMPORTS AND EXPORTS.

During the year 1909, the latest for which the imports and exports of the the State were recorded, domestic produce to the value of £33,446,016 was exported, viz., to other Australian States, £11,674,436; to countries oversea, £21,771,580. The value of local production unexported was £25,509,984, being less than half the total value of local production. These unexported local products were supplemented by imported goods to the value of £38,034,962. In chapter Commerce, details are given as to the import and export trade of the State; a review of the figures shows that the value of food and drink &c., imported during 1909 was £6,896,310; textiles and dress stuffs were valued at £6,686,816, these two groups thus representing 18·13 per cent., and 17·58 per cent. respectively of total imports.

Domestic produce exported included commodities, other than gold, to the value of £32,658,639, and of these commodities, food and drinks, &c.,

were worth £4,559,003; textiles and staple animal and vegetable substances, £17,556,465. Wool holds first place among the articles of export; and far lower down in the scale come skins and hides, then meat; these products range between $1\frac{1}{4}$ and $1\frac{1}{2}$ million pounds in value annually.

FOOD CONSUMPTION.

With the cessation, on 13th September, 1910, of the system of keeping records of all interstate trade, it has become impossible to determine the value of imports to, and exports from, the State, or to assess the extent and value of commodities consumed, or, in some cases, produced locally. Consequently, tables which have been published hitherto, cannot be continued.

The annual consumption per capita of the principal articles of diet, based on an average of three years, ending in December, 1909, shows the following approximations:—

		lb.	lb.			lb.	
Meat	{	Beef ...	141·8	}	249·4	Salt	38·5
		Mutton ...	96·5			Butter	26·1
		Pork, &c. ...	11·1			Cheese	3·5
Fish	{	Fresh ...	7·0	}	11·6		gal.
		Preserved ...	4·6			Milk { Fresh	17·4
Potatoes						lb.	
Flour			181·0			4·4	
Rice			228·4			7·3	
Oatmeal			8·2			oz.	
Sugar			7·6			11·0	
			103·8				

Comparison with an average dietary in older and colder countries, as in Germany or in England, serves to prove the truth of the assertion so often made, that the standard of living in New South Wales, and in fact throughout Australia, is high relatively to that of any other community. For instance, the average quantity of specified articles of food consumed annually per family, and per individual, in selected German workmen's families is quoted as follows, viz. :—

	Per Family.	Per Individual.
Meat—lb.	288·36	60·63
Butter—lb.	77·60	16·31
„ Substitutes—lb.	62·83	13·25
Cheese—lb.	40·34	8·38
Potatoes—lb.	965·39	202·82
Coffee—lb.	32·41	6·83
Milk—qt.	532·89	111·90

The remarkable feature of the per capita quotations for New South Wales is the large amount of meat consumed. In other countries where meat and butter are not easily obtainable these articles are replaced in the dietary, *e.g.*, by cheese which is a cheap and nutritious substitute for meat, and by suet and other fats. But the consumption of fresh meat within New South Wales is now far below the average of earlier years. The immediate cause of the diminished consumption was the sudden increase in prices during 1901, when the retail values rose 50 per cent. above those of the preceding year. Prices have not since fallen to their former level, being stimulated by the large export trade; and production generally has become more varied, so that the population, unable to maintain the former liberal consumption of animal food, has substituted a more varied dietary made up by vegetables and cereal foods, and fish in small but increasing quantities.

Further information regarding the meat supply is given in the chapter "Pastoral Industry."

Fish.

The local supply marketed, which constitutes the bulk of fresh fish consumed, amounted in 1911 to 12,920,940 lb., exclusive of 1,427 dozen crayfish and 21,053 bags of oysters. It is estimated that approximately 4,000,000 lb. are disposed of each year without passing through the recognised markets; supplies pass, unrecorded, from various rivers to country towns in the State, from the northern rivers into Queensland, and from the south into Victoria.

The supply of fish during 1912 included 13,158,948 lb. of fresh fish, 10,417 dozen crayfish, 191,880 quarts of prawns, and 17,621 bags of oysters. Contrasted with the local consumption of fresh meat, which averaged almost 11 oz. per capita per day, or with the consumption of fish in other countries, this practical failure of fish foods to enter into the ordinary dietary is matter of great concern, and it may therefore be of interest to refer to the fishing industry generally, and the sources of local supplies, of which details are quoted in the chapter of this Year Book devoted to Fisheries. The conclusions of the Royal Commission on Food Supply and Prices as pertaining to the fish supply of Sydney are shown subsequently in this chapter.

Potatoes.

The consumption of potatoes is subject to considerable fluctuation. In 1904 it amounted apparently to 125,000 tons, but fell to 87,000 tons in the succeeding year when prices became higher. In 1908 it reverted to the figures of 1904, but in 1909 it dropped to 96,000 tons. Local production varies greatly, but is seldom equal to the demand, and the State is usually compelled to import supplies, mainly from the neighbouring States.

Sugar.

The consumption of sugar is considerable, reaching the average of 103·8 lb. per head of population. The northern rivers district is adapted to the growing of sugar-cane, and during the four years ended on 31st March, 1899, the average area cut was over 15,000 acres. With the growth of dairy-farming the industry has declined, and now within the State less than 6,000 acres of cane are cut annually.

In New South Wales only one company is engaged in sugar milling and refining; its mills in Australia number six, of which four are in New South Wales. All the sugar is produced from cane; beet is not grown for sugar in the State. All sugar imported is subject to the duty of £6 per ton; the excise hitherto payable on sugar of Australian origin has been discounted by a bounty system for sugar manufactured from cane grown by white labour under standard industrial conditions. The Sugar Excise Repeal Act, 1912, and the Sugar Bounty Abolition Act, 1912, repeal the excise and bounty system. These enactments are operative on proclamation. In New South Wales cane is grown on the northern rivers, but locally grown and crushed cane forms a comparatively small proportion of the raw sugar treated in the local refinery.

Tea and Coffee.

Tea enters largely into consumption amongst all classes, the average annual consumption being about 7 lbs. per head. Coffee, on the other hand, averages only 11 oz. per head; there are indications however that the consumption of coffee is increasing. The bulk of the tea is imported from Ceylon

From the following comparison of the average consumption of tea and coffee in various countries it is apparent, as regards tea, that New Zealand, Australia, and the United Kingdom are the largest consumers; the Netherlands and United States of America show the highest averages for coffee:—

Country.	Annual Consumption per head of Population.	
	Tea.	Coffee.
	lb.	lb.
New Zealand	7·45	0·24
<i>Australia</i>	6·83	0·52
United Kingdom	6·39	0·65
Canada	4·34	1·46
Netherlands	2·07	15·12
United States of America ...	0·89	9·33
Natal	0·86	·35
Cape of Good Hope	0·82	6·97
German Empire	0·11	5·80
France	0·07	6·26

CONSUMPTION OF INTOXICANTS.

As with other commodities, so with alcoholic beverages, it is not possible to compute the volume and value of local consumption. To supply a basis for approximations, however, details are given as to the ascertained consumption up to and inclusive of 1909, when the volume of spirits consumed in New South Wales was 1,295,400 gallons (proof), of which 123,800 gallons were Australian produce, and 1,171,600 gallons were imported. The consumption per head, 0·82 gallons, was equal to the average for the previous five years, as will be seen from the following table:—

Year.	Consumption of Spirits.		Year.	Consumption of Spirits.	
	Aggregate.	Per Inhabitant.		Aggregate.	Per Inhabitant.
	gallons.	gallons.		gallons.	gallons.
1891	1,268,400	1·11	1903	1,127,200	0·80
1895	921,500	0·73	1904	1,126,400	0·79
1898	986,300	0·74	1905	1,131,500	0·78
1899	1,005,800	0·75	1906	1,163,600	0·78
1900	1,104,000	0·82	1907	1,419,900	0·94
1901	1,245,700	0·91	1908	1,188,200	0·77
1902	1,260,400	0·91	1909	1,295,400	0·82

The average consumption of beer per head of population declined considerably from 1891, when the rate was 11·43 gallons per capita, and in 1905 was lower than in any previous year for which information is available, namely, 9·07 gallons per head. The rate subsequently rose in each year to a maximum of about 10 gallons annually for each inhabitant. The consumption

of imported beer decreased, though not to the extent indicated in the following table, as in the two earlier years the figures included imports from other Australian States :—

Year.	Consumption of Beer			
	Aggregate.			Per Inhabitant.
	Locally brewed.	Imported.	Total.	
	gallons.	gallons.	gallons.	gallons.
1900	13,274,700	1,619,000	14,893,700	11·00
1901	13,118,300	1,757,900	14,876,200	10·88
1902	13,441,300	1,121,300	14,562,600	10·49
1903	12,571,700	1,011,500	13,583,200	9·65
1904	12,079,400	940,900	13,020,300	9·11
1905	12,327,900	867,800	13,195,700	9·07
1906	12,716,800	812,400	13,529,200	9·11
1907	14,278,800	945,700	15,224,500	10·03
1908	14,856,800	906,800	15,763,600	10·20
1909	15,240,000	973,500	16,213,500	10·28

The wine entering into consumption in New South Wales is chiefly the produce of Australian vineyards; but the quantity produced in the State is much less than might be expected in a country so eminently adapted for viticulture. The quantity of Australian and foreign wines consumed during recent years is shown below :—

Year.	Consumption of Wine.			
	Aggregate.			Per Inhabitant.
	Australian.	Foreign.	Total.	
	gallons.	gallons.	gallons.	gallons.
1899	831,800	75,500	907,300	0·67
1900	816,900	87,000	903,900	0·67
1901	700,000	94,000	794,000	0·58
1902	851,600	167,900	1,019,500	0·73
1903	845,300	107,600	952,900	0·68
1904	941,100	40,500	981,600	0·69
1905	1,075,500	29,100	1,104,600	0·76
1906	1,094,600	39,400	1,134,000	0·76
1907	927,000	43,000	970,000	0·64
1908	850,800	41,800	892,600	0·58
1909	877,700	43,600	921,300	0·58

Compared with other countries the average consumption per head of population of alcoholic beverages in Australia is moderate, as will be seen from the following table. The figures are based on the latest available data, and in the majority of cases represent the average of the years 1905-1909 :—

Country.	Consumption per Head of Population.		
	Spirits.	Wine.	Beer.
	galls.	galls.	galls.
Germany	1·48	1·19	23·7
Netherlands	1·39	·35	8·0
France	1·33	34·50	8·0
United States of America	1·23	·49	16·1
Canada	·87	·10	5·5
United Kingdom	·86	·27	27·4
Australia	·82	1·14	11·0
New Zealand	·77	·14	9·8
Italy	·43	25·80	9·2
Union of South Africa	·42	·62	1·3

Of the representative countries quoted, Germany, France, and the United Kingdom, are respectively the greatest consumers under the three heads of spirits, wine, and beer; and it is worthy of note that Australia compares so favourably in all three classes.

TOBACCO.

The consumption of tobacco during the seven years, 1903-09 is recorded below :—

Year	Consumption of Tobacco.					
	Aggregate.			Per head of Population.		
	Tobacco.	Cigars.	Cigarettes.	Tobacco.	Cigars.	Cigarettes.
	lb.	lb.	lb.	lb.	lb.	lb.
1903	3,365,500	180,400	440,100	2·39	·13	·31
1904	3,199,200	184,000	512,000	2·24	·13	·36
1905	3,426,200	189,100	525,400	2·36	·13	·36
1906	3,603,000	202,900	558,800	2·43	·14	·38
1907	3,607,700	271,400	622,000	2·33	·18	·41
1908	3,747,800	244,800	690,700	2·42	·16	·45
1909	3,724,100	223,300	719,800	2·36	·14	·46

The quantity of tobacco consumed in 1909 was 4,667,200 lb., the figures including tobacco, cigars, and cigarettes. This is equivalent to 2·96 lb. per inhabitant, and is slightly below the average of 1908, which was 3·03 lb. per head. The consumption is gradually increasing; ten years ago the average per head was just over 2½ lb., and from 1900 to 1904 not quite 2¾ lb. per head. The figures for 1909 are as follows :—

Description.	Consumption of Tobacco.			
	Aggregate.			Per head of Population.
	Imported.	Australian.	Total.	
	lb.	lb.	lb.	lb.
Tobacco ...	492,600	3,231,500	3,724,100	2·36
Cigars ...	114,100	109,200	223,300	·14
Cigarettes ...	42,100	677,700	719,800	·46
Total ...	648,800	4,018,400	4,667,200	2·96

In regard to the description of tobacco used there had been a large increase in the quantity of cigarettes. In 1890 about 88 per cent. of the total consumption was of ordinary tobacco, in 1909 the proportion had fallen to 80 per cent.; of cigars, the consumption was about 8·5 per cent., as compared with 5 per cent.; and of cigarettes 3·5 per cent. in 1890, compared with 15 per cent. in 1909.

FISH SUPPLY OF SYDNEY.

The fish supply of Sydney was the subject of a special investigation by the Royal Commission of Inquiry as to Food Supplies and Prices. A summary of the conclusions of the Commission regarding the ocean and coastal fisheries is shown hereunder. The investigation of the inland fisheries had not been completed at the date of the report.

Food Value of Fish.

From expert evidence before the Commission the following conclusions were deduced as to the physiological value of fish :—

1. Fish is a valuable article of food; it is nutritious; easily digestible, almost wholly absorbed; and furnishes variety of diet, which is essential.
2. Compared with meat it has less value as a builder of tissue and muscle. As a supplier of energy, "fatty" fish has a value about equal to meat; the finer classes of fish have less nutritive value.
3. Canned fish contains all the nutritive properties of fresh fish, but is generally less digestible.
4. Fish commonly regarded as "inferior" or "cheap" such as mullet, blackfish, tailer, salmon, herring, is of equal if not superior nutritive value to the more expensive classes of fish, such as whiting, snapper, &c. Most of the latter, however, are digested more easily.

Conditions of Industry.

The Commission Report shows that the position of the fish supply is generally unsatisfactory, supplies are irregular and inadequate, and there is no effective system of distribution. Evidence showed that the prices of fresh fish have increased considerably during the last twelve years, although the quantity marketed in Sydney has increased at a much greater rate than the population.

Regarding the economic conditions of the fishing industry the Commissioners found a notable lack of organisation. Fishing in New South Wales is done principally by men working individually or in groups on the share system. The standard of living in out-of-the-way villages is not high, consequently the incentives of economic necessity or commercial rivalry do not operate towards maintaining the supply. Moreover the methods and appliances of the fisherman are antiquated.

In order to ensure an increased and more regular supply, and to place it in the consumer's hands in a wholesome condition and at a moderate price, the Commission recommended (a) the development of the deep-sea fisheries, and (b) the improvement of the conditions under which the inshore fisheries (*i.e.*, fisheries in river estuaries, and coastal lakes and inlets) are conducted.

Deep-sea Fisheries.

The seaboard waters of New South Wales teem with edible fish of many varieties, some eminently suitable for preserving in different ways, and others for consuming in a fresh state. The resources of the deep-sea fisheries are practically untouched, and less than one-tenth of the Sydney supply comes from this source.

The methods recommended for the development of the deep-sea fisheries were :—

- (1) The encouragement of long-line fishing. Investigations show that there are unlimited areas close to the coast which offer suitable grounds for this method.
- (2) The introduction of surface-netting, by means of the purse-seine and drift-net, in ocean waters.
- (3) The establishment of the trawling system on which the complete development of the deep-sea fisheries depends.

The Commission recommended that if within a reasonable time no satisfactory efforts have been made by private enterprise to exploit the vast resources of the ocean fisheries, the Government should undertake the work and equip a small fleet with the most modern appliances for trawling, surface-netting, and long-line fishing.

Inshore Fisheries.

The river estuaries, lakes, and inlets along the coast at present furnish nine-tenths of the Sydney fish supply. The classes of fish produced in these grounds differ from those in the deep seas, and must remain an important source of supply. The conclusions and recommendations of the Commission apply primarily to this branch of fisheries.

Handling, Marketing, and Distribution.

Communication between the inshore fishing-grounds and the Sydney market depends mainly on ocean transport, as only those between Newcastle on the north and Jervis Bay on the south are connected by rail. After capture, the fish is taken to the point of shipment in the fishermen's boats; it is then washed and packed in cases. For sea carriage the capacity of the cases varies from 252 to 840 lb. of fish exclusive of ice; fish carried by rail is packed in cases of a capacity of 65 lb. to 80 lb. The cases are usually the property of the agents, who charge a small rental for their use.

The freight charges to Sydney from the various fishing grounds are as follows :—

Point of Shipment.	Distance from Sydney.	Freight.
Ocean—	miles.	per basket.
Between Richmond and Manning Rivers.	321-134	1s.
Cape Hawke	120	1s. 6d.—2s.
Port Stephens	83	*2s.—2s. 6d.
Between Nowra and Wagonga	69-159	9d.
Bermagui	170	1s.
Tathra	186	1s.
Merimbula and Eden	208	1s. 3d.
Railway—		
Nowra	93	1s. 6d.

* Myall Lakes to Port Stephens, 6d.—1s. extra.

Cartage from wharf or station to the markets is undertaken by the agents to whom the fish is consigned, at a charge of 6d. a basket.

Fish Markets.

There are three fish markets in Sydney, the bulk of the supply being handled in two—the Municipal Fish Markets and the Commonwealth Fish Exchange. The former is controlled by the Sydney Municipal Council, which acts as selling agent; private agents are, however, allowed to conduct business in the Council's building. The Commonwealth Fish Exchange is owned and controlled by a private company, most of the agents operating on its premises being shareholders.

Fish is sold in the markets by agents both by auction and by private treaty; the Municipal Council sells by auction only. Inspection in the Municipal Market is carried out by an officer of the Council; in the Commonwealth Fish Exchange, which is outside the City boundaries, it was undertaken by the Redfern Municipal Council until recently, when this duty was transferred to a Government Inspector acting under the Pure Food Act.

The marketing charges, in addition to rail or steamer freight, are as follows :—

								per basket.
Wharfage dues	...	...	...	...	...	...	...	1d.
Cartage, wharf to market	...	...	...	...	...	...	...	6d.
Market dues—								
Municipal Market	...	...	...	...	...	...	...	4d.
Commonwealth Market	...	...	...	...	...	...	...	3d.

Case rent—1s. per trip—is charged also by some agents, and on any fish placed in cool storage additional dues must be paid. The private agents charge a selling commission of 10 per cent., out of which they pay the market dues. The Municipal Council charges 5 per cent. commission, and debits the fisherman with the market dues.

Distribution.

The need for an effective system of general distribution of fish to private consumers is urgent. The buyers at the markets comprise mainly wholesale and retail dealers, and hotel, restaurant, and boarding-house keepers; few private consumers attend the sales.

In the nearer suburbs a few dealers maintain regular rounds for the purpose of house-to-house distribution. In the more distant suburbs distribution is carried on only by hawkers and basketmen, and their visits are intermittent and uncertain; the prices are often excessive, and the condition of the fish cannot be relied upon.

In evidence before the Commission, the Naturalist in charge of Fisheries Investigation directed attention to a method, recently introduced in Europe, of packing fish in a specially prepared vegetable parchment. This method is of value in connection with suburban and country distribution.

Prices.

Reliable statistics regarding the movement of the prices of fish were not obtainable readily, but sufficient evidence was collected to show that, during the last ten years, the wholesale prices of all classes of fish have increased considerably. The rise has been most marked during the last two or three years, and has been much greater in the case of the better classes of fish, the increase since 1903 being at least 50 per cent. In the case of the commoner varieties the increase is estimated at about 30 per cent.

With regard to the cause of the high prices, it was concluded that the main cause is the steadily increasing demand, with which the supply has not kept pace. The increase in the demand is not due solely to growth of population, as it is shown that during the period 1900–11 the quantity of fish marketed in Sydney increased by over 100 per cent., while the increase in the mean population was 32 per cent. The increase in the demand is attributed, in the nature of a conjecture, to general prosperity and to changes in the domestic and housing conditions of the people which have led to increased consumption in hotels and boarding-houses where fish is more regularly an item of the menu than in the average private household.

Effect of present system of handling and transport.

The Commission reported that the quantity of fish available for consumption is considerably reduced and the quality impaired by careless handling and packing by the fishermen; by inefficient treatment on ship-board; by the want of proper accommodation for fish at points of shipment pending departure of steamer or train; by the common use of very large cases which renders the lower layers of fish unfit for food, and necessitates the transfer of fish to baskets on arrival at Sydney wharves.

The desirability of cleaning fish before shipment and as soon as possible after capture was urged emphatically; as this is not practicable under existing conditions, it was recommended that as a tentative measure it should be made compulsory to clean all fish before it is placed in cool storage.

The quantity of fish supplied is restricted by the want of regular and frequent communication from grounds not connected with Sydney by rail, while the cost of freight by steamer from some of the most prolific grounds tends to further restrict the supply of the commoner varieties.

Recommendations of Commission.

As a result of inquiries the Commission recommended that private markets be abolished and the consignment of fish to private agents for sale in Sydney and suburbs be forbidden, and that the Sydney Municipal Council act as sole agent for the sale of fish, with the exclusive right of conducting fish markets in the metropolitan area, and the power to engage in the retail sale and distribution of fish, if deemed desirable in the public interest. The Commissioners also recommended that the Council take into consideration the practicability of purchasing direct from the fishermen on the grounds; that all fish be cleaned before despatch from fishing-grounds; that the packing and inspection be regulated by the Department of Fisheries; that the Council establish receiving depôts at suitable places along the coast and provide motor boats to collect fish from neighbouring grounds and transport it to depôts, where it could be forthwith inspected, cleaned, packed in cases of convenient size, and stored in cool chambers pending despatch to Sydney; that the Council take appropriate measures to secure that cases be carried by rail and steamer, under proper conditions; that, if practicable, a plant for the treatment of inedible fish, fish offal, and for the manufacture of fish-oil be established at all or some of the proposed depôts; and that the Council adopt the practice of selling all fish by weight, or by basket of 84 lb. net.

Pending the adoption of these recommendations the Commissioners suggested that the Department of Fisheries should arrange with wharf-owners and the Railway Commissioners to provide suitable shelter for cases of fish whilst awaiting despatch to Sydney.

Oysters.

As in the case of other fish, the demand for oysters is far in excess of the supply, and the prices are relatively high. Oysters, however, have little direct bearing on the food supply; medical evidence before the Commission showed that as a food their nutritive value is very small. The trade conditions of oyster culture differ from those of other branches of the fishery industry; oyster cultivation is apparently more remunerative, and oyster leases form an important source of revenue to the Department of Fisheries. Presuming therefore that the Department will offer every encouragement to persons engaged in this branch, the Commission did not extend their recommendations in regard to the handling and distribution of fish to the oyster trade.

Crayfish.

The crayfishing industry admits of extensive development; and there is an increasing demand for this article of diet, the number marketed in 1911 being 171,348 as compared with 25,932 in 1901. As regards nutriment value, crayfish is equal to that of ordinary fish, but it is less digestible.

The present conditions of transport and methods of packing and handling cause considerable loss during carriage to market; to obviate this loss arrangements should be made to boil the crayfish before despatch to market, and that the recommendations regarding handling and distribution of fish should apply to crayfish.

Canned Fish.

There is a permanent demand for canned fish, especially in country districts, where fresh fish is not obtainable readily; at the present time this demand is supplied wholly by importation. In local waters there are large numbers of fish eminently suitable for preserving, and fish preserved in Australia would be subject of a bounty of $\frac{1}{2}$ d. per lb., provided by the Commonwealth Government, in addition to the protection afforded by cost of transportation, &c., and a duty of 1d. per lb. imposed on the imported article.

Canneries have been started in New South Wales, but have not proved successful owing partly to lack of experience of persons engaged, and partly to irregularity of supplies.

The Commission recommended that the Sydney Municipal Council should consider the advisability of establishing a plant for canning, smoking, preserving, &c., in connection with their markets.

PROTECTION AND STANDARDISATION OF FOODS.

Prior to the passing in New South Wales of the Pure Food Act, 1908, limited powers of supervision regarding the preparation and sale of foods had been exercised by the Board of Health and the various local governing bodies under Acts relating to public health, local government, dairies supervision, cattle slaughtering, &c. Since the enactment of a specific measure a definite system of regulation has become possible. The administration of the pure food law is entrusted primarily to the Board of Health, assisted by an Advisory Committee consisting of the President of the Board, and medical men, chemists, merchants, and others, on whose recommendations the Board makes regulations regarding the standardisation, composition, methods and conditions of manufacture, storage, sale, &c., in order to secure the wholesomeness, cleanliness, and purity of the food supply. Officers appointed under the Act may enter for the purpose of inspection any place used for the sale, storage, delivery, manufacture, or preparation of any article intended for use as a food or drug. The first code of regulations prescribing the standards for foods and drugs was gazetted on 15th July, 1909. The Commonwealth Department of Trade and Customs has control as to the composition and labelling of foods and drugs imported into Australia.

Pure food legislation having been enacted in several of the Australian States great inconvenience arose from the want of uniformity, and it was deemed advisable to frame a code of standards and definitions which would be applicable to all Australia both as regards imports and all articles manufactured and vended. With this objective an Interstate Departmental Conference was held in Sydney during 1910, of Principal Medical Officers, Government Analysts, and representatives of commercial interests on Advisory Committees. The co-operation of the Commonwealth Department of Trade and Customs was an important feature of the Conference; all the States except Western Australia were represented.

The Conference issued a report which included a code for the guidance of State authorities in framing their regulations. It is worthy of note that the code then in force in New South Wales was chosen to guide the discussions of the Conference, and the Report, except in a few minor details, closely resembles the New South Wales code.

The Conference resolved that it would be in the interest of the public health if the provisions of the Pure Food Act passed in New South Wales in 1908 for the protection of the public from misleading or otherwise undesirable advertisements relating to food, drugs, and appliances, were adopted and enforced throughout Australia, and urged uniform administration of the food laws by the Central Department of Public Health of each State.

As an outcome of the Conference the President of the New South Wales Board of Health was appointed, during 1911, to sit as a Royal Commission in each State of the Commonwealth and to collect evidence of traders and manufacturers affected by the food and drug laws, with a view to uniform legislation for the purpose of making regulations in the several States. The Commission found that the recent legislation concerning foods and drugs, and generally the regulations made thereunder, were viewed with satisfaction by the traders and manufacturers, and that very great progress had been made towards uniformity of State regulations as the result of the Conference of 1910.

To settle all points of difference a further Conference similarly composed became necessary, the standards and regulations determined by it to deal mainly with matters affecting importation and interstate trade, and also to bring into uniformity as far as possible the administrative laws which regulate the keeping and sale of food within each State.

MARKETING.

Practically all commodities have been distributed hitherto by private agents and consignees, and from all parts of the State a diversity of products gravitates to Sydney which is at present the only oversea port of the State, excepting of course, Newcastle, from which port however the principal trade is in coal. In connection with the trade in wool, wheat, and live-stock (and these three commodities with butter can be taken as the most important items of the State's oversea trade), there is reason enough for the concentration in Sydney. Practically all the wool clip, excepting the relatively small proportion which goes to Melbourne from Riverina stations, is forwarded to Sydney, which, as a wool-selling centre, is advancing steadily to the premier position amongst the world's markets. As regards wheat for export, the softer northern wheat must be combined with a harder grain, and Sydney forms the most convenient depôt. In the trade in live-stock, business is largely dependent on centres of population and distribution, and the traffic can be decentralised only so far as the frozen meat trade is distributed to various ports provided with accessories for killing, freezing, and shipping.

The conditions which have thus necessitated the centralisation of the State's trade in Sydney have resulted in an apparently overgrown city, and in frequent congestion of traffic, and these conditions, coupled with the occasional interruptions to sea-borne traffic as in butter and eggs from the North Coast, naturally affect prices.

The markets for various commodities are concentrated in proximity to the points at which the goods are discharged, *e.g.*, the railway goods yards, and the wharves where coastal and oversea cargoes are discharged.

MUNICIPAL MARKETS.

Under the Sydney Corporation (consolidating) Act of 1902, the City Council has power to establish public markets within its boundaries for the sale of fruit, vegetables, fish, produce, or general merchandise, each market to be subject to all the laws affecting markets in the City; the Council may grant licenses for hawking and selling in the city, poultry, fish, vegetables,

garden produce, and other articles as provided under the by-laws. The Council had a practical monopoly, within the city and within 14 miles of the city boundary, of cattle sale-yards, and power to exercise a similar monopoly in regard to sheep, calves, pigs, horses, &c., until 1st July, 1912, when this control so far as it affects sheep and fat-stock was assumed by the Government.

Under the Amendment Act of 1905, the Council has power to make by-laws for the regulation and control of all stands and stalls used, in any public way in the city, for the sale of refreshments or fruit.

Under the Local Government Act of 1906, municipalities (excluding Sydney) enjoy among their primary functions control as to the regulation and licensing of the hawking of goods; both shires and municipalities have power to lease buildings, wharfs, markets, &c. Among the specific powers of shires is included dairy supervision; among the additional powers which may be acquired by shires and municipalities are those relating to the construction, establishment, and maintenance of cattle sale-yards and abattoirs; the construction, maintenance, and management of public markets; regulation of the holding of markets; charging and regulation of rents and fees for the use of stalls in buildings and places where markets are held, and of fees in respect of goods and animals brought for sale or sold therein; inspection and regulation of the wholesale and retail sale and of the storage and exhibition for sale of fish, and of oysters and crustaceæ, and of rabbits, poultry, and game; the regulation and supervision of the sale, storage, and exhibition for sale, conveyance, and mode of delivery by carcass or otherwise, of meat for human consumption, and of the disposal and removal of other meat, and of any blood, offal, or other refuse.

SYDNEY MUNICIPAL MARKETS.

The Municipal Council of Sydney, as the custodians of the health of the citizens of Sydney, realise that, besides carrying out the functions necessary to provide a clean city, both as regards streets, parks, and dwellings, an important aspect of their responsibility lies in the control and distribution of its food supplies. To this end the Council has undertaken the provision of a scheme of markets that is unequalled in the southern hemisphere.

Being charged with full and adequate powers of resumption of lands, areas totalling about 12½ acres were resumed in 1908 in the Engine-street area, then a closely populated district, and also a growing manufacturing centre. Handsome structures have been erected for the marketing, in separate buildings, of vegetables, farm produce, fruit, fish, and poultry.

The total cost of this scheme, including the opening of additional roadways, and the widening of those existing, is estimated at nearly half a million pounds sterling, and the area and cost respectively of the several markets is set down as follows:—

Market.	Floor Space.	Cost of Market.	Market.	Floor Space.	Cost of Market.
	sq. ft.	£		sq. ft.	£
No. 1—Vegetable..	95,560	127,000	Fish	47,517	49,000
No. 2—Produce ...	45,300	48,300	Poultry	2,200	27,500
No. 3—Fruit ...	143,000	119,500			

The metropolitan sale-yards for cattle and sheep are situated at Flemington, 8 miles from the city; these yards were controlled by the City Council until 1st July, 1912, when they were transferred to the Government to be managed in conjunction with the new abattoirs at Homebush Bay. The Council has control of the small-stock yards within the city.

On three days in the week the vegetable market is opened at 4 a.m., and the remaining days at 6 a.m. This market has 288 stalls which are occupied by the *bona fide* grower, who brings his own produce to market, and conducts the sale by private treaty. The stalls are allotted to individual growers, who occupy them regularly. The charges are on the dues system at 1s. 6d. per cart load, and the minimum amount that must be paid for each stall is 3s. per week. The quantity of vegetables dealt with per annum, in favourable seasons, is estimated to range from sixteen to twenty thousand tons.

The produce market is occupied almost entirely by agents who receive products from the country and over-sea; these agents are allotted stands on the scale of 1s. 6d. per load, with an additional reserving fee of 1s. per week for the particular stand. Surrounding this market is a series of stores which are leased to the agents who distribute to suburban and distant centres.

The fish market is managed on an entirely different plan, and is in reality, apart from the electric lighting undertaking, the only municipal trading venture of the Council. Fish are consigned direct to the Council from the various districts, and are sold by the Council's officers at auction.

Salt water, pumped from the harbour, is supplied to the markets, and the fish, cleaned in commodious troughs, are displayed on marble slabs. There is also a cooling chamber available for the use of shopkeepers and others in the business.

The action of the fish agents in deciding to form a co-operative society, to build their own markets, and so to ignore the council because it was proposed to insist that all fish coming into the market should be sold by public auction, and that the auctioneers should submit a carbon copy of each day's sales to the council for record purposes, was the primary cause of the council's intervention in this business. From numerous complaints of fishermen, there seemed no doubt that the agents were not giving them the full return of their sales, and were forwarding returns based, not upon the actual prices obtained for the fish, but on a rate which by mutual agreement on the part of the several agents, became almost a fixed quantity. On the other hand, many fishermen were in debt to the agents for boats and nets, even to the extent of their food supplies, and the agents recovered payment, in instalments, of these debts, by deductions from time to time from the account sales. To insure fair business, insistence on the two points above referred to, viz., public auctions, and duplicate records, was deemed essential.

On the 1st February, 1909, all the agents left the market without giving notice. The Council then undertook to receive the consignments of fish direct from the fishermen, and dispose of same by public auction at a charge of 5 per cent. above actual running expenses.

The Council's action undoubtedly has been beneficial both to the fishermen and the consumer, though not in the direction of lessening the price to the latter. The class and condition of the fish put before the public has improved, and agents operating in other markets have increased their returns to the fishermen.

The fruit market was designed as the Council's greatest and most modern building replete with every convenience for the speedy and careful handling of this delicate food product. Fruit may be landed straight into the market from the orchards by means of a special railway siding, 292 feet in length, thus saving at least two handlings, and provision is made for sales by auction, if the consignors so desire, instead of sale by private treaty. Commodious cool storage is provided, with a total chilled air space of 250,000 cubic feet, divided into chambers for the freezing and cooling of

fruit, fish, poultry, farm produce, and rabbits. Within the market area an elevated series of offices is provided, and a disinfecting chamber for fruit, imported and exported.

The poultry market provides space and pen accommodation for from fifteen to twenty thousand head of poultry, as well as a special floor for eggs, bacon, butter, cheese, &c.

In all these markets the officers of the Council are charged with the necessary authority for inspection and condemnation, thus ensuring to the citizens a pure food supply as regards these perishables.

The cattle sale-yards at Flemington cover an area of 66 acres, and are capable of accommodating on one day from 80,000 to 100,000 head of sheep and lambs, and 2,500 head of cattle.

Sales are held on Monday and Thursday of each week, and are conducted by auctioneers; pens are allotted for consignments of stock arriving. Sales are held in rotation, and are limited in time according to the number of consignments.

The dues charged are at the rate of $\frac{3}{4}$ d. for sheep, and 5d. for cattle, per head.

The following table shows the number of stock yarded at the Metropolitan Cattle Sale-yards from the inception of the stock sale-yards and abattoirs on 1st November, 1882, to 30th June, 1912 :—

Year.	Sheep.	Cattle.	Year.	Sheep.	Cattle.
1882 and 1883	939,031	83,032	1899	2,163,704	104,681
1884	1,169,990	80,477	1900	2,000,634	103,543
1885	1,286,886	83,692	1901	2,234,791	100,474
1886	1,263,773	84,829	1902	2,394,618	92,752
1887	1,511,427	93,295	1903	1,785,682	95,510
1888	1,336,513	91,215	1904	1,311,463	83,865
1889	1,546,770	90,274	1905	1,224,405	96,723
1890	1,634,330	93,406	1906	2,196,535	96,494
1891	1,968,569	112,222	1907	2,741,283	106,893
1892	2,506,810	114,160	1908	3,104,025	117,496
1893	3,209,690	110,450	1909	3,810,445	132,050
1894	2,749,703	119,124	1910	4,064,650	155,833
1895	2,953,156	135,805	1911	3,407,835	193,953
1896	2,689,441	111,032	To 30th June, 1912	1,930,624	114,578
1897	2,574,853	112,338			
1898	2,692,250	113,508			

Small-stock yards are at the foot of Market-street, Sydney, adjacent to the various wharves, most of this class of stock coming from the coastal districts by sea. Sales are held on three days each week.

The number of small stock yarded during 1910, 1911, and 1912 was as follows :—

	Pigs.	Calves.
1910	66,153	31,967
1911	112,843	37,379
1912 (to 30th June)	49,410	23,612

PRICES OF COMMODITIES.

The determination of average prices of food products is a difficult matter, in view of the extensive area of New South Wales, its scattered population, and varying methods of transport, and the sparsity of large central markets. Consequently an average of prices prevailing throughout the State has not been attempted; the following figures represent prices determined in metropolitan markets; for country districts due allowance must be made for cost of transportation, &c.

WHOLESALE PRICES.

Average wholesale prices at Sydney sales of the principal kinds of farm and dairy produce are given in the following statement for the seven years, 1906 to 1912. The average for the year represents the mean of the prices ruling during each month, and does not take into account the quantity sold during the month. The figures are those quoted by the middleman and not those obtained by the producers:—

Farm and Dairy Produce.	1906.			1907.			1908.			1909.			1910.			1911.			1912.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Wheat ...bush.	0	3	3	0	3	10	0	4	3 $\frac{1}{4}$	0	4	9 $\frac{1}{4}$	0	3	10	0	3	6	0	4	1
Flour ... ton	7	11	6	8	15	0	9	11	0	11	2	0	9	14	6	8	9	10	9	8	11
Bran ...bush.	0	0	9 $\frac{3}{4}$	0	0	11 $\frac{1}{4}$	0	1	3	0	0	11 $\frac{3}{4}$	0	0	10 $\frac{1}{2}$	0	0	11 $\frac{3}{4}$	0	1	2 $\frac{1}{4}$
Pollard ... "	0	0	10 $\frac{1}{4}$	0	0	11 $\frac{3}{4}$	0	1	3 $\frac{3}{4}$	0	1	1	0	0	10 $\frac{1}{4}$	0	0	11 $\frac{3}{4}$	0	1	3 $\frac{1}{4}$
Barley ... "	0	3	5 $\frac{1}{2}$	0	3	5	0	4	9	0	3	1	0	3	0 $\frac{3}{4}$	0	2	9	0	4	4
Oats ... "	0	2	10 $\frac{1}{2}$	0	2	10	0	3	3	0	2	5 $\frac{1}{4}$	0	2	5 $\frac{1}{4}$	0	2	8	0	3	6 $\frac{1}{2}$
Maize ... "	0	3	0	0	3	2 $\frac{1}{2}$	0	4	7	0	4	2 $\frac{1}{4}$	0	2	11 $\frac{1}{4}$	0	3	0	0	4	8
Potatoes... ton	7	10	0	3	5	0	5	15	0	5	17	0	6	12	2	6	1	3	8	12	9
Onions ... "	6	9	0	4	8	3	6	5	0	6	16	6	4	16	3	4	7	9	12	4	3
Hay—																					
Oaten or																					
Wheaten ..	3	12	0	4	6	6	6	5	9	4	2	0	3	17	6	4	15	3	6	6	6
Lucerne.. "	3	17	0	4	19	0	5	4	0	3	19	0	3	1	7	3	5	0	4	18	9
Straw ... "	2	4	0	2	19	0	4	2	9	4	2	0	4	2	7	3	5	0	3	16	0
Chaff ... "	3	13	6	4	8	0	6	1	3	4	10	6	4	4	0	4	4	3	5	14	0
Butter ... lb.	0	0	10	0	0	9 $\frac{3}{4}$	0	1	0 $\frac{1}{4}$	0	0	10	0	0	11 $\frac{1}{2}$	0	0	10 $\frac{3}{4}$	0	1	0
Cheese(loaf)..	0	0	6	0	0	6 $\frac{1}{4}$	0	0	8	0	0	7	0	0	6 $\frac{1}{4}$	0	0	7 $\frac{1}{4}$	0	0	8 $\frac{1}{2}$
Bacon ... "	0	0	7	0	0	8 $\frac{1}{4}$	0	0	8 $\frac{3}{4}$	0	0	8 $\frac{1}{2}$	0	0	7 $\frac{1}{2}$	0	0	7	0	0	8 $\frac{1}{2}$
Eggs ... doz.	0	0	10	0	0	11	0	1	1	0	1	1	0	1	0 $\frac{1}{2}$	0	1	0 $\frac{1}{2}$	0	1	2 $\frac{1}{4}$
Milk ... gal.	0	1	0	0	1	1	0	0	11	0	0	10 $\frac{1}{2}$	0	0	10	0	0	9 $\frac{1}{4}$	0	0	11 $\frac{1}{2}$
Poultry—																					
Fowls ... pair	0	3	3	0	3	9	0	3	9	0	4	3	0	4	10	0	4	8	0	5	0
Ducks ... "	0	3	3	0	3	0	0	3	0	0	4	3	0	3	1 $\frac{1}{2}$	0	3	3	0	3	3
Geese ... "	0	5	3	0	5	9	0	6	3	0	5	3	0	6	2	0	5	8	0	6	3
Turkeys.. "	0	11	6	0	11	9	0	11	3	0	14	0	0	12	8	0	11	3	0	15	9
Bee produce—																					
Honey ... lb.	0	0	3 $\frac{1}{4}$	0	0	3	0	0	2 $\frac{3}{4}$	0	0	3	0	0	3 $\frac{1}{2}$	0	0	2 $\frac{3}{4}$	0	0	3
Wax ... "	0	1	2	0	1	3 $\frac{1}{2}$	0	1	2 $\frac{1}{2}$	0	1	2	0	1	2	0	1	1 $\frac{1}{2}$	0	1	2 $\frac{1}{2}$

These figures call for little comment beyond the caution already given that in regard to the prices of commodities generally, the averages are irrespective of the quantities sold. As regards most of the articles in the list, the lower the price the larger the consumption. The exception to this rule is poultry, which is most in demand before the Christmas season, when prices are correspondingly high.

In comparison with the yearly averages, the averages of the wholesale prices current during each month of 1912 are quoted for the more important articles of New South Wales agricultural production, viz. :—

Month.	Wheat (Milling).	Flour.	Bran.	Pollard.	Oats.	Maize.	Hay (Oaten).
	per bushel.	per ton.	per bushel.	per bushel.	per bushel.	per bushel.	per ton.
1912.	s. d.	£ s. d.	d.	d.	s. d.	s. d.	£ s. d.
January ...	3 9	8 16 3	12½	13½	2 11½	4 2	5 13 3
February ...	3 9½	8 15 6	13¾	15	3 4½	4 6	4 16 9
March ...	3 8½	8 13 9	13	14	3 4½	4 6½	4 18 3
April ...	4 0	8 17 6	14¾	16	3 4¾	4 11	3 12 0
May ...	4 4	9 17 6	16	17½	3 6	5 3	8 15 0*
June ...	4 3½	10 0 0	16½	16¾	3 8½	5 5½	7 10 0
July ...	4 1½	10 0 0	12½	12½	3 8½	4 8¾	5 10 0
August ...	4 3½	10 0 0	13	13½	3 8½	4 6¾	7 5 0
September ...	4 4¾	10 0 0	14½	14½	3 6½	4 7	7 19 0
October ...	4 6½	9 10 0	15	16½	3 6½	4 4½	6 8 3
November ...	4 3½	9 8 3	15½	17	3 6½	4 5	4 13 3
December ...	3 7	9 8 3	15½	17	3 4½	4 5	8 16 6
	Potatoes (Local).	Butter (Best Brands).	Cheese (Loaf).	Bacon (Sides).	Lard (Bulk).	Eggs.	
						"Norths" and "Souths."	New Laid.
1912.	per ton.	per lb.	per lb.	per lb.	per lb.	per doz.	per doz.
	£ s. d.	d.	d.	d.	d.	s. d.	s. d.
January ...	7 2 6	12¾	6½	7¾	5½	0 10½	1 2½
February ...	4 10 0	13	7¼	7¾	6	1 1¾	1 4½
March ...	5 3 3	11¼	7¾	7¾	6¼	1 3¼	1 8½
April ...	4 11 0	12	8¾	7¾	6½	1 5½	2 1½
May ...	5 12 6	12	9¾	7¾	6½	1 7½	2 2½
June ...	7 15 0	12¾	10¼	7¾	7	1 8	1 11
July ...	8 10 0	14	10	7	7	1 4½	1 6½
August ...	10 11 0	13½	8½	9	8½	1 0	1 1½
September ...	10 10 0	11	8½	9½	8¾	0 10¼	0 11½
October ...	11 3 0	11¾	8¾	10½	8½	0 11½	1 0½
November ...	17 8 0	10¾	8½	9½	8½	0 11½	1 1½
December ...	10 17 6	10¼	7¾	9½	8	1 1¾	1 4½

* Due to dry weather conditions.

For locally-grown wheat the quotations during 1912 ranged from 4s. 6½d. in October to 3s. 7d. in December. Of barley and oats, the bulk are imported, and the prices of these cereals during the year call for little notice. Maize, on the contrary, is largely of local growth, and its price was affected by the unfavourable season and rose from 4s. 2d. in January to 5s. 5½d. in June; at the close of the year the price was 4s. 5d.

Prices for the various kinds of fodder were very high during the greater part of the year 1908, but showed a considerable decrease during the last three months of that year; the decreased prices persisted throughout 1909 and 1910; the dry weather conditions during 1912 caused a scarcity of supplies and the prices rose again above the average of 1908.

Root crops show very great range; thus, locally-grown potatoes varied between £4 10s. in February and £17 8s. per ton in November.

Prices of the items set forth in the tables just given are determined by the local demand, wheat of course excepted, its price being fixed by that ruling in the markets of the world.

The prices of pastoral and other primary produce, which form so large a proportion of the exports of the State, are not sensibly affected by local consumption, but are established by the prices ruling in London. In the following table are given for six years the Sydney f.o.b. prices of the principal pastoral products:—

Pastoral Produce.	1907.	1908.	1909.	1910.	1911.	1912.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Beef lb.	0 0 2	0 0 2	0 0 2½	0 0 2½	0 0 2¾	0 0 2¾
Mutton „	0 0 2	0 0 2	0 0 2½	0 0 2½	0 0 2½	0 0 3
Wool—Greasy ... „	0 0 11¾	0 0 9½	0 0 9	0 0 9½	0 0 9	0 0 9
Scoured ... „	0 1 9	0 1 4¾	0 1 3½	0 1 3¾	0 1 3	0 1 3½
Sheepskins—with						
Wool bale	28 8 4	17 18 4	19 11 8	20 0 0	17 15 0	19 16 0
Hides each	1 6 4	1 1 1	0 19 3	1 2 0	1 2 3	1 4 0
Leather bale	34 10 0	30 10 0	29 3 4	33 0 0	34 0 0	34 16 8
Hair lb.	0 1 7¾	0 1 4	0 1 5½	0 1 4½	0 1 3½	0 1 8
Bones cwt.	0 7 11½	0 7 6	0 7 8¾	0 9 3	0 12 1	0 13 9
Horns 100	1 13 9	1 13 4	2 4 7	2 2 11	2 2 10	2 11 6
Hoofs cwt.	0 6 7	0 6 6	0 6 10	0 6 3	0 8 3	0 10 0
Tallow „	1 11 3½	1 8 3	1 7 3	1 10 0	1 8 6	1 9 3
Glue-pieces ... „	0 9 6	0 7 1	0 6 3	0 7 7	0 9 8	0 10 8

Leather is included as a pastoral product, although it might be regarded as a manufactured article. The prices of wool, the staple product of the State, declined considerably during 1908, and the level of 1907 has not since been reached. The prices of the other articles also showed a great decrease during that year. Sheepskins were 37 per cent. lower than in 1907. Greasy wool and scoured wool were over 25 per cent. higher than in 1901, but nearly 20 per cent. lower than in 1907. In 1909 the decreased prices of the previous year still prevailed in Sydney, but, on the whole, there was an improvement in the prices obtained for these products during 1910 and during 1911.

In 1912 the prices of all the products shown in the table, with the exceptions of wool, sheepskins, and tallow, were higher than in 1907.

The following statement shows the fluctuations during 1912 in the prices obtained in London for the more important articles of New South Wales produce:—

Month.	Wheat.	Flour.	Butter (Best Quality).		Wool.		Tallow.
			Average Top.	Average Bottom.	Greasy.	Scoured.	
	per qr.	per ton.	per cwt.	per cwt.	per lb.	per lb.	per cwt.
1912.	s. d.	£ s.	s.	s.	d.	s. d.	s. d.
January ...	38 0	9 2	131	128	9¾	1 3	33 0
February ...	39 6	9 6	129	127	9¾	1 3	32 0
March ...	40 3	9 11	125	123	10	1 3	32 9
April ...	42 0	9 13	113½	111½	9½	1 3	31 9
May ...	42 6	10 2	107½	106	9½	1 2¾	33 0
June ...	41 6	10 1	110½	110	9½	1 4	33 9
July ...	41 6	10 0	107½	102	9½	1 4	32 6
August ...	40 9	9 15	114	112	9¾	1 5	34 0
September ...	42 0	9 13	118	114	10	1 6	34 0
October ...	42 3	10 0	119½	119½	10½	1 7	34 0
November ...	40 9	10 3	114½	113½	11	1 6	33 0
December ...	39 6	10 0	117½	117½	11	1 5	34 0

As the export trade is in process of development it is catered for almost without regard to local requirements, and it is noticeable that with some items, as butter, the London averages are considerably below Sydney prices.

PRICES OF METALS.

The next table shows the Sydney f.o.b. prices of the principal metals and of coal produced in the State. These, like pastoral products, are not affected by the local demand, but depend upon the prices obtained in the world's markets:—

Metals.	1907.	1908.	1909.	1910.	1911.	1912.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Silver ...oz.	0 2 6	0 2 0 ⁵ / ₁₀	0 1 11 ¹ / ₂	0 2 1	0 2 0 ³ / ₄	0 2 4
Copper ...ton	85 2 4	57 18 0	57 10 0	56 3 4	54 18 4	72 10 0
Tin ...,,	170 9 7	131 5 0	133 2 0	153 3 4	188 1 8	209 1 8
Lead ...,,	18 10 6	13 2 0	12 11 0	12 13 4	13 3 4	17 3 4
Coal ...,,	0 9 10	0 10 7	0 10 8	0 10 8	0 10 8	0 10 8

The values of the industrial metals showed a large decline during 1908, and the low prices continued until 1912, except in the case of tin, which has advanced steadily since the beginning of 1909, and is now much higher than in any of the past seven years. During 1912 there was a steady advance in the prices for all these metals. The export price of coal has during the last five years been maintained at a relatively high level as compared with 1906 and 1907.

INDEX NUMBERS—EXPORT PRICES.

The following statement shows the variation since 1901 of price levels as indicated by index numbers calculated on the f.o.b. prices Sydney, of the principal articles of domestic produce exported from New South Wales, with the average prices prevailing in 1901 adopted as the basis:—

Period.	General Index— All articles.	Pastoral Products— Wool, Tallow, Hides, Leather, &c.	Metals— Silver, Lead, Copper, Tin.
1901	1,000	1,000	1,000
1902	1,065	1,096	935
1903	1,065	1,125	992
1904	1,071	1,112	1,011
1905	1,150	1,152	1,149
1906	1,277	1,316	1,432
1907	1,343	1,354	1,461
1908	1,164	1,122	1,073
1909	1,188	1,137	1,066
1910	1,205	1,214	1,111
1911	1,194	1,194	1,189
1912	1,327	1,263	1,454

The fluctuations in the prices of the same series during 1912, as compared with 1901, are shown in the following figures:—

Period	Index Numbers.		
	General Index— All Articles.	Pastoral Products— Wool, Tallow, Hides, Leather, &c.	Metals— Silver, Lead, Copper, Tin.
1912.			
January ...	1,227	1,179	1,286
February ...	1,234	1,192	1,292
March ...	1,238	1,204	1,302
April ...	1,270	1,192	1,396
May ...	1,290	1,178	1,434
June ...	1,320	1,212	1,459
July ...	1,330	1,218	1,485
August ...	1,410	1,368	1,513
September ...	1,435	1,374	1,624
October ...	1,428	1,371	1,608
November ...	1,401	1,368	1,538
December ...	1,394	1,407	1,532

PRICES IN UNITED KINGDOM.

To show the universal prevalence of rising prices, the following index numbers are quoted, as disclosed in investigation made by the British Board of Trade, of wholesale prices current in the United Kingdom in the years 1901–1911. As Great Britain is the principal market for New South Wales exports, it is evident that the upward tendency of prices in the world's market must reflect promptly in local prices in many commodities, but especially in those in which the export trade is being developed; the figures are on the basis of 100 as representing the price in 1900:—

Year.	Grain.	Meat, Fish, and Dairy Produce.	Sugar, Tea, Wine, and Tobacco.	Total Food and Drink.	Foreign Wheat.
1901	102·5	100·0	95·0	100·4	97·4
1902	101·9	105·2	86·0	101·7	98·4
1903	102·0	102·6	88·0	100·7	99·9
1904	106·8	99·0	92·6	101·4	103·1
1905	104·2	98·2	103·6	101·2	106·3
1906	102·0	101·5	90·4	100·5	103·4
1907	109·0	104·5	94·4	105·1	113·1
1908	113·9	102·6	98·6	106·6	123·5
1909	114·7	105·6	101·2	108·7	136·0
1910	105·7	111·4	109·9	109·0	123·4
1911	114·4	109·4	111·6	111·6	116·8

The average level of wholesale prices of food and drink (including tobacco) has increased steadily since 1906, and in 1911 showed an increase of 2·5 per cent. as compared with the previous year, and of 11·1 per cent. as compared with 1906.

LONDON RETAIL PRICES.

In the following statement is shown the range of London retail prices over the same series of years for six principal food products; 1900 prices still representing 100 in each case:—

Year.	Bread.	Beef.	Mutton.	Butter.	Eggs.	Potatoes.
1901	94·4	101·9	105·3	100·9	97·8	105·1
1902	101·4	107·5	101·8	100·4	100·9	79·5
1903	109·0	104·4	105·7	97·8	102·6	101·3
1904	108·1	100·9	105·3	97·7	102·2	109·6
1905	109·0	98·7	105·7	99·3	104·0	83·7
1906	104·3	98·7	103·7	102·6	106·7	86·4
1907	104·6	101·6	105·9	100·9	109·0	93·0
1908	112·8	108·1	106·1	106·4	106·7	97·3
1909	119·9	107·7	101·8	103·0	113·5	81·7
1910	114·8	113·1	104·4	106·4	112·0	80·1
1911	104·3	110·4	102·3	108·9	117·0	99·0

PRICES IN CANADA.

The average wholesale prices of various commodities in Canada for the years 1911 and 1912 were as follows:—

Commodity.	Average Wholesale Price.		Commodity.	Average Wholesale Price.	
	1911.	1912.		1911.	1912.
	£	s. d.		£	s. d.
Wheat—			Cheese, Western,	£	s. d.
No. 1, Northern .. bus.	0	3 11 ³ / ₄	coloured ... lb.	0	0 6 ¹ / ₂
No. 2, Ontario ... „	0	3 6	Bacon, English		
Barley—			boneless... .. „	0	0 8
Western „	0	2 7 ¹ / ₂	Ham „	0	0 7 ³ / ₄
Ontario „	0	2 10 ¹ / ₄	Eggs—		
Oats, white			Fresh doz.	0	1 1 ¹ / ₂
(Ontario) „	0	1 7	Storage „	0	0 10 ¹ / ₂
Corn, yellow „	0	2 7 ¹ / ₄	Milk gal.	0	0 9
Hay ton	2	14 3 3	Beef, dressed, hind-		
Butter—			quarter ... cwt	2	3 0 2
Creamery, finest... lb.	0	1 0 ¹ / ₂	Mutton, dressed ... „	1	15 2 1
Dairy, prints „	0	0 10 ¹ / ₂			

A statistical record of wholesale prices prepared by the Canadian Department of Labour shows that the prices were approximately 24 per cent. higher in 1910 than in the decade 1890-1899, and that during 1911 they rose to a point over 27 per cent. above that basis and were higher than at any time since 1882-4 or possibly 1872-3.

The causes to which the increase during 1911 is attributed were crop shortage, and accelerated demand resulting from heavy immigration, activity of railway construction and other building operations, enlarged output of manufacturing establishments, and increased volume of trade.

The relative prices of foodstuffs for each year since 1900 as compared with those of the decade 1890-1899 are shown below :—

Year.	Grains and Fodder.	Animals and Meats.	Dairy Products.	Fish.	Other Foods.
1890-1899	100-0	100-0	100-0	100-0	100-0
1900	99-9	103-4	109-0	106-4	96-4
1901	107-3	111-3	120-5	113-2	98-6
1902	116-1	122-2	106-9	110-2	98-4
1903	106-5	117-9	108-9	116-2	98-1
1904	115-5	111-3	107-2	119-5	101-8
1905	116-4	120-7	115-1	115-7	100-7
1906	118-5	130-1	120-2	121-8	103-1
1907	140-2	133-8	131-5	129-5	112-5
1908	148-3	129-6	136-3	120-5	110-3
1909	149-9	148-6	133-6	134-0	107-6
1910	137-0	163-4	137-5	141-4	110-1
1911	145-0	146-7	136-2	143-6	120-9

For all foodstuffs the relative prices during the last three years as compared with 1890-99 were—1909, 126-7; 1910, 128-4; 1911, 132-0.

PRICES IN UNITED STATES OF AMERICA.

The averages of wholesale prices of various commodities in the United States of America during 1910 and 1911 were as follows :—

Commodity.	Average Wholesale Price.		Commodity.	Average Wholesale Price.	
	1910.	1911.		1910.	1911.
Wheat ... bus.	s. d. 4 6 $\frac{3}{4}$	s. d. 4 1 $\frac{1}{4}$	Cheese ... lb.	s. d. 0 7 $\frac{3}{4}$	s. d. 0 7
Barley ... "	3 0	4 7	Bacon, sides ... "	0 6 $\frac{3}{4}$	0 4 $\frac{1}{2}$
Oats ... "	1 7 $\frac{1}{4}$	1 7 $\frac{1}{4}$	Ham ... "	0 8 $\frac{1}{4}$	0 7
Corn... .. "	2 5	2 5 $\frac{1}{2}$	Eggs, new laid ... doz.	1 4 $\frac{1}{4}$	1 3
Rye "	3 2 $\frac{3}{4}$	3 9	Milk qt.	0 1 $\frac{3}{4}$	0 1 $\frac{3}{4}$
Potatoes "	1 9 $\frac{1}{2}$	3 2 $\frac{1}{2}$	Beef, fresh lb.	0 5 $\frac{1}{4}$	0 5
Butter—Creamery lb.	1 3	1 1 $\frac{1}{4}$	Mutton, dressed "	0 5	0 3 $\frac{3}{4}$
Dairy "	1 2 $\frac{1}{2}$	1 0 $\frac{3}{4}$			

An investigation into the movement of wholesale prices of commodities since 1890 has been conducted by the Bureau of Labour of the United States; in the following statement the course of relative prices of grain and various food commodities since 1900 is shown, the average of prices for the decennium 1890-1899 being the basis of the comparison :—

Year.	Grain.	Meat.	Fish.	Butter.	Sugar.	Total Food.
1890-1899	100-0	100-0	100-0	100-0	100-0	100-0
1900	96-5	108-9	112-0	101-7	116-7	104-2
1901	115-0	116-1	108-0	97-7	104-9	105-9
1902	129-0	135-6	107-0	112-1	91-7	111-3
1903	115-3	123-5	122-6	105-7	96-4	107-0
1904	131-4	112-7	123-6	98-4	101-9	107-2
1905	123-8	116-6	126-4	112-8	110-2	108-7
1906	115-6	125-9	130-8	113-1	94-8	112-6
1907	148-3	132-8	128-3	128-5	97-0	117-8
1908	163-0	137-4	124-9	122-1	104-8	120-6
1909	164-6	151-8	116-8	131-7	102-3	124-7
1910	153-0	172-3	130-8	138-5	107-1	128-7
1911	171-4	149-2	143-5	122-8	114-7	131-3

The comparison shows that the wholesale prices of grain in the United States of America have advanced by 71·4 per cent. as compared with the average price for the years 1890-1899; the prices of food commodities have increased by 31·3 per cent., the increase being most marked during the last six years. No attempt was made by the United States Bureau to investigate the causes of the rise and fall of prices. Variations in harvest have an important bearing on the movement of prices, as they not only contract or expand the supply and consequently tend to increase or decrease the price of a commodity, but also decrease or increase, to a greater or less degree, the purchasing power of the communities which are dependent in whole or in part upon such commodity. Other influences are,—changes in demand due to changes in fashions, seasons, &c.; legislation changing internal-revenue taxes, import dues, or bounties; inspection as to purity or adulteration; use of other articles as substitutes; and improvement in methods of production, which tend to give a better article for the same price, or an equal article for a lower price. Prices are affected also by cheapening of transportation or handling; commercial panic or depression; expanding or contracting credit; overproduction; unusual demand owing to steady employment of consumers; short supply owing to disputes between labour and capital in industries of limited producing capacity. By organisation or combination, producers or manufacturers may gain a greater or less control of prices, or on the other hand, effect economies in production or in transportation charges through ability to supply the article from the point of production or manufacture nearest the purchaser.

SYDNEY RETAIL PRICES.

The following table exhibits the average retail prices in Sydney of eight standard commodities at intervals since 1870:—

Year.	Bread per 2-lb. loaf.	Fresh Beef per lb.	Butter per lb.	Cheese per lb.	Sugar per lb.	Tea per lb.	Potatoes per cwt.	Maize per bushel.
	d.	d.	s. d.	s. d.	d.	s. d.	s. d.	s. d.
1870	3½	3½	1 3	0 6	4	2 0	5 0	3 4
1875	3	3½	1 3	0 9	4½	1 9	5 6	4 3
1880	3	3½	0 10	0 7	4	2 0	4 3	2 6
1885	3	4½	1 9	1 0	3	1 9	5 6	3 11
1890	3½	4	1 0	0 8	3½	1 6	6 0	3 10
1895	2¾	3	1 0	0 8	2½	1 6	4 3	2 9
1900	3	3½	0 11	0 7½	2¼	1 4	6 9	3 0
1901	3	5	1 0	0 8	2¼	1 3	7 6	3 6
1902	3¼	6	1 2	0 10	2½	1 3	7 6	5 10
1903	3¼	5½	0 11	0 9	2½	1 3	5 10	4 6
1904	2¾	5	0 10½	0 8	2½	1 3	4 0	2 9
1905	2¾	5½	1 1	0 8	2½	1 3	10 6	4 0
1906	2¾	5½	1 1	0 8½	2½	1 3	10 6	3 9
1907	3	5½	1 1	0 8	2½	1 3	4 6	3 10
1908	3¼	5½	1 2½	0 10	2½	1 3	7 3	5 3
1909	3½	5½	1 1	0 10	2¾	1 3	7 3	4 9
1910	3½	5½	1 1	0 9	2¾	1 3	7 6	4 9
1911	3½	5½	1 1	0 9	2¾	1 3	7 6	4 6

In the list are included quotations for bread at per 2-lb. loaf. In most years the price has varied directly with that of wheat. In recent years the usual price is from 3d. to 3½d. per loaf.

As bread is a first essential in the dietary list, a review of the conditions under which it is made and distributed may be of interest.

The price of bread is determined by the Master Bakers' Association. The bread-baking industry was governed in England by a specific Bread Act, passed in 1820, and automatically operative in New South Wales on the adoption of the Constitution; it was embodied in the Bread Act, 1901, which regulates the making and sale of bread, and the prevention of adulteration of bread, meal, or flour. Subsequent local legislation also affects the trade, *e.g.*, as to arbitration in regard to industrial conditions, purity of food standards, regulation of weights and measures. Prices are fixed from time to time, but little variation occurs, except in country districts where the force of competition is the principal factor in regulating the price.

In June, 1910, while the retail price of the 2-lb. loaf in Sydney was reduced to 3½d. booked, less ¼d. discount for cash, the wholesale price was 2s. 9d. per dozen loaves, and the minimum price for bread sold over the counter 3d. per loaf. At the same time, country prices ranged from 3d. to 3½d. per loaf.

In 1913 the price in County Cumberland was 3¾d. per loaf, booked, with ¼d. discount for cash; the wholesale price was 3s. per dozen loaves.

In addition to the eight commodities which are given in the above statement, the following list of the average retail prices of articles largely used is of interest:—

Year.	Bacon per lb.	Eggs per doz.	Rice per lb.	Oat- meal per lb.	Coffee per lb.	Salt per lb.	Beer (col.) per gal.	Soap per lb.	Starch per lb.	Tobacco.	
										per lb. (local.)	per lb. (imp.)
	s. d.	s. d.	d.	d.	s. d.	d.	s. d.	d.	s. d.	s. d.	s. d.
1870	0 10½	1 4	3	4	1 2	1	1 4	4	0 7	1 3	3 6
1875	0 9½	1 6	3	3	1 2	1½	3 0	3	0 5	2 0	3 9
1880	0 7½	1 4	3	3	1 5	0¾	2 0	3	0 5½	2 0	4 0
1885	0 10½	1 10	3	3	1 5	0¾	2 0	3	0 6½	3 0	6 0
1890	1 0½	1 6	4	3	2 0	1	2 0	3½	0 5	4 0	6 0
1895	0 7½	1 0	2½	2	1 9	0¾	2 0	2	0 4	4 0	6 0
1900	0 7½	0 11	2¼	2¼	1 6	0½	2 0	3	0 3½	4 0	6 0
1901	0 8½	1 3	2½	2¼	1 6	0½	2 0	3	0 4	4 0	6 0
1902	10	1 6	2½	2¼	1 6	0½	2 0	3	0 4	4 0	6 0
1903	0 10	1 6	3	2½	1 6	0¾	2 0	4	0 5	4 0	6 0
1904	0 8	1 1	2½	2½	1 6	0¾	2 0	4	0 5	4 0	6 0
1905	0 9	1 0	2½	2½	1 6	0¾	2 0	3½	0 5	4 3	6 0
1906	0 9½	1 0	2½	2½	1 6	0¾	2 0	3½	0 5	4 3	6 0
1907	0 10	1 1	2½	2½	1 6	0¾	2 0	4	0 5	4 3	6 0
1908	0 10	1 3	2½	3	1 6	0¾	2 0	4	0 5	4 3	6 0
1909	0 11½	1 3	2½	3	1 6	0¾	2 0	4	0 5	4 3	6 0
1910	0 10	1 3	2½	2½	1 6	0¾	2 0	3¼	0 5	4 3	6 0
1911	0 9	1 3	2½	2½	1 6	0¾	2 0	3	0 5	4 3	6 0

In the above quotations the figures are those charged in the shops throughout the metropolitan district.

While these tables are useful for comparative purposes, in regard to the cost of living, the figures do not disclose the most interesting feature in a

history of prices, namely, the fluctuations during each year, which are pronounced, especially in the case of perishable produce. For the year 1912 the prices have been collected in detail for each month:—

Article.	Jan.		Feb.		Mar.		Apr.		May.		June.		July.		Aug.		Sep.		Oct.		Nov.		Dec.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Bread ... per 2 lb. loaf	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½
Flour ... 25 lb. bag	2	7½	2	7½	2	7½	2	7½	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0
" Self-raising ... 2 lb.	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½
Tea ... lb.	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3
Coffee ... "	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6
Cocoa ... "	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½
Sugar ... lb.	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½
Rice ... "	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½
Sago ... "	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½
Jam (Australian) ... "	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½
Oatmeal ... "	0	2½	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3	0	3
Raisins ... "	0	0½	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½
Currants ... "	0	7½	0	7½	0	7½	0	7½	0	7½	0	7½	0	7½	0	7½	0	7½	0	7½	0	7½	0	7½
Starch ... "	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½
Blue ... doz. squares	0	8½	0	8½	0	8½	0	8½	0	8½	0	8½	0	8½	0	8½	0	8½	0	8½	0	8½	0	8½
Candles ... lb.	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½
Soap ... "	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½
Potatoes ... 14 "	1	6	1	6	1	9	1	9	1	6	1	6	1	9	2	6	2	0	2	3	3	0	1	9
Onions ... lb.	0	2	0	2	0	2	0	2	0	2	0	2	0	2	0	3	0	3	0	3	0	3	0	2
Kerosene ... gal.	0	11½	0	11½	0	11½	0	11½	0	11½	0	11½	0	11½	0	11½	0	11½	0	11½	0	11½	0	11½
Milk ... "	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8	1	8
Butter ... lb.	1	3½	1	4	1	2½	1	3½	1	3½	1	4½	1	5½	1	5½	1	3½	1	2½	1	1½	1	1½
Cheese—																								
New ... "	0	8½	0	8½	0	9½	0	10½	0	11½	0	11½	0	11½	0	11½	0	11½	0	11½	0	11½	0	10½
Matured ... "	0	9½	0	10½	0	10½	0	11½	0	11½	0	11½	0	11½	0	11½	0	11½	0	11½	0	11½	0	10½
Eggs—																								
New laid ... doz.	1	4	1	8½	2	4½	2	5½	2	4	1	11½	1	3½	1	2½	1	2½	1	2½	1	4	1	8½
Fresh ... "	1	1½	1	6	1	8	1	9½	1	10½	1	10½	1	9½	1	11	0	11	0	11	0	11	1	5½
Bacon—																								
Middlecut ... lb.	0	10½	0	10½	0	10½	0	10½	0	9½	0	9½	0	9½	0	10½	0	10½	0	10½	0	10½	0	11
Shoulder ... "	0	7½	0	7½	0	7½	0	7½	0	6½	0	6½	0	7½	0	8½	0	8½	0	8½	0	8½	0	8½
Ham ... "	0	10½	0	10½	0	10½	0	10½	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Beef (fresh)—																								
Sirloin ... "	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	5	0	5½	0	5½	0	5½	0	5½	0	5½
Ribs ... "	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	4½	0	5	0	4½	0	4½	0	4½	0	4½
Flauk ... "	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½
Shin (without bone) ... }	0	3	0	3	0	3	0	3	0	3	0	3	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½
Gravy beef ... }	0	3	0	3	0	3	0	3	0	3	0	3	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½
Steak—																								
Rump ... "	0	7	0	7	0	6½	0	6½	0	6½	0	6½	0	7½	0	7½	0	7½	0	7½	0	7½	0	7½
Shoulder ... "	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	4	0	4	0	4	0	4	0	4	0	4
Buttock ... "	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4½	0	4½	0	4½	0	4½	0	4½
Beef (corned)—																								
Round ... "	0	4	0	4	0	4	0	4	0	4	0	4	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½
Brisket (with bone) ... "	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	3	0	3	0	3	0	3	0	3	0	3
" (without bone) ... "	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	3	0	3	0	3½	0	3½	0	3½	0	3½
Mutton—																								
Leg ... "	0	3	0	3	0	3	0	3	0	3	0	3	0	5	0	5	0	4½	0	4½	0	4½	0	4½
Shoulder ... "	0	2½	0	2½	0	2½	0	2½	0	2½	0	2½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½
Loin ... "	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½
Neck ... "	0	2½	0	3	0	3	0	3	0	3	0	3	0	4	0	4	0	4½	0	4½	0	4½	0	4½
Chops—																								
Loin ... "	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½	0	6	0	6	0	6½	0	6½	0	6½	0	6½
Leg ... "	0	4	0	4	0	4	0	4	0	4	0	4	0	5½	0	5½	0	5½	0	5½	0	5½	0	5½
Neck ... "	0	3½	0	3½	0	3½	0	3½	0	3½	0	3½	0	4½	0	4½	0	4½	0	4½	0	4½	0	4½
Lamb—																								
Forequarter ... each	1	9	1	9	1	10½	1	10½	1	10½	1	10½	3	0	2	9	2	4½	2	3	2	3	2	3
Hindquarter ... "	2	9	2	9	2	10½	2	10½	2	10½	2	10½	4	0	3	9	3	4½	3	3	3	1½	3	1½
Pork (fresh)—																								
Leg ... lb.	0	7½	0	7½	0	7½	0	7½	0	7½	0	7½	0	8	0	8½	0	8	0	8	0	8½	0	9
Loin ... "	0	7½	0	7½	0	7½	0	7½	0	7½	0	7½	0	8	0	8½	0	8	0	8	0	8½	0	9½
Belly ... "	0	6½	0	6½	0	6½	0	6½	0	6½	0	6½	0	7	0	7½	0	7½	0	7½	0	7½	0	8
Chops ... "	0	7½	0	8½	0	8½	0	8½	0	8½	0	8½	0	8½	0	8½	0	8½	0	8½	0	8½	0	9½

On the whole the average prices of the main grocery lines showed very little variation throughout the year. The price of flour was raised in May as the result of an advance in the price of wheat. Sugar was reduced in September from 2½d. to 2½d. per lb. The partial failure of the oat crops in Australia caused an increase in the price of oatmeal. The price of starch was higher than in the previous year owing to increased price of rice.

In average seasons the local production of potatoes is far below the demand, and the deficiency is met by importation from Tasmania and Victoria. Owing to the want of rain during the summer months, supplies of local produce were unusually light, and high prices ruled throughout the year 1912. During the months January to July the price ranged from 1s. 6d. to 1s. 9d. per 14-lb., which is above the average, but in August, when the local supplies were exhausted and interstate importations were not obtainable readily, the price rose to 2s. 6d. per 14-lb. In consequence of the arrival of large shipments from New Zealand in September the price dropped, but rose to 3s. in November. Towards the end of the year when early crops were available the price was reduced to 1s. 9d.

As in the case of potatoes the local production of onions is supplemented by importation mainly from Victoria and Tasmania. The price was above the average throughout the year 1912, and reached a maximum in August in consequence of the exhaustion of supplies from Victoria and Tasmania, and the scarcity of local produce. The abnormally high price, however, caused a decrease in the demand, and in September the price was slightly reduced.

Butter being an article of export, fluctuations in the London prices are reflected by similar movements in the prices at Sydney during the export season—September to March. In January and February, 1912, the London prices were high, but dropped in March; in November, also, there was a marked reduction.

In February the Sydney prices were affected further by the dry weather conditions in New South Wales, Queensland, and Victoria and by an extraordinary demand from North Queensland ports, a result of the disorganisation of the Queensland coastal trade on account of industrial dislocations in Brisbane.

In March the Sydney prices fell as a result of beneficial rains in the northern dairying districts, but an advance took place in the following month when New South Wales produce was in brisk demand to supply a shortage of Victorian butter for consumption in that State and for export to the other States.

The movements in June and September were seasonal—the prices of butter usually advance at the beginning of winter, when supplies decrease, and drop with the approach of Spring weather.

The unusually high prices of cheese in 1912 were due to the unfavourable weather which caused a shortage of supply in Queensland and Victoria as well as in New South Wales. The Sydney prices rose steadily from January to July; in August the price for new cheese dropped as supplies from Queensland were obtainable more readily to meet the deficiency until local produce became available. The high price for matured cheese was maintained until the closing months of the year when it showed a tendency to decline.

The marketing of large numbers of pigs in the summer months, when fodder became scarce, caused a shortage later in the year, and in August there was a marked advance in the prices of bacon and hams; the high prices persisted until the close of the year. The price of hams was further advanced towards the end of the year in response to the increased demand for the Christmas season.

CONTRACT PRICES.

Information regarding the contract prices for supplies to Easter military encampments in various localities, March-April, 1912, may be of interest; the quotations show considerable variation, which is due, to some extent, to variations in quantities of supplies and distances which they must be transported :—

Commodity.	Sydney.		Parramatta.	National Park.	Newcastle.	West Maitland.	Casino.
	North Side of Harbour.	South Head.					
Bread lb.	s. d. 0 1½	s. d. 0 1½	s. d. 0 1½	s. d. 0 1½	s. d. 0 1¼	s. d. 0 1¾	s. d. 0 1⅝
Beef, fresh	0 4¾	0 4	0 3¾	0 4½	0 3	0 4½	0 4
Mutton, fresh	0 4¾	0 4	0 3¾	0 4¼	0 3½	0 4½	0 6
Fish	1 0	1 0	0 8	0 9	0 7	.....	.....
Sugar	0 3	0 3	0 2¾	0 3¼	0 2½	0 2¾	0 2⅝
Pepper	1 3	1 3	1 2	1 4	1 3	1 3	1 1
Salt	0 1	0 1	0 1¼	0 0½	0 0½	0 0½	0 0¾
Rice ... ..	.....	.....	.....	0 4½	0 2¾	.....	.....
Sago ... ..	.....	.....	.....	0 4½	0 3	.....	.....
Bovril, 1-oz. pots doz.	10 0	10 0	9 6	12 6	9 0	10 0	12 0
Biscuits, cabin ... lb.	0 5	0 5	.....	0 8	0 3½	0 3	.....
Butter	1 1	1 1	1 1	.....	1 0	.....	.....
Jam	0 6	0 6	0 4¾	0 6	0 4½	0 4¾	0 4¾
Cheese	0 9	0 9	0 8½	0 10	0 9	0 9	0 7½
Flour ... ..	.....	.....	.....	.....	0 1¼	.....	.....
Tea	1 2	1 2	0 11	1 2	1 1	1 3	1 0
Coffee	1 6	1 6	1 5½	1 4	1 3	1 0½	1 2
Potatoes	0 2¾	0 1½	0 0¾	0 1¼	0 1	0 1½	0 1½
Onions	0 1¾	0 2	0 1¼	0 0¾	0 1¼	0 2	0 1½
Mixed vegetables ..	0 3	0 2	0 1¼	0 2	0 2	0 3	0 3½
Candles	0 8	0 8	0 7	0 6	0 7	0 6½	0 6½
Kerosene... .. gal.	1 2	1 2	1 2	1 4	1 0	1 0½	0 11

COST OF LIVING.

The rapid increase in the cost of living during recent years has engaged public attention throughout the world, and official investigations relating to this subject have been conducted in Great Britain, the United States of America, Canada, Germany, France, and other European countries, as well as in Australia and New Zealand. A movement has been initiated in the United States of America with the object of arranging for the appointment of an international commission, which, by bringing together the statistics collected in various countries, would be enabled to conduct a comprehensive investigation into the causes of the high prices of necessities, and to make suggestions as to remedial measures.

In New South Wales a Royal Commission was appointed in July, 1911, to inquire into matters relating to the food supply of Sydney primarily as to fish, fruit, milk, bread, meat, and vegetables; and to inquire into, and to submit suggestions as to the improvement of, the processes, methods, and conditions of the production, manufacture, transport, handling, and distribution of foodstuffs in New South Wales; and to make inquiry concerning the extent to which the price of food has been affected by the external trade of the State, and by the raising of wages by the operations of trade unions, industrial arbitration, or wages boards; the effect of the fluctuation of prices during the last five years on the position of the working classes and the lower-paid middle-class consumers; the operations of the Pure Food Acts and the necessity for amending the same; the physiological value of various foods (1) for adults, and (2) for infants.

The Commission, which is still sitting, has collected evidence in Queensland, Victoria, and South Australia, as well as in various parts of New South Wales. Sectional reports dealing with the meat and the fish supply of Sydney have been issued.

So far as the acknowledged high and increasing cost of living in Australia is concerned, a reason for the increased cost of necessities may be found in the spread of educational facilities which have inspired all classes of workers to seek the best that their condition may permit. An instance of this may be found in the removal of slum areas in the city, thus compelling people to reside in the suburbs, and so helping to promote a considerable demand for housing accommodation, and a consequent rise in rents.

Contributory causes of the high cost of necessities are traceable in various directions. A rise in world prices for leading commodities, of which some indication has been given in relation to London prices, has been in a degree the basis of local prosperity, and has synchronised with an era of abundant production. Thus, in the cases of wheat and wool, heavy exports have had the benefit of high prices in the world's markets, with the result that money has been available readily. The construction of tariffs has affected incoming goods, and the enactment of industrial legislation, while alleviating conditions for the workman, has reacted on him as the general consumer, and in conjunction with legislation for the standardisation of food products, the maintenance of combinations of capital, has assisted to raise prices.

COST OF LIVING IN NEW ZEALAND.

Information was collected by the Department of Labour of New Zealand regarding the cost of living during the period 1st October, 1910 and 30th September, 1911. The inquiry was limited to families of married men supporting children under 14 years of age and earning £250 per annum or less, the father being the sole breadwinner. The information was collected with reference to four towns, Auckland, Wellington, Christchurch, and Dunedin.

The value of the inquiry was impaired by the fact that only sixty-nine complete returns were received. For this reason the conclusions deduced therefrom cannot be regarded as satisfactory for comparison with other countries. The following statement shows the average weekly expenditure on the principal food commodities in relation to annual income :

Average Weekly Expenditure on Food.	Annual Family Income.						General Average.
	Under £143.		£143-£169.		Over £169.		
	Over four Members.	Four Members or less.	Over four Members.	Four Members or less.	Over four Members.	Four Members or less.	
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Bread	2 9½	1 10½	2 5½	1 9½	2 9½	1 10	2 2¼
Meat	4 1¼	3 9½	6 7	4 6½	5 8	4 2¾	4 7½
Vegetables and fruit ...	2 7	1 4¼	1 10¼	2 7	3 1¾	2 7¾	2 5½
Milk	2 10	1 9	3 0¾	2 1¼	2 8¼	2 3½	2 4½
Butter and cheese ...	2 10	1 9¼	2 11	2 5½	3 11¼	2 7½	2 8¾
Sugar	1 1	0 9¾	1 8¼	0 11	1 6	0 10½	1 0¾
Tea and coffee	1 3	0 10¼	1 1¾	1 0¾	1 3	1 1	1 1
Other food	2 7¼	3 5	2 9¼	3 6½	4 7½	4 1	3 8
Total	20 1	15 7½	22 6	19 0	25 7¼	19 8	20 2
Returns	10	10	4	6	12	17	69

In May, 1912, a Royal Commission was appointed in New Zealand to conduct an inquiry relating to the cost of living. After allowing for change in the quality of articles consumed and eliminating the rise in the standard of living, the Commission found that the cost of living in New Zealand must have increased by at least 16 per cent. between the middle and later "nineties" and the present day. As to the directions of the increase it was found that the cost of food, which represents nearly 35 per cent. of the total expenditure, had risen much more than the average level of prices. Clothing had increased by 20 per cent., house rent 20 per cent., domestic attendance at least 100 per cent., and fuel 5 per cent. Lighting and the direct cost of education had decreased, and medical attendance showed little change.

In comparison with other countries the rise in the cost of living in New Zealand has been generally less than in the United States of America, Canada, and Germany, approximately the same as in the United Kingdom, and higher than in France.

The causes of the increased cost of living were briefly summarised as follows by the Commission :—

1. Increased supply of money (gold and credit) and increased velocity of circulation, which have outstripped increase in volume of trade.
2. Increased cost of production of farm products, and increased demand for foodstuffs produced in the country.
3. Rural depopulation abroad, and consequent slackened rate of production.
4. Local combinations, monopolies, and trusts, commercial and industrial, which raise prices directly to the consumer, while they tend to discourage initiative and self-reliance.
5. Diminution of natural fertility of the soil and of natural resources.
6. Increase in cost of distribution, due to increased transportation charges, excessive numbers engaged in distribution, and duplication of distributing agencies.
7. National waste involved in extravagance, individual and national; wasteful domestic methods, changes of fashions, and devotion of increasing proportion of wealth to non-productive uses.
8. Increased taxation, local and national.
9. Protective tariffs and trusts abroad raising first cost of imports.
10. New Zealand protective tariff.
11. Failure to attain national efficiency through education and technical training.
12. Higher standard of life.

As to remedial measures with a view to reducing the cost of necessities, the Commission recommended the extension and improvement of the collection of statistics, particularly with regard to information to be used as a basis of economic legislation; the extension of the educational system—general, industrial, commercial, agricultural, and domestic; extension of statutory powers regarding trusts and monopolies; the establishment of a permanent Board of Industrial Investigation, representative of the various classes of the people and of expert economists to advise the Government on all matters affecting the industrial and economic condition of the people; revision of customs tariff, especially with regard to duties on common necessities; a land policy to break down land monopoly in town and country. the improvement of housing conditions for workers and families in country districts; and encouragement of immigration. Subsidiary recommendations related to transport, municipalisation of markets and services, money-lending and bailments, and regulation of weights and measures.

COST OF LIVING IN CANADA.

The steady increase in the cost of living in Canada is illustrated in the following comparison prepared by the Canadian Department of Labour. The statement shows for the last three years the average weekly expenditure on staple foods, fuel, lighting, and rent, based approximately on the average consumption of each commodity, by a family of five, whose annual income amounts to 800 dollars (about £164).

Commodity.	Quantity.	Cost.		
		1910.	1911.	1912.
Beef, sirloin steak	2 lb.	s. d. 1 6 $\frac{1}{4}$	s. d. 1 7 $\frac{1}{2}$	s. d. 1 8 $\frac{1}{2}$
Beef, chuck roast	2 "	1 0 $\frac{1}{2}$	1 1	1 1 $\frac{1}{2}$
Veal, forequarter	1 "	0 6	0 6 $\frac{1}{2}$	0 7
Mutton, roast, hindquarter	1 "	0 7 $\frac{3}{4}$	0 8 $\frac{1}{4}$	0 8 $\frac{3}{4}$
Pork, roasting, fresh	1 "	0 8 $\frac{1}{2}$	0 8 $\frac{1}{2}$	0 8 $\frac{1}{2}$
Pork, salt	2 "	1 5	1 4	1 4 $\frac{1}{2}$
Bacon, best, smoked	1 "	0 11 $\frac{1}{2}$	0 11 $\frac{1}{4}$	0 11 $\frac{1}{2}$
Lard, pure leaf	2 "	1 7 $\frac{1}{2}$	1 5 $\frac{1}{2}$	1 5 $\frac{3}{4}$
Eggs, fresh	1 doz.	1 3 $\frac{1}{4}$	1 3 $\frac{3}{4}$	1 4 $\frac{1}{2}$
Eggs, packed	1 "	1 2	1 1 $\frac{1}{2}$	1 3
Milk	6 qts.	1 10	1 11	2 0 $\frac{1}{2}$
Butter, dairy, tub	2 lb.	2 2	2 2 $\frac{1}{2}$	2 5 $\frac{1}{4}$
Butter, creamery prints	1 "	1 3 $\frac{1}{4}$	1 3 $\frac{3}{4}$	1 5 $\frac{1}{4}$
Cheese, Canadian, old	1 "	0 8 $\frac{1}{2}$	0 9 $\frac{1}{4}$	0 10 $\frac{1}{4}$
Cheese, Canadian, new	1 "	0 8 $\frac{1}{2}$	0 8 $\frac{1}{2}$	0 9 $\frac{1}{2}$
Bread, plain white	15 "	2 7 $\frac{3}{4}$	2 7 $\frac{3}{4}$	2 6 $\frac{1}{4}$
Flour, ordinary family	10 "	1 3 $\frac{3}{4}$	1 4 $\frac{1}{4}$	1 4 $\frac{1}{4}$
Rolled oats	5 "	0 10 $\frac{1}{2}$	0 10 $\frac{1}{2}$	0 10 $\frac{3}{4}$
Rice, good medium	2 "	0 5 $\frac{1}{4}$	0 5 $\frac{1}{4}$	0 5 $\frac{3}{4}$
Beans, hand-picked	2 "	0 5	0 5 $\frac{1}{2}$	0 5 $\frac{3}{4}$
Apples, evaporated	1 "	0 5 $\frac{1}{4}$	0 6 $\frac{1}{2}$	0 6 $\frac{3}{4}$
Prunes, medium quality	1 "	0 5 $\frac{1}{4}$	0 6	0 6 $\frac{1}{2}$
Sugar, granulated	4 "	0 11 $\frac{3}{4}$	0 11 $\frac{3}{4}$	1 0 $\frac{3}{4}$
Sugar, yellow	2 "	0 5 $\frac{1}{4}$	0 5 $\frac{1}{4}$	0 6
Tea, black	$\frac{1}{4}$ "	0 3	0 3	0 3 $\frac{3}{4}$
Tea, green	$\frac{1}{4}$ "	0 3 $\frac{3}{4}$	0 3 $\frac{3}{4}$	0 3 $\frac{3}{4}$
Coffee... ..	$\frac{1}{4}$ "	0 4 $\frac{1}{4}$	0 4 $\frac{1}{4}$	0 4 $\frac{3}{4}$
Potatoes	2 pks.	1 2	1 11 $\frac{1}{4}$	2 1 $\frac{1}{2}$
Vinegar, white wine	$\frac{1}{4}$ pt.	0 $\frac{1}{4}$	0 $\frac{1}{4}$	0 $\frac{1}{2}$
Starch, laundry	$\frac{1}{3}$ lb.	0 1 $\frac{1}{2}$	0 1 $\frac{1}{2}$	0 1 $\frac{1}{2}$
Coal, anthracite	$\frac{1}{10}$ ton	1 7 $\frac{1}{2}$	1 8 $\frac{1}{4}$	2 1 $\frac{1}{4}$
Coal, bituminous	$\frac{1}{10}$ "	1 5	1 5 $\frac{1}{2}$	1 6
Wood, hard, best	$\frac{1}{10}$ cord	1 8 $\frac{1}{4}$	1 9 $\frac{1}{4}$	1 8 $\frac{3}{4}$
Wood, soft	$\frac{1}{10}$ "	1 0 $\frac{1}{2}$	1 3	1 2 $\frac{3}{4}$
Coal oil	1 gall.	1 0	0 11 $\frac{1}{2}$	0 11 $\frac{1}{4}$
Rent ... ..	.....	15 8	16 11 $\frac{1}{4}$	17 11 $\frac{1}{4}$
Total ... ..	.....	50 4	53 0	56 1

The weekly budget which would have cost £2 10s. 4d. in 1910 cost £2 13s. in 1911 and £2 16s. 1d. in 1912. The increase in 1911 over 1910 was 6.1 per cent., and in 1912 as compared with 1911, 5.8 per cent.

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