

EMPLOYMENT AND PRODUCTION.

TO obtain a fair approximation of the number of persons engaged in the various walks of life in Australasia was impossible before the census of 1891 was taken, for although at the Census enumerations of 1881 and previous years the occupations of the people were made a feature of the inquiry, the classification, which followed closely that originally devised by the late Dr. Farr, was unsatisfactory, as it completely failed to distinguish between producers and distributors. To avoid a repetition of this defect the Census Conference, held at Hobart in March, 1890, abandoned the English system and adopted a scheme of classification more in accordance with sound principles. This classification was reviewed at the conference of Statisticians held in Sydney in February, 1900, and was adopted, with very slight modification, for use at the decennial Census of 1901. Under this classification the population is divided into two great sections—bread-winners and dependents; and the bread-winners are arranged in their natural classes of producers and distributors, with their various orders and sub-orders. The classes may be shortly defined as follow:—

Section A.—Breadwinners.

Class 1. Professional.

Class 2. Domestic.

Class 3. Commercial.

Class 4. Transport and Communication.

Class 5. Industrial.

Class 6. Agricultural, Pastoral, Mineral, and other Primary Producers.

Class 7. Indefinite.

Section B.—Dependents: Non-Breadwinners.

Class 8. Dependents.

A tabulation of the occupations of the people of these colonies in 1891 according to the foregoing classification would hardly be of value at the present time, especially as another census will have been taken before this volume is twelve months old; but a proportional division of

the population into breadwinners and dependents as at the census of 1891 may have some interest, and is therefore given hereunder :—

State.	Proportion of Breadwinners.		Proportion of Dependents.	
	Males.	Females.	Males.	Females.
	per cent.	per cent.	per cent.	per cent.
New South Wales ...	63·13	17·36	36·87	82·64
Victoria	65·42	21·15	34·58	78·85
Queensland	65·84	18·66	34·16	81·34
South Australia	62·42	15·97	37·58	84·03
Western Australia ...	72·47	15·28	27·53	84·72
Tasmania	63·04	18·15	36·96	81·85
New Zealand.....	62·11	14·86	37·89	85·14
Australasia.....	64·01	18·12	35·99	81·88

If a comparison of the proportion of breadwinners be made with the proportion of males of supporting ages given in the table on page 256 of this volume, it will be seen that Western Australia, with the highest proportion of supporting males, viz., 67·60 per cent., naturally supplied the highest proportion of breadwinners, the leading position occupied by this colony being sufficiently accounted for by the pioneer stage of its existence ; Queensland came second, with 65·22 per cent. of males of supporting ages, and 65·84 per cent. of breadwinners ; Victoria third, with 62·68 per cent., and 65·42 per cent. respectively ; and New South Wales fourth, with 61·41 per cent. of males of supporting ages, and 63·13 per cent. of breadwinners. Tasmania, South Australia, and New Zealand, with the lowest proportions of supporting ages, had also the lowest proportions of breadwinners.

In all the colonies the male breadwinners were in excess of the males of the so-called supporting ages. This fact was, of course, due to the employment of boys under 15, and the continued activity of men over 65 years of age. The excess was greatest in Tasmania, where the largest proportion of males of the old ages was to be found. Queensland, where the excess was smallest, viz., to the extent of only 0·62 per cent., had the lowest proportion of males of the old ages, and, except Western Australia, the lowest proportion of children of dependent ages.

Information concerning the great primary industries of the different colonies has already been given in the chapters of this volume dealing with agriculture, grazing, dairying, and mining. The manufacturing industries remain to be dealt with.

MANUFACTORIES.

The progress of the manufacturing industry in Australasia has been slow and fitful, even in the most advanced colonies; and although the tabular statement given below shows an increase of 76,340 hands since 1885, about one-tenth of this number has been added by a change in the tabulation of the statistics in Victoria and New South Wales. The population of the continent is not sufficient to maintain industries on anything like an extensive scale, and even the Australasian field, such as it is, has been still further limited by the intercolonial tariffs.

The greater portion of the manufactories of Australasia may be classified as domestic industries—that is to say, industries naturally arising from the circumstances of the population, or connected with the treatment of perishable products; but there are nevertheless a fair number of industries of a more complex character which have been firmly established. A statement of the number of establishments and of the hands employed in Australasia is given below for the years 1885, 1890, 1896, and 1899. In some of the colonies the manufacturing statistics are incomplete, and it has therefore been necessary to estimate the figures in several cases:—

Year.	Establishments.	Hands employed.
	No.	No.
1885	10,578	127,360
1890	11,157	158,780
1896	11,055	164,840
1899	12,290	201,100

MANUFACTORIES OF VICTORIA.

Victoria was the colony which first displayed activity in the manufacturing industries. In 1885 there were employed in factories, properly so called, 49,297 hands, and in 1889 there were 57,432 hands; but the number fell away to 39,473 in 1893. Since that year there has been an increase, shown in the following table as 20,597, but in reality not quite so great in consequence of an extension in the scope of the returns. Of the 60,070 workers employed in 1899, 4,184 may be said

to have found occupation in connection with domestic industries for the treatment of perishable produce for immediate use ; 21,425 in other industries dependent upon the natural resources of the country, and 34,461 in industries the production from which comes into competition with imported goods :—

Year.	Establishments.	Males.	Females.	Total Hands employed.
1885	2,813	41,542	7,755	49,297
1886	2,770	39,453	6,320	45,773
1887	2,854	42,019	7,065	49,084
1888	2,975	47,335	7,153	54,488
1889	3,137	49,105	8,327	57,432
1890	3,104	47,596	8,773	56,369
1891	3,141	43,905	8,320	52,225
1892	2,952	35,966	7,226	43,192
1893	2,677	32,410	7,063	39,473
1894	2,632	32,776	8,224	41,000
1895	2,804	35,467	10,628	46,095
1896	2,810	37,779	12,669	50,448
1897	2,760	38,671	14,030	52,701
1898	2,869	40,631	14,147	54,778
1899	3,027	44,041	16,029	60,070

Compared with the other colonies, the proportion of factory hands who are women is largest in Victoria ; thus, out of 57,432 hands in 1889 there were 8,327, or 14.50 per cent., females ; while in 1899, of 60,070 hands, 16,029, or 26.7 per cent., were females.

The number of factories and industrial establishments of various sizes, with the number of hands employed in each class during 1899, was as follows :—

Number of Hands employed by each Establishment.	Number of Establishments.	Total number of Hands.
Under 4 hands	494	1,594
4 hands	301	1,204
5 to 10 hands	1,073	7,573
11 to 20 ,,	551	8,035
21 to 50 ,,	365	11,354
51 to 100 ,,	149	10,345
101 hands and upwards	94	19,965
Total.....	3,027	60,070

MANUFACTORIES OF NEW SOUTH WALES.

The manufacturing industries of New South Wales do not cover so wide a field as those of Victoria, nor do they afford employment for so many persons. For the year 1899 the two colonies compare as follows :—

State.	Establishments.	Hands employed.		Total.
		Males.	Females.	
Victoria	3,027	44,041	16,029	60,070
New South Wales ...	2,912	47,063	8,583	55,646

In Victoria, therefore, there were employed 7,446 females more than in New South Wales, and 3,022 fewer males. In New South Wales the year 1891 showed a total of 46,135 hands, viz., 41,582 males and 4,553 females; but these figures had declined in 1893 to 36,412 males and 2,506 females, or a total of 38,918. However, that was the lowest point reached in the manufacturing returns of the colony, for thenceforth there was an improvement every year until 1899, when, as will be seen from the appended statement, the hands numbered 55,646. But in 1896, it must be explained, a change was made in the scope of the returns, and this accounted for an addition of 4,899 to the total number of workers. The actual increase in the course of the six years was, therefore, about 11,800 hands :—

Year.	Establishments.	Males.	Females.	Total Hands employed.
1885	3,419	36,390	2,404	38,794
1886	3,541	38,257	3,420	41,677
1887	3,541	40,160	3,367	43,527
1888	3,349	39,365	3,686	43,051
1889	3,106	41,299	4,265	45,564
1890	2,926	40,725	4,264	44,989
1891	2,583	41,582	4,553	46,135
1892	2,246	41,298	2,970	44,268
1893	2,052	36,412	2,506	38,918
1894	2,595	39,529	3,222	42,751
1895	2,302	39,987	3,846	43,833
1896	2,928	42,908	6,932	49,840
1897	2,826	44,333	7,106	51,439
1898	2,839	44,673	7,845	52,518
1899	2,912	47,063	8,583	55,646

Of the 55,646 workers employed in 1899, 22,522 found employment in connection with industries the products from which come into competition with imported goods—3,633 were engaged in domestic industries for the treatment of perishable produce required for immediate use, and 29,491 in other industries called into existence by the natural resources of the colony.

The number of factories and industrial establishments of various sizes, with the number of hands employed in each class during 1899, was as follows :—

Number of Hands employed by each Establishment.	Number of Establishments.	Total number of Hands.
Under 4 hands	396	1,381
4 hands.....	352	1,408
5 to 10 hands	1,080	7,723
11 to 20 ,,	529	7,775
21 to 50 ,,	352	10,864
51 to 100 ,,	118	8,093
101 hands and upwards	85	18,402
Total.....	2,912	55,646

MANUFACTORIES OF OTHER COLONIES.

In Queensland systematic statistics relating to manufactories have only been taken since 1892. The figures for the last eight years are as follow :—

Year.	Establishments.	Total Hands employed.
1892	1,329	13,369
1893	1,391	14,434
1894	1,323	15,224
1895	1,397	18,728
1896	1,332	19,733
1897	1,682	22,160
1898	1,864	24,170
1899	2,172	27,200

In South Australia returns were obtained from manufactures in 1892, but in the following three years no information was obtained; since 1895, however, the returns have been collected annually. The following are the available figures:—

Year.	Establishments.	Males.	Females.	Total Hands employed.
1892	815	9,642	1,847	11,489
1896	767	10,974	1,811	12,785
1897	768	10,930	2,027	12,957
1898	766	12,296	2,085	14,381
1899	841	12,941	2,214	15,155

In Western Australia, the manufacturing industry has advanced very rapidly in importance, and as regards the number of hands employed is now almost on a par with South Australia. The following are the figures for the last three years:—

Year.	Establishments.	Males.	Females.	Total Hands employed.
1897	413	8,683	408	9,091
1898	485	8,521	613	9,134
1899	476	8,641	766	9,407

Tasmania has several long-established industries, but the employment afforded has been very limited. The opening up of the mines in the west coast of the island promises to have an important effect upon the local industries, the beginnings of which are even now visible. Commencing with 1886, when the returns relating to manufactories were first collected, the number of establishments and of hands employed therein were as follows:—

Year.	Establishments.	Males.	Females.	Total Hands employed.
1886	271	2,030	77	2,107
1887	249	1,968	74	2,042
1888	250	2,015	50	2,065
1889	232	2,144	35	2,179
1890	237	2,147	57	2,204
1891	215	2,019	33	2,052
1892	205	1,641	52	1,693
1893	204	1,407	20	1,427
1894	201	1,546	34	1,580
1895	211	1,713	41	1,754
1896	215	2,110	34	2,144
1897	290	3,272	206	3,478
1898	288	3,438	191	3,629

In New Zealand information regarding the manufacturing industry is obtained only at the quinquennial census. In 1886 there were 1,946 establishments, employing 22,095 persons; in 1891 the establishments numbered 2,254, and the hands 25,633; and in 1896 there were 2,440 establishments, employing 27,336 persons.

CLASSES OF INDUSTRY.

The information in regard to industrial establishments is not given by the various statistical departments in precisely the same form, and any summary of the various industries must be looked upon as more or less approximate. The following classification follows the lines adopted in several of the colonies:—

Class of Industry.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
	1899.	1899.	1899.	1899.	1899.	1898.	1896.
	No.	No.	No.	No.	No.	No.	No.
Treating raw material, the product of pastoral pursuits.	2,600	1,942	1,502	400	22	133	1,755
Connected with food and drink, or the preparation thereof...	9,356	9,557	9,023	1,900	1,008	641	5,176
Clothing and textile fabrics ..	10,984	17,728	3,755	2,927	1,147	473	6,790
Building materials	6,277	5,131	3,214	1,198	3,617	987	4,674
Metal works, machinery, &c..	11,901	9,423	4,013	5,629	1,745	316	2,623
Ship-building, repairing, &c..	1,409	168	183	81	27	....	281
Furniture, bedding, &c.....	1,701	1,446	576	32	160	....	576
Books, paper, printing, &c. ...	5,054	5,168	2,108	989	782	547	2,521
Vehicles, saddlery, and harness	1,950	2,312	1,445	541	406	300	1,077
Light, fuel, and heat	987	895	307	65	140	40	420
Miscellaneous	3,247	6,300	1,034	1,303	353	192	1,443
Total.....	55,646	60,070	27,200	15,155	9,407	3,629	27,336

The information in regard to Tasmania is manifestly incomplete, as it is not to be supposed there are no persons employed in the two groups of industries opposite which no figures appear; the Tasmanian returns appear to be confined to certain leading employments, and if the minor industries had been included it is probable the gross number

of hands employed would have shown a total of 6,000. However, in the absence of complete returns, the published figures only can be dealt with. Turning now to the details of the various classes of industry, interesting features are disclosed. The hands employed in the industries treating raw material, the product of pastoral pursuits, arranged according to the principal groups, were as follow :—

Class of Industry.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
Boiling-down and Tallow Refineries	124	88	733	21	....	....	77
Bone Mills, Manures, &c.	68	128	45	4	....	...	46
Glue, Oil, and Grease	154	33	....	20	....	....	3
Tanneries and Fellingongeries..	1,014	} 1,693	724 {	262	22	133	} 1,629
Wool-scouring	1,330			93	....	....
Total.....	2,690	1,942	1,502	400	22	133	1,755

It is difficult to say if the figures are compiled for all the provinces upon the same basis. In New South Wales and Victoria wool-scouring works on sheep stations are not included, as the hands are employed in such works at most during the shearing season, and frequently for only a few weeks. The number of hands employed in treating raw material, the product of the pastoral industries, varies greatly from year to year, and, owing to the decrease in the number of live stock depastured, is much less than formerly.

The industries connected with food and drink afford employment for a large number of hands, the distribution into detailed groups being as shown in the succeeding table. The figures for the most part afford their own explanation. Included under the head of cornflour, oatmeal, and arrowroot are, in the case of Victoria, a small number of hands making macaroni and some starch makers; these last are few in number, and it was not found possible to exclude them from the persons employed in making farinaceous foods, otherwise they could have been classed elsewhere. It has been necessary, owing to an arrangement made between the statistical offices of New South Wales and Victoria, that factories dealing with milk products should be included in the list of manufactories, although they are not properly classed as manufactories, and the subject of dairying is treated at length in another part of this volume. It has also been found necessary to alter the Queensland figures from the published returns of that colony, as the farm workers and

factory hands have been grouped together, whereas, for the purposes of this table, factory hands only are required.

Class of Industry.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
Aerated Waters.....	1,008	1,102	651	97	305	....	347
Biscuits	744	836	193	86	....	....	425
Breweries and Maltsters.....	885	1,265	430	373	366	87	560
Condiments, Coffee, Spices ..	480	286	98	80	67	....	138
Confectionery	613	727	311	124	70	....	69
Cornflour, Oatmeal, Arrowroot	112	353	70	....	....	....	....
Distilling .....	....	134	17	104	....	....	....
Flour Mills	815	763	197	422	97	121	419
Ice Making .....	....	68	78	20	58	....	3
Jam, Fruit-canning, Pickles, Vinegar	692	1,316	265	188	45	319	267
Meat-preserving, Refrigerating	1,509	747	2,445	111	....	13	2,190
Milk Products (Butter, Cheese, Condensed Milk)	1,010	1,392	300	174	....	71	598
Olive Oil .....	....	....	....	8	....	....	....
Sugar Mills	1,038	240	3,962	....	....	....	....
Sugar Refineries	450	307		95	....	....	169
Salt .....	....	71	....	108	....	....	....
Total.....	9,856	9,557	9,023	1,990	1,008	641	5,176

The most noticeable point about the table is the strong position of Queensland, the hands employed in that colony very nearly equalling those of Victoria and New South Wales, a position which Queensland is able to take up owing to the extent of its sugar and meat-preserving industries.

Industries connected with the manufacture of clothing and textile fabrics afford more employment than does any other class. From the following table it will be seen that Victoria employs more hands than any other province in every class of industry except textiles, in which it is surpassed by New Zealand. The colony last named has 1,416 hands employed in woollen mills compared with 917 in Victoria and 222 in New South Wales. New Zealand has also 647 hands in flax mills; in no other colony has the flax industry been established:—

Class of Industry.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
Boots and Shoes	3,510	4,288	1,699	1,116	295	316	2,349
Clothing other than Dress- making and Millinery.....	4,658	7,541	1,921	1,658	617	....	2,058
Dressmaking and Millinery ..	1,938	3,782	....	....	235	....	....
Flax Mills .....	....	....	....	....	....	....	647
Furriers	25	29	....	....	....	....	....
Hats and Caps	184	809	27	50	....	....	72
Woollen Mills	222	917	143	78	....	157	1,416
Water-proof Clothing and Oil Skins	447	253	....	....	....	....	93
Others .....	....	109	....	25	....	....	155
Total.....	10,984	17,728	3,795	2,927	1,147	473	6,790

The grouping of industries under the heading preparation and manufacture of building materials is attended with some difficulty, especially when an attempt is made to give detailed information. There appears to be only one establishment in Australasia preparing crude asphalt for industrial purposes, this establishment is at Sydney. There are many so-called asphalt works, that is, works preparing coal tar, sand and screenings for pavement purposes, but these have been excluded from the returns. The hands employed making earthenware and pottery can be given for three provinces—New South Wales, 417; Queensland, 119, and South Australia 95. For the other provinces these industries are included with brickmaking, and have been so grouped in the accompanying table. In distinguishing in the table between sawmills and joinery works the Statistical Registers of the various provinces have been followed; nevertheless, it is clear that some joiners are included with sawmill-hands in New South Wales, and all such hands are included with sawmills in New Zealand, so that neither grouping affords a fair comparison for all the colonies. Under the heading of stone-dressing, polishing, modelling and monumental works, the chief employment in all the colonies is the preparation of tombstones—an industry which might well be omitted from a tabulation of manufactures and works.

Class of Industry.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
	No.	No.	No.	No.	No.	No.	No.
Asphalt	42	.....	.....	.....	.....	.....	.....
Bricks, pottery, earthenware..	1,865	1,312	412	340	260	204	455
Joinery	735	1,639	583	401	532	.....	.....
Line, plaster, and cement....	125	216	106	91	.....	.....	79
Paints and varnishes	16	47	.....	8	8	.....	.....
Sawmills	3,004	1,467	2,008	231	2,799	783	4,059
Stone-dressing, polishing, modelling and monumental works	451	338	87	64	18	.....	.....
Wood-turning and carving ..	39	112	18	13	.....	.....	81
Total	6,277	5,131	3,214	1,198	3,617	987	4,674

Works connected with the treatment of metals, manufacture of machinery, agricultural implements, and railway rolling stock form a large and growing class of industry. The grouping given below is not by any means satisfactory. In Queensland for example all metal works, except smelting, are grouped in the one line, which is also the case in several of the other colonies. Only three colonies show hands employed in the manufacture and repairs of rolling stock; this, of course, is misleading, for though little manufacturing may be carried on, all colonies make their own repairs. In Victoria 1,697 hands are shown as employed in railway carriage and rolling stock manufacture and repairs as compared with 2,908 in New South Wales. The employment afforded in railway workshops is chiefly in the nature of repairs, but locomotives, passenger carriages, and goods waggons are built in each

colony. In New South Wales the wages paid in railway workshops amounted in 1900 to £390,284, and in Victoria to £253,218; the repairs in the former colony are therefore on a much more extensive scale than in the latter. The number of hands set down as employed in the manufacture of agricultural implements in New South Wales is only 193, few establishments devote themselves entirely to this business, the manufacture of implements being usually associated with ironworking generally. New South Wales and South Australia possess smelting works on a large scale, affording employment to 3,339 hands in the first-named colony, and to 2,405 in the latter. The chief smelting works of New South Wales are situated at Newcastle, at Lake Macquarie, and at Dapto, in close proximity to the coal-fields, and at Broken Hill. The chief ores treated are copper, tin, silver, and lead, partly the production of the colony itself, and partly of Tasmania, South Australia, Western Australia, Queensland, and New Caledonia. The smelting works of South Australia are situated at Port Pirie, and deal with silver and lead ore from Broken Hill.

Class of Industry.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
Agricultural Implements	193	1,107	....	242	38	....	581
Brass and copper smelting ..	167	497	....	....	....	....	....
Galvanized iron, sheet iron, tinsmithing	618	676	....	58	....	....	379
Ironworking, engineering, foundries, &c.	3,950	4,855	3,862	2,096	783	316	1,042
Lead Works	83	34	....	....	....	....	....
Railway carriages, rolling stock manufacture, and repairs	2,908	1,697	....	....	924	....	....
Smelting	3,339	71	151	2,405	....	....	....
Wireworking	197	77	....	39	....	....	....
Others	446	409	....	209	....	....	21
Total	11,901	9,423	4,013	5,029	1,745	316	2,023

In industries connected with ship-building and repairing, New South Wales has a far larger number of hands employed than has any other province. The chief part of the business is in connection with the docking of ships, in which about 1,150 hands find work. In ship and boat building there are, probably, not more than 250 hands employed.

Class of Industry.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
Docks and ships	No. 1,240	No. 110	} 183 {	No.	No.	No.	No. 29
Sails, tents, and tarpaulins ..	102	43		No. 11	....	....	143
Ship and boat building and repairs	157	15		No. 70	27	....	109
Total	1,499	168	183	81	27	....	281

The manufacture of furniture, bedding, &c., affords employment to 4,491 hands, of whom 1,701 are in New South Wales and 1,446 in Victoria. As Australia and New Zealand produce various kinds of wood admirably adapted to the requirements of the furniture trades, it can hardly be said that the industry has attained a development equal to its opportunities. As showing the possibilities of the industry, it may be mentioned that the value of furniture imported into New South Wales alone in 1899 was £101,400, and of bedding, flock, and upholstery, £47,800.

Class of Industry.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
	No.	No.	No.	No.	No.	No.	No.
Bedding, flock, upholstery.....	416	407	165	....	....	....	25
Furniture	1,180	940	411	....	160	....	506
Picture-frames	71	59	....	28	....	....	....
Window-blinds	34	40	....	4	....	....	45
^c Total.....	1,701	1,446	576	32	160	....	576

The different industries connected with printing, bookbinding, paper-making, &c., afford work to 17,169 persons. The great bulk of these are employed in the various processes of printing, actual manufacturers being comparatively few in number. Australia and New Zealand produce many excellent paper-making materials; nevertheless, only 319 persons are employed in paper-making, and a large proportion of the output of the mills is ordinary brown or wrapping papers. Under the head of printing are included the composing and mechanical staff of the newspaper offices—persons whom it takes a very wide definition to bring in under the term “manufacturers.”

Class of Industry.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
	No.	No.	No.	No.	No.	No.	No.
Electrotyping and stereotyping	24	....	....	....	....	....	....
Paper bags, boxes, &c.	191	....	71	....	....	....	86
Paper	56	179	....	....	....	....	84
Printing and bookbinding....	4,714	4,077	2,037	989	782	547	2,351
Printing materials	69	12	....	....	....	....	....
Total.....	5,054	5,168	2,108	989	782	547	2,521

In connection with the manufacture and repair of vehicles, saddlery, harness, &c., there are 8,031 hands employed. The great bulk of the work done in connection with coaches and waggons is repairing; but there are establishments in all the provinces where vehicles of all classes are manufactured. No hands are set down in the statistics of Tasmania as employed in these industries. It is probable there must be at least 300 so employed, and this figure appears in the following table:—

Class of Industry.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
	No.	No.	No.	No.	No.	No.	No.
Coaches and waggons.....	1,472	1,817	670	384	336	250	807
Saddlery, harness, whips, &c.	461	495	775	157	70	50	270
Spokes.....	17	....	....	....	....	...	....
Total	1,950	2,312	1,445	541	406	300	1,077

Industries connected with the production of fuel, heat, and light do not afford employment to many hands. The following table shows 2,854 hands, of whom 1,947 are employed in gasworks, 467 in electric-lighting works, 253 in coke making, and 187 in manufacturing matches. The coke workers in Victoria are included with hands employed in gas-works, and coke workers and hands employed in electric-lighting are grouped together in Queensland. The number of hands employed in manufacturing candles is not included in the following table. The soap and candle industries are usually worked together, so that it is not possible to separate the two classes, which are accordingly grouped together under the heading of soap and candle workers, on the next page.

Industry.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
	No.	No.	No.	No.	No.	No.	No.
Coke.....	253	....	87	....	....	....	....
Electric light.....	147	147		....	86	....	....
Gas.....	557	686	220	65	54	40	295
Matches.....	....	62	....	....	....	....	125
Total.....	987	895	307	65	140	40	420

Under the heading of miscellaneous are grouped a very large number of manufactures, many of them small, but some of them of considerable importance; amongst the latter may be mentioned—tobacco manufactories, employing 2,212 hands; chaff-cutting and corn-crushing, 1,510 hands; chemical, drug, and patent medicine factories, 1,206 hands;

glass-works, 1,047 hands; rope-works, 841 hands; and soap and candle works, 1,435 hands. Further particulars regarding these and the other industries included in the list will be found in the Statistical Registers of the various provinces.

Class of Industry.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
	No.	No.	No.	No.	No.	No.	No.
Baskets and wickerware, mats and matting.....	89	34	57	84	.....	.....	70
Bicycles	6	188	.....	107	22	.....	125
Boxes and packing cases	155	263	.....	84	.....	.....	.....
Brooms and brushes	113	236	36	.....	.....	.....	92
Catgut and sausage-skins	10	.....	.....	.....	.....	.....	56
Chaff-cutting and corn-crushing	256	886	.....	156	.....	.....	212
Chemicals, drugs, and patent medicines	270	618	.....	130	23	.....	165
Cooperage	210	124	168	26	8	.....	76
Cutlery..	8	41	.....	.....	.....	.....	6
Dye works	35	54	.....	14	.....	.....	58
Electro-plating	43	.....	.....	.....	.....	.....	6
Fancy leather	80	84	.....	.....	.....	.....	.....
Glass (including bottles)	230	} 646 {	.....	40	.....	.....	6
Glass (ornamental)	110		.....	5	.....	.....	1
Ink	7	.....	.....	.....	.....	.....	2
Jewellery (manufacturing)	71	470	.....	85	31	.....	.....
Lamps	57	18	.....	.....	.....	.....	.....
Perambulators	27	14	.....	.....	.....	.....	.....
Photo-engraving	30	.....	.....	.....	.....	.....	.....
Portmanteaux	81	40	33	.....	.....	.....	13
Rope, fishing-lines, and twine	150	449	39	53	.....	.....	150
Rubber goods	12	.....	.....	.....	.....	.....	4
Soap and candles	287	438	179	189	66	86	190
Surgical and other scientific instruments	58	19	.....	.....	.....	.....	.....
Tobacco, cigars, and cigarettes	640	1,041	250	196	57	.....	19
Other industries	194	637	272	134	146	106	186
Total	3,247	6,300	1,034	1,303	353	192	1,443

PLANT EMPLOYED IN MANUFACTORIES.

The horse-power of machinery available for use in manufactories cannot be stated for all the colonies, but the amount actually in use can be given, as well as the approximate value of the plant. The particulars for the latest years available are:—

State.	Year.	Horse-power employed.	Value of Plant.
		No.	£
New South Wales	1899	33,180	5,640,384
Victoria	1899	33,046	4,632,629
Queensland	1899	27,580	4,536,508
South Australia	1899	13,493	1,835,850
Western Australia	1898	7,432	1,254,935
Tasmania	1898	2,853	302,418
New Zealand	1896	28,096	2,988,955
Total .....	.....	145,680	21,191,679

The average value of plant per horse-power of machinery employed ranges from £106 in the case of New Zealand to £164 for Queensland, and £170 for New South Wales. A mere statement of values, however, has no special meaning since the difference in the figures is compatible with two opposite conditions—either the same plant is put to greatest use in the case of New Zealand, or it is of superior character in the case of New South Wales and Queensland.

It will be seen that the figures just given are not all for the same date. The returns for some of the colonies for 1899 had not been published when this volume was printed, while, as regards New Zealand, later figures than for 1896 are not available.

VALUE OF PRODUCTION OF MANUFACTORIES.

The gross value of articles produced in manufacturing establishments, and the value added to materials in the process of treatment is known for most of the colonies. Where the information is not directly obtained by the statistical officers an estimate has been made, and the material for such an estimate is fairly ample, except in the case of Western Australia. The information has been brought up to the year 1899, and care has been taken to exclude the production from establishments such as butter, cheese, and bacon factories—the output of which is already included under pastoral and dairy industries. The total value of the output of all factories was £61,310,000, of which £27,994,000 represent fuel and value of materials, and £33,316,000 the value added in the various processes; and of the sum last mentioned £15,374,000 was paid as wages, leaving a balance of £17,942,000 as the sum added to the

materials and labour employed during the processes of manufacture or treatment. Taking the added value as the difference between the total output and the materials and fuel consumed, the distribution of this amount (£33,316,000) between the various States was as follows :—

State.	Value of Production.	Value per Inhabitant.
	£	£ s. d.
New South Wales	9,207,000	6 16 10
Victoria	10,052,000	8 13 0
Queensland	4,772,000	10 0 1
South Australia	2,655,000	7 4 4
Western Australia.....	1,515,000	8 18 8
Tasmania	465,000	2 11 9
Commonwealth	28,666,000	7 14 10
New Zealand	4,650,000	6 4 0
Australasia	33,316,000	7 9 8

In the last edition of this work the total value of the production of Victorian manufactories for 1896 was set down at £11,318,000. This figure was deduced from the results of the census of 1891, which showed a gross production of £22,390,251, less value of materials used £12,006,233—that is to say, £10,384,018. There were, however, several important considerations overlooked which have now been attended to. The Victorian official figures did not include the important item of fuel as material used, and a probable deduction of £520,000 should have been made on this score; in the materials used no allowance was made for the value of Victorian timber cut in sawmills, which appears to have been worth £608,759, nor for the raw material used up by potteries and brickyards. There were other corrections to be made, such as the exclusion of the value of milk products which appear under the head of dairy farming. In the foregoing table proper allowances have been made, and the figures relating to each colony have been compiled on exactly the same basis. The table just given shows that, in proportion to population, Queensland holds the first place, a circumstance due to the existence of important sugar and meat-preserving industries in that colony. Western Australia stands second, but the dearness of products, caused by the remoteness of the colony and the heavy cost of transport, gives to Western Australia a fictitious importance compared with the other provinces; but when every allowance is made on this score it will be found that the industries of the colony are on a substantial basis. Victoria ranks first as regards gross value of products, and third when viewed from the standpoint of population, the gross production exceeding that of New South Wales by about £850,000, and the production per head by £1 16s. 2d.

VALUE OF PRODUCTION OF ALL INDUSTRIES.

Full particulars regarding the value of primary production have already been given in previous chapters; combining the results there shown with the value of manufactures, the total value of production during the year 1899 was £137,570,000, of which amount the total of each colony and the value per inhabitant were as follow:—

State.	Value of Production.	Value per Inhabitant.
	£	£ s. d.
New South Wales	38,579,000	28 13 7
Victoria	30,870,000	26 11 4
Queensland	18,561,000	38 18 4
South Australia	8,958,000	24 6 11
Western Australia	10,215,000	60 4 10
Tasmania	5,090,000	28 6 4
Commonwealth	112,273,000	30 6 8
New Zealand	25,297,000	33 14 7
Australasia	137,570,000	30 18 0

The distribution of the production of the colonies under the various branches of primary and other productive industries was as follows:—

State.	Agriculture.	Pastoral Industries.	Dairying, Poultry, and Bee Farming	Mining Industries.	Forestry and Fisheries.	Manu- factories.
	£	£	£	£	£	£
New South Wales....	5,532,000	14,527,000	2,543,000	6,081,000	639,000	9,207,000
Victoria	6,435,000	7,219,000	3,384,000	3,579,000	201,000	10,052,000
Queensland	1,848,000	7,283,000	889,000	3,140,000	629,000	4,772,000
South Australia	2,508,000	2,503,000	671,000	516,000	45,000	2,655,000
Western Australia ...	500,000	869,000	251,000	6,346,000	734,000	1,515,000
Tasmania	996,000	687,000	285,000	2,539,000	118,000	465,000
Commonwealth..	17,929,000	33,088,000	8,023,000	22,201,000	2,366,000	28,666,000
New Zealand	7,318,000	7,707,000	2,354,000	2,657,000*	611,000	4,650,000
Australasia.....	25,247,000	40,795,000	10,377,000	24,858,000	2,977,000	33,316,000

* Kauri gum production included hereunder.

Compared with the older countries of the world, the amounts stated above are by no means insignificant, and in production per head Australasia exceeds any other country for which records are available. Although the data on which an exact statement can be founded are incomplete, there is sufficient information to warrant the assertion that from primary industries alone Australasia produces more per inhabitant than is produced from the combined industries of any other country, and

a consideration of this fact will perhaps explain the ease with which these colonies bear their apparently great indebtedness, and the general prosperity they enjoyed until the disturbances incident to the banking crisis unsettled general business. The following figures, giving the value of production from primary industries in the principal countries of the world, are, with the exception of those for the Australasian colonies, taken from Mulhall's *Dictionary of Statistics* :—

Country.	Total Production in Primary Industries.	Per head of Population.		
	£	£	s.	d.
United Kingdom	317,000,000	7	18	6
France	451,000,000	11	11	6
Germany	465,000,000	8	13	4
Russia	594,000,000	4	19	8
Austria.....	347,000,000	8	7	11
Italy	212,000,000	6	17	1
Spain.....	143,000,000	8	4	3
Portugal	28,000,000	5	10	2
Sweden.....	50,000,000	10	1	11
Norway	15,000,000	7	6	2
Denmark	36,000,000	10	4	0
Holland	37,000,000	7	17	5
Belgium	55,000,000	8	16	6
Switzerland.....	21,000,000	7	2	1
United States	1,037,000,000	14	14	0
Canada	83,000,000	16	5	6
Australasia (1899)	104,254,000	23	8	4
New South Wales	29,372,000	21	16	9
Victoria	20,818,000	17	18	4
Queensland	13,789,000	28	18	3
South Australia	6,303,000	17	2	7
Western Australia	8,700,000	51	6	2
Tasmania	4,625,000	25	14	7
New Zealand	20,647,000	27	10	7

Judged by the aggregate production, New South Wales stands far above the other colonies, a position which it owes to the largeness of its interests in pastoral pursuits. The value of the return from this industry was £14,527,000, a sum greater than the total production from all primary industries in every colony except Victoria and New Zealand. In value of primary production per inhabitant, Western Australia stands easily first with the very high production of £51 6s. 2d. per head. Queensland comes next, closely followed by New Zealand and Tasmania, while South Australia is lowest with only one-third of the production per head of Western Australia. The high position occupied by Western Australia is due to its great production of gold, and to its large timber industries. Queensland owes its position to its pastoral resources, the production from which reached £15 5s. per inhabitant.

A comparison of the production of the colonies from primary industries per head of population, however, is liable to give an undue importance to those provinces which have large territories and scanty population; for it is but a natural expectation that where the population of a country is dense a large proportion of the inhabitants will be engaged in other than primary industries. If the value of primary production, therefore, be compared with the extent of territory enjoyed by each colony, it will be found that the positions of several of the provinces are reversed. Thus, Victoria occupies first position with an average primary production of £236 17s. 5d. per square mile, while Western Australia has the second lowest return of £8 18s. 4d. The following, as well as the preceding table, bears testimony to the great natural resources of New Zealand, which has an average production per head of £27 10s. 7d., and per square mile of £197 12s. 8d. :—

State.	Production of Primary Industries per square mile.		
	£	s.	d.
New South Wales	94	10	8
Victoria	236	17	5
Queensland.....	20	12	6
South Australia.....	6	19	6
Western Australia	8	18	4
Tasmania	176	8	6
Commonwealth.....	28	2	6
New Zealand.....	197	12	8
Australasia.....	33	17	6

If the value of production in all the industries be related to the area of territory possessed by each colony, which is a favourite comparison with some statisticians, the following results are obtained. There is, however, no necessary connection between the production of the manufacturing industries of a country and the area of its territory, the development of manufactures depending upon entirely different considerations :—

State.	Total production per square mile.		
	£	s.	d.
New South Wales	124	3	4
Victoria	351	4	11
Queensland	27	15	4
South Australia	9	18	3
Western Australia	10	9	4
Tasmania	194	3	3
Commonwealth	40	4	0
New Zealand ..	242	2	11
Australasia	44	14	1

A comparison of the value of production in 1899 with that of previous years brings out the fact that in spite of many adverse conditions these colonies are holding their own. In 1899 the value per head was £30 18s., which was greater than in 1891 or than in 1871, and only a few shillings below the average of 1881. This is an excellent result considering the continuous fall in prices from 1871 to 1894. If the prices of 1871 had been maintained, the following results would have been obtained, which for purposes of comparison are set against the actual results :—

Year.	Average value of production per inhabitant.	Average value of production if 1871 prices had been obtained in each year
	£ s. d.	£ s. d.
1871	28 7 0	28 7 0
1881	31 0 7	37 3 10
1891	30 3 3	45 2 10
1899	30 18 0	45 0 2

During the interval of eight years between 1891 and 1899 the sheep depastured in Australasia declined in number from 125 millions to 94 millions, while there was also a large decrease in other classes of stock, and the satisfactory results shown in this and the succeeding table were achieved in spite of the shrinkage in the return from the leading industry. The total value of production for each of the years named was as follows :—

State.	1871.	1881.	1891.	1899.
	£	£	£	£
New South Wales...	15,379,000	25,180,000	36,739,760	38,579,000
Victoria	19,260,000	22,750,000	30,319,610	30,870,000
Queensland	3,995,000	10,200,000	14,273,660	18,561,000
South Australia... ..	5,228,000	8,457,000	9,025,675	8,958,000
Western Australia..	707,000	943,000	1,806,340	10,215,000
Tasmania	2,131,000	3,586,000	3,920,940	5,090,000
Commonwealth ...	46,700,000	71,116,000	96,085,985	112,273,000
New Zealand	9,739,000	16,490,000	21,518,915	25,297,000
Australasia.....	56,439,000	87,606,000	117,604,900	137,570,000