

PART III.—VITAL STATISTICS.

Registration system for marriages, births, and deaths.

422. In pursuance of the provisions of Act 28 Vict. No. 246, records are kept of all marriages, births, and deaths which are known to occur in Victoria. The marriages are recorded by registrars of marriages or by clergymen throughout the colony, and the births and deaths by deputy registrars. The marriage registrations are made in triplicate, one copy being forwarded to the Registrar-General, one retained by the lay registrar or officiating clergyman, as the case may be, and the third given to the parties married. The birth and death registrations are made in duplicate, one copy being forwarded to the Registrar-General and the other retained by the deputy registrar.

Time of registration dealt with in compiling statistics.

423. It is found convenient to deal with the records according to the periods in which the marriages, births, and deaths are registered, rather than those in which they occur. And—since the registration of a death should in all cases precede burial, and the registration of a marriage is simultaneous with the marriage itself—the registrations in the former case closely, and in the latter case entirely, agree with the actual occurrences during any period. In the case of births, however, there is a wider margin, since the legal limit of registration extends to two months, and may in special cases extend to twelve months, after the date of birth; the effect of which is, not that the numbers in one period differ much from those in another not distant period of similar duration, but that, in view of the length of time over which the non-registration of a birth is permitted to extend, and the natural tendency of some persons to postpone whatever is not absolutely necessary to be done on a particular day, a certain number of births escape registration altogether.

Marriages, 1887.

424. The marriages returned to the Registrar-General for 1887 numbered 7,768, as against 7,737 for the previous year. The excess in favour of 1887 was thus 31.

Marriages, 1887 and former years.

425. More marriages were returned for 1887 than for any previous year. The number returned annually had been almost stationary during the seven years prior to 1880, but in that year an advance was made which has been more than sustained since. In 1882, for the first time, the marriages returned exceeded 6,000; and in 1884, for the first time, they exceeded 7,000.*

Marriage rate.

426. The proportion which the number of marriages bear to the total population is generally called the marriage rate. This for many years

* For the number of marriages during each year since the first settlement of Port Phillip, see Statistical Summary of Victoria (first folding sheet) published in the last volume.

had been declining in Victoria, for, whilst in the three years prior to 1863 it was above 8 per 1,000 of both sexes and all ages, from 1863 to 1865 it was between 7 and 8, and between 1868 and 1878 it was between 6 and 7, per 1,000. It reached its lowest point, 5·98 per 1,000, in 1879; then gradually revived, and in 1886 amounted to 7·84, this being the highest rate in twenty-four years. In 1887, however, it again slightly declined. The following table gives the number of marriages and number of persons married per 1,000 of the population during each of the twenty-eight years ended with 1887 :—

ANNUAL MARRIAGE RATE, 1860 TO 1887.

Year.	Per 1,000 of the Mean Population.	
	Number of Marriages.	Number of Persons Married.
1860	8·15	16·30
1861	8·21	16·42
1862	8·26	16·52
1863	7·51	15·02
1864	7·77	15·54
1865	7·36	14·72
1866	6·76	13·52
1867	6·97	13·94
1868	7·08	14·16
1869	6·89	13·78
1870	6·63	13·26
1871	6·37	12·74
1872	6·36	12·72
1873	6·50	13·00
1874	6·33	12·66
1875	6·33	12·66
1876	6·21	12·42
1877	6·31	12·62
1878	6·20	12·40
1879	5·98	11·96
1880	6·22	12·44
1881	6·79	13·58
1882	7·09	14·18
1883	7·43	14·86
1884	7·73	15·46
1885	7·72	15·44
1886	7·84	15·68
1887	7·62	15·24
Mean of 28 years ...	7·02	14·04

427. It has been shown, upon more than one occasion,* that the frequency of marriage is not dependent upon the numbers of the total Marriage rate at various periods

* See *Victorian Year-Book* 1879-80, pages 103 and 104; same work, 1880-81, pages 199 and 200; and same work, 1881-2, pages 165 and 166.

population, still less upon the number of marriageable women, but almost entirely upon the number of marriageable men the community contains, the tendency of whom to marry is modified by their habits and occupations, and upon the view they take of their future prospects. Thus men have a greater tendency to marry in prosperous than in dull times, and the men of a rural, and especially of an agricultural, community have a greater tendency to marry than those of an urban one. To demonstrate this, the following table has been constructed, showing the proportion of marriages to the population, to the number of single men and to the number of single women, in each of the last five census years :—

PROPORTION OF MARRIAGES TO POPULATION* AND TO SINGLE MEN AND WOMEN, 1854 TO 1881.

Year of Census.	Exclusive of Chinese and Aborigines.					
	Population.	Number of Marriages.	Proportion of Marriages per 1,000 of the—			
			Population.	Marriageable Men.†	Marriageable Women.‡	
1854	234,361	3,696	15·77	52·16	245·04	
1857	383,668	4,465	11·64	46·79	169·66	
1861	513,896	4,528	8·81	42·34	122·36	
1871	712,263	4,715	6·62	52·43	72·11	
1881	849,438	5,732	6·75	57·40	48·02	

Reasons for fluctuations in marriage rate.

428. The numbers in the last column but two, and those in the last column, show such a falling-off that, if the proportion that marriages bear to the total population or to the number of single females were to be accepted as an index of the prosperity of the community, an alarming amount of depression would be indicated. The figures in the last column but one, however, tell a very different tale, and exhibit just such fluctuations as might have been expected from the changes which took place in the circumstances of the population between the different periods. Thus, in 1854, there was a very large influx to the colony of single adult males, some of whom brought capital with them, which they saw, or thought they saw, every prospect of speedily increasing,

* The populations in this table are those returned at the respective censuses, the Chinese and Aborigines being excluded; and the marriages are those (exclusive of marriages of Chinese and Aborigines) which took place in the twelve months of which the date of each census was the middle. The proportions of the latter to the former, therefore, differ slightly from those in the previous table, which are based upon the total mean population and all the marriages in the calendar year.

† Comprising bachelors of 20 and upwards, and widowers at all ages.

‡ Comprising spinsters of 15 and upwards, and widows at all ages.

whilst others actually did make money very quickly, and, consequently, the proportion who married was high, but, doubtless, not so high as it would have been had it not been for the discomfort of living in tents and other privations incident to life on the early gold-fields, to which a large portion of the community was then subjected. By 1857, immigration had for the time been overdone, the result being that the gold obtained was very much less in proportion to the number of miners at work than it had been, whilst the discomforts of a gold-fields life were as great as ever, and so the rate naturally declined. By 1861, the yield of gold had seriously diminished, and as persons had not yet turned, to any great extent, to other pursuits, much distress was experienced, and the rate fell to a minimum. By 1871, and in a greater degree by 1881, a large proportion of the population had settled on farms, whilst some, unable to obtain congenial occupation, had left the colony; tents had almost disappeared from the gold-fields; the miners were, for the most part, working for wages, and did not, as formerly, rush about from place to place; manufactures had been started, and had made considerable progress, and, accordingly, the rate improved. In 1871, the marriage rate was higher than at any previous period of the colony's history, and in 1881 it was still higher than in 1871.

429. The decline in the female marriage rate shown in the last column of the table will be better realized when it is considered that in 1854 about 1 in 4 of all the spinsters and widows in the colony married in the year—which proportion, three years after, had fallen to 1 in 6; four years later it had fallen to 1 in 8; ten years still later it had fallen to 1 in 14; and ten years later, viz., in 1881, it had reached the exceedingly low point of 1 in 21. The tide had probably then turned, and the youthful native-born male population growing up to manhood had commenced to fill the gap in early adult life caused by the passing on to later periods of the immigrants who, at the time of the discovery of the first gold-fields, came to Victoria unaccompanied by persons at younger ages who should supply their places as they passed onward or disappeared altogether from the scene. It may, therefore, be expected that, if the colony continues to enjoy a fair amount of prosperity, the next census will show that the marriages have increased in proportion to the available females, as the last enumeration showed they had done in proportion to the available males.

430. M. Toussaint Loua, Chief of the General Bureau of Statistics of France, in a paper read before the Statistical Society of Paris on the 17th December, 1884, pointed out the desirability of ascertaining the marriage rate by comparing the marriages with the number of marriage-

Probability
of female
marriage
rate reviv-
ing.

French mar-
riage rate.

able persons instead of with the total population,* and states that in France marriageable males marry at the annual rate of 57 per 1,000, and marriageable females at that of 46 per 1,000. In a former paper (September, 1884), the same writer had stated the proportions in Switzerland were respectively 49 and 38. The proportions in Victoria, according to the lowest line of the last table were 57 and 48. M. Loua does not say what ages he considers marriageable, and perhaps they may not be identical with those so considered by the Government Statist of Victoria—viz., 20 and upwards for males, and 15 and upwards for females.

Marriage rates in Australasian colonies.

431. The following table gives a statement of the number of marriages to every 1,000 of the population of the various Australasian colonies for each year from 1865 to 1887, except Western Australia, for which colony it is given for the last sixteen of those years :—

MARRIAGE RATES IN AUSTRALASIAN COLONIES, 1865 TO 1887.†

Year.	Number of Marriages ‡ per 1,000 of Mean Populations.						
	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1865	7·36	8·94	13·27	9·45	...	6·27	10·47
1866	6·76	8·26	11·61	8·12	...	5·93	10·32
1867	6·97	7·84	9·54	8·20	...	6·10	9·69
1868	7·08	8·23	8·33	7·37	...	6·57	9·35
1869	6·89	8·04	8·31	6·78	...	6·44	8·32
1870	6·63	7·85	7·80	6·90	...	6·62	7·62
1871	6·37	7·78	8·06	6·77	...	5·90	7·15
1872	6·36	7·46	8·70	7·20	5·56	6·17	6·85
1873	6·50	8·05	9·66	8·00	6·25	6·36	7·91
1874	6·33	7·70	8·62	8·00	6·96	6·83	8·87
1875	6·33	7·88	8·63	8·01	7·26	6·63	8·94
1876	6·21	7·66	7·57	8·49	7·07	7·13	8·25
1877	6·31	7·94	7·57	8·66	6·38	7·79	7·63
1878	6·20	8·08	6·98	9·47	6·50	7·96	8·03
1879	5·98	7·80	7·49	8·81	7·57	7·23	7·60
1880	6·22	7·68	6·97	8·69	7·42	7·38	6·71
1881	6·79	8·27	7·71	8·33	6·60	7·30	6·65
1882	7·09	8·74	8·56	8·73	7·07	8·03	7·07
1883	7·43	8·88	8·93	8·49	6·95	9·01	6·82
1884	7·73	8·49	8·91	8·28	7·11	7·81	6·88
1885	7·72	8·18	9·20	7·82	7·51	7·97	6·73
1886	7·84	7·97	8·38	6·31	7·99	7·27	5·99
1887	7·62	7·42	8·21	6·32	7·70	6·71	5·99
Means	6·81	8·05	8·65	7·97	6·99	7·02	7·82

NOTE.—In consequence of amendments in the population estimates, the figures of the three years ended with 1884 in the column for Victoria, and of the twenty years ended with 1884 in the column for New South Wales, have been corrected since the last publication of the *Victorian Year-Book*.

* The following are M. Loua's words :—" Si l'on veut rendre compte de la fréquence réelle des mariages, le rapport à la population ne suffit pas ; il vaut mieux mettre les mariages en parallèle avec la population *variable*, c'est à dire avec le nombre des individus célibataires ou veufs) ayant atteint ou dépassé l'âge requis pour leur mariage."—*Journal de la Société de Statistique de Paris*, vingt-sixième année, p. 13, Berger Levrault, 5 Rue des Beaux Arts, Paris.

† For the number of marriages in the various colonies during the fifteen years ended with 1887, see General Summary of Australasian Statistics (third folding sheet) published in the last volume.

‡ The numbers doubled give the *persons* married per 1,000 of the population.

432. It will be observed that the mean marriage rate is lower in Victoria than in any one of the neighbouring colonies, and as, during the whole period over which the calculations extend, Victoria has certainly been second to none of the other colonies in point of wealth and prosperity, this may create surprise in the minds of those who fail to realize the fact that marriage rates, calculated upon the total population, do not afford an indication of the amount of prosperity in a community so much as of the proportion which single men at marriageable ages bear to the population as a whole. In civilized countries, the age at which four-fifths of the males who marry enter the marriage state is between 20 and 35 years. It naturally follows, therefore, that on the number of males at such ages the number of marriages mainly depends. Prior to the taking of the last census it was mentioned as probable that there had been a falling-off in the male population of Victoria at those ages; and, as was anticipated, the census disclosed the fact that Victoria had, in proportion to the total population, a smaller number of males between 20 and 40 than any of the other colonies.* The explanation of the higher proportion in the other colonies of males at the period named is to be found mainly in the fact that they—especially New South Wales, Queensland, South Australia, and New Zealand—had, for many years, introduced large numbers of adults at the cost of the State, and, as is nearly always the case when immigration is subsidized, these were accompanied or followed by a steady stream of unassisted immigrants. Besides, not one of the neighbouring colonies was subjected, in the early years of its history, to so large an influx of adult male immigrants unaccompanied by persons at younger ages, followed by a cessation of immigration, as was the case in Victoria at and since the time of the early gold discoveries. As the young population is growing to a marriageable age, however, this colony is rapidly assuming a normal condition; and this circumstance has for several years past brought about a marked improvement in the marriage rate, so much so, that even now, in this respect, Victoria is in advance of all except two of the neighbouring colonies.

Reasons for marriage rates being higher in other colonies than in Victoria.

433. In 1887 the marriage rates in Victoria and Western Australia were above the mean rates in those colonies respectively during the whole period, as shown in the last line of the table, but the rates in New South Wales, Queensland, South Australia, and Tasmania

Comparison of marriage rates of colonies in 1887 and former years.

* See figures following paragraph 90 *ante*.

were considerably below the average; the marriage rate was identical with the rate in the previous year in South Australia and New Zealand, but was below it in Victoria, New South Wales, Queensland, Western Australia and Tasmania. The marriage rate has been gradually diminishing in South Australia during the last three years, and in New Zealand during the last eight years. For many years these two had higher marriage rates than almost any of the other colonies, but now they have lower marriage rates than any of the others, thus affording remarkable instances of a high marriage rate coincident with an influx of adult immigrants, and a low one consequent upon such influx being stopped.*

Order of colonies in respect to marriage rates.

434. The following is the order of the colonies in reference to their respective marriage rates in the last year shown in the table and according to the average of the whole period of twenty-three years:—

ORDER OF COLONIES IN REFERENCE TO MARRIAGE RATES.

Order in Latest Year.	Order in a Series of Years.
1. Queensland.	1. Queensland.
2. Western Australia.	2. New South Wales.
3. Victoria.	3. South Australia.
4. New South Wales.	4. New Zealand.
5. Tasmania.	5. Tasmania.
6. South Australia.	6. Western Australia.
7. New Zealand.	7. Victoria.

Positions of colonies as regards marriage rates.

435. Since the last publication of the *Victorian Year-Book*, Victoria in the list showing the order in the latest year, has risen from the fifth to the third place, and Western Australia from the sixth place to the second; whilst New South Wales, Tasmania, and South Australia have descended from the second, third, and fourth places to the fourth, fifth, and sixth places respectively. In the list showing the order in a series of years the colonies remain in the same order as before, except that New South Wales and South Australia change places.

Marriage rates in Australia and Australasia.

436. In 1887 the mean marriage rate of the five colonies situated upon the Australian continent was lower than in the previous six years, but higher than in any other year since 1872; but the mean marriage rate of those colonies, with the addition of Tasmania and New Zealand, was lower than in any year since 1872, except 1880, 1879, and 1876:—

* Such an event was foreshadowed by the present writer in a paper read by him before the Melbourne Social Science Congress on the 25th April, 1880, in the following words:—"A depression in the marriage rate, it may be anticipated, will before long overtake several of the neighbouring colonies wherein marriages now bear a high proportion to the population, but which proportion must inevitably decline upon the cessation of the stream of adult immigrants which now flows towards their shores."

MARRIAGE RATES IN AUSTRALIA AND AUSTRALASIA, 1873 TO 1887.

Year.			Number of Marriages * per 1,000 of Mean Population.	
			Continent of Australia.	Australia with Tasmania and New Zealand.
1873	...	...	7.35	7.38
1874	...	...	7.07	7.32
1875	...	...	7.12	7.38
1876	...	...	6.93	7.15
1877	...	...	7.05	7.18
1878	...	...	7.08	7.27
1879	...	...	6.88	7.01
1880	...	...	7.15	7.08
1881	...	...	7.62	7.41
1882	...	...	8.04	7.87
1883	...	...	8.20	8.03
1884	...	...	8.22	7.72
1885	...	...	8.07	7.83
1886	...	...	7.78	7.45
1887	...	...	7.47	7.19
Means	...	...	7.48	7.42

437. Returns of marriages, births, and deaths are obtainable for few British colonies outside of Australasia. The following are the marriage rates in those colonies—which, it is to be regretted, are, for the most part, of only minor importance—for which such particulars have come to hand, or can be gathered from their official reports. The low rate in Barbados is explained by the fact that the negro population as a rule ignore the marriage ceremony. The same circumstance, to a greater or less extent, doubtless also affects the marriage rate in Trinidad, and perhaps also in the Mauritius, although the low marriage rate in the latter would, to a certain extent, be accounted for by the fact that the large imported Cooly population is for the most part comprised of males, the females introduced being extremely few :—

Marriage rates in certain British possessions.

MARRIAGE RATES IN CERTAIN BRITISH POSSESSIONS.

Years.			Annual Rate per 1,000 of the Population.*	Years.			Annual Rate per 1,000 of the Population.*	
Ceylon	...	1867-76	7.3	West Indies—				
Mauritius	...	1871-75	2.5	St. Vincent	1872-76	...	6.3	
Seychelles	...	1875-77	8.7	Barbados	...	1872-77	...	3.7
Nova Scotia	...	1871-75	7.7	Grenada	...	1871-75	...	5.6
Bermudas	...	1871-75	8.3	Dominica	...	1871-75	...	6.9
West Indies—				Trinidad	...	1871-75	...	3.8
St. Lucia	...	1878-79	5.2					

* The numbers doubled give the persons married per 1,000 of the population.

Marriage rates in European countries.

438. The following table gives for each of the five years ended with 1886 a statement of the marriage rates in British and such Foreign countries as the information is available for. The figures have been taken from the reports of the Registrar-General of England:—

MARRIAGE RATES IN EUROPEAN COUNTRIES, 1882 to 1886.

Countries.	Number of Marriages* per 1,000 of Mean Populations.					Mean of Five Years.
	1882.	1883.	1884.	1885.	1886.	
Hungary	10·2	10·2	10·1	...	...	10·1
Prussia	7·8	7·8	8·0	8·1	8·1	8·0
Italy †	7·9	8·0	8·2	7·9	7·8	7·8
Austria	8·2	7·8	7·8	7·6	7·7	7·8
German Empire ...	7·7	7·7	7·8	7·9	7·9	7·8
Denmark	7·7	7·7	7·8	7·6	7·1	7·6
France	7·4	7·5	7·6	7·4	7·4	7·5
England and Wales ...	7·7	7·7	7·5	7·2	7·0	7·4
Holland	7·2	7·1	7·2	6·1	6·9	6·9
Belgium	7·0	6·7	6·7	6·8	6·7	6·8
Switzerland	6·8	6·8	6·8	6·9	6·8	6·8
Spain ... ..	...	...	...	...	...	6·8 †
Scotland	7·0	7·0	6·7	6·4	6·2	6·7
Norway	6·7	6·6	6·8	6·6	6·5	6·6
Sweden	6·4	6·4	6·5	6·6	...	6·4
Ireland §	4·3	4·3	4·5	4·3	4·2	4·3

European marriage rates in 1886 and former years.

439. It will be observed that, in eight of the thirteen countries of which particulars are given for 1886, viz., Austria, Denmark, France, England and Wales, Belgium, Scotland, Norway, and Ireland, the marriage rates were below the average; whence it would appear that the depression which prevailed in Europe at that period had the effect of checking marriage in those countries. In France, Belgium, and Switzerland, it was as low as, and in Italy, Denmark, England and Wales, Scotland, Norway, and Ireland, it was lower than it had been, in any of the other years named. On the other hand, in Prussia and in the whole German Empire it was as high in 1886 as it was in any of the years mentioned.

* The numbers doubled give the *persons* married per 1,000 of the population.

† In Italy, for some years after 1866, when the civil became the only legal form of marriage, a low rate was recorded in consequence of the non-registration of the marriages solemnized only in churches. The number of such marriages, however, afterwards decreased, and of late years the registration of marriages has been less imperfect.

‡ Mean of 1876 and 1878.

§ The low marriage rate in Ireland is partly attributed to the defective registration of Roman Catholic marriages, which amount to over 70 per cent. of the whole. It is also stated to be in part due to "the abnormal conditions arising from a large annual emigration of unmarried persons at what may be called the marrying ages."—See 15th Detailed Report of the Registrar-General of Ireland, page 6.

440. In the same five years, the mean marriage rates in Queensland, New South Wales, and Tasmania were above those in any of the countries named, except Hungary (three years); whilst the mean rate was higher in Victoria than in ten, in Western Australia than in eight, and in New Zealand than in three, of these countries. The following are the rates referred to:—

Australasian and European marriage rates compared.

MEAN MARRIAGE RATES IN AUSTRALASIAN COLONIES, 1882 TO 1886.

						Number of Marriages per 1,000 of Mean Population.
Queensland	...	...	...	...	...	8.80
New South Wales	...	...	...	...	...	8.45
Tasmania	...	...	...	...	...	8.02
South Australia	...	...	...	...	...	7.93
Victoria	...	...	...	...	...	7.56
Western Australia	...	...	...	...	...	7.33
New Zealand	...	...	...	...	...	6.70

441. The following, according to the reports of the Registrar-General of England, is the marriage rate of the United Kingdom during the sixteen years ended with 1886. If, however, the registrations in Ireland are defective, as is alleged,* some disturbance to the calculations must result therefrom. It will be observed that the rate was lower in 1886 than in any previous year:—

Marriage rate in United Kingdom.

MARRIAGE RATE IN THE UNITED KINGDOM, 1871 TO 1886.

Marriages per 1,000 of the Population.			Marriages per 1,000 of the Population.		
1871	...	8.21	1881	...	7.01
1872	...	7.98	1882	...	7.17
1873	...	8.03	1883	...	7.15
1874	...	7.79	1884	...	7.04
1875	...	7.67	1885	...	6.72
1876	...	7.70	1886	...	6.06
1877	...	7.32			—
1878	...	7.09	Mean	...	7.28
1879	...	6.69			—
1880	...	6.83			

442. Although rural rather than urban life tends to the promotion of marriage, it happens that, since the marriage ceremony is generally performed in towns, whatever may be the ordinary residence of the persons marrying, the marriage rate recorded there is much higher than that in the country. In Victoria, during the year 1887, it was in town districts three times as high as in rural districts, as will be seen by the following table, which contains a statement of the proportion of marriages to the population in the three classes of districts in the year 1887 and in a previous quinquennial period:—

Marriage rates in town and country.

* See footnote (§) on previous page.

MARRIAGES IN URBAN AND COUNTRY DISTRICTS, 1887.

Districts.	Estimated Mean Population.	Marriages, 1887.		Proportion per 1,000 of the Population 1881-1885.
		Total Number.	Number per 1,000 of the Population.	
Melbourne & suburbs (Greater Melbourne)	391,546	4,283	10.94	10.49
Extra-Metropolitan towns	187,758	1,897	10.10	10.99
Country districts ...	440,396	1,588	3.61	3.12
Total ...	1,019,700	7,768	7.62	7.30

Marriages in each quarter.

443. Marriages in Victoria are generally most numerous in the autumn quarter, next in the spring quarter, next in the summer quarter, and least numerous in the winter quarter. In 1887, however, the numbers in the winter slightly exceeded those in the summer quarter. The following table shows the number and percentage of marriages in each quarter of that year, and the mean percentage in each quarter of two previous periods:—

MARRIAGES IN EACH QUARTER.

Seasons.	Quarter ended on the last day of—	Year 1887.		Percentage in—	
		Number of Marriages.	Percentage.	Ten Years: 1871 to 1880.	Five Years: 1881 to 1885.
Summer ...	March ...	1,720	22.14	24.43	23.46
Autumn ...	June ...	2,199	28.31	26.19	26.52
Winter ...	September ...	1,742	22.43	23.81	23.66
Spring ...	December ...	2,107	27.12	25.57	26.36
	Year ...	7,768	100.00	100.00	100.00

Former condition of those marrying.

444. Over a series of years rather over four-fifths of the unions which take place are between bachelors and spinsters; but in 1887 nearly five-sixths were between persons in these conditions of life. The next most numerous are generally those between widowers and spinsters, although they have sometimes been exceeded by marriages between bachelors and widows. Marriages between widowers and widows are generally in a proportion ranging from a twentieth to a twenty-fifth, but in 1887 only about a thirty-third, of the whole. The following is the number and percentage in each of these groups during 1887 and the percentage during two previous periods:—

FORMER CONDITION OF PERSONS MARRIED.

Previous Condition.	Year 1887.		Percentage in—	
	Number of Marriages.	Percentage.	Ten Years: 1871 to 1880.	Five Years: 1881 to 1885.
Bachelors and spinsters ...	6,756	86·97	80·59	84·67
Bachelors and widows ...	320	4·12	7·10	5·01
Widowers and spinsters ...	460	5·92	7·75	6·63
Widowers and widows ...	232	2·99	4·56	3·69
Total ...	7,768	100·00	100·00	100·00

445. The following statement gives the proportions of marriages of persons of different conjugal conditions in various countries; the figures, have been taken entirely from official documents published in the respective countries named :—

Former condition of those marrying in various countries.

FORMER CONDITION OF PERSONS MARRYING IN DIFFERENT COUNTRIES.

Countries.	Per 1,000 Marriages Celebrated, Number between—			
	Bachelors and Spinsters.	Bachelors and Widows.	Widowers and Spinsters.	Widowers and Widows.
Victoria ...	847	50	66	37
Austria ...	758	62	129	51
Belgium ...	834	50	81	35
Denmark ...	832	50	96	22
England and Wales ...	819	44	84	53
Finland... ...	788	54	113	45
France ...	844	41	78	37
Greece ...	861	39	67	33
Holland... ...	805	44	103	48
Hungary ...	752	50	97	101
Ireland ...	857	31	86	26
Italy ...	832	37	94	37
Massachussets ...	790	48	103	59
Norway... ...	854	34	91	21
Prussia ...	807	53	105	35
Roumania ...	848	28	61	63
Russia in Europe ...	772	42	98	88
Scotland ...	851	29	89	31
Spain ...	811	40	100	49
Sweden ...	854	34	91	21
Switzerland ...	816	49	104	31
Vermont ...	747	44	128	81

Re-marriages.

446. By the figures in the following, which have been derived from those in the foregoing table, it would appear that a larger proportion of widowers re-marry in Vermont and a smaller in Greece, and a larger proportion of widows re-marry in Hungary and a smaller in Sweden and Norway, than in any other of the countries named ; also that, in Victoria, widowers re-marry less frequently than in any of those countries except Greece, but that in ten of those countries widows re-marry less frequently than in Victoria :—

RE-MARRIAGES IN VARIOUS COUNTRIES.

Countries.	Widowers re-married per 1,000 marriages.	Countries.	Widows re-married per 1,000 marriages
Vermont	209	Hungary	151
Hungary	198	Russia in Europe	130
Russia in Europe	186	Vermont	125
Austria	180	Austria	113
Massachussets	162	Massachussets	107
Finland	158	Finland	99
Holland	151	England and Wales	97
Spain... ..	149	Holland	92
Prussia	140	Roumania	91
England and Wales	137	Spain	89
Switzerland	135	Prussia	88
Italy	131	Victoria	87
Roumania	124	Belgium	85
Scotland	120	Switzerland	80
Denmark	118	France	78
Belgium	116	Italy	74
France	115	Denmark	72
Ireland	112	Greece	72
Sweden	112	Scotland	60
Norway	112	Ireland	57
Victoria	103	Sweden	55
Greece	100	Norway	55

Divorced persons, 1887.

447. Divorced persons marrying are classed as bachelors and spinsters, unless in cases where they had become widowers or widows before contracting the marriage from which they were released by divorce. Eight divorced men and eleven divorced women were married in 1887 ; six of the former married spinsters, and two, widows ; nine of the latter married bachelors, and two, widowers.

Divorced persons, 1881.

448. The persons returned at the census of 1881 as living in a state of divorce numbered 19, viz., 9 males and 10 females. Of the former, 4 were farmers or gardeners, 1 was a merchant, 1 a shopkeeper, 1 a cabinetmaker, 1 a bootmaker, and 1 a maltster ; 5 were members of the Church of England, 1 was a Presbyterian, 1 a Roman Catholic, and 2 were Free Thinkers. Of the females, 1 was an innkeeper, 1 a farmer,

1 a tailoress, 1 a needlewoman, 1 of independent means, 2 were washerwomen, and 3 were merely performing domestic duties; 3 were members of the Church of England, 1 was a Presbyterian, 1 a Methodist, 1 a Baptist, 1 a Lutheran, and 3 were Roman Catholics.*

449. Persons whose wives or husbands have not been heard of for a period of seven years may marry again without rendering themselves liable to be prosecuted for bigamy; but such unions are subject to the serious disadvantage that the issue by the second marriage would be illegitimate, and the marriage itself void, if it should turn out that the first husband or wife was alive at the time thereof. Five deserted wives, and three deserted husbands, availed themselves of this provision in 1887. All of the former married bachelors; two had not heard of their former husbands for 7 years, one for 10, one for 13, and one for 22 years. The three deserted husbands married widows; one had not heard of his former wife for over 7 years, one for 13 years and the other for 16 years. In the previous year seven deserted wives and two deserted husbands re-married.

450. In 1887, 692 widowers and 552 widows re-entered the marriage state. During the last fourteen years more widowers have re-married than widows. Formerly it was different. In the eight years ended with 1873 the widowers re-entering the marriage state numbered 4,344, and the widows 4,618, and at earlier periods in the history of the colony the preponderance of re-marriages of widows over those of widowers was even greater than this. Such a preponderance would be likely to happen only in a country in which females are much less numerous than males; and the fact of the reverse having been the case of late years would afford indirect proof, if such were needed, that the proportion of marriageable females to marriageable males in the population has increased, a circumstance which was made evident by the results of the last census.† In England and Wales, during the ten years ended with 1885, 40 per cent. more widowers re-married than widows, the number of the former being 258,061, that of the latter 184,665. The following is a statement of the number of widowers and widows who re-married in Victoria during each of the twenty-two years ended with 1887 :—

* For further particulars respecting these divorced persons, see General Report, by the Government Statist, on the Census of Victoria, 1881, paragraph 314.

† According to the census returns, there were in Victoria, in 1881, nearly 120 marriageable females to every 100 marriageable males.

RE-MARRIAGES, 1866 TO 1887.

Year.	Number of Re-marriages of—		Year.	Number of Re-marriages of—	
	Widowers.	Widows.		Widowers.	Widows.
1866 ...	487	498	1878 ...	634	585
1867 ...	504	591	1879 ...	637	553
1868 ...	558	623	1880 ...	603	520
1869 ...	553	563	1881 ...	679	551
1870 ...	547	595	1882 ...	628	547
1871 ...	587	605	1883 ...	699	562
1872 ...	522	552	1884 ...	725	615
1873 ...	586	591	1885 ...	735	646
1874 ...	602	593	1886 ...	696	607
1875 ...	614	583	1887 ...	692	552
1876 ...	678	623			
1877 ...	666	600	Total ...	13,632	12,755

Marriages of
Aborigines.

451. The marriages of 4 Aboriginal males, of whom there is reason to believe 1 was a half-caste, with Aboriginal females, of whom there is reason to believe 2 were half-castes, are included in the returns of 1887. In the previous year, 3 marriages of Aborigines took place.

Marriages of
Chinese.

452. Thirteen Chinese males were married in Victoria in the year 1887, as against 18 in 1886, 31 (including 2 half-castes) in 1885, 19 Chinese in 1884, and 8 in 1883. Of the women who married Chinese in the year under review, 2 were full-bred Chinese, of whom one was born in Victoria, and one was a half-caste born in Victoria. During the twenty-one years prior to 1887, 344 Chinamen were married in Victoria, or an average of about 16 per annum. The following table shows the nationalities of the women who formed matrimonial unions with Chinese during that period, also during the year under review:—

NATIONALITY OF WOMEN MARRYING CHINESE, 1866 TO 1887.

Birthplace of Wives.	Number of Marriages of Chinese Males.		
	Twenty-one Years: 1866 to 1886.	Year 1887.	Total: 1866 to 1887.
Victoria	168	9*	177
Other Australian colonies ...	56	1	57
England and Wales	62	1	63
Scotland	15	...	15
Ireland	25	1	26
Other British possessions ...	1	...	1
France	1	...	1
Germany	2	...	2
Spain	1	...	1
The United States	2	...	2
China	4	...	4
At sea	7	1†	8
Total	344	13	357

* Including the marriages of one female of the Chinese race and one female half-caste.

† The bride was of the Chinese race.

453. The marriage ceremony in Victoria may be performed either by the registered clergy of any religious sect, or by lay registrars. In 1887, 94 per cent. of the marriages were celebrated according to the former, and 6 per cent. according to the latter, system. Lay marriages, in 1887 numbered 494, and were fewer than in any previous year since 1878, except 1886, when they numbered 453, and 1885, when they numbered 426. In 1884 they numbered 645; in 1883, 565; in 1882, 588. The following table gives a statement of the number and percentage of marriages celebrated by each religious sect, and by lay registrars during 1887, also the percentage in the quinquennial period ended with 1885, and in the decennial period ended with 1880:—

MARRIAGES BY DIFFERENT DENOMINATIONS.

Marriages performed according to the usages of the—	Marriages in 1887.		Percentage of Marriages in—	
	Number.	Percentage.	Five Years: 1881 to 1885.	Ten Years: 1871 to 1880.
Church of England	2,468	31.77	28.34	24.63
Presbyterians	1,329	17.11	17.77	20.46
Wesleyans	1,223	15.74	15.93	16.38
Bible Christians	149	1.92	2.09	1.69
Independents	368	4.74	5.04	5.42
Baptists	393	5.06	4.94	3.70
Lutherans	80	1.03	.98	1.02
Unitarians	3	.04	.03	.02
Calvinistic Methodists	3	.04	.07	.16
Roman Catholics	1,077	13.86	14.69	17.21
Jews	34	.44	.43	.42
Other sects	147	1.89	1.14	1.07
Lay registrars	494	6.36	8.55	7.82
Total	7,768	100.00	100.00	100.00

454. It should be mentioned that, occasionally, a marriage is performed twice over, viz., by a lay registrar and a clergyman, or by clergymen of two different denominations. It is not always easy to detect these cases in the registers, but the circumstance occurs too seldom to cause any serious disturbance in the marriage statistics.

455. Of the 4 Aboriginal marriages which took place in 1887, 3 were solemnized according to the rites of the Presbyterian Church, and 1 according to the rites of the Church of England.

Sects of
Chinese
married.

456. Of the 13 marriages of Chinese in 1887, 2 were celebrated according to the rites of the Church of England, 2 according to those of the Free Church of England, 2 according to those of the Presbyterians, 5 according to those of the Wesleyans, 1 according to those of the Independents, and 1 according to those of the Baptists.

Marriages
by different
sects.

457. The returns of the census of 1881 afford an opportunity of comparing the number of marriages performed according to the rites of each particular denomination with the numbers of that denomination in the population; and by taking the mean of the returns of that census and the preceding one, and of the marriages which were performed in the interval which elapsed between the two censuses, the same information is obtained extending over a period of ten years. The result is given in the following table :—

PROPORTION OF MARRIAGES TO NUMBERS OF EACH DENOMINATION.

Religious Denomination.	Persons of each Denomination 1881.	Marriages celebrated annually, 1880 to 1882.		Persons of each Denomination (mean of 1871 and 1881).	Marriages celebrated annually, 1871 to 1880.	
		Mean Number.	Proportion per 1,000 persons living.		Mean Number.	Proportion per 1,000 persons living.
Church of England ...	311,291	1,554·3	5·00	284,563	1,226·4	4·31
Presbyterians ...	132,591	1,107·0	8·35	122,787	1,018·6	8·30
Wesleyans ...	108,393	936·3	8·64	99,209	815·5	8·22
Bible Christians ...	6,660	117·3	17·57	5,427	84·0	15·48
Independents ...	19,878	286·3	14·40	19,034	269·8	14·17
Baptists ...	20,373	234·0	11·49	18,342	184·0	10·03
Lutherans ...	11,149	57·3	5·14	10,854	50·8	4·68
Unitarians ...	942	2·0	2·12	979	·9	·92
Society of Friends ...	282	...	...	308	·4	1·30
Calvinistic Methodists	712	6·3	8·85	1,072	8·2	7·65
Roman Catholics ...	203,480	828·3	4·07	187,050	856·8	4·58
Jews ...	4,330	24·0	5·54	3,950	21·1	5·34
Other sects ...	8,465	69·3	...	7,430	52·8	...
Residue ...	33,800*	607·7†	...	35,932*	389·1†	...
Total...	862,346	5,830·1	6·76	796,937	4,978·4	6·25

Sects which
perform
most mar-
riages and
vice versa.

458. It will be observed that the denominations which solemnize most marriages in proportion to their numbers in the population are the

* Including Buddhists, Confucians, &c., those of no denomination and of no religion, and the unspecified.

† Marriages by lay registrars.

Bible Christian, the Independent, and the Baptist, in the order named. In all these cases the proportion in the three years of which the census year is the middle, viz., 1880 to 1882, was higher than that shown for the decennium. In proportion to their respective numbers, the marriages performed in the three years named according to the rites of the Church of England, the Lutherans, and the Jews were more numerous, and those according to the rites of the Wesleyans, Presbyterians, and Calvinistic Methodists were much more numerous; than those performed according to the rites of the Roman Catholic Church; but, according to the average of the decennium, more marriages were solemnized according to the rites of the Roman Catholic Church than according to those of the Church of England.

459. The numbers of either sex who evinced their want of elementary education by signing the marriage register with a mark instead of in writing were as follow in 1887, the proportion of those who signed with marks to the total numbers married being also shown:—

Signing with marks.

SIGNING MARRIAGE REGISTER WITH MARKS, 1887.

Persons Married.	Numbers Married.	Signing with Marks.	
		Total Number.	Number in every 100 Married.
Bridegrooms	7,768	134*	1·73
Brides	7,768	155	2·12
Mean	7,768	144·5	1·92

460. In proportion to the total numbers married, a very satisfactory increase has taken place of late years in the number of both males and females signing the marriage register in writing. With few exceptions, a constant improvement has been apparent from year to year—nearly every year, as compared with its predecessor, showing a smaller proportion of persons signing with marks. In 1886 and 1887, the proportion of both men and women signing with marks was much lower than in any previous year, as will be seen by the following figures, which show the proportions for the last fifteen years:—

Increased numbers signing in writing.

* Of these, 5 were Chinese, who signed in the Chinese character. If these be excluded, the number of men signing with marks would be reduced to 129, and the mean of both sexes to 142, the proportion to every 100 marriages being 1·66 of the former and 1·83 of the latter.

NUMBERS SIGNING WITH MARKS PER 100 MARRIED,
1873 TO 1887.

Year.	Men.	Women.	Mean.
1873	6·55	9·97	8·26
1874	6·52	9·91	8·22
1875	5·48	9·43	7·46
1876	5·31	7·50	6·41
1877	5·04	6·02	5·53
1878	4·12	5·30	4·71
1879	3·81	5·60	4·71
1880	4·18	4·09	4·13
1881	2·90	4·16	3·53
1882	2·88	3·27	3·07
1883	3·09	3·47	3·28
1884	2·55	2·77	2·66
1885	2·56	2·62	2·59
1886	2·00	1·98	1·99
1887	1·73*	2·12	1·92*

Signing with marks, 1853 to 1872.

461. A very much more decided improvement is shown by comparing these results with those of the twenty years prior to 1873, which embrace the whole period from 1853, when the registration system was inaugurated in Victoria, to the end of 1872. In this period, 86,062 marriages were registered, with the result that 7,902 of the bridegrooms and 17,824 of the brides signed the register with marks. These numbers give the following proportions as the average for the twenty years :—

NUMBERS SIGNING WITH MARKS PER 100 MARRIED,
1853 TO 1872.

Men.	Women.	Mean.
9·18	20·71	14·95

Cases of both signing with marks.

462. The marriages in which marks instead of writing were made use of in 1887 numbered 289, but in only 26 of these, or about 1 in 11, did both parties use marks. In the 237 other instances either the husband or the wife signed in writing. Thus, whereas in the case of 1 marriage in 33 either the bride or the bridegroom was unable to write, it happened in the case of only 1 marriage in 299 that neither party was able to sign the marriage register in writing.

Signatures of Chinese.

463. Of the 13 Chinese who married in 1887, 6 signed with an ordinary cross, 5 with a Chinese character, and 2 in writing. Of the women they married, 3 signed with a cross, and the rest in writing.

Signatures of Aborigines.

464. In the case of the Aborigines who married in 1887, two of the males and one of the females signed with marks, and the other two males and three females signed in writing.

* See footnote on last page.

465. The proportion of persons signing with marks is found to differ according to the religious denomination. Means are afforded by the following table of observing the position of the adherents of the different sects so far as the possession of a sufficient amount of rudimentary education to enable them to write their names is concerned. The figures are those of the year 1887, the average of the quinquennial period ended with 1885, and of the decennial period ended with 1880. Considerable improvement will be noticed in respect to all the principal sects :—

Signing with marks in each sect.

SIGNING WITH MARKS IN EACH SECT.

Marriages performed according to the usages of the—	Number Signing with Marks in every 100 Married.								
	Year 1887.			Five Years: 1881 to 1885.			Ten Years: 1871 to 1880.		
	Men.	Women.	Mean.	Men.	Women.	Mean.	Men.	Women.	Mean.
Church of England ...	1.43	1.49	1.45	1.90	2.11	2.00	4.54	6.11	5.33
Presbyterians ...	.60	1.13	.87	1.71	2.06	1.88	3.67	5.97	4.82
Methodists ...	1.68	1.68	1.68	2.28	2.33	2.30	4.15	5.33	4.74
Bible Christians									
Independents ...	.80	.54	.67	2.36	2.18	2.27	3.37	5.49	4.43
Baptists ...	2.80	1.78	2.29	2.17	2.77	2.47	3.48	5.22	4.35
Lutherans ...	1.25	...	.63	...	...	...	1.77	4.13	2.95
Calvinistic Methodists ...	...	...	...	...	...	...	1.22	6.10	3.66
Roman Catholics ...	2.97	3.25	3.11	5.19	5.55	5.37	10.14	15.43	12.79
Jews ...	...	5.90	2.95	...	...	...	.95	.47	.71
Other sects ...	2.73	2.11	2.42	3.66	4.45	4.05	7.01	3.79	5.40
Lay registrars ...	2.22	5.67	3.95	5.78	8.29	7.03	6.60	12.93	9.77
Total ...	1.73*	2.00	1.87	2.78	3.22	3.00	5.31	7.93	6.62

466. It will be observed that the proportion of those signing with marks is higher amongst marriages performed according to the rites of the Roman Catholic Church than amongst those celebrated by any other religious denomination, but that the numbers in 1887 show a very considerable improvement as compared with the five years ended with 1885, which show a still more marked improvement as compared with the ten years ended with 1880. The proportion so signing amongst civil marriages, although formerly lower, has of late been higher than amongst marriages by Roman Catholics.

Roman Catholic and civil marriages.

467. In 28 marriages by Unitarians which took place in the seventeen years ended with 1887, not one instance occurred of either of the

Marriages by Unitarians, Calvinists, and Jews.

* See footnote to table following paragraph 459 ante.

parties signing with a mark; this sect, therefore, finds no place in the above table. In 112 marriages by Calvinistic Methodists during the same period, all but two of the males signed in writing, but five of the females signed with marks, and in 418 marriages of Jews only 7 persons signed with marks.

468. A statement of the numbers who sign the marriage register with marks is published in all the Australasian colonies except Western Australia and Tasmania, and from the figures given the following percentages for the five years 1881 to 1886 have been deduced. The colonies are placed in order according to the state of education thus displayed, the colony with the smallest proportion signing with marks being placed first, and that with the reverse last:—

SIGNING WITH MARKS IN AUSTRALASIAN COLONIES, 1881 TO 1886.

Colony.	Year.	Number Signing with Marks to every 100 Married.		
		Men.	Women.	Mean.
1. Victoria ...	1881	2·90	4·16	3·53
	1882	2·88	3·27	3·07
	1883	3·09	3·47	3·28
	1884	2·55	2·77	2·66
	1885	2·56	2·62	2·59
	1886	2·00	1·98	1·99
2. New Zealand ...	1881	3·20	6·79	4·99
	1882	2·50	4·97	3·73
	1883	2·91	4·62	3·76
	1884	2·82	4·45	3·63
	1885	2·83	3·82	3·32
	1886	1·92	2·89	2·40
3. South Australia ...	1881	4·37	6·85	5·61
	1882	4·43	5·14	4·78
	1883	4·02	5·36	4·69
	1884	2·86	3·80	3·33
	1885	4·00	4·30	4·15
	1886	3·04	3·49	3·26
4. New South Wales ...	1881	5·52	8·35	6·93
	1882	5·09	6·16	5·62
	1883	5·66	6·54	6·10
	1884	4·68	5·79	5·24
	1885	4·31	5·19	4·75
	1886	3·76	4·20	3·98
5. Queensland ...	1881	4·93	9·92	7·42
	1882	5·16	9·69	7·42
	1883	5·35	8·40	6·88
	1884	4·06	7·48	5·77
	1885	3·76	7·35	5·56
	1886	4·52	6·71	5·62

Signing with marks in Australasian colonies.

469. By these figures it appears that the proportion of persons able to sign in writing is larger in this than in any other colony. Next to Victoria in this respect is New Zealand, in which the proportion of males signing in writing was in three of the years—viz., 1882, 1883, and 1886—even larger than in this colony. The colonies, generally, show improvement from year to year, and there is every reason to expect that in all the colonies, as the children educated under the compulsory systems established arrive at marriageable ages, it will become a rare occurrence for a marriage to be attested otherwise than in writing.

Victoria the least illiterate colony.

470. No returns are at hand showing the manner in which the marriage registers are signed in British colonies other than those named. The following, however, is a statement of the numbers who signed with marks in the latest year for which the information is available in the undermentioned countries, which are arranged in order; the least illiterate country being placed first and the rest in succession:—

Signing with marks in various countries.

SIGNING WITH MARKS IN VARIOUS COUNTRIES.

Country.	Year.	Number Signing with Marks to every 100 Married.		
		Men.	Women.	Mean.
Prussia	1884	3·31	5·11	4·21
Scotland	1885	5·41	9·68	7·54
Holland	1877	7·53	14·83	11·18
England and Wales ...	1886	9·60	11·50	10·55
France	1882	14·39	22·62	18·50
Ireland	1884	24·70	28·10	26·40
Italy	1884	44·97	66·65	55·81

471. By comparing these figures with those in the previous table, it will appear that adult education, so far as it is indicated by signature to the marriage register, is more forward in Victoria, New Zealand, and South Australia than in any of the countries named; also that in New South Wales and Queensland it is more forward than in any except Prussia, in which the proportion signing with marks is much smaller than in any of the other countries. Scotland comes next to Prussia, but is nearly twice as illiterate. Holland, which comes next to Scotland, would probably rank higher were it not that the latest return available dates as far back as 1877, when adult education was probably not so advanced as it is now. Attention is called to the very large proportion signing with marks in Italy and Ireland, especially the former.

Countries compared as to illiteracy.

Ages of
bride-
grooms
and brides
in combina-
tion.

472. The age of both bridegroom and bride was specified in the case of all but 78 of the 7,768 marriages which took place in 1887.* In 62 of the defective entries the age of neither party was given; in 5 cases the age of the husband was stated, but not that of the wife; and in 11 instances the age of the wife was given, but not that of the husband. The following table shows the ages of the husbands and of the wives in combination :—

AGES OF BRIDEGROOMS AND BRIDES IN COMBINATION, 1887.

Ages of Bridegrooms.	Ages of Brides.															Total Bridegrooms.				
	15 to 16.	16 to 17.	17 to 18.	18 to 19.	19 to 20.	20 to 21.	21 to 25.	25 to 30.	30 to 35.	35 to 40.	40 to 45.	45 to 50.	50 to 55.	55 to 60.	60 to 65.		65 to 70.	70 to 75.	75 to 80.	Unspecified.
17 to 18 years...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
18 to 19 "	1	...	1	1	1	...	3	...	...	...	...	...	...	...	...	...	...	...	...	7
19 to 20 "	...	1	1	10	6	7	6	1	...	...	...	...	...	...	...	...	...	...	...	32
20 to 21 "	...	1	12	20	20	18	30	6	...	...	...	...	...	...	...	...	...	...	...	107
21 to 25 "	1	25	76	152	225	248	1320	321	32	4	1	...	...	...	...	...	...	...	...	2405
25 to 30 "	1	19	41	100	172	182	1375	894	119	28	3	2	...	...	...	1	...	...	...	12938
30 to 35 "	...	3	7	16	40	58	370	408	123	31	7	1	1	...	...	...	...	...	...	21067
35 to 40 "	...	1	1	9	8	12	97	154	68	51	13	5	1	...	...	...	...	...	...	419
40 to 45 "	...	...	2	1	3	7	36	62	51	34	33	10	3	...	1	...	...	...	...	1244
45 to 50 "	...	...	...	...	1	2	15	34	31	27	20	16	10	3	1	...	...	...	...	1162
50 to 55 "	...	...	...	...	1	1	15	19	26	13	20	23	17	2	1	...	...	...	...	1138
55 to 60 "	...	...	...	1	...	...	4	9	11	8	14	15	9	10	2	1	...	...	...	84
60 to 65 "	...	...	...	...	...	...	2	2	4	8	5	16	8	5	4	...	1	...	...	55
65 to 70 "	...	...	...	...	...	...	1	...	3	...	...	5	1	3	6	2	...	...	...	21
70 to 75 "	...	...	...	...	...	...	...	...	1	1	...	2	2	2	4	...	1	...	...	13
75 to 80 "	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	2
Unspecified ...	...	...	...	3	4	2	...	1	...	...	...	...	1	...	...	...	...	...	62	73
Total Brides ...	3	50	141	313	481	537	3275	1911	469	205	116	95	53	26	19	4	2	1	67	7768

NOTE.—This table may be read thus :—A man between 55 and 60 married a girl between 18 and 19; a woman between 65 and 70 married a man between 25 and 30, &c.

Relative
ages of
husband
and wife.

473. An examination of the 7,690 cases in which the ages of both parties are specified will show that in 2,497 instances, or 32 per cent. of the whole, both parties to the marriage were about the same age; in 660 instances, or 9 per cent. of the whole, the wife was older than the husband; and in 4,533 instances, or 59 per cent. of the whole, the husband was older than the wife.

Inequalities
of age.

474. Some striking inequalities of age amongst the parties married appear in several of the columns, as, for instance, a man between 55

* There is no reason to suppose that in Victoria the age of either party to a marriage is often wrongly stated, and the cases in which the age is not specified are but few. It may, however, not be amiss to quote the following from the 41st report of the Registrar-General of England, page xv:—"I should be glad if the clergy, at the time of registering the marriage, would state that it is of considerable importance, not only to the parties themselves, that their precise ages should be returned either for tracing pedigree or for proof of personal identification in establishing title to property, but that such particulars would also enhance the values of these national records for purposes of statistical investigation."

and 60 married a girl of 18; a man between 65 and 70, and two men between 60 and 65, married women between 21 and 25, and a man between 70 and 75 married a woman between 30 and 35. On the other hand, a woman between 21 and 25 married a youth of 17; a woman between 40 and 45 married a man between 21 and 25; two women between 45 and 50 married men between 25 and 30; a woman between 65 and 70 married a man between 25 and 30, &c.

475. It will be noticed that a boy, aged 17, took upon himself the cares and responsibilities of matrimony, his wife, however, being a lustrum older than himself; also that seven youths, aged 18, got married, four of their partners being older than themselves. On the other hand, it will be remarked that two men, who had passed the age of 75, entered the marriage state, the bride of one being of the same mature age as himself, and the bride of the other between 55 and 60 years of age.

476. The next table has been designed for the purpose of showing the age at which persons of either sex generally marry, the information being given for the year 1887 and for the decennial period 1871 to 1880 :—

PROPORTION OF MALES AND FEMALES MARRYING AT DIFFERENT AGES, 1871-80 AND 1887.

Ages.	Bridegrooms.			Brides.		
	Numbers, 1887.	Proportions per 1,000.		Numbers, 1887.	Proportions per 1,000.	
		Year 1887.	Ten Years, 1871-80.		Year 1887.	Ten Years, 1871-80.
Under 15 years ...	...	...	...	...	...	·48
15 to 16 ,, ...	...	...	...	3	·39	2·71
16 to 17 ,, ...	...	...	·02	50	6·49	12·74
17 to 18 ,, ...	1	·13	·46	141	18·31	36·74
18 to 19 ,, ...	7	·91	1·57	313	40·64	62·69
19 to 20 ,, ...	32	4·16	6·33	481	62·46	80·93
20 to 21 ,, ...	107	13·90	16·79	537	69·73	86·94
21 to 25 ,, ...	2,405	312·54	281·06	3,275	425·27	375·69
25 to 30 ,, ...	2,938	381·81	295·83	1,911	248·15	174·64
30 to 35 ,, ...	1,067	138·66	165·38	469	60·90	69·13
35 to 40 ,, ...	419	54·45	97·22	205	26·62	44·26
40 to 45 ,, ...	244	31·71	59·54	116	15·06	26·44
45 to 50 ,, ...	162	21·05	37·58	95	12·34	14·99
50 to 55 ,, ...	138	17·93	20·49	53	6·88	6·79
55 to 60 ,, ...	84	10·92	9·92	26	3·38	3·03
60 to 65 ,, ...	55	7·15	4·96	19	2·47	1·16
65 to 70 ,, ...	21	2·73	1·85	4	·52	·40
70 and upwards ...	15	1·95	1·00	3	·39	·24
Total ...	7,695*	1,000·00	1,000·00	7,701*	1,000·00	1,000·00

* The bridegrooms and brides of unspecified ages being omitted, these numbers are less than those in the last table, the bridegrooms by 73 and the brides by 67. The reason of the bridegrooms being fewer than the brides is that the age was not stated in the case of six more of the former than of the latter.

Frequency of marriage at 21 to 30.

477. The large proportion of both sexes marrying at between 21 and 30 years of age is very marked; thus in 1887 about two-thirds of both males and females who married were between those ages. Owing, no doubt, to their relatively larger numbers in the population, the proportions marrying at the ages named were both in 1887 and 1886 much higher than those in the decennial period; the latter amounting to only four-sevenths of the males, and only five-ninths of the females.

Ages of Chinese bridegrooms and their brides.

478. In the case of the marriages of Chinese which took place in 1887, all the men were older than the females with whom they formed unions. None of the former were under 23 years of age, but of the latter, five had not reached the age of 21. The following table shows the ages of the Chinese bridegrooms and of their brides in combination:—

AGES OF CHINESE BRIDEGROOMS AND THEIR BRIDES IN COMBINATION, 1887.

Ages of Bridegrooms.		Ages of Brides.										Total Bridegrooms.		
		16	17	18	19	20	21	23	24	30	37		Un-specified.	
23	1	...	...	...	...	...	...	...	...	...	1
25	1	...	...	...	...	...	1
28	1	...	...	...	...	...	...	...	...	...	1
30	1	...	...	...	...	...	...	1
36	1	...	...	...	...	...	...	...	...	1
38	1	...	...	1	...	...	...	...	...	...	2
40	1	1	...	...	...	...	...	...	...	2
48	1	...	...	...	1
49	1	...	...	...	...	1
52	1	...	...	...	...	1
Unspecified	1	...	...	1
Total Brides		...	1	1	1	1	2	1	1	2	1	1	...	13

Ages of Aborigines marrying.

479. Of the four male Aborigines who married in 1887, two were widowers, and of their four partners, three were widows. The ages of bridegroom and bride were set down as follows:—26 and 19, 24 and 22, 37 and 24, 45 and 63.

Age at which persons may marry.

480. In almost all civilized countries, minors are not permitted to marry without the consent of their parents or guardians, but the youngest age at which persons may marry after obtaining such consent varies in different countries, ranging from 14 for males and 12 for females in the United Kingdom, Switzerland, Spain, Portugal, Greece, and the Roman Catholic portion of the population of Hungary, to 21 for males and 18 for females in the United States. The figures in the

following table, giving information on the subject, have been taken from *The Annual Statistician** for the year 1886 :—

AGE AT WHICH MARRIAGE MAY BE CONTRACTED IN DIFFERENT COUNTRIES.

Country.	Age at, and after, which persons may marry.	
	Males.	Females.
	Years.	Years.
Austria	14	14
Belgium	18	15
France	18	15
Germany	18	14
Greece	14	12
Hungary (Protestants)	18	15
" (Roman Catholics)	14	12
Portugal	14	12
Russia	18	16
Spain	14	12
Switzerland	14	12
Turkey	Puberty	Puberty
United Kingdom	14	12
United States	21	18

481. The minimum age at which persons may, with consent, marry, is the same in Victoria as in the United Kingdom, viz., 14 for males and 12 for females; but, as a matter of fact, marriages are seldom contracted at such early ages. Three of the females, however, who married in 1887 had not completed their sixteenth year, and fifty had not completed their seventeenth year; as many as 147 of the males, or 1 in every 53, and no fewer than 1,525 of the females, or nearly a fifth, had not attained the full age of 21 years.

Marriages of minors.

482. From the experience of Victoria during the year 1887, the five years 1881–85, and the decade 1871–80, it would appear that, in proportion to the total numbers marrying, the males who marry under age are much less numerous in this colony than in England and Wales. The proportion of females marrying under age, which was formerly higher in Victoria than in England, has fallen considerably, and in 1887 was lower than in England. This is shown by the figures in the following table :—

Marriages of minors in Victoria and England.

* See that work, page 600: McCarty, San Francisco, California, 1886.

MARRIAGES OF MINORS IN VICTORIA AND ENGLAND AND WALES.

Persons Married.	In every 100 Marriages, Numbers under 21 Years of Age.			
	In Victoria.			In England and Wales. Ten Years: 1871 to 1880.
	Year 1887.	Five Years: 1881 to 1885.	Ten Years: 1871 to 1880.	
Bridegrooms ...	1·91	2·37	2·52	7·95
Brides ...	19·80	22·53	28·32	21·96
Mean ...	10·86	12·45	15·42	14·96

Marriage rate of minors.

483. As the proportion of minors at marriageable ages existing in the population may vary greatly in different countries, and in the same country at different times, it will readily be understood that a comparison of the marriages of minors with the total number of marriages does not afford an infallible test of the tendency to marry under age, to determine which accurately the number of minors marrying should be compared with the number of marriageable minors in the population. This has been done for the last two census periods, and the last three years, and the result is given in the following table:—

MARRIAGES OF MINORS, 1871, 1881, AND 1885 TO 1887.

Year.	Number of Marriageable Minors.*		Mean Annual Number of Minors who Married.†		Proportion of Minors who Married to every 1,000 Marriageable Minors Living.	
	Males Aged 17 to 21.	Females Aged 15 to 21.	Males.	Females.	Males.	Females.
1871 ...	19,816	30,306	85	1,305	4·29	43·05
1881 ...	37,675	57,863	151	1,420	4·01	24·54
1885 ...	45,590	61,750	177	1,504	3·88	24·35
1886 ...	45,428	62,374	186	1,575	4·09	25·25
1887 ...	47,693	64,948	147	1,525	3·08	23·48

Decreasing tendency to marry under age.

484. According to the table, the proportion of both males and females marrying under age has become reduced during the last 16 years. It appears that the proportion of male minors marrying was

* Census figures for 1871 and 1881, estimated for the other years.

† Mean number of minors who married in the years 1870 to 1872 and 1880 to 1882, and actual number who married in the other years.

less in 1887 than in 1871 by about a third, but the proportion of female minors marrying was less by nearly half; the latter being no doubt attributable to the area of selection having been widened by the increase which has taken place in the number of marriageable females at the older ages.

485. By means of the returns of the last census, it has been possible to analyze still further the marriages of minors, and to show the proportion of the males and females who contract them at each year of age to the total number of males and females living at the same age. Similar results for England and Wales are available,* and are contrasted in the following table with the results relating to Victoria:—

Ages of minors marrying in Victoria and England.

AGES OF MINORS † MARRYING IN VICTORIA AND ENGLAND AND WALES.

Age last Birthday.	Victoria.				Proportion of Marriages per 1,000 Marriageable Minors.			
	Marriageable Minors at Census of 1881.		Minors who Married. (Mean of Three Years, 1880 to 1882.)		Males.		Females.	
	Males.	Females.	Males.	Females.	Victoria. (Mean of 1880 to 1882.)	England and Wales. (Mean of 1870 to 1872.)	Victoria. (Mean of 1880 to 1882.)	England and Wales. (Mean of 1872 to 1872.)
15	...	10,076	...	11	...	...	1.09	.18
16	...	10,209	...	39	...	.02	3.82	1.53
17	9,718	10,100	3	146	.31	.41	14.45	9.33
18	9,763	9,966	10	282	1.02	4.04	28.29	36.39
19	9,580	9,352	36	443	3.76	20.34	47.37	72.46
20	8,614	8,160	102	499	11.84	52.98	61.15	105.84
Total...	37,675	57,863	151	1,420	4.01	18.32	24.54	34.08

486. It appears that in the case of both males and females the tendency to marry under age is much greater in England and Wales than in Victoria. This, as regards females, is the reverse of the result obtained by comparing the marriages of those under 21 with the total number married. ‡ The English proportions relating to males are higher at each age than those of Victoria, but in the first three years of minority the Victorian proportions relating to females are higher than those of England. This, however, is much more than made-up in the three succeeding years.

Marriage rate of minors lower in Victoria than England.

* See 35th Annual Report of the Registrar-General of England, page xii.

† In this and the preceding table, marriageable minors have been considered to be males from 17 to 21, females 15 to 21. In England, there were 4 marriages of males at 16, but there were none at that age in Victoria.

‡ See table following paragraph 482 ante.

Age of marriage in various countries.

487. The following table contains a statement of the proportion of males and females marrying at different ages in various countries. The figures, except those relating to Victoria, which are for the year 1887, and for the decennial period 1871-80, have been taken from the 46th Report of the Registrar-General of England* :—

AGES OF MALES AND FEMALES MARRYING IN VARIOUS COUNTRIES.

Countries.	Per 10,000 of All Ages Marrying, Numbers—						
	Under 20.	20 to 25.	25 to 30.	30 to 40.	40 to 50.	50 to 60.	Over 60
BRIDEGROOMS.							
Victoria, 1887 ...	52	3,264	3,818	1,931	528	289	118
„ 1871-80 ...	84	2,979	2,958	2,626	971	304	78
England and Wales ...	329	4,805	2,538	1,436	510	256	126
Scotland ...	311	3,919	2,965	1,877	604	237	87
Ireland ...	253	3,003	3,056	2,643	685	242	118
Denmark ...	2,092		3,820	2,968	752	279	89
Norway ...	173	2,681	3,530	2,459	699		458
Sweden ...	6	2,325	3,569	2,883	778		439
Russia (in Europe) ...	3,784	3,063	1,230	1,183	549		191
Austria ...	2,084		4,172	2,311	848	415	170
Hungary ...	3,173		4,571	1,255	604	296	101
Switzerland ...	127	2,525	3,133	2,710	927	404	174
Prussia ...	58	6,716		2,265	624	256	81
Bavaria ...	19	1,875	3,674	3,002	1,244		186
Saxony ...	38	3,432	3,823	1,767	561	278	101
Holland ...	256	2,405	3,370	2,659	846	345	119
Belgium ...	94	2,161	3,467	2,952	885	322	119
France ...	236	2,469	3,757	2,512	622	282	122
Italy ...	107	2,491	3,699	2,611	704	266	122
BRIDES.							
Victoria, 1887 ...	1,283	4,950	2,481	875	274	103	34
„ 1871-80 ...	1,963	4,626	1,747	1,134	414	98	18
England and Wales ...	1,441	4,966	1,911	1,091	407	145	39
Scotland ...	1,338	4,570	2,325	1,314	370	72	11
Ireland ...	1,349	4,899	2,275	1,104	264	77	32
Denmark ...	616	3,608	3,076	2,054	515	112	19
Norway ...	824	3,919	2,889	1,749	476		143
Sweden ...	555	3,413	3,089	2,225	573		145
Russia (in Europe)†	5,801	2,120	699	616	229		35
Austria ...	1,807		2,851	2,881	1,696	590	175
Hungary ...	3,604		3,422	1,604	810	408	152
Switzerland ...	879	3,876	2,498	1,886	656	173	32
Prussia ...	1,030	6,974		1,487	403	92	14
Bavaria ...	644	3,532	2,949	2,061	761		53
Saxony ...	1,073	4,500	2,588	1,305	406	110	18
Holland ...	1,084	3,236	2,897	1,976	599	174	34
Belgium ...	640	3,573	2,770	2,124	647	193	53
France ...	2,116	3,911	2,048	1,374	377		174
Italy ...	1,692	4,384	2,195	1,254	347	101	27

* Table D., page x.

† The figures, which are those of the Registrar-General of England, add in this line only to 9,500 instead of to 10,000.

488. It appears by this table that, in proportion to the whole numbers marrying in Victoria, the tendency of both sexes to marry under age is diminishing, and that, according to the figures for 1887, fewer males marry under 20 here than in any of the countries named, except Sweden, Bavaria, and Saxony; but, on the other hand, that more females marry under that age in Victoria than in any of those countries except England, Scotland, Ireland, France, Italy, and Russia. Attention is called to the very large proportion shown as marrying under age in the last-named country, exceeding a third of the total marriages in the case of the males, and exceeding half in the case of the females.

Marriages of minors in different countries.

489. The returns of the Australasian censuses of 1881 give information respecting the conjugal condition of the people living within the borders of the various colonies. These are grouped so as to enable the results to be easily compared.

Conjugal condition in Australasian colonies.

490. The following are the numbers of husbands and wives in each Australasian colony, those under and over 21 years of age being distinguished:—

Husbands and wives in Australasian colonies.

HUSBANDS AND WIVES IN EACH AUSTRALASIAN COLONY, 1881.

Colony.	Husbands.			Wives.		
	Under 21 Years.	Over 21 Years.	Total.	Under 21 Years.	Over 21 Years.	Total.
Victoria	283	124,371	124,654	3,006	123,036	126,042
New South Wales ...	408	109,810	110,218	4,040	103,793	107,833
Queensland	118	30,004	30,122	1,285	28,839	30,124
South Australia ...	95	43,860	43,955	1,344	42,339	43,683
Western Australia ...	15	4,260	4,275	207	3,769	3,976
Total	919	312,305	313,224	9,882	301,776	311,658
Tasmania*	73	17,671	17,744	607	16,527	17,134
New Zealand... ..	97	73,234	73,331	2,374	70,433	72,807
Grand Total	1,089	403,210	404,299	12,863	388,736	401,599

491. It is to be regretted that no figures are at hand showing the conjugal condition of males and females at marriageable ages living in countries out of Australasia; but the following table contains a statement of the proportions of those of both sexes and all ages unmarried, married, and widowed in various countries. The figures, except those

Conjugal condition in various countries.

* In this line the numbers under and over 21 have been partly estimated.

in the first line, have been taken from *Mulhall's Dictionary of Statistics**:—

CONJUGAL CONDITION IN VARIOUS COUNTRIES—BOTH SEXES, AND ALL AGES.

Countries.	Numbers in every 1,000 Living.		
	Unmarried.	Married.	Widowed.
Victoria	665	294	41
England	602	345	53
France	511	405	84
Prussia	606	336	58
Wurtemberg	623	319	58
Austria	605	342	53
Hungary	532	407	61
Italy	582	352	66
Switzerland	609	319	72
Spain	572	360	68
Portugal	628	310	62
Holland	611	328	61
Belgium	629	315	56
Scandinavia	618	330	52
Chili	688	260	52

492. It appears from this table that, in Victoria, in proportion to the numbers of the population, fewer persons are living in the marriage state than in any of the other countries named, except Chili; and fewer are living in the widowed state than in any of those countries. This is probably in part accounted for by the fact that the proportion living at marriageable ages, especially of males, is smaller in Victoria than in most of those countries.

493. The births registered in Victoria during 1887 numbered 33,043, as against 30,824 in 1886. The increase in the year under review, as compared with the previous one, was thus 2,219.

494. During the 20 years ended with 1883, the number of births in Victoria had remained almost stationary; but in 1884 a marked increase took place, which has continued during the three subsequent years, the number of births in 1887 being by far the highest ever recorded.†

495. In proportion to population, the births decreased steadily for a number of years. The lowest point was reached in 1882, since which year there has been a gradual improvement, the birth rate in 1887 having been higher than it had been in any year since 1876. The following are the birth rates for the last twenty-eight years:—

* Page 305.

† For number of births in each year, see Statistical Summary of Victoria, published in the last volume.

Small proportion of married in Victoria.

Births 1887.

Births in 1887 and former years.

Birth rate.

ANNUAL BIRTH RATE, 1860 TO 1887.

Births per 1,000 of Mean Population.				Births per 1,000 of Mean Population.			
1860	...	...	42·81	1875	...	...	33·94
1861	...	...	43·46	1876	...	...	33·61
1862	...	...	44·50	1877	...	...	32·17
1863	...	...	42·46	1878	...	...	32·36
1864	...	...	43·79	1879	...	...	32·18
1865	...	...	42·40	1880	...	...	30·75
1866	...	...	39·76	1881	...	...	31·24
1867	...	...	39·75	1882	...	...	30·05
1868	...	...	41·08	1883	...	...	30·23
1869	...	...	37·89	1884	...	...	30·89
1870	...	...	38·07	1885	...	...	31·27
1871	...	...	37·15	1886	...	...	31·23
1872	...	...	36·33	1887	...	...	32·40
1873	...	...	36·71				
1874	...	...	34·46				
				Mean of 28 years	...		37·26

496. Birth rates, based upon a comparison of the number of events with the total population, are, like marriage rates calculated upon a similar basis, apt to mislead, unless the population is in a normal condition. It must be quite evident that, if there is not a sufficient proportion of married women at the fruitful or child-bearing ages in a community, the birth rate is not likely to be high, but that an excess of such women would probably cause a high birth rate. This will be made apparent by the following table, which shows the birth rate, calculated upon the total population and upon the number of married women at the child-bearing period of life, in the last two census years :—

Proportion of births to population and to married women.

PROPORTION OF BIRTHS TO POPULATION AND TO MARRIED WOMEN.

Year of Census.	Enumerated Population.	Married Women under 45 Years of Age.	Legitimate Births.*	Proportion of Legitimate Births.	
				Per 1,000 of the Population.	Per 1,000 Married Women under 45 Years of Age.
1871	731,528	88,561	26,805	36·64	302·67
1881	862,346	84,831	25,675	29·77	302·66

497. It will be noticed that the married women at reproductive ages were fewer by 3,730 in 1881 than in 1871, that the proportion of births to such women, viz., 302 $\frac{2}{3}$ per 1,000, was exactly the same in both years, but that the proportion of births to the total population was considerably less in 1881 than in 1871. Thus, while the birth rate based upon a comparison of the births with the married women remained perfectly steady, that rate based upon a comparison of the births with the population showed a falling-off of nearly 7 per 1,000. The reduction in the birth rate, calculated in the ordinary way, which has been noticed for

Reason for decline of birth rate.

* In both cases, these are the legitimate births which occurred during the twelve months of which the census was the middle.

years past, is therefore conclusively shown—at any rate so far as the period 1871 to 1881 is concerned—to be due to a deficiency in the community of married women at the fruitful period of life.

Birth rates
in Austral-
asian
colonies.

498. Returns of the births in all the Australasian colonies are available to the end of 1887, and from these and the mean populations of the respective colonies during each year the birth rates have been calculated in the office of the Government Statist, Melbourne. The following table gives the birth rates of the different colonies for each year from 1865 to 1887, or as many years between those periods as the figures are available for:—

BIRTH RATES IN AUSTRALASIAN COLONIES, 1865 TO 1887.*

Year.	Number of Births per 1,000 of Mean Populations.						
	Victoria.	New South Wales.	Queens-land.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1865	42·40	43·21	43·65	43·90	...	32·56	41·12
1866	39·76	40·45	44·86	42·38	...	29·15	42·89
1867	39·75	41·94	45·66	41·87	...	30·34	42·18
1868	41·08	40·72	43·03	41·51	...	30·03	42·14
1869	37·89	40·74	42·83	39·03	...	28·27	41·90
1870	38·07	40·09	43·51	38·48	...	30·18	42·32
1871	37·15	39·63	43·25	38·34	...	30·16	40·64
1872	36·33	38·46	40·70	37·60	32·42	29·44	39·50
1873	36·71	39·38	40·82	36·42	31·43	29·43	39·00
1874	34·46	39·30	41·11	38·22	33·71	29·72	40·27
1875	33·94	38·53	38·90	35·70	28·72	29·88	40·23
1876	33·61	38·56	37·48	37·71	33·98	30·11	41·73
1877	32·17	37·92	36·75	37·36	33·07	30·21	41·28
1878	32·36	38·50	35·77	38·23	31·11	32·27	42·14
1879	32·18	38·99	36·74	38·96	34·38	32·05	40·32
1880	30·75	38·80	36·92	38·94	32·35	32·91	40·78
1881	31·24	38·13	37·19	38·66	33·67	33·40	37·95
1882	30·05	37·37	35·85	37·40	35·84	33·50	37·32
1883	30·23	37·49	36·92	37·37	33·87	34·25	36·28
1884	30·89	38·54	36·23	38·38	33·84	35·66	36·15
1885	31·37	37·64	37·80	38·47	35·22	35·08	34·78
1886	31·23	37·03	37·84	35·70	39·43	34·15	33·15
1887	32·40	36·42	38·09	34·65	37·94	33·87	32·09
Means ...	34·61	39·04	39·65	38·50	33·81	31·59	39·40

Birth rates
in Australa-
sian colonies
in 1887 and
previous
years.

499. In 1887 the birth rate was below the average in all the colonies except Western Australia and Tasmania, but it will be noticed that in all except those two the birth rates were exceptionally high in the earlier years to which the table refers, and this has had the effect of raising the average. In the last three years the birth rate has shown a tendency to improve in Victoria and Queensland, but an opposite tendency in New South Wales, South Australia, Tasmania, and New

* For the number of births in the various colonies during the fifteen years ended with 1887, see General Summary of Australasian Statistics (third folding sheet) near the beginning of the last volume. See also Appendix A to that volume.

Zealand, whilst in Western Australia the highest point was reached in 1886, followed by a fall in 1887.

500. The following is the order of the colonies in reference to their respective birth rates in the last year shown in the table and according to the average of the whole period of twenty-three years. It will be observed that Victoria stands sixth on the list for 1887, but fifth in the twenty-three-year series:—

ORDER OF AUSTRALASIAN COLONIES IN REFERENCE TO BIRTH RATES.

Order in 1887.	Order in a Series of Years.
1. Queensland.	1. Queensland.
2. Western Australia.	2. New Zealand.
3. New South Wales.	3. New South Wales.
4. South Australia.	4. South Australia.
5. Tasmania.	5. Victoria.
6. Victoria.	6. Western Australia.
7. New Zealand.	7. Tasmania.

501. On the continent of Australia, taken as a whole, the birth rate in 1887 was higher than that in 1886, though lower than in nine of the last fifteen years; but on that continent, combined with Tasmania and New Zealand, the birth rate was lower than in 1886, and was also lower than in twelve of the other years of that period. The following are the figures for the fifteen years ended with 1887:—

BIRTH RATE IN AUSTRALIA AND AUSTRALASIA, 1873 TO 1887.

Year.	Number of Births per 1,000 of Mean Populations.	
	Continent of Australia.	Australia with Tasmania and New Zealand.
1873	37·36	37·19
1874	36·46	36·70
1875	35·29	35·82
1876	35·20	36·04
1877	34·15	35·16
1878	34·31	35·51
1879	34·55	35·42
1880	35·33	36·20
1881	35·22	35·63
1882	34·28	34·78
1883	34·54	34·84
1884	35·25	34·33
1885	35·33	35·22
1886	34·85	34·52
1887	34·96	34·43
Means	35·14	35·45

502. The birth rates in certain British colonies outside Australasia, including all those for which the information is available, are shown in the following table. The low birth rate in Hong Kong is probably owing to the small proportion of women in the population, the bulk of

which consists of Chinese males. In Mauritius and Jamaica, considerably more than half the births were stated to be illegitimate. In some cases the figures are only for one or two years :—

BIRTH RATES IN BRITISH POSSESSIONS.

Colonies.	Years.	Number of Births per 1,000 of the Population.
Malta	1886	40·0
Ceylon	1867-76	27·7
Straits Settlements	1882-4	19·0
Hong Kong	1882-6	8·5
Mauritius	1886	36·3
Seychelles	1886	39·8
Nova Scotia	1871-5	32·0
Bermudas	1884-5	35·7
British Guiana	1886	35·2
West Indies—		
Bahamas	1874-5	39·0
Jamaica	1886-7	36·0
St. Lucia	1869-83	42·7*
St. Vincent	1870-9	46·0
Barbados	1886	41·5
Grenada	1871-5	45·2
Tobago	1886	36·0
Antigua	1875-6	40·4
Montserrat	1886	40·4
Dominica	1871-6	31·0
Trinidad	1886	35·9

Birth rates
in European
countries.

503. A statement of the birth rates in British and certain Foreign countries for each of the five years ended with 1886, is given in the following table. The figures have been taken from the reports of the Registrar-General of England or other official sources :—

BIRTH RATES IN EUROPEAN COUNTRIES, 1882 TO 1886.

Countries.	Number of Births per 1,000 of Mean Population.					Mean of 5 years.
	1882.	1883.	1884.	1885.	1886.	
Hungary	44·6	45·3	46·0	...	...	45·3†
Austria	38·9	38·2	38·4	37·4	37·7	38·1
Italy	37·1	37·1	38·7	38·1	36·5	37·5
Prussia	37·4	36·9	37·4	37·6	37·7	37·4
German Empire	37·2	36·6	37·2	37·0	37·1	37·0
Holland	35·3	34·3	34·9	34·4	34·6	34·7
England and Wales	33·7	33·3	33·4	32·5	32·4	33·1
Scotland	33·3	32·5	33·4	32·3	32·4	32·8
Norway	30·9	30·9	31·0	31·3	30·9	31·0
Belgium	31·2	30·5	30·5	29·9	29·6	30·3
Sweden	29·4	28·9	30·0	29·6	...	29·5†
Spain	29·4	26·9	...	...	...	28·2§
Switzerland	28·8	28·4	28·1	27·5	27·5	28·1
France	24·8	24·8	24·8	24·3	23·9	24·5
Ireland	24·1	23·6	24·0	23·5	23·3	23·7

* Including still-births.
† Mean of four years.

‡ Mean of three years.
§ Mean of two years.

504. Comparing this table with that showing the marriage rates in the same countries, it is found that a high birth rate is generally concurrent with a high marriage rate, and *vice versa*. A notable exception to this is France, in which, although the marriage rate is high, the birth rate is lower than in any of the countries named, except Ireland. The low rate in the latter is attributed to the small proportion of women at child-bearing ages in the population,* but the low birth rate in France cannot be accounted for by any such cause, as it is stated that the proportion of women at the reproductive period of life is higher in that than in any other European country; the chief, though indirect, cause is said to be—"the sub-division of land among the peasant proprietors. The better class of the labouring population aspire to become proprietors of small holdings; by thrift and industry they accumulate capital for this purpose, and avoid by their social philosophy the division of their property amongst a large family at their decease."†

Low birth rates in Ireland and France.

505. In the same five years the mean birth rates in New South Wales and South Australia were above those in any of the European countries named, except Hungary and Austria; the mean birth rates in Queensland, Western Australia, and New Zealand were above those in any except the last named two countries, together with Italy and Germany; the mean birth rate in Tasmania was below that in the countries named with the addition of Holland; the mean birth rate in Victoria was below that in any of the countries named in the table except Belgium, Sweden, Switzerland, France, and Ireland. The following are the birth rates referred to:—

Australasian and European birth rates compared.

MEAN BIRTH RATES IN AUSTRALASIAN COLONIES, 1882 TO 1886.

						Number of Births per 1,000 of Mean Population.
New South Wales	...	...	...	...	...	37·61
South Australia	...	...	...	...	...	37·46
Queensland	...	...	...	...	...	36·93
Western Australia	...	...	...	...	...	35·64
New Zealand	...	...	...	...	...	35·54
Tasmania	...	...	...	...	...	34·53
Victoria	...	...	...	...	...	30·75

506. According to the reports of the Registrar-General of England, the birth rate of the United Kingdom was lower in 1886 and 1885 than in any year since 1870, as will be seen by the following figures:—

Birth rate in United Kingdom.

* See 15th Detailed Report of the Registrar-General of Ireland, pages 12 and 29. For many years the registration of births in Ireland was admitted to be defective, but Dr. T. W. Grimshaw, the Registrar-General of that country, in a letter addressed to the Government Statist of Victoria, dated 6th May, 1886, says that since the passing of the Public Health Amended Vaccination and Registration Acts (1878 to 1880), this is no longer the case, and the births occurring in Ireland are now very well recorded. It may be remarked, however, that this improvement has not been accompanied by any improvement in the birth rate as calculated from the published figures.

† See 41st Report of the Registrar-General of England, page xlvi.

BIRTH RATE IN THE UNITED KINGDOM, 1871 TO 1886.

		Births per 1,000 of the Population.				Births per 1,000 of the Population.	
1871	35·0	1880	...	...	32·7
1872	34·4	1881	...	...	32·5
1873	34·1	1882	...	...	32·2
1874	34·5	1883	...	...	31·8
1875	34·0	1884	...	...	32·1
1876	34·9	1885	...	...	31·3
1877	34·5	1886	...	...	31·3
1878	34·1				
1879	33·5	Mean	...	...	33·3

Birth rates in town and country, 1887.

507. The following table shows the births and birth rates together with the estimated mean population in the metropolis, the extra-metropolitan towns, and the country districts of Victoria during 1887; also the average birth rates in the same divisions during the five years ended with 1885:—

BIRTHS IN URBAN AND COUNTRY DISTRICTS, 1887.

Districts.	Estimated Mean Population, 1887.	Total Number, 1887.	Births.	
			Number per 1,000 of the Population.	
			1887.	Annual mean, 1881 to 1885.
Melbourne and suburbs (Greater Melbourne)	391,546	14,583	37·24	33·50
Extra-Metropolitan towns	187,758	6,252	33·30	32·54
Country districts	440,396	12,208	27·72	27·82
Total	1,019,700	33,043	32·40	30·74

Birth rates in town and country, 1873 to 1887.

508. The next table shows the number of births per 1,000 of the population of the same three divisions of the colony during each of the last fifteen years:—

BIRTH RATES IN URBAN AND COUNTRY DISTRICTS, 1873 TO 1887.

Year.	Number of Births per 1,000 of the Population.			
	Greater Melbourne.	Extra-Metropolitan Towns.	Country Districts.	Total of Victoria.
1873	34·36	40·18	36·32	36·71
1874	32·98	39·81	32·46	34·46
1875	33·63	38·63	31·54	33·94
1876	33·20	37·80	31·61	33·61
1877	33·09	34·51	30·30	32·17
1878	33·67	35·42	29·89	32·36
1879	33·32	35·65	29·63	32·18
1880	31·19	34·21	28·72	30·75
1881	32·42	34·76	28·70	31·24
1882	32·85	31·35	27·43	30·05
1883	33·15	32·07	27·22	30·23
1884	33·81	32·80	27·78	30·89
1885	34·94	31·87	28·00	31·27
1886	34·82	31·76	27·87	31·23
1887	37·24	33·30	27·72	32·40

509. It will be noticed that in the first two years of the period to which the table refers the birth rate of the country districts was about equal to that of the metropolis, whilst the birth rate of the extra-metropolitan towns was very much higher than either. Since 1874, however, the metropolitan rate has been much above that of the country districts, but until 1882 was still below that of the extra-metropolitan towns. In 1882 and the subsequent years, however, owing to a general falling-off in the birth rate in the extra-metropolitan towns and in the country districts, and a gradual increase in that of the metropolis, the rate in the last-named division was much above that in other urban districts. It will also be noticed that, in 1887 the birth rate in the metropolis was higher than in any previous year; in the extra-metropolitan towns it was higher than in any other year since 1881; but in country districts it was lower than in any other year except 1883 and 1882.

Results compared.

510. The mean population, the number of births, and the birth rate during 1887; also the mean annual birth rate during the five years, 1881 to 1885, in the different municipalities, &c., forming the component parts of the district of Greater Melbourne, are shown in the following table:—

Birth rates in metropolitan sub-districts.

BIRTHS IN GREATER MELBOURNE.

Sub-districts.	Estimated Mean Population, 1887.	Births.			
		Total Number, 1887.	Number per 1,000 of the Population.		
			1887.	Annual Mean, 1881 to 1885.	
Melbourne City ...	71,685	2,045	28·53	25·49	
North Melbourne Town*	20,133	879	43·66	38·32	
Fitzroy City ...	28,644	1,076	37·56	34·70	
Collingwood City ...	29,011	1,278	44·05	37·35	
Richmond City ...	34,000	1,390	40·88	35·93	
Brunswick Borough ...	12,177	565	46·40	42·27	
Northcote Borough ...	3,500	132	37·71	32·66	
Prahran City ...	34,000	1,167	34·32	31·93	
South Melbourne City ...	37,920	1,359	35·84	34·87	
Port Melbourne Borough ...	11,403	509	44·64	41·18	
St. Kilda Borough ...	16,670	437	26·21	25·35	
Brighton Town † ...	6,698	192	28·66	28·97	
Essendon Borough ...	7,156	253	35·35	32·88	
Flemington & Kensington Borough	7,000	283	40·43		
Hawthorn Town † ...	12,017	401	33·37	29·82	
Kew Borough ...	5,000	153	33·60	24·20	

* Formerly Hotham. The name was changed to North Melbourne on the 22nd August, 1887.

† Brighton and Hawthorn were proclaimed towns on the 15th March, 1887.

BIRTHS IN GREATER MELBOURNE—*continued.*

Sub-districts.	Estimated Mean Population, 1887.	Births.			
		Total Number, 1887.	Number per 1,000 of the Population.		
			1887.	Annual Mean, 1881 to 1885.	
Footscray Town *	11,762	586	49·82	42·50	
Williamstown Town *	12,749	492	38·59	35·35	
Remainder of district	24,760	938	37·89	29·72	
<i>Hospitals, asylums, &c.</i> †	3,783	448	...	...
Shipping in Hobson's Bay and river	1,478	...	...	...
Total	391,546	14,583	37·24	33·50	

NOTE.—It should be specially noted that the births in Public Institutions are eliminated from the various sub-districts, although included in the total line.

511. It will be observed that during the five years ended with 1885 the births in three municipalities, viz., Brunswick, Port Melbourne, and Footscray, averaged above 40 per 1,000 of the population; that in four municipalities, viz., North Melbourne, Collingwood, Richmond, and Williamstown, they were between 35 and 40 per 1,000; in five municipalities, viz., Fitzroy, Northcote, Prahran, South Melbourne, and Essendon and Flemington, they were between 30 and 35 per 1,000; and that in five municipalities, viz., Melbourne City, St. Kilda, Brighton, Hawthorn, and Kew, as also in "Remainder of District," they were below 30 per 1,000. The lowest rate was in Kew, viz., only a fraction over 24 per 1,000.

512. During 1887, the birth rates in all the sub-districts except Brighton, were higher than they were in the five years ended with 1885. The sub-district with the highest birth rate in 1887 was Footscray, which was closely followed by Brunswick, Port Melbourne, Collingwood, North Melbourne, Richmond, and Flemington; those with the lowest rates were St. Kilda, Melbourne City, and Brighton, in all of which the rates were below 30 per 1,000.

513. In 1887, the birth rate in Melbourne was lower than that in Brisbane, Sydney, or Wellington, but above that in Adelaide and Hobart, as is shown in the following table, which gives, for that year, a state-

* Williamstown was proclaimed a town on the 30th March, 1886, and Footscray on the 27th February, 1887.

† The population given is that of all the institutions, but the Lying-in Hospital is the only one in which births occurred.

Birth rates
in sub-dis-
tricts, 1881
to 1885.

Birth rates
in sub-dis-
tricts, 1887.

Births in
Australasian
capitals.

ment of the estimated population and the number of births, and number per 1,000 of the population, in each of those capital cities:—

BIRTHS IN AUSTRALASIAN CAPITAL CITIES, 1887.

Capital Cities.*	Estimated Mean Population.	Births, 1887.	
		Total Number.	Number per 1000 of the Population.
Brisbane	55,475	2,419	43·61
Sydney	340,710	13,415	39·37
Wellington	27,595	1,055	38·23
Melbourne	391,546	14,583	37·24
Adelaide	111,300	3,859	34·67
Hobart	31,251	1,057	33·82

514. The mean birth rate in the Australasian capital cities in 1887 was 37·8, which was higher than the rate in London, according to the average of the ten years 1876–85, viz., 34·7, which was a fraction higher than that of England and Wales (34·4) during the same period. The rate in London was thus about the same as that in Adelaide, higher than that in Hobart, but below that in any of the other Australasian cities named in the last table. Birth rate in London.

515. In the five years ended with 1885 the mean birth rate of the principal towns of Scotland was 36·07; of the large towns, 35·52; and of the small towns, 33·50. All these rates are much below the mean birth rate of the Australasian capital cities or than the birth rate of Melbourne. Birth rates in Scotch towns.

516. The 43rd Report of the Registrar-General of England† contains a statement of the birth rates in twenty-three British towns, in which the mean rate per 1,000 persons living is 35·9, the rates in the respective towns ranging from 30·3 in Brighton to 41·5 in Salford. The birth rate in Brisbane is above that in any of the towns named; the birth rate in Sydney is above that in all but 2; that in Wellington is above that in all but 4; and that in Melbourne is above that in all but 10. On the other hand, the birth rate in Adelaide is below that in all but 6, and the birth rate in Hobart is below that in all but 5 of the Birth rates in British towns.

* With suburbs, except in the case of Wellington, which has none.

† See 43rd Annual Report of Registrar-General, page cxi. : Eyre and Spottiswoode, London, 1882.

towns named. This will be seen by comparing the following figures with those in the last table:—

BIRTH RATES IN TWENTY-THREE BRITISH TOWNS, 1880.

	Births per 1,000 of Population.		Births per 1,000 of Population.
Salford ...	41·5	Nottingham ...	35·3
Leicester ...	40·4	Bradford ...	35·3
Birmingham ...	38·4	Bristol ...	35·3
Sheffield ...	38·3	London ...	35·2
Liverpool ...	38·1	Portsmouth ...	34·8
Manchester ...	37·5	Norwich ...	33·9
Wolverhampton ...	37·4	Edinburgh ...	32·8
Hull ...	37·4	Dublin ...	32·1
Sunderland ...	37·4	Glasgow ...	31·9
Leeds ...	37·3	Plymouth ...	31·6
Newcastle-on-Tyne ...	37·1	Brighton ...	30·3
Oldham ...	35·5		

Birth rates
in Foreign
towns.

517. The same report* contains a statement of the birth rates in twenty-one Foreign towns (including two in British India), in which the mean rate is 34·5, the rates ranging from 22·9 in Geneva to 42·9 in Alexandria. The birth rate in Brisbane is above that in any of the towns named; the birth rate in Sydney is above that in all but 4, in Wellington above all but 8, in Melbourne above all but 10, in Adelaide above all but 13, and in Hobart above all but 14, of the towns. The following are the rates in these towns, also the rates in New York and in Boston, taken from the reports of the Health Department of the former city:—

BIRTH RATES IN TWENTY-THREE FOREIGN TOWNS, 1880.

	Births per 1,000 of Population.		Births per 1,000 of Population.
Alexandria ...	42·9	Amsterdam ...	36·6
Buda-Pesth ...	40·6	Dresden ...	34·5
Hamburg (State) ...	39·5	Christiania ...	33·7
Madras ...	39·4	Brussels ...	31·2
The Hague ...	39·3	New York ...	30·4 †
Berlin ...	39·2	Turin ...	29·8
Rotterdam ...	38·3	Paris ...	28·7
Vienna ...	38·3	Boston (1883) ...	28·3
Munich ...	38·2	Bombay ...	26·6
Rome ...	37·3	Venice ...	23·9
Copenhagen ...	36·8	Geneva ...	22·9
Breslau ...	36·7		

Birth rates
in Victorian
towns.

518. The following are the birth rates in six Victorian towns during 1887; the rate in the metropolis being, as will be observed, below the

* See 43rd Report, page cxiv.

† The number of births registered in New York would give a proportion of 22·8 per 1,000 of the population, but it is officially stated that the registered births are 25 per cent. below the actual number which take place, so that the correct proportion is as here stated.

rates in Stawell and Sandhurst, but above those in Ballarat, Geelong, and Castlemaine :—

BIRTH RATES IN SIX VICTORIAN TOWNS, 1887.

	Births per 1,000 of Population.	Births per 1,000 of Population.
Stawell ...	40·34	Ballarat ... 31·62
Sandhurst ...	40·72	Geelong ... 28·06
Melbourne ...	37·24	Castlemaine... 20·90

519. The births of males in Victoria during 1887 numbered 16,876, those of females 16,167. These numbers furnish a proportion of 104·39 boys to 100 girls, as against a proportion of 104·53 in 1886, and of 106·44 in 1885. In the ten years 1871–80, 137,275 births of males and 131,435 births of females were registered, giving a proportion of 104·45 boys to 100 girls.

520. In every country in which births are registered, it is found that more boys are born than girls. This was the case in all the Australasian colonies during the period of fourteen years ended with 1886, although not in every one of those years so far as Western Australia and Tasmania are concerned. The following are the numbers of boys per 100 girls born in the respective colonies during each year of the period referred to :—

PROPORTION OF MALE TO FEMALE BIRTHS IN AUSTRALASIAN COLONIES, 1873 TO 1886.

Year.	Number of Boys to 100 Girls Born.						
	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1873 ...	102·65	104·38	106·13	102·77	109·04	98·44	103·48
1874 ...	103·94	104·31	105·74	103·44	103·25	107·02	106·83
1875 ...	104·95	102·08	104·01	103·85	98·95	109·51	107·80
1876 ...	105·76	102·47	105·26	101·08	106·76	111·48	106·01
1877 ...	104·19	106·34	106·78	102·91	101·32	105·04	104·59
1878 ...	107·19	106·83	103·89	107·14	101·15	105·52	101·57
1879 ...	104·69	105·71	103·36	102·53	117·59	99·11	105·93
1880 ...	104·44	104·99	103·63	110·98	92·37	101·56	104·71
1881 ...	104·99	105·59	106·64	106·48	108·07	107·41	104·90
1882 ...	103·63	103·23	107·55	106·36	110·64	104·81	104·46
1883 ...	105·04	104·89	106·17	103·29	104·64	110·42	105·17
1884 ...	105·98	105·37	102·25	104·40	106·42	103·37	104·28
1885 ...	106·44	104·88	102·50	101·57	108·00	104·36	103·59
1886 ...	104·53	106·35	102·51	104·48	115·90	108·99	104·72

521. In the Australasian colonies, taken as a whole, the proportion during the five years ended with 1886 was 105·46 male to 100 female infants. In the different colonies, the proportions ranged from 109·12

Births of males and females.

Births of males and females in Australasian colonies.

Order of colonies in respect to sexes of those born.

males per 100 females in Western Australia to 104·02 males per 100 females in South Australia. The following is the order of the colonies in respect to these proportions :—

ORDER OF COLONIES IN REFERENCE TO PROPORTION OF MALE TO FEMALE BIRTHS, 1882 TO 1886.

	Boys to 100 Girls.		Boys to 100 Girls.
Western Australia	... 109·12	Queensland	... 104·20
Tasmania	... 106·39	South Australia	... 104·02
Victoria	... 105·12		
New South Wales	... 104·94	Mean	... 105·46
New Zealand	... 104·44		

Births of males and females in British and foreign countries.

522. In England and Wales, during the ten years ended with 1879, 103·9 boys were born to 100 girls, and the Registrar-General of England, in his report for 1880, mentioned it as “a curious fact, which has as yet received no certain explanation,” that the proportion of male to female births was not only lower than in any other European country, but had been diminishing steadily. In support of this statement he published the following figures,* to which the figures for England from 1881 to 1887 have been added, which, however, show that the relative falling off of male births referred to as occurring in England practically ceased in the period 1871 to 1875, for since 1870 the proportion has stood at an almost uniform level, viz., about 103·9 boys to 100 girls :—

PROPORTION OF MALE TO FEMALE BIRTHS IN CERTAIN COUNTRIES, 1870 TO 1879.

	Boys to 100 Girls.		Boys to 100 Girls.
Italy	... 107·1	Holland	... 106·1
Austria	... 106·8	Belgium	... 105·9
France	... 106·4	Scotland	... 105·7
Switzerland	... 106·3	Ireland	... 105·6
German Empire	... 106·2	England and Wales	... 103·9

PROPORTION OF MALE TO FEMALE BIRTHS IN ENGLAND AND WALES AT DIFFERENT PERIODS.

	Boys to 100 Girls.		Boys to 100 Girls.
1856 to 1860...	... 104·6	1882	... 103·8
1861 to 1865...	... 104·3	1883	... 103·5
1866 to 1870...	... 104·1	1884	... 104·1
1871 to 1875...	... 103·9	1885	... 104·0
1876 to 1880...	... 103·8	1886	... 103·9
1881	... 103·9	1887	... 103·9

Anstralasian and other countries compared.

523. It will be observed that the proportion of male to female births is higher in Western Australia than in any of the countries named, and in Tasmania than in any except Italy, Austria, and France; but that

* See 43rd Report of the Registrar-General of England, page xvi.

the proportion in the remaining colonies is lower than in any of the countries named except England and Wales.

524. The proportions of male to female births in some countries not included in the list given by the Registrar-General of England have been derived from other official sources. The figures, which relate chiefly to the nineteen years 1865 to 1883, are as follow :—

Births of males and females in certain countries.

PROPORTION OF MALE AND FEMALE BIRTHS IN CERTAIN COUNTRIES, 1865 TO 1883.

Boys to 100 Girls.			Boys to 100 Girls.		
Greece	...	112	Sweden	...	105
Roumania	...	111	Denmark	...	105
Connecticut	...	110	Russia in Europe	...	105
Spain	...	107	Finland	...	105
Norway	...	106	Vermont	...	105
Servia	...	106	Rhode Island	...	105
Massachusetts	...	106	Russian Poland	...	101

525. In 1887, 285 twin births and 3 triple births were registered, as against 236 twin births but no triple birth in 1886. In the five years ended with 1885, 1,105 cases of twins and 10 cases of triplets were recorded, the total number of births in the same period having been 140,258. There were thus 139,133 confinements in the five years, and it follows that 1 mother in every 126 gave birth to twins, and 1 mother in every 13,913 was delivered of three children at a birth. Moreover, during the decade 1871 to 1880, 1 mother in every 111, on the average, gave birth to twins, and 1 in every 12,796 was delivered of three children at a birth.

Twins and triplets.

526. If the following figures, taken, except those for this colony, from Mr. Mulhall's work,* are to be relied upon, a comparatively small number of double and triple births occur in Victoria, she being, in these respects, below all the countries for which information is given:—

Twins and triplets in various countries.

TWINS AND TRIPLETS IN VARIOUS COUNTRIES.

Countries.	Per 1,000 Births.	
	Number of Twins.	Number of Triplets.
Victoria, 1887 ..	8.63	.09
„ 1881-85	7.88	.07
England	11.2	...
Scotland	11.7	...
Ireland	17.6	...
France	10.1	.12
Germany	12.9	.13

* Dictionary of Statistics, page 50.

TWINS AND TRIPLETS IN VARIOUS COUNTRIES—*continued.*

Countries.	Per 1,000 Births.	
	Number of Twins.	Number of Triplets.
Russia	12·1	...
Austria	13·4	·18
Italy	11·8	·14
Switzerland	12·0	...
Spain	8·4	...
Belgium	9·1	·10
Holland	12·8	...
Denmark	13·7	·24
Sweden	13·6	·18
Norway	11·8	·15
Iceland	14·2	·33

Countries in which most twins and triplets occur.

527. According to the figures, the highest proportion of double births occurs in Ireland, and the highest proportion of triple births in Iceland.

Illegitimate births.

528. The illegitimate children born in 1887 numbered 1,580, or 1 to every 21 births registered; this was the same proportion as in 1886, but in 1885 and 1884 the proportion was 1 to every 23. In the five years, 1881-85, out of 140,258 infants born, 6,491 were traced as having been born out of wedlock, which numbers furnish a proportion of 1 illegitimate child to every 22 births; as compared with an average during the ten years ended with 1880 of 1 to every 27 births.*

Women living in concubinage.

529. It was shown in a previous table† that the legitimate births registered in each of the last two census years were in the proportion of $302\frac{2}{3}$ to every 1,000 married women living at the reproductive period of life. It follows, therefore, from the number of legitimate births registered in 1887, that, approximately, 109,000 married women at the fruitful or child-bearing age were living in the colony during that year. Assuming that the illegitimate births bear the same proportion to unmarried women, it also follows, from the number of such births in 1887, that, exclusive of public prostitutes (who, as they rarely have children, are omitted from the computation), at least 5,214 single women at the fruitful or child-bearing ages were living in concubinage. If from the total number of women in the colony between the ages of 15 and 45—estimated to be 230,600—be deducted the approximate number of

* For many reasons, statistics of illegitimacy generally understate the truth.—See remarks upon the subject in the *Victorian Year-Book* 1877-8, paragraph 259.

† See table following paragraph 496 *ante*.

married women above referred to, viz., 109,000, the difference will give 121,600 as the number of unmarried women and widows at those ages. It therefore follows that 1 out of every 23 of these was living immorally.

530. The following table gives a statement of the number of illegitimate births and their proportion to the total number registered; also the estimated number of women living in concubinage, and their proportion to the total number of single women at reproductive ages living, in Victoria, according to the returns of the last fifteen years:—

Illegitimacy and concubinage, 1873 to 1887.

ILLEGITIMACY AND CONCUBINAGE, 1873 TO 1887.

Year.	Illegitimate Births.		Women Living in Concubinage (exclusive of Public Prostitutes).	
	Total Number.	Percentage of Total Births.	Estimated Total Number.	Number per 100 Single Women between 15 and 45 Years of Age Living in Victoria.
1873	893	3.18	2,951	4.54
1874	984	3.67	3,251	4.41
1875	779	2.92	2,573	3.36
1876	975	3.64	3,221	4.02
1877	1,010	3.88	3,337	3.85
1878	1,103	4.15	3,644	4.20
1879	1,304	4.86	4,308	4.78
1880	1,254	4.80	4,143	4.39
1881	1,382	5.09	4,551	4.49
1882	1,271	4.75	4,200	3.91
1883	1,292	4.69	4,268	3.72
1884	1,238	4.29	4,090	3.46
1885	1,308	4.36	4,320	3.54
1886	1,465	4.75	4,840	3.87
1887	1,580	4.78	5,214	4.29
Means	1,189	4.25	3,928	4.04

531. All the Australasian colonies, except South Australia and Western Australia, now publish statistics of illegitimacy. According to these, which possibly may not in every case represent the whole truth,* illegitimacy is most rife in New South Wales, next in Victoria, next in Tasmania, next in Queensland, and least of all in New Zealand. In most of the colonies, so far as figures are available, illegitimacy appears to have a tendency to increase. The following table shows the percentage of illegitimate to the total births, in the five colonies which publish the information, during a series of years:—

Illegitimacy in Australasian colonies.

* See footnote to paragraph 528 ante.

ILLEGITIMACY IN AUSTRALASIAN COLONIES, 1872 TO 1887.

Year.	Illegitimate Births to every 100 Children Born.				
	Victoria.	New South Wales.	Queensland.	Tasmania.	New Zealand.
1872	2.99	4.03	2.92	...	...
1873	3.18	4.15	2.71	...	1.42
1874	3.67	4.22	2.76	...	1.30
1875	2.92	4.20	3.43	...	1.36
1876	3.64	4.08	3.21	...	2.23
1877	3.88	4.14	3.64	...	2.08
1878	4.15	4.03	3.68	...	2.41
1879	4.86	4.51	4.31	...	2.30
1880	4.80	4.35	4.31	...	2.43
1881	5.09	4.26	4.20	...	2.85
1882	4.75	4.24	4.40	4.40	2.87
1883	4.69	4.24	3.66	3.96	2.78
1884	4.29	4.40	4.05	4.46	2.96
1885	4.36	4.60	4.08	4.55	3.20
1886	4.75	4.65	3.97	4.13	3.12
1887	4.78	...	...	3.40	...
Means	4.17	4.27	3.69	4.15	2.38

Concubinage
in Austral-
asian
colonies.

532. A calculation, based upon the illegitimate births which occurred in the census year, shows that of the four colonies which then published statistics of these occurrences concubinage was most rife in Queensland, next in New South Wales, and next in Victoria and New Zealand, there being only a slight difference between the two last-named colonies. In the following table the colony in which the largest proportion of concubinage existed is placed first, and that in which the smallest proportion existed last:—

CONCUBINAGE IN AUSTRALASIAN COLONIES, 1881.

Colony.	Single Women between 15 and 45 Years of Age.	Illegitimate Births, 1881.	Single Women living in Concubinage (exclusive of Public Prostitutes).	
			Total Number.	Number per 100 Single Women between 15 and 45.
1. Queensland ...	15,441	345	1,059	6.86
2. New South Wales	71,085	1,263	3,665	5.16
3. Victoria ...	101,451	1,382	4,551	4.49
4. New Zealand ...	38,659	534	1,686	4.36

Proportion
of concubi-
nage in each
colony.

533. The figures in the last column show the proportions which the single women leading a sexually immoral life, without being public prostitutes, bore to the whole number of single women at the fruitful

period of life in each of the four colonies. These proportions will, perhaps, be better understood if expressed in another manner as follow :—

In Queensland	1 single woman in 13 was living immorally.
In New South Wales	" " 19 " "
In Victoria	" " 22 " "
In New Zealand	" " 23 " "

534. Illegitimacy in England and Wales appears to be commoner than, and in Scotland more than twice as rife as, it is in any of the Australasian colonies named. In Ireland, on the other hand, it seems to be less prevalent than in any of those colonies except New Zealand. This will be observed by comparing the following table with the previous one :—

ILLEGITIMACY IN ENGLAND, SCOTLAND, AND IRELAND,
1871 TO 1886.

Year.	Illegitimate Births to every 100 Children Born.		
	England and Wales.	Scotland.	Ireland.
1871	5.6	9.5	2.7
1872	5.4	9.1	2.5
1873	5.2	9.0	2.4
1874	5.0	8.7	2.3
1875	4.8	8.6	2.3
1876	4.7	8.6	2.3
1877	4.7	8.4	2.4
1878	4.7	8.4	2.3
1879	4.8	8.5	2.5
1880	4.8	8.4	2.5
1881	4.9	8.3	2.5
1882	4.9	8.1	2.7
1883	4.8	8.1	2.6
1884	4.7	8.1	2.7
1885	4.8	8.5	...
1886	4.7	...	...
Means	4.9	8.5	2.4

535. Statistics of illegitimacy in France for the years 1873 to 1881 were quoted by M. Toussaint Loua, Director of the Bureau of General Statistics of France, in a paper read by him before the Statistical Society of Paris on the 21st March, 1883; and M. Loua has since given the society the proportions in the three following years.* By M. Loua's

* See *Journal de la Société de Statistique de Paris*, vingt-quatrième année, page 160: Berger-Levrault. Paris, 1883.

figures, which are subjoined, it appears that illegitimacy in France is not so rife as in Scotland, but is much more so than in England, Ireland, or any of the Australasian colonies:—

ILLEGITIMACY IN FRANCE, 1873 TO 1884.

Year.	Illegitimate Births to every 100 Children Born.	Year.	Illegitimate Births to every 100 Children Born.
1873 ...	7·46	1881 ...	7·48
1874 ...	7·26	1882 ...	7·62
1875 ...	7·03	1883 ...	7·90
1876 ...	6·96	1884 ...	8·08
1877 ...	7·08		
1878 ...	7·25	Mean ...	7·38
1879 ...	7·07		
1880 ...	7·41		

Increase of illegitimacy in France.

536. In a paper read by the same author before the Paris Statistical Society in October, 1885,* M. Loua points out that, whilst the legitimate births in France are diminishing in numbers year by year, the illegitimate births are increasing, and in proof of this he gives the following figures:—

LEGITIMATE AND ILLEGITIMATE BIRTHS IN FRANCE, 1881 TO 1884.

	Legitimate Births.	Illegitimate Births.
1881 ...	866,978	70,079
1882 ...	864,261	71,303
1883 ...	863,731	74,213
1884 ...	862,004	75,754

Illegitimacy in various countries.

537. The following figures, taken—except as regards the Australasian colonies, England, Scotland, Ireland, and France—from Mr. Mulhall's book,† show certain countries arranged in order according to the extent of illegitimacy prevailing in each, the proportion of illegitimate births being also shown:—

ILLEGITIMACY IN VARIOUS COUNTRIES.

Country.	Illegitimate Births to every 100 Children Born.	Country.	Illegitimate Births to every 100 Children Born.
Austria ...	12·9	England ...	5·0
Denmark ...	11·2	Switzerland ...	4·6
Sweden ...	10·2	New South Wales ...	4·2
Scotland ...	8·6	Victoria ...	4·1
Norway ...	8·5	Queensland ...	3·6
Germany ...	8·4	Holland ...	3·5
France ...	7·4	Russia ...	3·1
Belgium ...	7·0	New Zealand ...	2·8
Italy ...	6·8	Ireland ...	2·4
Portugal ...	5·6	Greece ...	1·6
Spain ...	5·5		

* See *Journal de la Société de Statistique de Paris*, vingt-sixième année, page 404. Paris, 1885.

† *Dictionary of Statistics*, page 51.

538. According to the figures, more illegitimacy prevails in Austria and less in Greece than in any other countries. In Victoria, illegitimacy appears to be less prevalent than in fourteen and more so than in six of the countries. Position of Victoria in respect to illegitimacy.

539. It will be readily supposed that a larger proportion of illegitimacy prevails in Melbourne and suburbs than in any other district of Victoria, and that the proportion in the country districts is the smallest of all. In 1887, in the metropolitan district about 1 birth in 14, in extra-metropolitan towns 1 birth in 22, but in country districts only 1 birth in 44, was registered as illegitimate. In the previous year the proportions were 1 in 14, 1 in 25, and 1 in 44 respectively. Illegitimacy in town and country.

540. By the following figures, which, with the exception of those for Melbourne, have been taken from the annual report for 1886 of the Statistical Department of the Argentine Republic,* it would appear that illegitimacy is less rife in the capital of this colony than in any of the foreign cities named :— Illegitimacy in large cities.

ILLEGITIMACY IN LARGE CITIES.

	Illegitimate Births to every 1,000 children born.		Illegitimate Births to every 1,000 children born.
Vienna	449	Liège	174
Prague	439	Christiania	162
Munich	439	Stuttgart	160
Stockholm	396	Berlin	154
Moscow	300	Ghent	144
Buda-Pesth	299	Hamburg	138
Copenhagen	279	Frankfort	132
Paris	268	Turin	132
St. Petersburg	236	Antwerp	129
Trieste	211	Cologne	124
Leipsic	211	Palermo	101
Dresden	208	The Hague	90
Milan	204	Naples	89
Rome	194	Rotterdam	76
Venice	189	Buenos Aires	74
Breslau	186		
Bucharest	175	Melbourne	69

541. To ascertain the relative fruitfulness of women in different countries, it is necessary to compare the number of married women at the reproductive ages with the legitimate births. This can be done in the case of Victoria, New South Wales, Queensland, and New Zealand; but not in that of the other Australasian colonies, as in the returns of the latter no distinction was made at the time the census was taken between the infants born in and those born out of wedlock. By means of such a comparison in regard to the four colonies named, it would appear that the highest degree of fecundity exists in New South Wales, and the Fecundity of women in Australasian colonies.

* *Procedimientos del Departamento Nacional de Estadística*, 1886, page 87. Buenos Aires, 1887.

lowest in Victoria, this being probably owing to the fact that the married women are, on the average, younger in the former and older in the latter than in the other two colonies. The following table shows the number of married women under 45 years of age, the number of legitimate births in the census year, and the proportion of such births to such women in each of the four colonies:—

PROPORTION OF BIRTHS TO MARRIED WOMEN IN AUSTRALASIAN COLONIES.*

Colony.	Married Women under 45 Years of Age.	Legitimate Births, 1881.	
		Total Number.	Number per 100 Married Women under 45.
1. New South Wales ...	80,473	27,730	34·46
2. Queensland ...	24,183	7,875	32·56
3. New Zealand ...	57,464	18,198	31·67
4. Victoria ...	84,831	25,763†	30·37†

Children to a marriage in Victoria.

542. Another method of determining the fecundity of women is to find the average number of children born to a marriage, which may be ascertained approximately by dividing the legitimate births in any year by the number of marriages in the preceding year. The following is the result of such a calculation for Victoria during the fourteen years ended with 1887:—

CHILDREN TO A MARRIAGE, 1874 TO 1887.

Year.	Legitimate Births.	Marriages in Year prior to that named in first Column.	Average Number of Children to a Marriage.
1874 ...	25,816	4,974	5·19
1875 ...	25,941	4,925	5·27
1876 ...	25,794	4,985	5·17
1877 ...	25,000	4,949	5·05
1878 ...	25,478	5,103	4·99
1879 ...	25,535	5,092	5·01
1880 ...	24,894	4,986	4·99
1881 ...	25,763	5,286	4·87
1882 ...	25,476	5,896	4·32
1883 ...	26,249	6,309	4·16
1884 ...	27,612	6,771	4·08
1885 ...	28,667	7,218	3·97
1886 ...	29,359	7,395	3·97
1887 ...	31,463	7,737	4·07
Sums and Mean ...	373,047	81,626	4·57

* The Government Statistician of Tasmania gives the proportion of births—including illegitimate births—to married women under 45 years in that colony in 1881 as 347 per 1,000, as compared with 326 in New Zealand and 309 per 1,000 in Victoria, during the same year.

† In consequence of the births here quoted being those for the calendar year, these figures differ slightly from those in table following paragraph 496 *ante*.

543. The figures show a steady diminution in the proportion of children born, amounting—notwithstanding a slight revival in the last year named—in the fourteen years to more than one child per marriage. It is evident that if the births increased with the marriages as they should do, the proportions would remain steady; but this is shown not to be the case. There are, however, many matters affecting the birth rates of infants respecting which it is not possible to obtain precise information. The falling off shown by the figures in the last column of the table is a result which, although perhaps it cannot be proved, may be conjectured to be owing to the increasing desire on the part of married women to evade the cares of maternity, and the steps taken by them—often, no doubt, with the concurrence of their husbands—to prevent its occurrence.

Decrease in children to a marriage in Victoria.

544. According to this mode of reckoning, it would appear that there are, upon the average, fewer children to a marriage in Victoria than in New Zealand, New South Wales, or Queensland, but slightly more than in Tasmania. For the other two colonies the information cannot be given, as their returns make no distinction between illegitimate children and children born in wedlock :—

Children to a marriage in Australasian colonies.

CHILDREN TO A MARRIAGE IN AUSTRALASIAN COLONIES,
1880 TO 1886.

Year.	Average Number of Children to a Marriage.				
	Victoria.	New South Wales.	Queensland.	Tasmania.	New Zealand.
1880	4.99	5.00	4.89	...	5.54
1881	4.87	5.48	5.09	...	5.72
1882	4.32	4.53	4.78	4.51	5.63
1883	4.16	4.31	4.68	4.22	5.18
1884	4.08	4.38	4.28	3.91	5.33
1885	3.97	4.68	4.39	4.62	5.18
1886	3.97	4.54	4.25	4.21	4.90
Means	4.34	4.70	4.62	4.29	5.35

545. It seems that in all the colonies there is a tendency for the average number of children to a marriage to decrease in numbers. It will be noticed that in each colony the figures for the last year are smaller than those in the first, and are also smaller than those expressing the mean of the whole period.

Decrease in children to a marriage in each colony.

546. The following statement of the average number of children born to a marriage in certain countries has been derived from various sources. The figures are mostly for the period 1871–80. The country

Children to a marriage in various countries.

having the highest average is placed first in order, and the remainder in succession :—

CHILDREN TO A MARRIAGE IN VARIOUS COUNTRIES.

						Children to each Marriage.
Ireland ...	...	...	...	...	...	5·46
New Zealand ...	...	...	...	...	...	5·35
New South Wales ...	...	...	...	...	...	4·70
Queensland ...	...	...	...	...	...	4·68
Italy ...	...	...	...	...	...	4·56
Scotland ...	...	...	...	...	...	4·43
Victoria ...	...	...	...	...	...	4·34
Holland ...	...	...	...	...	...	4·34
Tasmania ...	...	...	...	...	...	4·29
Belgium ...	...	...	...	...	...	4·21
England ...	...	...	...	...	...	4·16
Sweden ...	...	...	...	...	...	4·01
Denmark ...	...	...	...	...	...	3·55
France ...	...	...	...	...	...	2·98

Position of
Victoria in
reference to
births to a
marriage.

547. Ireland is at the head of the list, and New Zealand follows immediately after, but it may be questioned whether the high proportion in the former does not in some degree result from the fact that the registration of marriages there* is more defective than that of births. It will be observed that Ireland, Italy, and Scotland are the only countries out of Australasia which stand above Victoria. It may be mentioned that Mr. Mulhall gives figures to show that the number of children to a marriage is increasing in England, Ireland, Holland, and Belgium, but decreasing in the other countries named.

Surviving
children to
a family.

548. The foregoing calculations relate to the average number of children born to each married couple, but the eminent statistician, M. Jacques Bertillon, in a paper read before the Statistical Society of Paris on the 10th May, 1888,† has given the following as the average number of children actually surviving in each family in the Department of the Seine at the time the French census of 1886 was taken :—

In every 1,000 families there were—			
	328	with no child	surviving
270	”	1	”
198	”	2 children	”
106	”	3	”
54	”	4	”
25	”	5	”
12	”	6	”
7	”	7 or more	”

Sterile
families.

549. With reference to the startling fact that nearly a third of the families referred to were completely sterile, it will be remembered that

* See footnote (§) to table following paragraph 438 ante.

† See *Journal de la Société de Statistique de Paris*, 1888, page 174, et seq.

this group contains a certain number of couples too recently married to have children; still the proportion appears enormous. It is to be regretted that similar figures relating to other countries are not available for purposes of comparison.

550. According to the registrations, births in Victoria are always most numerous in the winter quarter, and next so in the autumn quarter. The proportion of births in the spring and summer quarters varies in different years, the advantage being generally slightly in favour of the former. The following are the numbers and percentage for 1887, and the percentage for a previous quinquennial and a decennial period:—

BIRTHS IN EACH QUARTER.

Seasons.	Quarter ended on the last day of—	Year 1887.		Percentage in—	
		Number of Births.	Percentage.	Five Years: 1881 to 1885.	Ten Years: 1871 to 1880.
Summer ...	March ...	7,886	23·87	23·57	23·74
Autumn ...	June ...	8,297	25·11	25·64	25·10
Winter ...	September ...	9,021	27·30	26·62	27·15
Spring ...	December ...	7,839	23·72	24·17	24·01
	Year ...	33,043	100·00	100·00	100·00

Births in each quarter.

551. In the following table the proportion of births occurring in each quarter in Victoria is compared with that proportion in the opposite, and consequently (so far as seasons are concerned) corresponding quarter in certain countries of the northern hemisphere. The figures for such countries have been taken from Mr. Mulhall's work* :—

Births in each quarter in various countries.

PERCENTAGE OF BIRTHS IN EACH QUARTER IN VARIOUS COUNTRIES.

Countries.	Quarter ending on the last day of—			
	March in Victoria, September in other Countries.	June in Victoria, December in other Countries.	September in Victoria, March in other Countries.	December in Victoria, June in other Countries.
Victoria ...	Per Cent. 23·6	Per Cent. 25·6	Per Cent. 26·6	Per Cent. 24·2
England ...	24·0	23·8	26·2	26·0
France ...	24·0	24·1	27·0	24·9
Germany ...	25·0	24·9	25·9	24·2
Sweden ...	23·7	25·7	26·8	23·8
Italy ...	23·7	24·7	27·5	24·1
Russia ...	24·7	23·7	25·6	26·0

* Dictionary of Statistics, page 49.

Quarters in which most and fewest births occur.

552. It appears that in most countries the largest number of births take place in what may be called the winter quarter (ending September in Victoria, March in other countries), the exception being Russia, in which most births occur in the quarter ending June. Fewest births occur in what may be called the summer quarter (ending March in Victoria, September in other countries), except in Germany, where the proportion in the quarter ending June is the smallest, and in England and Russia, where it is the smallest in the quarter ending December.

Deaths, 1887.

553. The deaths registered in 1887 numbered 16,005, as against 14,952 in 1886. The increase in the year under notice was thus 1,053.

Deaths, 1887 and former years.

554. In 1887, for the first time, the deaths exceeded 16,000; in 1886 they numbered less than 15,000, and only in one prior year, viz., 1875, did they reach that number. The high mortality in the last-named year, in which 15,287 deaths were recorded, was due to the prevalence of measles and scarlatina in an epidemic form.*

Excess of births over deaths.

555. The births in 1887 exceeded the deaths by 17,038, or 106 per cent., that proportion being the same as in the previous year. In the five years ended with 1885 the proportion averaged 110 per cent.; and in the ten years ended with 1880 it averaged 119 per cent.; whilst during the whole period of twenty-two years ended with 1887 the average was 119 per cent. The following were the births and deaths in each of those twenty-two years, and the excess of the former over the latter :—

EXCESS OF BIRTHS OVER DEATHS, 1866 TO 1887.

Year.	Births.	Deaths.	Excess of Births over Deaths.	
			Numerical.	Centesimal.
				Per Cent.
1866	25,010	12,286	12,724	104
1867	25,608	11,733	13,875	118
1868	27,243	10,067	17,176	171
1869	26,040	10,630	15,410	145
1870	27,151	10,420	16,731	161
1871	27,382	9,918	17,464	176
1872	27,361	10,831	16,530	153
1873	28,100	11,501	16,599	144
1874	26,800	12,222	14,578	119
1875	26,720	15,287	11,433	75
1876	26,769	13,561	13,208	97
1877	26,010	12,776	13,234	104
1878	26,581	12,702	13,879	109
1879	26,839	12,120	14,719	121
1880	26,148	11,652	14,496	124

* For the number of deaths during each year since the first settlement of Port Phillip, see Statistical Summary of Victoria (first folding sheet) published at the beginning of the last volume.

EXCESS OF BIRTHS OVER DEATHS, 1886 TO 1887—*continued.*

Year.	Births.	Deaths.	Excess of Births over Deaths.	
			Numerical.	Centesimal.
1881 ...	27,145	12,302	14,843	121
1882 ...	26,747	13,634	13,113	96
1883 ...	27,541	13,006	14,535	112
1884 ...	28,850	13,505	15,345	114
1885 ...	29,975	14,364	15,611	108
1886 ...	30,824	14,952	15,872	106
1887 ...	33,043	16,005	17,038	106
Total in 22 years	603,887	275,474	328,413	119

556. It will be noticed that the births more than doubled the deaths in all the years except 1882, 1876, and 1875.

557. Of the Australasian colonies, New Zealand is the one in which the births have always exceeded the deaths by the highest proportion. This is due to the high birth rate and low death rate prevailing in that colony, the latter being no doubt promoted by the salubrity of the climate of New Zealand, but still more so by the circumstance of the population being spread over the country or dispersed throughout a number of small towns, instead of being to a great extent crowded into a few large cities, as is too much the case in the other colonies. The position of Victoria in regard to the proportionate increase of births over deaths is above that of Queensland or Tasmania, but below that of the other colonies. The following table shows the percentage of excess of births over deaths in each of the Australasian colonies during the respective years 1877 to 1886, both inclusive. The colonies are arranged in order, that with the highest mean percentage being placed first, and that with the lowest last:—

EXCESS OF BIRTHS OVER DEATHS IN AUSTRALASIAN COLONIES, 1877 TO 1886.

Colony.	Excess per Cent. of Births over Deaths.										Mean of 10 Yrs.
	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.	
New Zealand ...	260	283	224	256	241	233	217	246	224	215	240
South Australia ...	167	148	177	162	167	147	152	147	202	164	163
New South Wales ...	142	135	164	151	151	132	155	139	129	149	145
Western Australia...	111	121	138	144	144	153	89	55	100	82	114
Victoria ...	104	109	121	124	121	96	112	114	109	106	112
Queensland ...	113	75	145	172	148	99	96	56	87	126	112
Tasmania ...	58	106	111	104	126	112	101	130	128	134	111

Excess of
births over
deaths in
Australasian
capitals.

558. In 1887 (exclusive of the capital of Western Australia, respecting which no returns are issued) the percentage of excess of births over deaths in Melbourne was below that in any of the Australasian capital cities except Hobart, as will be seen by the following figures :—

EXCESS OF BIRTHS OVER DEATHS IN AUSTRALASIAN CAPITAL CITIES, 1887.

	Per Cent.		Per Cent.
Sydney	141	Adelaide	109
Wellington	135	Melbourne	75
Brisbane	131	Hobart	31

Excess of
births over
deaths in
European
countries.

559. The following table shows the percentage of excess of births over deaths in certain European countries during each of the five years ended with 1886. The countries are arranged in order according to the means of the quinquennial period shown in the last column, the country with the highest mean being placed first, and the rest in succession :—

EXCESS OF BIRTHS OVER DEATHS IN EUROPEAN COUNTRIES, 1882 TO 1886.

Countries.	Excess per Cent. of Births over Deaths.					Mean of 5 Years.
	1882.	1883.	1884.	1885.	1886.	
Norway	68	81	89	91	92	84
Denmark	68	72	82	82	79	77
England and Wales	72	70	71	71	69	71
Scotland	73	63	72	69	74	70
Sweden	69	67	71	66	...	68
The Netherlands	70	57	57	64	58	61
Belgium	54	47	46	49	40	47
Prussia	48	45	46	48	45	46
German Empire... ..	45	41	43	44	42	43
Italy	35	35	45	43	29	37
Switzerland	32	40	40	31	34	35
Ireland	39	23	36	28	30	31
Hungary	22	39	47	...	...	36
Austria	26	27	31	25	29	28
France	12	12	9	10	6	10

560. It will be observed that deaths bear a much larger proportion to births in all the countries named than they do in any of the Australasian colonies, part of which difference is probably due to the Australian climate being more healthy and the circumstances of the colonies more favorable to longevity, and part to the fact that the countries named contain a larger proportion than the colonies of the young and the very old. In not one of those countries did the births double the deaths in any year of the period. On the other hand, in the Australasian colonies, it is the exception for the births not to double the deaths, and in one of them (New Zealand) it is the exception for the births not to be three times as numerous as the deaths.*

Excess of births over deaths in Australia and elsewhere.

561. In 1887 the population of Victoria increased at the rate of 1.7 per cent. by excess of births over deaths, at which rate, irrespective of immigration, the population would double itself in 41 years. In each of the ten years ended with 1887 the rate of increase from the same cause was as follows:—

Natural increase of population

INCREASE OF POPULATION BY EXCESS OF BIRTHS OVER DEATHS, 1877 TO 1887.

				Per Cent.					Per Cent.
1878	...	...	...	1.70	1884	...	...	...	1.66
1879	...	...	...	1.78	1885	...	...	...	1.65
1880	...	...	...	1.70	1886	...	...	...	1.63
1881	...	...	...	1.73	1887	...	...	...	1.70
1882	...	...	...	1.49					
1883	...	...	...	1.61					
							Mean	...	1.66

562. Comparing the mean of the ten years ended with 1885 with similar means for the other Australasian colonies during the same period the figures are as follow:—

Natural increase in Australasian colonies.

MEAN ANNUAL INCREASE BY EXCESS OF BIRTHS OVER DEATHS IN AUSTRALASIAN COLONIES, 1876-1885.

			Per Cent.				Per Cent.
1. New Zealand	...	...	2.78	5. Western Australia	...	...	1.82
2. South Australia	...	...	2.39	6. Tasmania	...	...	1.72
3. New South Wales	...	...	2.28	7. Victoria	...	...	1.66
4. Queensland	...	...	1.90				

563. Sir Rawson W. Rawson, in the opening address delivered by him as President of the Statistical Society of London in 1885, gave the following as the mean annual rates of increase by excess of births over deaths in various countries, the averages extending generally over the

Natural increase various countries.

* See paragraph 557 ante.

nineteen years ended with 1883. The countries have here been arranged in order according to the rate of increase shown in each country:—

MEAN ANNUAL RATE OF INCREASE BY EXCESS OF BIRTHS OVER DEATHS IN VARIOUS COUNTRIES.

	Per Cent.		Per Cent.
Servia ...	1·69	Ireland ...	·86
Poland (Russian) ...	1·51	Finland ...	·85
England and Wales ...	1·37	Alsace-Lorraine ...	·80
Russia in Europe ...	1·37	Italy ...	·77
Norway ...	1·36	Greece ...	·76
Saxony ...	1·34	Connecticut ...	·76
Scotland ...	1·33	Austria ...	·74
German Empire ...	1·24	Switzerland ...	·71
Prussia ...	1·23	Rhode Island ...	·69
Thuringia ...	1·19	Vermont ...	·67
Denmark ...	1·16	Croatia and Slavonia ...	·66
Sweden ...	1·13	Massachusetts ...	·65
Holland ...	1·13	Spain ...	·48
Württemberg ...	1·11	Hungary ...	·48
Baden ...	1·05	Roumania ...	·32
Belgium ...	·91	France ...	·16
Bavaria ...	·89		

Results in various countries compared.

564. According to the figures, the rate of natural increase (excess of births over deaths) is a fraction higher in Servia than in Victoria, but with this exception, the rate in every one of the Australasian colonies is higher than in any of the countries named. It will be noticed that England and Wales stands near the head of the list, Scotland lower, and Ireland very much lower, also that in France the rate of natural increase is much below that in any other country.

Daily increase in United Kingdom.

565. With regard to the rate of increase in the United Kingdom, it has been pointed out by Mr. Mulhall* that whereas the excess of births over deaths is 1,500 daily, and the immigration of returned colonists and foreigners amounts to 300 more, or 1,800 in all, the number of departures daily is 700, so that the net daily increase is only 1,100.

Deaths of males and females.

566. In Victoria, deaths of males in 1887 numbered 9,213, and deaths of females, 6,792. These numbers furnish a proportion of 74 females to every 100 males, as against a similar proportion in 1886, and in the five years 1881-85, and a proportion of 75 in the ten years 1871-80. Females in the total population were in the proportion of 90 to every 100 males during the last two years, and during the quinquennium referred to, and of about 87 during the decennium; therefore at each period more males and fewer females died than their relative numbers in the population might have given reason to expect.

* *Fifty Years of National Progress*, page 16.

567. The following table shows the estimated mean population of either sex, the number of deaths of either sex, and the death rate of males and females, and of both sexes, during each of the last twenty-seven years :—

ANNUAL DEATH RATE, 1861 TO 1887.

Year.	Estimated Mean Population.		Number of Deaths.		Deaths per 1,000 of the Mean Population.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.*
1861 ...	324,988	214,836	6,124	4,398	18·84	20·47	19·49
1862 ...	322,916	225,164	5,900	4,180	18·27	18·56	18·39
1863 ...	325,680	237,280	5,646	3,856	17·34	16·25	16·88
1864 ...	335,272	251,178	5,202	3,685	15·51	14·67	15·15
1865 ...	347,083	264,135	6,158	4,303	17·74	16·29	17·11
1866 ...	353,941	275,097	7,016	5,270	19·82	19·16	19·53
1867 ...	359,642	284,634	6,613	5,120	18·39	17·99	18·21
1868 ...	367,752	295,340	5,865	4,202	15·95	14·23	15·18
1869 ...	379,396	307,806	6,221	4,409	16·40	14·32	15·47
1870 ...	392,159	321,036	6,114	4,306	15·59	13·41	14·61
1871 ...	403,319	333,686	5,845	4,073	14·49	12·21	13·46
1872 ...	409,081	344,117	6,308	4,523	15·42	13·14	14·38
1873 ...	412,597	352,914	6,565	4,936	15·91	13·99	15·02
1874 ...	416,725	360,931	6,994	5,228	16·78	14·48	15·72
1875 ...	419,779	367,558	8,563	6,724	20·40	18·29	19·42
1876 ...	422,931	373,627	7,716	5,845	18·24	15·64	17·02
1877 ...	427,727	380,878	7,345	5,431	17·17	14·26	15·80
1878 ...	433,153	388,313	7,179	5,523	16·57	14·22	15·46
1879 ...	438,563	395,467	7,033	5,087	16·04	12·86	14·53
1880 ...	446,445	403,898	6,610	5,042	14·81	12·48	13·70
1881 ...	456,107	412,835	7,024	5,278	15·40	12·78	14·16
1882 ...	467,630	422,590	7,900	5,734	16·89	13·57	15·32
1883 ...	478,865	432,117	7,410	5,596	15·47	12·95	14·28
1884 ...	491,720	442,174	7,675	5,830	15·60	13·18	14·46
1885 ...	505,716	452,879	8,300	6,064	16·41	13·39	14·98
1886 ...	522,203	464,891	8,575	6,377	16·42	13·72	15·15
1887 ...	541,070	478,630	9,213	6,792	17·03	14·19	15·70
Average of twenty-seven years ...					16·73	14·53	15·71

NOTE.—In 1861, 1866, and 1875, and to a certain extent in the preceding and in the succeeding years, the death rate was swelled by epidemics of measles and scarlatina.

568. It will be noticed that in all the years, except 1861 and 1862, death bore more hardly upon males than upon females. The figures in the lowest line of the table show that, over a period of twenty-seven years, the deaths of males per 1,000 of the same sex living exceeded by $2\frac{1}{2}$ the deaths of females per 1,000 of that sex living.

Male and female death rate compared.

* The total mean population and the total deaths in each year may be obtained by taking the sum of the figures in the male and female columns.

Normal
death rate.

569. It has been held by high authority* that in countries in which the climate is healthy, hygiene properly attended to, and the population in a normal condition as regards age, the ordinary mortality incident to human nature would probably cause the death rate to be in the proportion of about 17 per 1,000 persons living. It should, however, be borne in mind that death rates based merely upon the total population, in common with birth and marriage rates calculated upon a like basis, are not always fair tests of the state of a community. If the proportion of very young or old people is high, the death rate will be also high; but if, on the other hand, the number of persons at the middle ages is excessive, the death rate will be low. It will be remarked that the mortality exceeded 17 per 1,000 seven times in the twenty-seven years named in the table, but over the whole period it has averaged below 16 per 1,000. In the last eleven years it has never been so high as 16 per 1,000, whilst in six of those years it was below 15 per 1,000, in one being even below 14 per 1,000.

Low mor-
tality in
census
years 1871
and 1881.

570. In 1871 the death rate of both males and females was the lowest recorded during the whole period of twenty-seven years, after which and the death rate in 1880 the next lowest death rate was in 1881; it has thus happened that the last two census years, viz., 1871 and 1881, were years of exceptionally low mortality. Such a circumstance occurring at two successive census periods is apt to mislead those who attempt, without due allowance, to base conclusions upon the relation which exists between the number of deaths and the population of the colony, as derived from the results of the census years alone.

Death rate,
1887 and
previous
years.

571. In 1887, the death rate of males was lower than in the years 1861 to 1863, 1865 to 1867, and 1875 to 1877, but was higher than in every other year since 1860; that of females was lower than in the years 1861 to 1869, and 1874 to 1878, but higher than in the other years of the period. Taking the mean of the two sexes, the death rate in 1887, although slightly below the average, was higher than that in seventeen out of the twenty-seven years of the period referred to in the table.

Death rates
in Austral-
asian colo-
nies.

572. The proportion which the deaths that occurred in each Australasian colony bore to the total population of that colony during each of the twenty-three years from 1865 to 1887 will be found in the following table :—

* See page ix. of the late Dr. Farr's letter dated 5th February, 1875, published in the Supplement to the 35th Annual Report of the Registrar-General of England. London: Eyre and Spottiswoode, 1875. Also *Victorian Year-Book*, 1875, paragraph 342; *Victorian Year-Book*, 1876-7, paragraph 169; and *Victorian Year-Book*, 1877-8, paragraph 271.

DEATH RATES IN AUSTRALASIAN COLONIES, 1865 TO 1887.*

Year.	Number of Deaths per 1,000 of Mean Populations.						
	Victoria.	New South Wales.	Queensland	South Australia.	Western Australia.	Tasmania.	New Zealand.
1865	16.97	16.49	21.42	14.30	...	13.40	15.13
1866	19.37	17.57	25.67	17.20	...	13.79	12.86
1867	18.06	19.76	17.80	17.48	...	14.48	12.78
1868	15.00	15.92	17.36	14.41	...	14.70	11.94
1869	15.47	14.17	16.20	12.37	...	13.20	11.73
1870	14.61	13.38	14.59	13.94	...	13.88	11.13
1871	13.46	12.61	14.83	12.87	...	13.38	10.13
1872	14.38	14.18	14.97	15.33	14.02	13.79	11.68
1873	15.02	13.98	16.06	13.48	16.24	14.52	12.67
1874	15.72	15.33	17.98	17.05	18.74	16.21	13.05
1875	19.42	18.42	23.80	19.45	17.88	20.00	15.92
1876	17.02	18.53	18.82	16.28	14.18	16.54	12.66
1877	15.80	15.69	17.29	13.99	15.70	19.17	11.47
1878	15.46	16.36	20.41	15.44	14.07	15.66	11.01
1879	14.53	14.76	14.97	14.09	14.46	15.18	12.46
1880	13.70	15.47	13.59	14.85	13.24	16.12	11.46
1881	14.16	15.17	15.02	14.49	13.80	14.77	11.13
1882	15.32	16.12	17.99	15.15	14.16	15.79	11.19
1883	14.28	14.68	18.82	14.83	17.93	17.06	11.45
1884	14.46	16.14	22.97	15.52	21.87	15.50	10.39
1885	14.98	16.42	20.19	12.73	17.61	15.40	10.74
1886	15.15	14.89	16.77	13.52	21.67	14.58	10.54
1887	15.70	13.15	14.56	12.62	17.11	15.45	10.29
Means ...	15.57	15.62	17.92	14.84	16.42	15.33	11.90

573. Considerable fluctuations in the death rates have occurred from year to year, and the fact of such fluctuations, being generally simultaneous indicates some connexion between the different colonies. Thus a high rate of mortality prevailed, more especially in the continental colonies, in 1866 and 1867 (in Queensland extending also to 1868), which was caused by the presence of an epidemic of measles and scarlatina; Tasmania and New Zealand appear on this occasion to have almost entirely escaped, as their death rates were but little affected. Moreover, in 1875-6 a high death rate—caused by the same complaints—also occurred in all the colonies of the group. In like manner, low death rates prevailed in all the colonies about 1870 and 1871, extending in the case of some of them to 1872; also about 1880 and 1881. In Queensland and Western Australia a period of high mortality occurred also in 1884, but this did not extend to the other colonies in most of which for several years past the mortality has been comparatively low.

Fluctuations in the death rate coincident in different colonies.

574. In the twenty-three years over which the observations extend, the normal death rate of 17 per 1,000 persons living was reached in

Normal death rate in colonies

* For the number of deaths in the various colonies during the last fifteen of the years named, see General Summary of Australasian Statistics (third folding sheet) published near the beginning of the last volume.

Queensland thirteen times, in Victoria, New South Wales, and South Australia four times, in Tasmania three times, and in New Zealand not at all. In the last sixteen of those years it was reached seven times in Western Australia. Queensland is the only one of the colonies in which, over a series of years, the death rate has exceeded 17 per 1,000.

575. According to the average of a series of years, the death rate of Queensland was much higher, and that of New Zealand much lower, than that of any of the other colonies; the death rate of Western Australia comes next to that of Queensland; but with the exception of these colonies, the average death rates differ but slightly from one another; the rate in Victoria being somewhat lower than in New South Wales, but somewhat higher than in Tasmania and South Australia. In 1887, however, the rate of Victoria appears to have been higher than that of any of the other colonies except Western Australia. The following is the order of the colonies in reference to their respective death rates; the colony with the highest rate being placed first, and that with the lowest last:—

ORDER OF AUSTRALASIAN COLONIES IN REFERENCE TO
DEATH RATES.

Order in 1887.	Order over a Series of Years.
1. Western Australia.	1. Queensland.
2. Victoria.	2. Western Australia.
3. Tasmania.	3. New South Wales.
4. Queensland.	4. Victoria.
5. New South Wales.	5. Tasmania.
6. South Australia.	6. South Australia.
7. New Zealand.	7. New Zealand.

576. The death rate of the colonies situated upon the continent of Australia taken in combination, and the death rate of those colonies with the addition of Tasmania and New Zealand, are shown in the following table for the fifteen years ended with 1887:—

DEATH RATE IN AUSTRALIA AND AUSTRALASIA, 1873 TO 1887.

Year.		Number of Deaths per 1,000 of Mean Population.		Year.		Number of Deaths per 1,000 of Mean Population.	
		Continent of Australia.	Australia with Tasmania and New Zealand.			Continent of Australia.	Australia with Tasmania and New Zealand.
1873	...	14·43	14·20	1882	...	15·85	15·02
1874	...	15·73	15·36	1883	...	15·06	14·51
1875	...	19·08	18·63	1884	...	16·35	15·29
1876	...	17·12	16·37	1885	...	15·89	14·97
1877	...	15·23	14·77	1886	...	15·15	14·33
1878	...	15·72	14·94	1887	...	14·27	13·64
1879	...	14·06	13·84				
1880	...	14·47	14·01				
1881	...	14·62	14·01	Means	...	15·54	14·93

Order of colonies in respect to death rates.

Death rate in Australia and Australasia.

577. It will be noticed that in 1875 and 1876 the mortality on the Australian continent exceeded 17 per 1,000, but in no other years; also that it exceeded that rate upon the continent combined with the colonies of Tasmania and New Zealand only in 1875. It will further be noticed that in 1887 the rate for the Continent was, with one exception, the lowest recorded in any of the years, and that for the whole of Australasia was absolutely the lowest during the same period.

Normal death rate in Australia and Australasia.

578. The following table shows the death rates in as many British colonies outside Australasia as the particulars are available for. In many cases the average extends only over a short period, and in few, if any, of the colonies are the conditions affecting the duration of human life similar to those prevailing in the Australasian group:—

Death rates in certain British possessions

DEATH RATES IN BRITISH POSSESSIONS.

Colonies.	Years.	Number of Deaths per 1,000 of the Population.
Malta	1886	27·0
Ceylon	1867-76	21·6
Straits Settlements	1881-4	27·9
Hong Kong	1879-86	26·6
Mauritius	1886	32·5
Seychelles	1886	20·1
St. Helena	1871-5	13·2
Gambia	1882	51·5
Nova Scotia	1871-5	12·1
Bermudas	1875-85	24·5
British Guiana	1871-83	33·7
West Indies—		
Bahamas	1874-5	22·6
Jamaica	1883-7	22·9
St. Lucia	1869-84	25·3
St. Vincent	1886	23·0
Barbados	1886	25·7
Grenada	1883-4	21·0*
Tobago	1886	21·0
Antigua	1883-4	39·5
Montserrat	1883-6	20·4
Dominica	1882-3	17·3
Trinidad	1883-6	27·8*

579. In all the European countries of which the information is at hand, the mean annual death rates are much higher than in any of the Australasian colonies except Queensland, and the mean death rate in that colony is lower than in any of the countries named except Norway, Sweden and Ireland. Moreover, in all with the exception of Norway, the mean annual death rate is above 17 per 1,000, and, with the same exception, in not one of those countries did the annual death rate during

Death rates in European countries.

* Inclusive of still-births, which are recorded as deaths.

the five years ended with 1886 ever fall as low as 17 per 1,000; whilst in Hungary, on the other hand, the average death rate per 1,000 amounts to twice that proportion. In the following table, the countries are arranged in the order of their mean death rates, as shown in the last column:—

DEATH RATES IN EUROPEAN COUNTRIES, 1882 TO 1886.

Countries.	Number of Deaths per 1,000 of Mean Population.						Mean of 5 Years.
	1882.	1883.	1884.	1885.	1886.		
Hungary	36·6	32·6	31·0	...	...	33·4
Austria	30·8	30·1	29·2	29·9	29·2	30·0	
Italy	27·5	27·5	26·7	26·6	28·3	27·3	
German Empire	25·7	25·9	26·0	25·7	26·2	25·9	
Spain ... ..	...	...	...	...	...	25·8*
Prussia	25·2	25·3	25·5	25·7	26·0	25·5	
France	22·2	22·2	22·2	22·0	22·5	22·2	
The Netherlands	20·7	21·8	22·2	21·0	21·8	21·5	
Switzerland	21·9	20·3	20·1	21·1	20·4	20·7	
Belgium	20·2	20·8	20·9	20·1	21·1	20·6	
England and Wales	19·6	19·5	19·6	19·0	19·3	19·4	
Scotland	19·3	20·1	19·4	19·1	18·6	19·3	
Denmark	19·5	18·4	18·4	17·9	18·2	18·5	
Ireland	17·4	19·2	17·6	18·4	17·9	18·1	
Sweden	17·4	17·3	17·5	17·8	...	17·5	
Norway	18·4	17·1	16·4	16·5	16·1	16·9	

Death rate in United Kingdom.

580. According to the reports of the Registrars-General of England and Scotland, the death rate of the latter country approximates very closely to that of the former, but in Ireland it is considerably lower than in the other two countries.† The figures for the United Kingdom during each of the sixteen years ended with 1886 were as follow:—

DEATH RATE IN THE UNITED KINGDOM, 1871 TO 1886.

		Deaths per 1,000 of the Population.				Deaths per 1,000 of the Population.	
1872	20·9	1871	...	...	22·6
1873	20·8	1881	...	...	18·7
1874	21·6	1882	...	...	19·2
1875	22·2	1883	...	...	19·5
1876	20·5	1884	...	...	19·3
1877	20·0	1885	...	...	18·9
1878	21·2	1886	...	...	19·0
1879	20·5				
1880	20·4	Mean	...	...	20·3

Death rates in town and country, 1887.

581. In every country the death rate is higher in towns than it is in the extra-urban districts. This circumstance, although no doubt partly attributable to the superior healthfulness and immunity from contagion prevailing in the latter, is also to a great extent due to the

* Mean of years 1876 and 1878.

† Formerly the registrations in Ireland were admitted to be defective; but the Registrar-General of that country states that in recent years much improvement has taken place—especially since the passing of certain Acts of Parliament in the years 1878-80; and he has reason to believe that, at the present time, but few deaths escape registration.

fact that hospitals and charitable institutions, which are frequented by patients from the country as well as by town residents, are generally situated in the towns; and further, that outside of charitable institutions many persons die who have come from the country on the approach of serious illness for the sake of the superior nursing and medical attendance to be obtained in town. In 1887, the death rate was higher in Melbourne and suburbs than in the country towns, but in both it was about two and a-half times as high as in the country districts. The following are the figures for that year:—

DEATHS IN URBAN AND COUNTRY DISTRICTS, 1887.

Districts.	Estimated Mean Population.	Deaths, 1887.	
		Total Number.	Number per 1,000 of the Population.
Melbourne and suburbs (Greater Melbourne)	391,546	8,321	21·25
Extra-metropolitan Towns	187,758	3,876	20·64
Country districts ...	440,396	3,808	8·65
Total ...	1,019,700	16,005	15·70

582. The number of deaths per 1,000 of the estimated population of the metropolitan towns (Greater Melbourne), the extra-metropolitan towns, and the country districts of Victoria is given in the following table for each of the last fifteen years:—

Death rate in town and country, 1873 to 1887.

DEATH RATES IN URBAN AND COUNTRY DISTRICTS, 1873 TO 1887.

Years.	Number of Deaths per 1,000 of the Estimated Population.			
	Greater Melbourne.	Extra-Metropolitan Towns.	Country Districts.	Total of Victoria.
1873 ...	19·86	18·50	9·65	15·02
1874 ...	21·27	20·47	9·09	15·71
1875 ...	25·82	26·03	11·24	19·42
1876 ...	21·84	23·00	10·45	17·02
1877 ...	21·18	20·07	9·86	15·80
1878 ...	20·12	20·21	9·83	15·46
1879 ...	19·23	18·65	9·17	14·53
1880 ...	18·70	17·65	8·13	13·70
1881 ...	19·32	19·44	7·91	14·16
1882 ...	21·02	20·24	8·94	15·32
1883 ...	19·46	18·81	8·33	14·28
1884 ...	20·54	18·74	7·86	14·46
1885 ...	20·15	18·88	9·00	14·98
1886 ...	20·42	19·27	8·75	15·15
1887 ...	21·25	20·64	8·65	15·70

NOTE.—In 1875, and to a certain extent in the preceding and succeeding years, the death rate was swelled by epidemics of measles and scarlatina.

Normal death rate in town and country.

583. It will be noticed that in eleven of the years, including the last six years, the death rate in Melbourne and suburbs was above that in the other town districts; but in the other four years the death rate in the extra-metropolitan towns was the higher. The greater mortality in proportion to population prevailing in the urban than in the country districts is very striking in all the years. In the former the mortality was invariably much above the normal 17 per 1,000 persons living, whilst in country districts it was always very considerably below that rate.

Death rates in town and country districts of England.

584. In England and Wales, during the ten years 1876-85, the death rate in urban districts was 21·5 per 1,000, and in country districts, 18·0 per 1,000; the difference between these rates being not nearly so great as in similar divisions of Victoria.*

Death rates in Melbourne and suburbs.

585. The following table shows the mean population, the number of deaths, and the proportion of the latter to the former, in 1887, also the number of deaths to every 1,000 persons living during the period of five years commencing with 1881 and ending with 1885, in each of the different municipalities and other sub-districts forming the component parts of the district of Melbourne and suburbs (Greater Melbourne). In order to render the rates of the various districts comparable as far as possible, the deaths in hospitals and similar institutions have been eliminated from the districts in which they occurred, and are shown separately near the foot of the table:—

DEATHS IN GREATER MELBOURNE.

Sub-districts.	Estimated Mean Population 1887.	Deaths.			
		Total Number.	Number per 1,000 of the Population.†		
			1887.	Annual Mean 1881 to 1885.	
Melbourne City	71,685	1,274	17·77	16·28	
North Melbourne Town‡	20,133	396	19·66	18·12	
Fitzroy City	28,644	514	17·94	18·15	
Collingwood City	29,011	629	21·68	19·40	
Richmond City	34,000	673	19·79	18·09	
Brunswick Borough	12,177	259	21·27	17·25	
Northcote Borough§	3,500	72	20·57	11·33	
Prahran City	34,000	573	16·85	16·00	
South Melbourne City	37,920	678	17·88	17·03	
Port Melbourne Borough	11,403	242	21·22	18·73	

* See 48th Report of the Registrar-General of England, page lxxv.

† In order to compare the death rate with density of population, see table following paragraph 104 *ante*.

‡ The following municipalities, which were formerly Boroughs, were proclaimed Towns on the dates named:—Footscray, on the 22nd February, 1887; Hawthorn and Brighton, on the 15th March, 1887; and North Melbourne (formerly Hotham) on the 26th August, 1887.

§ Doubts must exist as to the accuracy of the returns of the Borough of Northcote, which has been formed since the census of 1881 was taken. The figures in the last column express the average for two years only, and the death rate shown for these would appear abnormally small as contrasted with the rather high death rate shown for 1887.

DEATHS IN GREATER MELBOURNE—*continued.*

Sub-districts.	Estimated Mean Population 1887.	Total Number.	Deaths.	
			Number per 1,000 of the Population.*	
			1887.	Annual Mean 1881 to 1885.
St. Kilda Borough	16,670	252	15.12	13.31
Brighton Town †	6,698	110	16.42	13.82
Essendon Borough	7,156	80	11.18	12.85
Flemington and Kensington Borough	7,000	123	17.57	
Hawthorn Town †	12,017	190	15.81	12.79
Kew Borough	5,000	47	9.40	11.50
Footscray Town †	11,762	226	19.21	16.66
Williamstown Town †	12,749	220	17.26	16.53
Remainder of district	24,760	439	17.73	13.23
<i>Hospitals, asylums, &c.</i> ‡	3,783	1,324	3.38§	3.84§
Shipping in Hobson's Bay and river	1,478 ||	...	...	9.20
Total	391,546	8,321	21.25	20.11

NOTE.—It should be specially noted that the deaths in Hospitals, &c., have been eliminated from the districts in which they occurred, and are shown separately.

586. It will be observed that in 1887 the death rates in sixteen of the sub-districts, viz., Melbourne, Collingwood, Richmond, Prahran, and South Melbourne Cities; North Melbourne, Brighton, Hawthorn, Footscray and Williamstown Towns; Brunswick, Northcote, Port Melbourne, St. Kilda, and Flemington Boroughs; and the "Remainder of district," were above the average of the quinquennial period, the excess being large in most cases, but especially so in Brunswick, Northcote, ¶ Flemington, Hawthorn, and the "Remainder of district." On the other hand, in Essendon and Kew the rate of mortality in 1887 was much, and in Fitzroy it was slightly, below the average.

Death rates in 1887 and series of years.

587. The only sub-district which, according to the average of five years, had a higher death rate than 19** per 1,000, is the low-lying and still imperfectly drained locality of Collingwood; the next highest death rate prevailed in the shipping borough of Port Melbourne, and next in the densely populated suburbs of Fitzroy, North Melbourne,

Places in which death rate was highest and lowest.

* See footnote (†) on preceding page.

† See footnote (‡) on preceding page.

‡ Includes the Melbourne, Alfred, Women's, Children's, and Homœopathic Hospitals, and the Immigrants' Home, all situated in Melbourne City; the Benevolent Asylum, which is on the boundary between North Melbourne Town and Melbourne City; the Metropolitan Lunatic Asylum, which is in Kew Borough; and the Yarra Bend Lunatic Asylum and the Austin Hospital for Incurables, which are in "Remainder of district."

§ Per 1,000 of the population of the whole of Melbourne and suburbs.

|| Census figures.

¶ See footnote to Northcote at foot of last table.

** It should be remembered that the deaths in charitable institutions have been eliminated from the various sub-districts. If this had not been done, the death rates of several sub-districts would have been much higher than those shown in the table.

and Richmond. In 1887 the highest death rates were in Collingwood, Brunswick, Port Melbourne, and Northcote*—all with rates above 20 per 1,000—followed by Richmond, North Melbourne, and Footscray, in the order named; but the rate in Fitzroy was below the average. During the period of five years, after the shipping, the lowest death rates were in Northcote and Kew; the next in Essendon and Flemington, and Hawthorn; and the next in the "Remainder of district," St. Kilda, and Brighton. In 1887 the lowest death rate was in Kew, where it was unusually low; then in Essendon, Hawthorn, and St. Kilda, in the order named.

Sub-districts
with death
rates over
17 per 1,000.

588. The death rate of Greater Melbourne taken as a whole, in the calculation of which the deaths in charitable institutions are included, was $21\frac{1}{4}$ per 1,000 persons living in 1887, or more than 1 per 1,000 higher than the average during the period of five years. During the last-named period the annual death rate was over 17 per 1,000 in all the sub-districts except Prahran, St. Kilda, Brighton, Hawthorn, Kew, Melbourne, Northcote, Essendon and Flemington, and "Remainder of District"; and during 1887 it was above 17 per 1,000 in all except the first five of these, and Essendon without Flemington. It will be borne in mind that the deaths in hospitals, asylums, &c., are excluded from the returns of the individual districts.

Deaths in
Australas-
ian capitals
1887.

589. In 1887, according to the following figures, the death rate of Melbourne was considerably lower than that of Hobart, but apparently higher than that of any of the other Australasian capital cities. There is strong reason to believe, however, that in some of the colonies either the metropolitan population is over-estimated, or the metropolitan radius, so far as the deaths are concerned, is smaller than that for which the population is calculated. In either of these cases, the death rate would obviously appear to be lower than it really is :—

DEATHS IN AUSTRALASIAN CAPITAL CITIES, 1887.

Capital Cities.†	Estimated Mean Population.	Deaths, 1887.	
		Total Number.	Number per 1,000 of the Population.
Hobart	31,251	804	25·73
Melbourne	391,546	8,321	21·25
Brisbane	55,475	1,049	18·91
Adelaide‡	111,300	1,849	16·61
Sydney‡	340,710	5,558	16·31
Wellington	27,595	429	15·55

* See footnote to Northcote at foot of last table

† With suburbs, except in the case of Wellington, which has none.

‡ There are some doubts as to whether too high an estimate has not been given of the populations of Sydney and Adelaide. If this should be the case, the death rates for those cities, as shown in the table, would, as a matter of course, be lower than the true rates.

590. The populations of the various metropolitan cities being merely estimated, they may perhaps be inaccurate, in which case the death rates would appear lower or higher than the truth, according to whether the estimate might be too high or too low. In the year of the last general census of the Australasian colonies (1881) when the populations of these cities could be accurately known, the death rates then shown for Melbourne, Hobart, and Wellington were much lower, and those for Adelaide and Sydney were much higher than those given in the last table; whilst the results for Brisbane for the two periods corresponded closely. The following are the figures for the census year:—

Death rates in Australasian capitals, 1881.

DEATH RATES IN AUSTRALASIAN CAPITAL CITIES, 1881.

	Deaths per 1,000 of the Population.					
Adelaide	23·55
Hobart	23·18
Melbourne	19·32
Sydney	19·12
Brisbane	18·82
Wellington	14·00

591. According to the figures for 1887, the apparent mortality in Brisbane, Adelaide, Sydney, and Wellington was in that year lower than the mortality in any of the 23 following towns of the United Kingdom, whilst that in Melbourne was higher than in 3, and that in Hobart was higher than in 14 of those towns. In the census year, however, the mortality in Melbourne, Sydney, Brisbane, and Wellington was lower than in any of the towns named, whilst that in Hobart was higher than in 4, and that in Adelaide was higher than in 6 of those towns. This will be seen by comparing the following figures with those already given:—

Death rates in towns of United Kingdom.

DEATH RATES IN 23 BRITISH TOWNS, 1870 TO 1879.

Annual Deaths per 1,000 of the Population.			Annual Deaths per 1,000 of the Population.		
Manchester	...	29·9*	Birmingham	...	24·4
Dublin	...	29·6	Glasgow	...	24·2*
Liverpool	...	29·1	Hull	...	24·0
Salford	...	27·8	Norwich	...	23·8
Newcastle-on-Tyne	...	26·6	Bristol	...	23·7
Leeds	...	26·5	Nottingham	...	23·2
Oldham	...	26·5	London	...	22·8
Sheffield	...	25·8	Plymouth	...	22·3
Bradford	...	25·7	Edinburgh	...	20·8*
Leicester	...	25·2	Brighton	...	20·8
Wolverhampton	...	24·7	Portsmouth	...	20·2
Sunderland	...	24·6			

* Average of years 1876 to 1879.

592. The death rates in all the Australasian capitals will be found to be considerably lower than the average death rates of most of the 45 Colonial and Foreign towns named in the subjoined list :—

DEATH RATES IN 45 COLONIAL AND FOREIGN TOWNS, 1878-80.*

	Annual Deaths per 1,000 of the Population.	Annual Deaths per 1,000 of the Population.
Vera Cruz ...	70·5	Bordeaux ... 26·7
Valparaiso ...	64·6	New York ... 26·2
St. Petersburg ...	51·4	Leipsic ... 26·1
Havanna ...	45·7	Turin ... 25·6
Rio Janeiro ...	39·4	Dresden ... 25·4
Madras ...	38·8	Stockholm ... 24·7
Madrid ...	37·4	Lyons ... 24·7
Montreal ...	37·2	Hamburg ... 24·5
Buda-Pesth ...	35·2	Bucharest ... 24·5
Bombay ...	33·7	Brussels ... 23·9
Breslau ...	32·5	Amsterdam ... 23·7
Rouen ...	31·3	Boston ... 23·5
Calcutta ...	31·1	Rotterdam ... 23·3
Mexico ...	30·9	Quebec ... 22·9
Milan ...	30·6	Venice ... 22·7
Buenos Aires ...	30·1	Copenhagen ... 22·1
Vienna ...	29·0	Geneva ... 21·2
Paris ...	28·6	Baltimore ... 21·1
Palermo ...	28·5	Philadelphia ... 20·3
Marseilles ...	28·0	St. Louis ... 19·3
Berlin ...	27·6	Christiania ... 18·8
Chicago ...	27·2	San Francisco ... 18·1
Rome ...	26·8	

Death rates
in Victorian
towns.

593. Of the 4 principal towns in Victoria next in importance to Melbourne, 1 had in 1887 higher, and 3 had lower, death rates than that city; but in none of them was the death rate as high as in the majority of British and Foreign towns just referred to. This will be seen by the following figures :—

DEATH RATES IN 5 VICTORIAN TOWNS, 1887.

	Deaths per 1,000 of the Population.	Deaths per 1,000 of the Population.
Sandhurst ...	22·39	Ballarat ... 19·28
Melbourne ...	21·25	Castlemaine ... 19·10
Geelong ...	20·73	

Deaths in
each month.

594. The mortality of Victoria is highest in the first five months and in the last month of the year. The relative mortality of the various months fluctuates, however, in different years. According to the average of the quinquennium ended with 1885, the months in which most deaths occur appear to be March, December, and January, and

* Taken from Mulhall's *Dictionary of Statistics*, page 126.

then April, February, and May, in the order named; whereas in the decade ended with 1880 fewer deaths occurred in December than in any of the other months named. In the year under review more deaths occurred in January than in any other month. The number of deaths in each month of 1887, and their percentage to the total number in the year, also the percentage of the deaths in each month of the quinquennium ended with 1885, and of the decennium ended with 1880, to the total number of deaths during the same periods, will be found in the following table:—

DEATHS IN EACH MONTH.

Months.	Year 1887.		Percentage in—	
	Number of Deaths.	Percentage.	Five Years : 1881 to 1885.	Ten Years : 1871 to 1880.
January	1,822	11·38	9·34	10·29
February	1,486	9·28	8·46	9·09
March	1,540	9·62	9·57	10·17
April	1,416	8·85	8·68	9·73
May	1,333	8·33	8·40	8·55
June	1,176	7·35	7·69	7·44
July	1,163	7·27	7·79	7·89
August	1,257	7·85	8·22	7·37
September	1,154	7·21	7·31	6·81
October	1,076	6·72	7·39	7·09
November	1,062	6·64	7·76	7·12
December	1,520	9·50	9·39	8·45
Total	16,005	100·00	100·00	100·00

595. In Victoria the summer is the most trying portion of the year, especially to invalids and young children. It is not astonishing, therefore, that most deaths occur during that period. Next to the summer the autumn quarter is usually the most fatal. In the United Kingdom, on the contrary, the greatest mortality occurs in the winter, and the least in the summer quarter. A statement of the relative mortality of the different seasons in Victoria, according to the experience of the past year and two previous periods; in England and Wales, according to the experience of thirty-one years; in Scotland, according to the experience of

Deaths at different seasons.

ten years; and in Ireland, according to the experience of five years; together with the mean temperature in each quarter in Melbourne and Greenwich, will be found in the following table:—

RELATIVE MORTALITY OF EACH QUARTER IN VICTORIA, ENGLAND, SCOTLAND, AND IRELAND.

Seasons.*	Mean Temperature in Shade.		Deaths per 100 at all Seasons.					
			Victoria.			England and Wales.	Scotland.	Ireland.
	Melbourne, Victoria.	Greenwich, England.	Year 1887.	Average of Five Years: 1881 to 1885.	Average of Ten Years: 1871 to 1880.	Average of Thirty-one Years.	Average of Ten Years.	Average of Five Years.
Summer ...	65·2	60·5	30·28	27·37	29·55	23·24	22·34	20·21
Autumn ...	53·8	44·3	24·53	24·76	25·72	24·65	24·71	23·45
Winter ...	50·2	40·0	22·33	23·32	22·07	27·49	27·95	30·19
Spring ...	60·3	52·8	22·86	24·55	22·66	24·62	25·00	26·15
Year ...	57·6	49·4	100·00	100·00	100·00	100·00	100·00	100·00

Deaths of Chinese and Aborigines.

596. The deaths of Chinese recorded in 1887 amounted to 156—of which only 1 (a half-caste) was a female; and those of Aborigines amounted to 24. The former furnish a proportion of 13·0 and the latter of 30·7 to every 1,000 of their numbers.† At the same time the proportion of deaths of all races to every 1,000 of the population was 15·70.

Ages at death of Chinese and Aborigines.

597. The mortality of the Chinese would doubtless have been higher but for the fact that the Chinese population in Victoria consists almost entirely of persons at the adult period of life. In 1887 only 3 (1 being a half-caste) of the Chinese who died were under the age of 5 years, and only 11 others were under 45 years of age; the great majority, or over two-thirds, were between 45 and 65; whilst the two oldest were said to be 80 and 82, respectively. Of the Aborigines who died, six were under 5, whilst two males were stated to have attained the ages of 80 and 86 respectively; but the oldest woman was only 46.

* The summer, autumn, winter, and spring seasons in Victoria approximate to the quarters ending on the last day of March, June, September, and December respectively; and in the United Kingdom to those ending on the last day of September, December, March, and June respectively.

† The estimated number of Chinese in 1887 was 11,967; and on the 3rd April, 1881, the Aborigines numbered 780.

598. The following table shows the number of deaths at various periods of age registered in Victoria during the year 1887, and the proportion of the deaths at each age to the total at all ages :—

DEATHS AT EACH AGE, 1887.

Ages.	Number of Deaths at each Age, 1887.			Percentage of Deaths at each Age.		
	Males.	Females.	Total.	Males.	Females.	Total.
Under 5 years ...	3,205	2,701	5,906	34·77	39·76	36·90
5 years to 10 years ...	223	235	458	2·42	3·46	2·86
10 " 15 " ...	145	128	273	1·60	1·88	1·71
15 " 20 " ...	234	267	501	2·55	3·93	3·14
20 " 25 " ...	377	310	687	4·09	4·58	4·29
25 " 35 " ...	698	608	1,306	7·57	8·95	8·16
35 " 45 " ...	541	510	1,051	5·87	7·51	6·56
45 " 55 " ...	927	550	1,477	10·06	8·10	9·23
55 " 65 " ...	1,226	553	1,779	13·31	8·14	11·12
65 " 75 " ...	975	506	1,481	10·58	7·45	9·25
75 years and upwards ...	662	424	1,086	7·18	6·24	6·78
Total ...	9,213	6,792	16,005	100·00	100·00	100·00

599. It will be noticed that over a third of the males and two-fifths of the females who died had not reached their fifth year; that nearly a fourth of the males and nearly a third of the females were between 5 and 45 years of age; that nearly a fourth of the males, but only about a sixth of the females, were between 45 and 65 years of age; and that about a sixth of the males and more than an eighth of the females were over 65 years of age; it will moreover be found that, on the average, the females who died were about 10 years younger than the males—about half the former being under and half over 21 years of age, whilst about half the latter were under and half over 31 years of age.

600. The exact ages of the population of Victoria were ascertained at the census of 1881, and since then they have been brought on by means of the records of the births, of the deaths at each age, and of the net immigration, and thus an opportunity is afforded of calculating the death rates of males and females at different ages. Such results for 1887 are given in the following table, and are compared with the average rates which prevailed during the ten years 1871–80, the increase or decrease at each age being also shown :—

DEATH RATE AT EACH AGE, 1871-80 AND 1887.*

Ages.		Number of Deaths per 1,000 of the Population at different Ages.					
		Males.			Females.		
		Mean of 10 Years: 1871 to 1880.	1887.	Increase + Decrease -	Mean of 10 Years: 1871 to 1880.	1887.	Increase + Decrease -
Under 5 years	...	47·34	49·52	+ 2·18	42·19	43·83	+ 1·64
5 to 10	”	6·10	3·83	- 2·27	6·00	4·19	- 1·81
10 to 15	”	3·30	2·57	- ·73	3·30	2·33	- ·97
15 to 20	”	4·43	3·96	- ·47	4·29	4·75	+ ·46
20 to 25	”	5·38	6·31	+ ·93	5·39	5·69	+ ·30
25 to 35	”	7·60	8·12	+ ·52	8·50	7·83	- ·67
35 to 45	”	12·18	11·60	- ·58	11·76	12·08	+ ·32
45 to 55	”	18·67	18·24	- ·43	14·31	14·03	- ·28
55 to 65	”	31·24	30·24	- 1·00	24·20	22·88	- 1·32
65 to 75	”	60·47	63·32	+ 2·85	48·10	54·10	+ 6·00
All ages	...	16·45	17·03	+ ·58	14·15	14·19	+ ·04

Death rate at each age 1887 compared with average of previous years.

601. It has already been stated that in 1887 the death rate of both males and females was above the average. The table shows, however, that this was not the case at all the age-periods; the only ones at which there was an increase being under 5 and over 65 years in both sexes; also from 20 to 35 years in males; and from 15 to 25 years, and from 35 to 45 years in females.

“Ordinary” death rate seldom reliable.

602. It has often been pointed out in the *Victorian Year-Book* that the ordinary mode of computing the death rate at all ages, viz., by comparing the total number of deaths of either sex with the number of the same sex living, as shown in the lowest line of the table—although that adopted in every country which publishes Vital Statistics—gives results which are misleading for the purpose of comparing the mortality of one country with that of another, or the mortality of a country at one period with the mortality of the same country at another period, unless the proportions living at different ages are identical in the two countries or at the two periods respecting which it is desired to make comparisons, which is seldom if ever the case. To render accurate comparisons probable, it therefore becomes necessary to devise a mode of computing the total death rate whereby the ages of the population might be taken into account.

Mode of computing “Adjusted death rate.”

603. Several modes have been proposed to effect this object, an account of three of which was given in the last issue of the *Victorian*

* For population at each age in 1887, see table following paragraph 73 *ante*; the deaths at each age are given in table following paragraph 598 *ante*.

*Year Book.** The mode probably least open to objection is that there termed the "Adjusted death rate." This is obtained by applying the rates of mortality actually experienced at the various age-periods during any period to a certain standard population, in which the proportions living at the various ages are in a normal condition, and after finding the total number of deaths which would, according to the actual experience, have occurred amongst such a population, calculating therefrom the average rate of mortality (or "Adjusted death rate"). The standard population selected is shown in the following table; also the method of calculating the "Adjusted death rate," the deaths dealt with being those of males under 75 years of age which occurred in Victoria during the ten years ended with 1880:—

MODE OF COMPUTING "ADJUSTED DEATH RATE."

Ages.	Standard Population.	Males under 75, 1871 to 1880.	
		Death Rates experienced.†	Deaths in Standard Population according to rates in previous column.‡
<i>Quinquennial Age-periods.</i>			
Under 5 years	1,350	47·34	63·91
5 to 10 "	1,200	6·10	7·32
10 to 15 "	1,075	3·30	3·55
15 to 20 "	1,000	4·43	4·43
20 to 25 "	900	5·38	4·84
<i>Decennial Age-periods.</i>			
25 to 35 years	1,475	7·60	11·21
35 to 45 "	1,125	12·18	13·70
45 to 55 "	825	18·67	15·40
55 to 65 "	600	31·24	18·75
65 to 75 "	325	60·47	19·65
Total	9,875§	...	162·76
Average, or "Adjusted death rate."	1,000	...	16·48

604. It is thus shown that if the mortality of males under 75 years of age which occurred in Victoria during the ten years 1871 to 1880 had been experienced by a male population of 9,875—the ages of such population being in the same proportions as those of the standard "Adjusted" death rate.

* Paragraphs 594, *et seq.*

† Ascertained by finding the proportion of deaths at each age-period per 1,000 of the actual population at the same age-period.

‡ Ascertained as follows:—Under 5 years, $\frac{1,350 \times 47.34}{1,000} = 63.909$, and so on for the other lines.

§ The difference between this number and 10,000 (*viz.*, 125) represents the number over 75 years of age.

population shown in the table—the total deaths of such males would have numbered 162·76, or a proportion to the total number (9,875) of 16·48 per 1,000, which may be termed the “Adjusted death rate” of males during the period of 10 years alluded to. This “Adjusted death rate” is available for forming a correct comparison with a proportion similarly obtained relating to the other sex or to any other period or country, no matter what may have been the differences of age between the sexes at the two periods, or in the two countries. It should be mentioned that the age of 75 is the highest taken into the computation, as, in most countries, the deaths and population are generally tabulated in quinquennial or decennial periods up to, but not beyond, that age; and, moreover, the higher ages may safely be left out of account, since, although the death rate at such ages is high, the number living over 75 in a normal population usually amounts to only about 1 per cent.

“Ordinary,”
and
“Adjusted”
death rates

605. For the decennium 1871 to 1880 and the year 1887, the “Adjusted death rates” of males and females, obtained in the manner just described, are, in the following table, placed side by side with the “Ordinary death rates,” or those obtained by comparing the deaths with every 1,000 of the population of the same sex irrespective of age:—

“ORDINARY,” AND “ADJUSTED,” DEATH RATES, 1871-1880
AND 1887.

Period.				Ordinary Death Rate.*	Adjusted Death Rate.†
<i>Males.</i>					
1871 to 1880 ...	...	...	...	16·45	16·48
Year 1887 ...	...	...	...	17·03	16·46
Increase	...	...	...	·58	...
Decrease	...	...	...	...	·02
<i>Females.</i>					
1871 to 1880 ...	...	...	...	14·15	14·64
Year 1887 ...	...	...	...	14·19	14·64
Increase ...	...	...	...	·04	...

Results
of the two
methods
compared.

606. Comparing the death rates in 1887 with those in the decennium 1871-80, it is found that according to the “Ordinary” and unreliable method of computation, there was an apparent increase in the mortality of males, amounting to ·58 per 1,000, and an apparent decrease in the mortality of females, amounting to ·04 per 1,000; whereas, according

* Per 1,000 of the actual population.

† Per 1,000 of the standard population.

to the "Adjusted" or more correct method, there was a small decrease (.02 per 1,000) in the case of the males, and there was actually no difference between the rates of mortality at the two periods in the case of the females.

607. In the next table the death rates of males and females at different ages in Victoria, England and Wales, and France are compared—the observations being in all cases for periods of ten years:—

Death rates at various ages in Victoria, England, and France.

DEATH RATE AT EACH AGE IN VICTORIA, ENGLAND, AND FRANCE.

Ages.	Number of Deaths per 1,000 of the Population.					
	Victoria.		England and Wales.		France.	
	Average of 10 Years: 1871 to 1880.		Average of 10 Years: 1871 to 1880.		Average of 10 Years.	
	Males.	Females.	Males.	Females.	Males.	Females.
All ages ("Ordinary" death rate)	16.45	14.15	22.6	20.0	23.80	23.19
" ("Adjusted" death rate)	16.48	14.64	20.7	18.0	23.15	21.67
Under 5 years	47.34	42.19	68.1	58.1	84.55	75.45
5 to 10	6.10	6.00	6.7	6.2	10.49	11.04
10 to 15	3.30	3.30	3.7	3.7	5.36	6.41
15 to 20	4.43	4.29	5.2	5.4	10.34	8.41
20 to 25	5.38	5.39	7.3	6.8		
25 to 35	7.60	8.50	9.3	8.6	10.02	9.69
35 to 45	12.18	11.76	13.7	11.6	10.96	11.03
45 to 55	18.67	14.31	20.0	15.6	14.76	14.88
55 to 65	31.24	24.20	34.8	28.5	29.19	27.27
65 to 75	60.47	48.10	69.6	60.8	60.69	63.49
75 to 85	114.80	102.94	150.9	155.8	160.22	153.76

608. It will be observed that the average mortality of both males and females at all ages is much lower in Victoria than in England or France, but the difference is not so striking when the new method of comparison is used ("Adjusted" death rate) as it is when the old method is used ("Ordinary" death rate). Thus, according to the old method, deaths of males per 100,000 living are, in England, 615, and in France, 735, more than in Victoria; but according to the new method only 422 more in England, and 667 more in France. And, according to the old method, deaths of females per 100,000 living are, in England, 585, and in France, 904, more than in Victoria; but, according to the new method, only 336 more in England, and 703 more in France.

Death rates, "Ordinary" and "Adjusted," in Victoria, England, and France.

609. It will further be noticed that at none of the age-periods is the mortality of males, and at only one age-period (35 to 45) is that of females as high in Victoria as in England; but the Victorian mortality

Death rate at certain ages higher in Victoria than in France.

is higher than that of France, in the case of males at from 35 to 65 and in the case of females at from 35 to 45.

Death rate of children less in Victoria than in England or France.

610. It is very commonly believed that the conditions of life in Victoria are more fatal to children than those conditions in older countries; but the figures in the table prove the fallacy of this opinion so far as England and France are concerned—the low mortality in Victoria, as compared with that obtaining in either of those countries, being especially marked at the age-periods under 10 years.

Death rate of males and females in three countries compared.

611. According to the table, the death rate of females exceeds that of males at from 20 to 35 in Victoria (during a term of years), at from 15 to 20, and from 75 to 85 in England and Wales, and at from 5 to 15, from 35 to 55, and from 65 to 75 in France; moreover, both in Victoria and in England and Wales, at from 10 to 15, the death rates of males and females are equal. At every other period of life the death rate of males exceeds that of females in the countries named.

Death rate at various ages in different countries.

612. Mr. Mulhall gives the ordinary death rate at various ages for different countries,* and these, with the figures for Victoria—which will be found at almost every age much lower than those for any of the other countries—are subjoined:—

DEATH RATE AT VARIOUS AGES IN DIFFERENT COUNTRIES.

Countries.	Number of Deaths per 1,000 living at each Age.						
	Under 5.	5 to 10.	10 to 25.	25 to 45.	45 to 55.	55 to 65.	65 to 75.
Victoria ...	38·6	3·5	3·9	10·2	16·2	29·1	59·4
England ...	63·6	6·6	5·5	10·2	17·4	31·8	64·3
United States ...	58·8	10·1	5·4	10·8	17·6	27·2	51·4
France ...	75·6	9·2	8·8	12·7	16·6	28·3	66·3
Prussia ...	...	9·2	6·4	11·5	18·6	33·0	64·5
Austria ...	111·7	9·8	6·6	11·3	21·1	41·5	92·8
Switzerland ...	...	8·5	6·3	11·6	19·3	38·4	82·5
Italy ...	110·6	11·6	7·8	11·7	17·3	33·1	70·1
Spain ...	106·2	11·7	8·8	12·9	23·8	42·0	95·0
Belgium ...	68·1	12·7	8·1	12·9	19·0	32·3	74·5
Sweden ...	57·6	8·0	4·8	8·2	14·7	27·4	62·6

Infantile mortality, 1887.

613. The mortality of infants in 1887, in proportion to the number born, was higher than in any previous year since 1867, except 1882 and 1875. The total number under 1 year of age who died in 1887 was 4,296, and as the births numbered 33,043, it follows that 1 infant died to every 8 births, or 13·00 infants to every 100 births. In the

* *Dictionary of Statistics*, page 127.

twenty-one years 1866 to 1886, the proportion of infants dying before completing their first year was 12·35 to every 100 births.*

614. It has been already stated that more boys are born than girls, but the balance of the sexes is to a certain extent maintained by more male than female infants dying. This is shown in the following table, which contains a statement, for the seventeen years ended with 1887, of the number of births of boys and girls, the number of deaths of each before completing their first year, and the proportion of the deaths of infants of either sex to the number of births of infants of the same sex :—

Mortality of male and female infants.

MORTALITY OF MALE AND FEMALE INFANTS, 1871 TO 1887.

Year.	Births.		Deaths at under 1 Year of Age.			
			Total Number.		Number per 100 Births.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
1871 ...	14,000	13,382	1,710	1,404	12·21	10·49
1872 ...	13,831	13,530	1,801	1,533	13·02	11·33
1873 ...	14,234	13,866	1,679	1,502	11·80	10·83
1874 ...	13,659	13,141	1,839	1,502	13·46	11·43
1875 ...	13,683	13,037	2,071	1,740	15·14	13·35
1876 ...	13,759	13,010	1,637	1,343	11·90	10·32
1877 ...	13,272	12,738	1,838	1,461	13·85	11·47
1878 ...	13,752	12,829	1,763	1,499	12·82	11·68
1879 ...	13,727	13,112	1,817	1,402	13·24	10·69
1880 ...	13,358	12,790	1,669	1,436	12·49	11·23
1881 ...	13,903	13,242	1,696	1,423	12·20	10·75
Sums and Means }	151,178	144,677	19,520	16,245	12·91	11·23
1882 ...	13,612	13,135	2,049	1,673	15·05	12·74
1883 ...	14,109	13,432	1,702	1,448	12·06	10·78
1884 ...	14,844	14,006	1,853	1,428	12·49	10·20
1885 ...	15,455	14,520	2,046	1,725	13·24	11·88
1886 ...	15,753	15,071	2,127	1,797	13·50	11·92
1887 ...	16,876	16,167	2,354	1,942	13·95	12·01

615. According to a previous paragraph,† the births of male infants in a series of years were in the proportion of about 104½ to 100 female infants, and the numbers in this table point to a proportion of 120 deaths of the former to 100 of the latter. It will be noticed that in every one of the years deaths of male infants very much exceeded those of female infants; and as the numbers living were about equal (the excess, if any, being slightly in favour of male infants), the greater tendency of boys than of girls to die before completing one year of life may be considered to be invariable.

Mortality of male greater than of female infants.

* See table following paragraph 621 post.

† See paragraph 519 ante.

Proportion
of infants
dying to
births.

616. In proportion to every 1,000 born, the number of male infants dying varied from 118 in 1873 to 151 in 1875 and 1882, and that of female infants dying from 103 in 1876 to 134 in 1875—the mean number dying per 1,000 births during the eleven years ended with 1881 being 129 of the former and 112 of the latter. The high mortality of infants in 1875 was caused by an epidemic of measles. The next year was one in which the general mortality was much increased by an epidemic of scarlatina, but infants under 1 year appear not to have been at all affected thereby, as their mortality in 1876 was remarkably low. The high infantile mortality in 1882 was exceptional, as in that year no such epidemics were prevalent. It was not sustained in 1883 or 1884, the infantile mortality in those years having been lower than in most of the preceding ones, but concurrently with an increasing birth rate, there has been a gradual rise in the infantile death rate.

Deaths of
infants at
different
ages.

617. In classifying the deaths of infants, those are distinguished which occur at under 1 month of age, at from 1 to 3 months, at from 3 to 6 months, and at from 6 to 12 months. The numbers of these during 1887 and the eleven years ended with 1881 are shown in the following table, together with the proportion of deaths at each of those periods of age and the number at each such period to every 100 births. It will be noticed that in 1887 the mortality of both males and females under 1 month of age was below the average, but at every other period under 1 year the mortality of both sexes was above the average:—

AGE AT DEATH OF MALE AND FEMALE INFANTS.

Ages.	Deaths at under 1 Year of Age.				
	Year 1887.			Average of 11 Years, 1871 to 1881.	
	Number.	Percentage at each Age.	Number per 100 Births.	Percentage at each Age.	Number per 100 Births.
BOYS.					
Under 1 month ...	665	28·25	3·94	34·23	4·42
1 to 3 months ...	446	18·95	2·64	17·30	2·23
3 to 6 „ ...	525	22·30	3·12	19·43	2·51
6 to 12 „ ...	718	30·50	4·25	29·04	3·75
Total ...	2,354	100·00	13·95	100·00	12·91
GIRLS.					
Under 1 month ...	495	25·49	3·06	30·81	3·46
1 to 3 months ...	342	17·61	2·12	17·23	1·94
3 to 6 „ ...	458	23·58	2·83	20·14	2·26
6 to 12 „ ...	647	33·32	4·00	31·82	3·57
Total ...	1,942	100·00	12·01	100·00	11·23

618. In 1887 and during the period of eleven years, the mortality of male infants exceeded that of female infants at each of the age-periods. This was more especially the case in the first month of life, when the excess of the former was fully a third; in the next two months this excess was reduced to about a fifth, in the next three months to about a seventh, and in the next six months to something less than a tenth.

More deaths of male than female infants at all ages.

619. In the same period of eleven years over a third of the male and nearly a third of the female infants who died before they were a year old did so in the first month after birth; about a sixth of both males and females in the next two months; about a fifth of both males and females in the next three months; between a third and a fourth of the males and nearly a third of the females in the next six months. The proportions for 1887 are somewhat less for the first month of life, but higher for the other age-periods than the proportions just alluded to.

Periods at which infants die.

620. As a practical result of these calculations, it may be mentioned that of every 20,000 newly-born boys and girls in equal numbers, 442 of the former and 346 of the latter may be expected to die before they are a month old; 223 more boys and 194 more girls may be expected to die between 1 month and 3 months of age; 251 more boys and 226 more girls between 3 and 6 months; 375 more boys and 357 more girls between 6 and 12 months. At the end of a year it is probable that 1,291 of the boys and 1,123 of the girls will have died, and 8,709 of the former and 8,877 of the latter will be still living.

Probable mortality of infants.

621. For many years the returns of South Australia showed a very high infantile death rate, much higher than that in any of the other Australasian colonies. It is now, however, almost certain that the apparently high rate referred to had no existence in reality, but was due to the fact that the births were imperfectly registered, and therefore the infants who died presented an unnaturally large proportion to those recorded as having been born. Latterly more attention has been paid to the registration of births, with the result that in the last two or three years the infantile death rate of South Australia has contrasted not unfavorably with that in the other colonies. In three of the colonies, viz., Victoria, New South Wales, and New Zealand, the infantile death rate in 1886 was above, and in three it was below, the average, as will be seen by the following table, which gives the number of births, the number of deaths of infants under one year, and the proportion of the latter to the former, in each of the colonies of the group, except Western Australia (which, apparently, does not publish any statement of the number of infants who die), for each of the twenty years ended with 1886. All the calculations were made in the office of the Government Statist, Melbourne:—

Infantile mortality in Australasian colonies.

INFANTILE MORTALITY IN AUSTRALASIAN COLONIES.

Year.	Deaths at under 1 Year of Age.			Deaths at under 1 Year of Age.			Deaths at under 1 Year of Age.		
	Births.	Total Number.	Number to 100 Births.	Births.	Total Number.	Number to 100 Births.	Births.	Total Number.	Number to 100 Births.
	VICTORIA.			NEW SOUTH WALES.			QUEENSLAND.		
1866	25,010	3,838	15·35	16,950	1,939	11·44	4,127	690	16·72
1867	25,608	3,534	13·80	18,317	2,269	12·39	4,476	578	12·91
1868	27,243	3,054	11·21	18,485	1,791	9·69	4,460	552	12·38
1869	26,040	3,284	12·61	19,243	1,858	9·66	4,654	528	11·35
1870	27,151	3,203	11·80	19,648	1,867	9·50	4,905	526	10·72
1871	27,382	3,114	11·37	20,143	1,812	9·00	5,205	516	9·91
1872	27,361	3,334	12·19	20,250	2,116	10·45	5,265	578	10·98
1873	28,100	3,181	11·32	21,444	1,985	9·26	5,720	701	12·26
1874	26,800	3,341	12·47	22,178	2,428	10·95	6,383	776	12·16
1875	26,720	3,811	14·26	22,528	2,695	11·96	6,706	1,025	15·28
1876	26,769	2,980	11·13	23,298	2,629	11·28	6,903	994	14·40
1877	26,010	3,299	12·68	23,851	2,785	11·68	7,169	1,058	14·76
1878	26,581	3,262	12·27	25,328	3,126	12·34	7,397	1,234	16·68
1879	26,839	3,219	11·99	26,933	2,886	10·72	7,870	917	11·65
1880	26,148	3,105	11·86	28,162	3,200	11·36	8,196	865	10·55
1881	27,145	3,119	11·49	28,903	3,341	11·56	8,220	918	11·17
1882	26,747	3,722	13·91	29,702	3,897	13·12	8,518	1,188	13·95
1883	27,541	3,150	11·44	31,281	3,590	11·48	9,890	1,319	13·34
1884	28,850	3,281	11·37	33,946	4,285	12·62	10,679	1,574	14·74
1885	29,975	3,771	12·57	35,043	4,596	13·12	11,672	1,733	14·85
1886	30,824	3,924	12·73	36,284	4,663	12·85	12,582	1,584	12·59
Sums and means	570,844	70,526	12·35	521,917	59,758	11·45	150,997	19,854	13·15
	SOUTH AUSTRALIA.			TASMANIA.			NEW ZEALAND.		
1866	6,782	1,178	17·37	2,805	264	9·41	8,466	849	10·03
1867	7,041	1,254	17·81	2,971	267	8·98	8,918	873	9·79
1868	7,247	1,084	14·96	2,990	351	11·73	9,391	899	9·57
1869	6,976	911	13·06	2,859	291	10·18	9,718	957	9·85
1870	7,021	1,031	14·68	3,054	298	9·76	10,277	956	9·30
1871	7,082	961	13·57	3,053	260	8·52	10,592	882	8·33
1872	7,105	1,145	16·12	3,010	306	10·17	10,795	1,074	9·95
1873	7,107	990	13·93	3,048	266	8·73	11,222	1,213	10·81
1874	7,696	1,319	17·13	3,097	321	10·36	12,844	1,394	10·85
1875	7,408	1,343	18·13	3,105	407	13·11	14,438	1,816	12·58
1876	8,224	1,228	14·93	3,149	286	9·08	16,168	1,673	10·35
1877	8,640	1,212	14·03	3,211	365	11·37	16,856	1,527	9·06
1878	9,282	1,466	15·79	3,502	375	10·71	17,770	1,486	8·36
1879	9,902	1,217	12·29	3,564	384	10·77	18,070	1,941	10·74
1880	10,262	1,393	13·57	3,739	420	11·23	19,341	1,805	9·33
1881	10,708	1,364	12·74	3,918	405	10·34	18,732	1,731	9·24
1882	10,844	1,647	15·19	4,043	419	10·36	19,009	1,678	8·83
1883	11,173	1,627	14·56	4,259	528	12·40	19,202	1,995	10·39
1884	11,847	1,590	13·42	4,578	457	9·98	19,846	1,573	7·93
1885	12,046	1,366	11·34	4,637	522	11·26	19,693	1,756	8·92
1886	11,177	1,409	12·62	4,627	485	10·48	19,299	1,899	9·84
Sums and means	185,570	26,735	14·41	73,219	7,677	10·48	310,647	29,977	9·65

622. In the following lists the colonies are placed in order according to their respective rates of infantile mortality, the colony with the highest rate being placed first, and the rest in succession. The reduced rate in South Australia is indicated by the place it occupies in the list for 1886, as compared with that it occupied in the list extending over a series of years :—

Order of colonies in respect to infantile mortality.

ORDER OF COLONIES IN REFERENCE TO INFANTILE MORTALITY.

Order in 1886.

1. New South Wales.
2. Victoria.
3. South Australia.
4. Queensland.
5. Tasmania.
6. New Zealand.

Order over a Series of Years.

1. South Australia.
2. Queensland.
3. Victoria.
4. New South Wales.
5. Tasmania.
6. New Zealand.

623. It appears from the figures in the last table that a wave of high infantile mortality spread in 1882 over the four continental colonies, but did not reach Tasmania and New Zealand until the following year, when the infantile death rate in the former was the highest with one exception, and in the latter with four exceptions, during a period of eighteen years. Again, in 1885 another such wave appears to have passed over all the colonies, except South Australia and New Zealand, as in all the former the infantile death rates in that year were higher than in the great majority of previous years.

Waves of infantile mortality.

624. In England and Wales, the infantile mortality is somewhat lower than the average in South Australia, but higher than that in any of the colonies, deaths at under 1 year of age having occurred during the ten years 1875 to 1884 in the proportion of 14·4 to every 100 births. In Scotland, the infantile death rate, during the year 1883, was somewhat higher than the average in Victoria, being in the proportion of 11·8 to every 100 births. In Ireland, during the year 1874 the returns show only 9·2 deaths of infants to 100 births, a smaller proportion than that obtaining in any Australasian colony. In France, during the year 1879, infants under 1 year died in the proportion of 15·7 per 100 births, or a higher rate than in the United Kingdom or any of its divisions. In the urban districts of France the proportion was 17·5, and in the rural districts 15·0, per 100 births. The percentage of illegitimate infants who died was 29·8, whilst that of legitimate infants was only 14·7.*

Infantile mortality in United Kingdom and France

* See Mons. E. Cheysson's paper on the mortality of infants, *Journal de la Société de Statistique de Paris* for January, 1883, page 7.

Infantile mortality in Melbourne and country.

625. The infantile mortality of large towns is naturally always above that in country districts. Thus the deaths at under 1 year of age in Melbourne and suburbs (Greater Melbourne) during the fifteen years ended with 1887 averaged 17 per 100 births, whilst in the extra-metropolitan districts of Victoria the mortality of infants at the same period of life averaged less than 10 per 100 births. The following table shows the death rate of infants in the metropolis and in the other districts of the colony during each of the fifteen years named :—

INFANTILE MORTALITY IN AND OUTSIDE OF GREATER MELBOURNE, 1873 TO 1887.

Year.	Births.	Deaths at under 1 Year of Age.		Births.	Deaths at under 1 Year of Age.	
		Total Number.	Number to 100 Births.		Total Number.	Number to 100 Births.
	Greater Melbourne.			Victoria, outside Greater Melbourne.		
1873 ...	8,007	1,277	15·95	20,093	1,904	9·48
1874 ...	7,946	1,480	18·63	18,854	1,861	9·87
1875 ...	8,227	1,546	18·79	18,493	2,265	12·25
1876 ...	8,202	1,339	16·33	18,567	1,641	8·84
1877 ...	8,295	1,407	16·96	17,715	1,892	10·68
1878 ...	8,636	1,297	15·02	17,903	1,965	10·98
1879 ...	8,829	1,467	16·61	18,010	1,752	9·73
1880 ...	8,645	1,439	16·65	17,503	1,666	9·52
1881 ...	9,237	1,514	16·39	17,908	1,605	8·96
1882 ...	9,576	1,857	19·39	17,171	1,865	10·86
1883 ...	10,093	1,603	15·89	17,448	1,547	8·87
1884 ...	10,911	1,832	16·79	17,939	1,449	8·08
1885 ...	12,066	2,041	16·92	17,909	1,730	9·60
1886 ...	12,941	2,309	17·84	17,883	1,615	9·03
1887 ...	14,583	2,553	17·51	18,460	1,743	9·44
Sums and means }	146,194	24,961	17·07	271,856	26,500	9·75

Infantile mortality in English towns.

626. As compared with the births, the infantile mortality of Greater Melbourne is, on the average, higher than that of Portsmouth, London, Brighton, Bristol, Plymouth, or Wolverhampton, almost identical with that in Sunderland, but less than that of thirteen other English towns of which particulars are available. The following are the towns in question, arranged in order according to the infantile death rate prevailing within their respective limits ; the town with the highest death rate being placed first, and that with the lowest last. It is a remarkable fact that a low infantile death rate prevails in London, whilst that in Liverpool is higher than in any other large town in England :—

INFANTILE MORTALITY IN TWENTY TOWNS OF ENGLAND,
1870 TO 1879.

Deaths under 1 Year of Age to 100 Births.			Deaths under 1 Year of Age to 100 Births.		
Liverpool	...	22·2	Birmingham	...	17·7
Leicester	...	21·9	Sunderland	...	17·0
Leeds	...	19·5	Wolverhampton	...	16·9
Bradford	...	19·1	Plymouth	...	16·3
Norwich...	...	19·1	Bristol	...	16·2
Manchester	...	19·0	Brighton	...	16·1
Salford	...	18·6	London	...	16·0
Nottingham	...	18·4	Portsmouth	...	14·4
Newcastle-on-Tyne	...	18·1			—
Sheffield	...	17·9	Mean of towns named		17·4
Oldham	...	17·9			—
Hull	...	17·8			

627. In, or in connexion with the Women's* Hospital, Melbourne, 571 children were born alive during the year ended with 30th June, 1887, and of these, 22, or about 4 per cent., died whilst under the care of the institution. In the previous year, 4 $\frac{2}{3}$ per cent.; in 1884-5 and 1883-4, 9 per cent.; in the year 1882-3, 7 per cent.; in 1881-2 (18 months), 11 $\frac{1}{2}$ per cent.; in the year 1880, 5 $\frac{1}{2}$ per cent.; in 1879, 8 per cent.; in 1878, 6 $\frac{1}{2}$ per cent.; in 1877, 7 per cent.; and in 1876 and 1875, 9 per cent., of the infants born in the Women's Hospital, or outside under the supervision of its medical officers and committee, died before the mother had been discharged. It is satisfactory to find that the proportions in the last two years were the lowest recorded in the institution; at the same time it may be pointed out that, in consequence of the bad class of cases which come to maternity hospitals for treatment, the infants who die in such institutions, in proportion to the numbers born, are, all over the world, in excess of a similar proportion outside.

Deaths of infants in Women's Hospital.

628. In the year 1887, deaths of male children under 5 years of age numbered 3,205, and deaths of female children under that age numbered 2,701—the former being in the proportion of nearly 35 per cent. and the latter of about 40 per cent. to the total number of deaths at all ages. These proportions are considerably below the average of the eleven years 1871-81, and are still lower than those which prevailed in the earlier years of that period. This is accounted for by the fact that the proportion of children to the total population has been diminishing from year to year, and is now very much lower than it was in the early years referred to. The following table shows the number of such deaths at each year of age and their proportion to the deaths at all ages in 1887 and in each of the previous sixteen years :—

Deaths of children under 5.

* Formerly known as the Lying-in Hospital.

DEATHS OF CHILDREN UNDER 5 YEARS OF AGE, 1871 TO 1887.

Years.	Years of Age at Death (last birthday).					Total Deaths under 5 Years.	
	0.	1.	2.	3.	4.	Number.	Proportion per 100 Deaths at All Ages.
MALES.							
1871 ...	1,710	463	135	79	77	2,464	42·15
1872 ...	1,801	486	155	120	102	2,664	42·23
1873 ...	1,679	456	186	146	97	2,564	39·06
1874 ...	1,839	504	184	159	128	2,814	40·43
1875 ...	2,071	917	383	234	217	3,822	44·78
1876 ...	1,637	511	312	261	210	2,931	38·04
1877 ...	1,838	512	216	123	108	2,797	38·08
1878 ...	1,763	465	176	140	87	2,631	36·65
1879 ...	1,817	353	159	117	94	2,540	36·12
1880 ...	1,669	414	156	103	74	2,416	36·55
1881 ...	1,696	357	141	102	72	2,368	33·71
Means ...	1,775	494	200	144	115	2,728	39·40
1882 ...	2,049	400	134	87	92	2,762	34·96
1883 ...	1,702	358	123	114	95	2,392	32·28
1884 ...	1,853	457	162	114	82	2,668	34·76
1885 ...	2,046	402	162	106	78	2,794	33·66
1886 ...	2,127	467	130	75	69	2,868	33·44
1887 ...	2,354	539	149	91	72	3,205	34·79
FEMALES.							
1871 ...	1,404	413	136	94	68	2,115	51·93
1872 ...	1,533	473	155	106	94	2,361	52·20
1873 ...	1,502	427	160	132	119	2,340	47·41
1874 ...	1,502	472	171	135	99	2,379	45·58
1875 ...	1,740	864	408	256	169	3,437	51·22
1876 ...	1,343	469	275	217	177	2,481	42·46
1877 ...	1,461	484	171	148	102	2,366	43·57
1878 ...	1,499	481	204	108	95	2,387	43·22
1879 ...	1,402	353	156	100	89	2,100	41·28
1880 ...	1,436	386	143	89	51	2,105	41·75
1881 ...	1,423	331	124	95	65	2,038	38·61
Means ...	1,477	468	191	135	103	2,374	45·93
1882 ...	1,673	358	121	94	86	2,332	40·67
1883 ...	1,448	310	125	86	68	2,037	36·40
1884 ...	1,428	423	182	128	87	2,248	38·56
1885 ...	1,725	370	125	92	75	2,387	39·36
1886 ...	1,797	460	155	76	62	2,550	40·00
1887 ...	1,942	435	146	102	76	2,701	39·77

More boys
die than
girls.

629. During the eleven years ended with 1881, deaths of male children under 5 numbered 30,011, and deaths of female children under 5 numbered 26,109, and thus the former exceeded the latter by 3,902, or by 15 per cent. The deaths of male children in all the years bore a smaller proportion to the total deaths of males than the deaths of female children did to the total deaths of females, a circumstance mainly due to the small proportion of adults in the female as compared with that in the male population. In the six years ended with 1887, the mortality of boys under 5 amounted to 34 per cent., and that of girls

under 5 amounted to 39 per cent., of the whole mortality of their respective sexes. In none of the years to which the table relates did the former exceed 45 per cent., or the latter exceed 53 per cent., of that mortality. The epidemic period, the centre of which was 1875, is easily recognised by the increased mortality which occurred thereat.

630. The average number of male and female children at each year of age under 5 living, during the period of eleven years ended with 1881, are compared in the next table with the average number of deaths of children of the same sexes at those ages which occurred annually during that period:—

Number of children under 5 and their deaths.

NUMBER AND DEATHS OF CHILDREN UNDER 5 YEARS OF AGE, 1871 TO 1881.

Age last Birthday.	Males.				Females.			
	Mean Number of Children living at each age, 1871 & 1881.	Mean Annual Number of Deaths at each age, 1871 to 1881.	Percentage of Deaths at each age.	Number of Deaths per 1,000 Children living.	Mean Number of Children living at each age, 1871 & 1881.	Mean Annual Number of Deaths at each age, 1871 to 1881.	Percentage of Deaths at each age.	Number of Deaths per 1,000 Children living.
0 ...	12,152	1,775	65.07	146.07*	11,809	1,477	62.22	125.07*
1 ...	11,228	494	18.11	43.99	11,004	468	19.71	42.53
2 ...	11,943	200	7.33	16.75	11,635	191	8.04	16.42
3 ...	11,807	144	5.28	12.20	11,469	135	5.69	11.77
4 ...	11,261	115	4.21	10.21	11,138	103	4.34	9.25
Total ...	58,391	2,728	100.00	46.72	57,055	2,374	100.00	41.61

631. During the period to which the table refers, the mean number of children of both sexes under 5 living was 115,446, and the mean number of deaths of such children was 5,102, whence it results that 44 in every 1,000 children under 5, or about 1 in 23, died annually. In every 1,000 boys the proportion who died annually was 47, or 1 in 21, in every 1,000 girls it was 42, or 1 in 24.

Proportion of children dying annually.

632. Of every 1,000 boys under 1 year of age, 146, and of every 1,000 girls under 1 year of age, 125, died annually. These are larger proportions than those quoted in the table showing the comparison of deaths of children under 1 with the births, the proportions in which were 129 deaths of male infants and 112 deaths of female infants to every 1,000 births of infants of those sexes respectively.†

Proportion of infants dying annually.

633. In proportion to their respective numbers in the population, more boys than girls died at every year of age, the difference per 1,000 living

More boys died than girls.

* These results, being based upon infants living at any one time instead of annual births, are naturally in excess of those in total lines of last column of table following paragraph 617 ante.

† See table following paragraph 617 ante.

being as much as 21 at under 1,* but only about $1\frac{1}{2}$ at from 1 to 2, and less than 1 at subsequent ages.

Boys and girls dying under 1.

634. According to the figures, deaths of boys under 1 year of age furnish a larger proportion to the total deaths of boys under 5 than deaths of girls under 1 do to the total deaths of girls under 5, but the reverse is the case at each of the years of age after the first.

Proportion of deaths of children at each age.

635. Of the whole number of children who died before they attained the age of 5, nearly two-thirds, viz., 65 per cent. of the boys and 62 per cent. of the girls, were under 1 year of age; less than a fifth of the boys and about a fifth of the girls were between 1 and 2; about a fourteenth of the boys and about a twelfth of the girls were between 2 and 3; 1 in 19 of the boys and 1 in 18 of the girls were between 3 and 4; 1 in 24 of the boys and 1 in 23 of the girls were between 4 and 5.

Probable mortality of children under 5.

636. It results from actuarial calculations, based upon the figures in this and a previous table,† that of every 20,000 boys and girls in equal numbers born in Victoria, 1,291 boys and 1,123 girls may be expected to die before they complete a year of life, 374 more boys and 369 more girls before they complete 2 years, 138 more boys and 139 more girls before they complete 3 years, 99 more boys and 98 more girls before they complete 4 years, and 83 more boys and 76 more girls before they complete 5 years. At the end of that period it is probable that 1,985 of the boys and 1,805 of the girls will have died; and 8,015 of the boys and 8,195 of the girls will be still living.

Deaths of octogenarians.

637. The persons who died at the age of 80 or upwards numbered 531 in 1887, as against 517 in 1886 and 487 in 1885. Those in 1887 consisted of 295 males and 236 females. Thirty-four of the males and 30 of the females had passed the age of 90, and 1 of the males and 4 of the females had passed the age of 100. The following are the exact registered ages of such persons in the last seventeen years:—

DEATHS OF OCTOGENARIANS, 1871 TO 1887.

Years of Age.	Year 1887.		Five Years, 1882-86.		Eleven Years, 1871-81.	
	Males.	Females.	Males.	Females.	Males.	Females.
80	61	39	221	141	253	144
81	22	18	120	88	135	98
82	35	19	182	93	119	97
83	23	20	128	77	101	75
84	40	27	141	105	115	79
85	20	17	120	96	91	70
86	24	17	80	58	63	61

* See also paragraph 618 *ante*.

† See paragraph 620, also table following paragraph 617, *ante*, from which probable deaths at under 1 year of age have been deduced. Probability of death at other ages under 5 has been calculated from the numbers in the last table.

DEATHS OF OCTOGENARIANS, 1871 TO 1887—continued.

Years of Age.	Year 1887.		Five Years, 1882-86.		Eleven Years, 1871-81.	
	Males.	Females.	Males.	Females.	Males.	Females.
87	27	28	52	41	65	46
88	3	12	45	41	48	38
89	6	9	24	31	35	26
90	9	10	30	26	26	37
91	7	5	17	12	10	16
92	4	3	17	13	18	18
93	3	3	11	19	9	8
94	1	2	13	8	14	8
95	3	2	7	7	16	9
96	3	...	3	3	11	4
97	1	...	2	4	3	4
98 ... ..	...	1	4	5	5	2
99	2	...	1	4	8	...
100	1	...	6	3	2	5
101 ... ..	...	2	1	1	1	2
102 ... ..	...	1	3	1	3	...
103 ... ..	...	...	3	1	1	2
104 ... ..	...	...	2	...	2	1
105 ... ..	...	...	...	1	2	...
106 ... ..	...	...	3	1	...	1
107 ... ..	...	1	...	...	...	...
110 ... ..	...	...	...	...	...	1
111 ... ..	...	...	1	...	...	...
114 ... ..	...	...	...	...	...	1
Unspecified ... ..	...	...	...	...	135*	98*
Total	295	236	1,237	880	1,291	951

638. In the 6 years ended with 1887, 1,532 males and 1,116 females died in Victoria at the age of 80 or upwards. The deaths of males and females at all ages during the same period numbered 49,073 and 36,393 respectively, therefore 1 male in every 32, and 1 female in every 33, lived to be upwards of 80 years of age. In the same period, 158 of the males, or 1 in 311, and 139 of the females, or 1 in 262, lived to be 90 years of age or upwards; and 20 of the males, or 1 in 2,454, and 12 of the females, or 1 in 3,033, lived to be upwards of 100 years of age. Owing to the rapidly increasing proportion of old people in the population, these proportions are much higher than those prevailing in the preceding period of 9 years ended with 1881, when only 1 male in every 56 males and 1 female in every 58 females who died was upwards of 80 years of age; only 1 male in 496, and 1 female in 413, was upwards of 90 years; and only 1 male in 5,912, and only 1 female in 3,776, was upwards of 100 years of age.

Deaths of octogenarians, 1882 to 1887.

639. The average age at death in 1887 was 30.44 years, or about 30 years and 5 months. For males the average age was 32.80 years, or

Average age at death.

* These figures are those relating to the years 1871 and 1872, in which the exact ages of octogenarians were not noted.

about 32 years and 10 months, and for females, 27·35 years, or about 27 years and 4 months; the females being thus on the average $5\frac{1}{2}$ years younger than the males. Until 1882, the average age at which both males and females died in Victoria had a tendency to advance from year to year, but since then the average has remained tolerably steady, as will be seen by the following figures:—

AVERAGE AGE AT DEATH IN VICTORIA.

				Males.			Females.
				Years.			Years.
23 years—1852 to 1875	...	...	...	21·70	...	...	15·01
Year 1875	...	...	...	24·28	...	...	18·23
” 1876	...	...	...	26·81	...	...	21·84
” 1877	...	...	...	28·60	...	...	23·06
” 1878	...	...	...	29·54	...	...	23·24
” 1879	...	...	...	30·65	...	...	24·71
” 1880	...	...	...	30·72	...	...	25·35
” 1881	...	...	...	32·63	...	...	25·98
” 1882	...	...	...	32·04	...	...	26·58
” 1883	...	...	...	33·13	...	...	27·55
” 1884	...	...	...	32·24	...	...	27·50
” 1885	...	...	...	33·48	...	...	27·52
” 1886	...	...	...	33·32	...	...	27·40
” 1887	...	...	...	32·80	...	...	27·35

Expectation
of life in
Victoria and
England.

640. It should be explained that the average age of death, as given above, would not give a correct idea of the average duration of life, even if the ages of the population were in a normal condition. In an increasing population the former must be always considerably below the latter, in consequence of the undue proportion of children, which tends to lower the average age. A knowledge of the average duration of life can only be accurately obtained from a life table based upon actuarial calculations of a complex character. In England and Wales, according to the most recent life table, the average duration of life—technically called “expectation of life,” or “mean lifetime”—is 41·35 years for males, and 44·62 years for females. In Victoria, according to a life table recently constructed by Mr. A. F. Burrige, F.I.A. of London, based on the mortality experienced in the 10 years, 1871-80, the average duration of life is 46·37 for males, but a table for females was not given. It would thus appear that a male Victorian may expect, on the average, to enjoy 5 years more of life than an Englishman.

New classi-
fication
adopted in
Victoria.

641. The system of classifying the causes of death in Victoria was changed in 1886 in accordance with a system which had been adopted in England a few years previously. This new mode of classification was based upon one devised by a committee composed of members of the Royal College of Physicians, London, and was published by them,

first in 1869, and afterwards, in a revised form, in 1885. The system of classification, now adopted, has superseded that of the late Dr. Farr, which, until the new system was introduced, had been the mode used for classifying the causes of death, both in England and Wales and in the Australasian colonies. A full account of the difference between the two systems was given in the *Victorian Year-Book* 1886-7.*

642. A Nosological Index was compiled by the present writer about a quarter of a century since, under the sanction of the then Registrar-General, Mr. W. H. Archer, F.I.A., to be used in connexion with Dr. Farr's classification, in order to facilitate the bringing of all the circumstances resulting in death under classified heads, also for the guidance of deputy registrars in receiving, and of medical men in supplying, information respecting the causes of death, and of officers of charitable and other public institutions in preparing statistical tables of the deaths and sickness occurring therein. The adoption of a new system of classification has made it necessary that the Nosological Index should be completely altered, to suit the change. This has been done according to the best knowledge possessed by the Department of the Government Statist, Melbourne, the place to be assigned to each disease or cause of death having been carefully considered by experienced officers and compared with the revised nomenclature proposed by the Royal College of Physicians. At the same time the opportunity has been taken greatly to increase the number of entries in the Index.†

New Nosological Index.

643. From the date of its publication until the adoption of the new classification in 1886 the former Index had been in general use in the registration departments of all the Australasian colonies, some of which received such a supply of copies as they required from the Victorian Government, and others reprinted the work. Most of the colonies are now adopting the new system, and its use will probably soon become general throughout the group. To all the colonies adopting this system the present Index will be found as indispensable as the former one proved itself to be during the last twenty-five years in connexion with the system which has now been abandoned.

Victorian Index in use throughout Australasia

644. The following table shows the causes of death in classified arrangement; the total number and the number of Chinese and Aborigines who died from each cause during 1887, also the total number who died from each cause during the five years ended with 1885 and during the ten years ended with 1880:—

Causes of death classified.

* Paragraph 635 *et seq.*

† A copy of the new Nosological Index was published in the *Victorian Year-Book*, 1886-7, page 853 *et seq.*

CAUSES OF DEATH IN CLASSIFIED ARRANGEMENT.
(10 Years: 1871 to 1880; 5 Years: 1881 to 1885; and Year 1887.)

Class.	Sub-Class.	Causes of Death.*	Number of Deaths.				
			Ten Years: 1871-1880	Five Years: 1881-1885	Year 1887.		
					Total. †	Chinese.	Aborigines.
		All causes	122,570	66,811	16,005	156	24
		CLASSES.					
I.	...	SPECIFIC FEBRILE OR ZYMOTIC DISEASES:—Zymotici (ζύμη, leaven). Diseases of the whole body, dependent on morbid poisons.	28,430	10,447	2,435	9	4
II.	...	PARASITIC DISEASES:—Parasitici (παράσιτος, parasite) Diseases dependent on animal or vegetable parasites.	734	391	78	...	2
III.	...	DIETIC DISEASES:—Dietici (δίαιτα, way of life; diet) Diseases produced by errors of diet.	1,979	1,124	174	3	...
IV.	...	CONSTITUTIONAL DISEASES:—Cachectici (καχεξία, bad habit of body). This class, according to the nomenclature of the Royal College of Physicians, is designated "Diseases of the whole body—not classed." The term used by Dr. Farr in the old classification, however, is retained; Dr. Farr's definition being as follows:—"Sporadic diseases; affecting several organs in which new morbid products are often deposited; sometimes hereditary."	17,205	10,617	2,648	41	5
V.	...	DEVELOPMENTAL DISEASES:—Metamorphici (μεταμόρφωσις, change of form). Special diseases, the incidental result of the formative and nutritive processes.	6,042	4,431	1,102	4	1
VI.	...	LOCAL DISEASES:—Monorganici (μόνος, alone, without others; ὄργανον, organ). Sporadic diseases, in which the functions of particular organs or systems are disturbed or obliterated, with or without inflammation.	51,209	30,575	7,260	72	8
VII.	...	VIOLENT DISEASES OR DEATHS:—Thanatici (θάνατοι, violent deaths). Diseases which are the evident and direct results of physical or chemical forces, acting either by the will of the sufferer, of other persons, or accidentally.	8,607	4,243	1,023	13	...
VIII.	...	ILL-DEFINED AND NOT SPECIFIED CAUSES:— This group includes several diseases which were formerly classed under specific heads, such as dropsy, debility, tumor, abscess, &c.	8,364	4,983	1,285	14	4

* The definitions given in this column are chiefly those of the late Dr. Farr.

† The Chinese and Aborigines are included in this column.

CAUSES OF DEATH IN CLASSIFIED ARRANGEMENT—*continued.*

(10 Years: 1871 to 1880; 5 Years: 1881 to 1885; and Year 1887.)

Class.	Sub-Class.	Causes of Death.	Number of Deaths.				
			Ten Years: 1871-1880	Five Years: 1881-1885	Year 1887.		
					Total.*	Chinese.	Aborigines.
SUB-CLASSES.							
I.	1	Miasmatic diseases	15,459	4,588	1,064	5	3
	2	Diarrhoeal diseases	11,036	4,886	1,208	3	1
	3	Malarial diseases	213	39	6	...	...
	4	Zoogenous diseases	1	...	...	...	...
	5	Venereal diseases	377	218	36	1	...
	6	Septic diseases	1,344	716	121	...	...
II.	...	Parasitic diseases	734	391	78	...	2
III.	...	Dietic diseases	1,979	1,124	174	3	...
IV.	...	Constitutional diseases	17,205	10,617	2,648	41	5
V.	...	Developmental diseases	6,042	4,431	1,102	4	1
VI.	1	Diseases of the nervous system	13,532	7,414	1,705	9	1
	2	Diseases of the organs of special sense	?	?	15	...	...
	3	Diseases of the circulatory system...	6,804	4,453	1,174	23	...
	4	Diseases of the respiratory system...	15,534	9,966	2,065	24	4
	5	Diseases of the digestive system ...	11,240	6,135	1,622	10	2
	6	Diseases of the lymphatic system and ductless glands	44	23	16	...	...
	7	Diseases of the urinary system ...	1,875	1,511	428	5	1
	8	Diseases of the organs of generation	295	120	41	...	...
	9	Diseases of parturition	1,267	624	116	...	...
	10	Diseases of the organs of locomotion	290	137	42	...	...
	11	Diseases of the integumentary system	328	192	36	1	...
VII.	1	Accident or negligence	7,447	3,662	869	11	...
	2	Homicide	190	110	22	...	...
	3	Suicide	951	463	132	2	...
	4	Execution	19	8	...	...	...
VIII.	...	Ill-defined causes, or unspecified ...	8,364	4,983	1,285	14	4
DISEASES, ETC.							
I.	1	Small-pox	2	6	1	...	...
		Chicken-pox	13	6	3	...	...
		Measles	2,080	386	78	1	...
		Epidemic rose rash ... ..	...	...	6	...	...
		Scarlet fever	4,101	282	4	...	...
		Influenza	276	162	9	...	...
		Whooping-cough	1,974	701	129	...	3
		Mumps	?	?	4	...	...
		Diphtheria †	3,040	681	199	...	...
		Cerebro-spinal fever ... ..	...	...	...	...	...
		Simple continued fever ... ..	...	...	...	...	...
		Typhoid (or enteric) fever	3,973	2,364	{ 631	4	...
	2	Cholera (simple)	523	263	137	...	...
		Diarrhoea	7,667	3,994	933	...	...
		Dysentery	2,846	629	138	3	1
	3	Remittent fever	169	25	3	...	...

* The Chinese and Aborigines are included in this column.

† See also Croup (VI., 4).

CAUSES OF DEATH IN CLASSIFIED ARRANGEMENT—*continued.*

(10 Years: 1871 to 1880; 5 Years: 1881 to 1885; and Year 1887).

Class.	Sub-Class.	Causes of Death.	Number of Deaths.							
			Ten Years: 1871-1880	Five Years: 1881-1885	Year 1887.					
					Total.*	Chinese.	Aborigines.			
DISEASES, ETC.— <i>continued.</i>										
I.	3	Ague	44	14	2	...	...	
		Beri Beri ... ..	...	...	1	...	...	
	4	Glanders	1	...	...	...	...
		Cow-pox and other effects of vaccination	?	?	...	...	...
	5	Syphilis	286	178	23	1	...			
		Gonorrhœa, stricture of the urethra	91	40	13	...	...	
	6	Phagadæna ... ..	?	?	...	...	...
		Erysipelas	619	260	21	...	...	
		Pyæmia, septicæmia	† 264	† 142	42	...	...	
		Puerperal fever †	461	314	58	...	...	
II.	...	Thrush	327	119	26	...	1			
		Others from vegetable parasites	?	?	...	...	...
		Hydatids	379	268	51	...	1			
		Others from animal parasites	28	4	1	...	...	
III.	...	Starvation, want of breast-milk	1,322	726	74	3	...			
		Scurvy ... ..	§	§	...	...	...
		Intemperance	646	394	100	...	...	
		Other dietic diseases	11	4	...	...	...
IV.	...	Rheumatic fever, rheumatism of heart	817	379	33	...	...	
		Rheumatism						40
		Gout	133	80	27	...	...	
		Rickets... ..	?	3	6	1	...			
		Cancer, malignant disease	|| 2,957	|| 2,065	527	16	1			
		Tabes mesenterica	723	484	155	...	...	
		Tubercular meningitis (acute hydrocephalus)	1,394	719	212	...	...	
		Phthisis	10,155	6,428	1,557	23	4			
		Other forms of tuberculosis, scrofula, &c.	780	301	22	...	...	
		Purpura, hæmorrhagic diathesis ...	¶ 100	¶ 44	21	...	...	
		Anæmia, chlorosis, leucocythæmia...	**	**	14	...	...	
		Diabetes mellitus ††	146	114	27	...	...	
		Other constitutional diseases	?	?	7	1	...			
V.	...	Premature birth	2,715	1,689	381	...	...	
		Atelectasis	††	††	28	...	...	
		Cyanosis	203	115	31	...	...	
		Spina bifida	108	51	5	...	...	
		Imperforate anus	289	122	4	...	...	
		Cleft palate, harelip						5
		Other congenital defects ...						24
		Old age	2,727	2,454	624	4	1			

* The Chinese and Aborigines are included in this column.

† A few cases of mumps and other miasmatic diseases probably included under this head.

‡ See also accidents of childbirth (Class VI., Sub-class 9, *post*).

§ Included with purpura (IV.).

|| Including lupus.

¶ Including scurvy.

** Distributed over other heads, viz., anæmia with dropsy (VIII.), chlorosis with disorders of menstruation (VI., 8), and leucocythæmia with other diseases of the circulatory system (VI., 3).

†† Includes diabetes insipidus, and diabetes undefined.

‡‡ Included with debility (VIII.).

CAUSES OF DEATH IN CLASSIFIED ARRANGEMENT—*continued.*

(10 Years: 1871 to 1880; 5 Years: 1881 to 1885; and Year 1887.)

Class.	Sub-Class.	Causes of Death.	Number of Deaths.				
			Ten Years: 1871-1880	Five Years: 1881-1885	Year 1887.		
					Total.*	Chinese.	Aborigines.
DISEASES, ETC.—<i>continued.</i>							
VI.	1	Inflammation of brain or its membranes	2,383	1,249	253	...	1
		Apoplexy	2,750	1,674	375	3	...
		Softening of brain	†	†	101	...	...
		Hemiplegia, brain paralysis	1,596	968	49	1	...
		Paralysis, undefined			165	1	...
		Insanity (general paralysis of insane)			104	2	...
		Chorea	20	9	1	...	...
		Epilepsy	588	365	99	...	...
		Convulsions	3,390	1,454	390	...	...
		Laryngismus stridulus	?	?	2	...	...
		Idiopathic tetanus	2,805	1,695	11	...	...
		Paraplegia, diseases of spinal cord			41	2	...
		Other diseases of nervous system			114	...	...
	2	Otitis, otorrhœa	†	†	10	...	...
		Epistaxis and diseases of nose			2	...	...
		Ophthalmia and diseases of eye			3	...	...
	3	Endocarditis, valvular disease	377	229	194	1	...
		Pericarditis			21	2	...
		Hypertrophy of heart			19	...	...
		Angina pectoris	‡	‡	7	...	...
		Syncope	785	322	57	1	...
		Aneurism			72	2	...
		Senile gangrene			§	§	17
		Embolism, thrombosis	5,642	3,902	27	1	...
		Phlebitis			2	...	...
		Varicose veins			2	...	...
		Other diseases of the circulatory system			756	16	...
	4	Laryngitis	359	253	55	...	...
		Croup || ... ..	1,897	795	191	...	...
		Other diseases of larynx and trachea	?	?	3	1	...
		Asthma, emphysema	392	261	70	1	...
		Bronchitis	4,588	3,039	697	6	3
		Pneumonia	5,077	3,769	725	10	...
		Congestion of the lungs	1,812	1,049	169	1	...
		Pleurisy	811	540	100	1	1
		Others	598	260	55	4	...
	5	Stomatitis	¶ 3	¶ 2	8	...	...
		Dentition	1,469	464	199	...	...
		Sore throat, quinsy	153	42	16	...	...

* The Chinese and Aborigines are included in this column.

† Included with other diseases of nervous system.

‡ Included with other diseases of the circulatory system.

§ Included with mortification (VIII.).

|| Including diphtheritic croup.

¶ The great majority of cases of stomatitis for these periods are included with diseases of stomach.

CAUSES OF DEATH IN CLASSIFIED ARRANGEMENT—*continued.*

(10 Years: 1871 to 1880; 5 Years: 1881 to 1885; and Year 1887.)

Class.	Sub-Class.	Causes of Death.	Number of Deaths.					
			Ten Years: 1871-1880	Five Years: 1881-1885	Year 1887.			
					Total *	Chinese.	Aborigines.	
DISEASES, ETC.—<i>continued.</i>								
VI.	5	Dyspepsia	1,971	1,294	19	...	...
		Hæmatemesis			12	...	...
		Melæna			8	...	...
		Diseases of stomach			437	...	...
		Enteritis			2,134	1,137	225	...
		Ulceration of intestine	160	121	21	...	...
		Ileus, obstruction of intestine	424	244	78	1	...	
		Stricture or strangulation of intestine	44	35	10	...	...
		Intussusception of intestine	93	60	14	...	...
		Hernia	191	139	34	...	..
		Fistula	17	8	5	...	1	
		Peritonitis	771	442	103	2	...	
		Ascites	184	58	13	...	...
		Gallstones	3,623	2,084	4	...	...
		Cirrhosis of liver			134	1	...	
	Other diseases of liver	279			6	1		
	Other diseases of the digestive system	3			5	3
	Diseases of lymphatic system	?			?	4
	6	Disease of spleen	44	19	8	...	...
		Bronchocele	?	4	2	...	...
		Addison's disease	†	†	2	...	...
	7	Nephritis	218	182	51	2	...	
		Bright's disease	749	777	207	3	...	
		Uræmia	†	†	26	...	...
		Suppression of urine	29	32	10	...	...
		Calculus	48	50	15	...	...
		Hæmaturia	†	†	5	...	1	
		Diseases of bladder and prostate	203	140	68	...	...
		Other diseases of the urinary system	628	330	46	...	...
	8	Ovarian disease	44	33	17	...	...
		Diseases of the uterus and vagina	170	58	15	...	...
		Disorders of menstruation	52	27	4	...	...
		Pelvic abscess	‡	‡	1	...	...
Perineal abscess		‡	‡	1	...	...
Diseases of the testes, penis, scrotum, &c.		29	2	3	...	...
9	Abortion, miscarriage	1,267	624	20	...	...
	Puerperal mania... ..			2	...	...
	Puerperal convulsions			12	...	...
	Placenta prævia, flooding			17	...	...
	Phlegmasia dolens ... ..			...	...	...
Other accidents of childbirth	65	...	...			
10	Caries, necrosis	§	§	18	...	...
	Arthritis, ostitis, periostitis	87	58	17	...	...
	Other diseases of the organs of locomotion	203	79	7	...	...

* The Chinese and Aborigines are included in this column.

† Included with other diseases of urinary system.

‡ Included with abscess (VIII.).

§ Included with "Other diseases," in same sub-class.

CAUSES OF DEATH IN CLASSIFIED ARRANGEMENT—*continued.*

(10 Years : 1871 to 1880 ; 5 Years 1881 to 1885 ; and Year 1887.)

Class.	Sub-Class.	Causes of Death.	Number of Deaths.				
			Ten Years : 1871-1880	Five Years : 1881-1885	Year 1887.		
					Total.*	Chinese.	Aborigines.
DISEASES, ETC.—<i>continued.</i>							
VI.	11	Carbuncle	37	27	3	...	...
		Phlegmon, cellulitis	20	4	6	...	...
		Lupus	†	†	3	...	...
		Ulcer, bed sore	86	59	5	...	...
		Eczema... ..	?	?	14	...	...
		Pemphigus	?	?	3	1	...
		Other diseases of the integumentary system	185	102	2	...	...
VII.	1	Fractures, contusions	3,152	1,632	364	2	...
		Wounds	262	124	33	...	...
		Burn, scald	885	434	88	2	...
		Sunstroke	218	70	34	...	...
		Lightning	25	12	3	...	...
		Poison	178	93	28	2	...
		Bite of snake or insect	37	18	9	1	...
		Drowning	1,937	933	228	2	...
		Suffocation	625	283	48	1	...
		Otherwise	128	63	34	1	...
	2	Murder and manslaughter	190	110	22	...	...
	3	Gunshot wounds	254	69	29	...	...
		Cut, stab					
		Poison	188	71	26	1	...
		Drowning	217	95	25	...	...
		Hanging	256	138	27	1	...
		Suicide by other means	36	16	7	...	...
	4	Judicial hanging... ..	19	8	...	...	...
VIII.	...	Dropsy	† 613	† 322	27	1	1
		Debility, atrophy, inanition	§ 6,987	§ 4,279	1,162	10	2
		Mortification	131	55	8	...	...
		Tumour	269	204	21	...	...
		Abscess	38	3	20	...	...
		Hæmorrhage ... ..	...	...	12	1	...
		Sudden (cause unascertained) ... ..	...	...	6	1	...
		<i>Causes not specified</i>	326	120	29	1	1

645. The next table shows the same causes of death, arranged in the order of their fatality, during 1887, with the numbers who died from each cause in that year, during the five years ended with 1885, and during the ten years ended with 1880, also the order of fatality of the different causes during that period :—

Causes of death in order of fatality.

* The Chinese and Aborigines are included in this column.

† Included with cancer (IV.).

‡ Including anæmia (IV.).

§ Including atelectasis (V.).

CAUSES OF DEATH IN ORDER OF FATALITY.
(10 Years : 1871-80 ; 5 Years : 1881-85 ; and Year 1887.)

Order of Fatality.			Causes of Death.	Number of Deaths.*		
Ten Years: 1871-80.	Five Years: 1881-85.	Year 1887.		Ten Years: 1871-80.	Five Years: 1881-85.	Year 1887.
1	1	1	Phthisis	10,155	6,428	1,557
2	2	2	Diarrhœa	7,667	3,994	933
4	3	3	Heart diseases, &c. (exclusive of pericarditis and aneurism, and endocarditis and valvular disease)	5,642	3,902	887
3	5	4	Accidents	7,447	3,662	869
5	4	5	Pneumonia	5,077	3,769	725
6	6	6	Bronchitis	4,588	3,039	697
8	8	7	Typhoid (or enteric) and simple continued fever	3,973	2,364	631
16	7	8	Old age	2,727	2,454	624
12	10	9	Cancer, malignant disease ...	2,957	2,065	527
22	15	10	Dyspepsia and other diseases of the stomach	1,971	1,294	476
9	9	11	Liver diseases	3,623	2,084	417
10	14	12	Convulsions	3,390	1,454	390
17	12	13	Premature birth	2,715	1,689	381
15	13	14	Apoplexy	2,750	1,674	375
26	19	15	Hemiplegia, paralysis, insanity ...	1,596	968	318
18	16	16	Inflammation of brain or its membranes	2,383	1,249	253
19	17	17	Enteritis	2,134	1,137	225
48	48	18	Endocarditis, valvular disease, pericarditis	377	229	215
28	24	19	Tubercular meningitis (acute hydrocephalus)	1,394	719	212
36	22	20	Bright's disease	749	777	207
27	30	21	Dentition	1,469	464	199
11	26		Diphtheria	3,040	681	199
23	21	22	Croup	1,897	795	191
25	20	23	Childbirth and puerperal fever ...	1,728	938	174
24	18	24	Congestion of the lungs	1,812	1,049	169
14	11	25	Diseases of spinal cord and other diseases of nervous system ...	2,805	1,695	166
37	29	26	Tabes mesenterica	723	484	155
13	27	27	Dysentery	2,846	629	138
44	43	28	Cholera (simple)	523	263	137
30	31	29	Suicide... ..	951	463	132
21	25	30	Whooping-cough	1,974	701	129
35	32	31	Peritonitis	771	442	103
...	...	32	Softening of the brain	†	†	101
38	33	33	Intemperance	646	394	100
32	28		Pleurisy	811	540	100
43	36	34	Epilepsy	588	365	99
41	40	35	Malformation	600	288	97
45	47	36	Ileus, obstruction of intestine ...	424	244	78
20	34		Measles	2,080	386	78
29	23	37	Starvation, want of breast-milk ...	1,322	726	74
31	35	38	Rheumatic fever and rheumatism ...	817	379	73
33	38	39	Aneurism	785	322	72
46	44	40	Asthma, emphysema	392	261	70

* See notes to previous table.

† Included with diseases of spinal cord and other diseases of nervous system *ante*.

CAUSES OF DEATH IN ORDER OF FATALITY—*continued.*

(10 Years: 1871 to 1880; 5 Years: 1881-85; and Year 1887.)

Order of Fatality.			Causes of Death.	Number of Deaths.*		
Ten Years: 1871-80.	Five Years: 1881-85.	Year 1887.		Ten Years: 1871-80.	Five Years: 1881-85.	Year 1887.
55	53	41	Diseases of bladder and prostate ...	203	140	68
49	46	42	Laryngitis	359	253	55
42	45		Diseases of the respiratory system not classed	598	260	55
47	42	43	Hydatids	379	268	51
54	49		Nephritis	218	182	51
39	37	44	Diseases of the urinary system not classed	628	330	46
53	52	45	Pyæmia, septicæmia	264	142	42
56	54	46	Hernia	191	139	34
65	60	47	Gout	133	80	27
64	57		Diabetes mellitus	146	114	27
...	...	48	Uræmia	?	?	26
50	56		Thrush	327	119	26
51	50	49	Syphilis	286	178	23
34	39	50	Other forms of tuberculosis, scrofula, &c.	780	301	22
57	58		Murder and manslaughter ...	190	110	22
40	45	51	Erysipelas	619	260	21
66	66		Purpura, hæmorrhagic diathesis ...	100	44	21
62	55	52	Ulceration of intestines	160	121	21
...	...		Caries, necrosis	?	?	18
73	70	53	Ovarian disease	44	33	17
69	64		Arthritis, ostitis, periostitis ...	87	58	17
63	67	54	Sore throat, quinsy	153	42	16
60	64	55	Diseases of the uterus and vagina...	170	58	15
...	...		Diseases of the eye and ear ...	?	?	15
72	65	56	Calculus	48	50	15
...	...		Anæmia, chlorosis, leucocythæmia	?	?	14
67	62	57	Intussusception of intestine ...	93	60	14
...	...		Eczema	?	?	14
59	58	58	Ascites... ..	184	58	13
68	68		Gonorrhœa, stricture of the urethra	91	40	13
73	69	59	Stricture or strangulation of intestines	44	35	10
75	71		Suppression of urine	29	32	10
52	51	59	Influenza	276	162	9
83	81	60	Stomatitis	3	2	8
73	73		Diseases of spleen	44	19	8
...	...	61	Other constitutional diseases not classed	?	?	7
55	61		Diseases of the organs of locomotion not classed	203	79	7
...	80	62	Rickets ... ..	...	3	6
...	...		Epidemic rose rash	?	?	6
77	79	63	Phlegmon, cellulitis	20	4	6
...	...		Hæmaturia	?	?	5
79	76	64	Fistula... ..	17	8	5
70	63		Ulcer, bed sore	86	59	5
71	71	65	Disorders of menstruation ...	52	27	4
...	...		Mumps	?	?	4
...	...	66	Diseases of the lymphatic system ...	?	?	4
7	41		Scarlet fever	4,101	282	4

* See notes to previous table.

CAUSES OF DEATH IN ORDER OF FATALITY—*continued.*

(10 Years: 1871-80; 5 Years: 1881-85; and Year 1887.)

Order of Fatality.			Causes of Death.	Number of Deaths.*			
Ten Years: 1871-80.	Five Years: 1881-85.	Year 1887.		Ten Years: 1871-80.	Five Years: 1881-85.	Year 1887.	
80	77	65	Chicken-pox	13	6	3	
...	...		Lupus	?	?	3	
75	81		Diseases of testes, penis, scrotum, &c.	29	2	3	
83	78		Diseases of the digestive system not classed	3	5	3	
...	...		Pemphigus ... ..	...	...	3
61	72		Remittent fever... ..	169	25	3	
...	...		Other diseases of the larynx and trachea not classed	?	?	3	
74	71		66	Carbuncle	37	27	3
...	79			Bronchocele	?	4	2
...	...			Addison's disease	?	...	2
73	74	Ague		44	14	2	
58	59	Diseases of the integumentary system not classed		185	102	2	
...	...	Laryngismus stridulus ... ..		...	...	2
...	...	67		Pelvic abscess	1
...	...			Perineal abscess...	1
...	...			Beri beri	1
77	75			Chorea... ..	20	9	1
84	77		Small-pox	2	6	1	
76	79		Other parasitic diseases	28	4	1	
81	79		Other dietic diseases	11	4	...	
85	...		Glanders	1	...	...
...	...		Phagedæna	?	?	...	
...	...		Cow-pox and other effects of vaccination	?	?	...	
78	76	Judicial hanging	19	8	...		
...	...	Scurvy	?	?	...		
			Deaths from well-defined causes ...	114,206	61,828	14,720	
			Deaths from "atrophy and debility" and other ill-defined and unspecified causes	8,364	4,983	1,285	
			Deaths from all causes	122,570	66,811	16,005	

Death rate from various causes in Victoria and England.

646. The fatality of the different circumstances which cause death in this colony, as compared with the fatality resulting from similar causes in England and Wales, is shown by the following table, in which the number of persons dying from each cause in either country is compared with the number of persons living in the same country. The total of each class and order is given, as also are some of the principal diseases.

* See notes to previous table.

The Victorian results relate to the years 1887, the five years ended with 1885, and the ten years ended with 1880, and the results for England and Wales to the five years ended with 1880:—

ANNUAL DEATH RATE FROM EACH GROUP OF CAUSES AND CERTAIN DISEASES IN VICTORIA AND ENGLAND AND WALES.

Class.	Sub-Class.	Causes of Death.	Number of Annual Deaths per 100,000 of Mean Population.			
			Victoria.			England and Wales.
			Year 1887.	Average of 5 Years: 1881-1885.	Average of 10 Years: 1871 to 1880.	Average of 5 Years: 1876 to 1880.
		All causes	1,569·58	1,464·31	1,538·01	2,081·74
		CLASSES.				
I.	...	Specific febrile or zymotic diseases	238·80	228·97	356·74	332·00
II.	...	Parasitic diseases	7·65	8·57	9·21	5·74
III.	...	Dietic diseases	17·06	24·64	24·83	6·72
IV.	...	Constitutional diseases	259·68	232·70	215·89	358·26
V.	...	Developmental diseases	108·07	97·11	75·82	163·14
VI.	...	Local diseases	711·98	670·12	642·57	1,004·80
VII.	...	Violent deaths	100·32	92·99	108·00	72·00
VIII.	...	Ill-defined and not specified causes	126·02	109·21	104·95	139·08
		SUB-CLASSES AND DISEASES.				
I.	1	Miasmatic diseases	104·34	100·56	193·98	219·26
		Measles	7·65	8·47	26·10	38·54
		Scarlet fever	3·39	6·18	51·46	68·04
		Diphtheria*	19·52	14·93	38·15	12·18
		Whooping-cough	12·65	15·36	24·77	52·76
		Typhoid or enteric fever, &c.	61·88	51·81	49·85	34·66
	2	Diarrhœal diseases	118·47	107·09	138·48	85·40
		Diarrhœa	91·50	87·54	96·21	83·36
		Dysentery	13·53	13·79	35·71	
	3	Malarial diseases	·59	·85	2·67	·74
	4	Zoogenous diseases ... ..	...	...	·01	·36
	5	Venereal diseases	3·53	4·78	4·73	9·56
	6	Septic diseases	11·87	15·69	16·87	16·68
		Puerperal fever (see also Childbirth and Puerperal <i>infra</i>)	5·69	6·88	5·78	6·20
IV.	...	Constitutional diseases—				
		Cancer, malignant disease	51·68	45·26	37·10	49·60
		Phthisis	152·69	140·88	127·42	204·24
		Other tubercular and scrofulous diseases	36·78	32·96	36·35	77·78

* Deaths from diphtheritic croup are not included with those from diphtheria, but under the head of croup, which is classed as a disease of the respiratory system, Class VI., Sub-Class 4.

ANNUAL DEATH RATE FROM EACH GROUP OF CAUSES AND CERTAIN DISEASES IN VICTORIA AND ENGLAND AND WALES—*continued.*

Class.	Sub-Class	Causes of Death.	Number of Annual Deaths per 100,000 of Mean Population.			
			Victoria.			England and Wales.
			Year 1887.	Average of 5 Years: 1881-1885.	Average of 10 Years: 1871 to 1880.	Average of 5 Years: 1876 to 1880.
		SUB-CLASSES AND DISEASES— <i>continued.</i>				
V.	...	Developmental diseases— Of children (premature birth or malformation)	46·87	43·33	41·60	55·80
		Of old age	61·30	53·78	34·22	107·34
VI.	...	Diseases of the systems—				
	1	Nervous (brain diseases, &c.)	167·20	162·50	169·80	277·80
	2	Organs of special sense (nose, ear, and eye diseases)	1·47	?	?	1·34
	3	Circulatory (heart diseases, &c.)	115·13	97·59	85·37	141·70
	4	Respiratory (lung diseases, &c.)*	202·51	218·43	194·92	395·50
	5	Digestive (stomach, bowel, liver diseases, &c.)	159·07	134·46	141·04	117·60
	6	Lymphatic, and ductless glands	1·57	·50	·55	1·26
	7	Urinary (kidney, bladder diseases, &c.)	41·97	33·12	23·53	37·50
	8	Generative (diseases of ovary, uterus, and vagina, &c.)	4·02	2·63	3·70	5·88
	9	Childbirth (see also Childbirth and puerperal fever <i>infra</i>)	11·38	13·68	15·90	7·96
	10	Locomotive (arthritis, ostitis, &c.)	4·12	3·00	3·64	10·78
	11	Integumentary (carbuncle, phlegmon, ulcer, &c.)	3·53	4·21	4·12	7·48
VII.	1	Accident or negligence ...	85·22	80·26	93·45	63·12
	2	Homicide	2·16	2·41	2·38	1·40
	3	Suicide	12·94	10·15	11·93	7·38
	4	Execution ... ..	...	·17	·24	·10
I. IV.	6 } 9 }	Childbirth and puerperal fever	17·07	20·55	21·68	14·16

NOTE.—See notes to table following paragraph 644 *ante.*

Diseases more fatal in Victoria than in England.

647. By means of the results shown in this table, it is found that, over a series of years, the mortality from the following causes is greater in

* See footnote to preceding page.

Victoria than in England and Wales:—Diphtheria,* typhoid fever, diarrhoeal diseases, dietic diseases (including want of breast-milk and alcoholism), parasitic diseases (including thrush, hydatids, &c.); diseases of the stomach, bowels, and liver; violent deaths of all kinds; and the consequences of childbirth. From every other cause shown, also from all causes combined, the death rate is, on the average, higher in England and Wales than in Victoria.

648. It should be pointed out that under the altered nosological classification, recently adopted, the increased number of distinct diseases specified, and the numerous changes made in the grouping of diseases, have rendered it impossible to ascertain the number of deaths resulting from many diseases now stated separately, but formerly grouped with other complaints in such a way as to be no longer distinguishable; consequently, many of the classes, sub-classes, and diseases contain sometimes an excess above, and sometimes a deficiency below, the correct number, and, as a matter of course, the results cannot in such cases be strictly compared with those for the last two years. Such discrepancies have, as far as possible, been pointed out in the footnotes to a previous table, and it is believed it will be possible in most cases to institute a fair comparison.

New nosology prevents returns from being strictly comparable.

649. Per 100,000 of the population, 239 deaths in 1887 were set down to specific febrile or zymotic diseases. This number was about 10 above the average of recent years, but nearly one-third below the average of the decade 1871–80, during which period, in consequence of the prevalence of epidemics, the rate of mortality from this class of complaints was somewhat higher than in England. Of the 239 deaths referred to, 104 were set down to miasmatic diseases, 118 to diarrhoeal diseases, 12 to septic diseases, less than 4 to venereal diseases, and a much smaller proportion to malarial diseases. Of miasmatic diseases, one which is almost invariably more fatal here than in England is typhoid fever, which caused as many as 62 deaths per 100,000 of the population, or 9 more than in 1886, and 10 above the average of the five years ended with 1885. Next to typhoid fever in point of fatality in recent years are diphtheria† and whooping cough, the former being generally more fatal, but the latter much less so, here than in England. The proportion of deaths from diarrhoeal diseases was higher in 1887 than in the quinquennial period ended with 1880. These complaints, which press most hardly upon children under the age of five years, are invariably much more

Specific febrile or zymotic diseases.

* There is some difficulty in making comparisons in the case of diphtheria, as diphtheritic croup, which is generally classed with croup, may sometimes be classed with diphtheria. See footnote to last table.

† See footnote (†) on preceding page.

fatal here than in England. The mortality from venereal and from septic diseases was below the average. The proportion of deaths from complaints under both these sub-classes is generally lower here than in England. As regards other zymotic diseases, the mortality from malarial diseases, such as ague and remittent fever, was considerably below the average of both the five-year and the ten-year periods. There was only one death placed under the head of zoogenous diseases, viz., that of a man from beri beri.

Zymotic diseases, &c., in Australasian colonies.

650. The following is a statement of the number of deaths from zymotic diseases under the old classification, which now corresponds as nearly as possible with the zymotic, parasitic, and dietic classes of disease together, and of the proportion of such deaths to the total mortality and to the population over a series of years in all the Australasian colonies except Western Australia, respecting which no information is at hand. The colonies are placed in order according to the death rate from diseases of this class prevailing in each:—

ORDER OF COLONIES IN REFERENCE TO MORTALITY FROM
ZYMOTIC, PARASITIC, AND DIETIC DISEASES, 1873-82.

Colony.	Deaths from Zymotic, Parasitic, and Dietic Diseases, 1873-82.		
	Total Number.	Percentage of Total Deaths.	Annual Proportion per 10,000 Persons Living.
Queensland	10,245	30·11	52·7
Victoria	34,182	26·75	41·7
South Australia	9,171	25·11	38·6
New South Wales	23,871	22·73	36·4
Tasmania	3,416	19·07	31·2
New Zealand	12,600	25·20	30·6

Period unfavorable to Victoria

651. It should be mentioned that the period named in the table can hardly be considered an average one, as it embraces the years from 1874 to 1876, in which epidemics of measles and scarlatina prevailed, which increased the death rate, it is true, more or less in all the colonies, but pressed with especial weight upon Victoria. In the five years ended with 1881 the mortality from zymotic diseases in Victoria was at the rate of 35·35 per 10,000, or slightly below the ten years' average in New South Wales, and in the five years ended with 1885 it averaged about 26 per 10,000, or below that in any of the other colonies.

Small-pox in various countries.

652. Small-pox has never prevailed as an epidemic amongst the people of Victoria. On several occasions persons sickening from or affected by that complaint have arrived in vessels, and before the nature

of the malady was discovered it has been caught by others ; but in every case the patients have been promptly isolated by order of the Government, and the disease has soon disappeared. No case of small-pox occurred in the year under review, and since the registration system was first introduced in 1853 only 26 deaths from it have been recorded, five of which occurred in 1884, that being the period of the last outbreak. It may not be, however, uninteresting to give some statistics of deaths from small-pox in other countries, material for which is at hand in the valuable paper contributed by Dr. E. Raseri to the International Statistical Institute at its session held at Rome in the month of April, 1886.* The following are the figures referred to, which relate generally to the mean of the four years 1881 to 1884 :—

ANNUAL DEATH RATE FROM SMALL-POX IN VARIOUS COUNTRIES.

	Deaths from Small-pox Annually per 10,000 persons living.
Spain (principal towns)	13·07
Spain	8·46
Austria (principal towns)	8·43
Austria	7·05
Belgium	4·09
Belgium (principal towns)	3·15
Russia	2·96
Italy	1·63
Switzerland (principal towns)	·80
Sweden (principal towns)	·69
England and Wales	·67
Holland	·57
Sweden	·41
Switzerland	·33
Prussia	·29
Germany (principal towns)	·23
Ireland	·20
Massachusetts	·18
Denmark (towns)	·08
Scotland (eight towns)	·05
Scotland	·03

653. The decline in the numbers of the Australian aborigines is attributed by Mr. Curr chiefly to small-pox, which he says has carried off probably one-third to one-half of the race. Mr. Curr thinks it had no existence with them until after the arrival of the whites, but broke out amongst the tribes surrounding Port Jackson about 15 months after Phillip established a settlement there. From inquiries made, Mr. Curr found reason to believe that the disease spread from Sydney over a great portion of the continent, reaching the shores of Port Phillip Bay on the south, Keppel Bay on the north-east, Rawlinson Range in the western interior, finding its way to Perth in Western Australia, and along the west coast from Perth to Port Essington. He has ascertained

Small-pox amongst the aborigines.

* *Bulletin de l'Institut International de Statistique*, Tome I., 3ème et 4ème Livraisons, page 193.

that the traditions of several tribes point to the conclusion that in the country through which it spread it killed something like one-half of the aboriginal population. Although there was no small-pox amongst the whites when Phillip first arrived in Australia, there had been small-pox on board one of the vessels (the *Alexander* transport), and Mr. Curr, thinks it probable it was communicated to the blacks by means of some infected clothing which was inadvertently given them.*

654. Intimately connected with small-pox is the subject of vaccination, the number of cases of which successfully performed in Victoria during 1887 was 25,855; and as the number of births was 33,043, it appears that 78 per cent. of the children born were vaccinated. Part of the remainder are accounted for by death—2,930, or nearly 9 per cent., of those born having died before they were 6 months old. In the previous year the vaccinations were equal to 70 per cent. of the children born; in 1885, 69 per cent.; in 1884, 74 per cent.; in 1883, 67 per cent.; in 1882, 75 per cent.; in 1881 they even exceeded the births by 100—a circumstance due to the alarm occasioned by an outbreak of small-pox, first in Sydney and subsequently on board vessels arriving at Melbourne, which induced a large number of persons at all ages to be vaccinated; in 1880 they were equal to about 73 per cent.; in 1879 and 1878 to 82 per cent.; in 1877 to 87 per cent.; and in 1876 to 80 per cent. of the births.

655. Dr. Raseri† gives the following as the proportions of successful vaccinations to births in different countries, generally during the years 1880 to 1884. To these has been added the proportion in Victoria during the period 1875 to 1885 (omitting the exceptional year 1881) which it will be noticed is above 4 but below 8 of the proportions relating to the other countries named:—

PROPORTION OF VACCINATIONS TO BIRTHS IN VARIOUS COUNTRIES.

							Vaccinations per 100 Births.
Ireland	...	...	...	...	...	...	89
Scotland	...	...	...	...	...	...	88
Norway	...	...	...	...	...	...	87
England and Wales	...	...	...	...	...	...	86
Hungary	...	...	...	...	...	...	86
Holland	...	...	...	...	...	...	82
Sweden	...	...	...	...	...	...	80
Austria	...	...	...	...	...	...	78
Victoria	...	...	...	...	...	...	75
Italy	...	...	...	...	...	...	73
Germany	...	...	...	...	...	...	71
France	...	...	...	...	...	...	64
Russia in Europe	...	...	...	...	...	...	56

* *The Australian Race*, vol. I., page 208 *et seq.*, by Edward M. Curr: Ferres, Melbourne, 1886.

† *Bulletin, &c.*, page 189.

Vaccina-
tions.

Vaccinations
in various
countries.

656. Doubts being, from time to time, raised as to the efficacy of vaccination in preventing or modifying the effects of small-pox, the following particulars may be interesting; they have been founded on information given to the Medical Officer of the Local Government Board, by Mr. Marson, surgeon of the Small-pox Hospital, London, as the result of his observations made during twenty-five years in regard to nearly 6,000 cases of post-vaccinal small-pox:—

Effects of vaccination.

Cases where the patient—	Percentage of Deaths of Small-pox Patients.
Was stated to have been vaccinated, but had no cicatrix	21.75
Had one vaccine cicatrix *	7.50
" two " cicatrices †	4.50
" three " "	1.75
" four or more "	0.75
Was unvaccinated	35.50

657. The number of public vaccinators in Victoria is 180, and the amount paid in 1887 for vaccinations, including fees to Deputy-Registrars and travelling allowances to vaccinators, was £5,187.

Cost of vaccination

658. The seven zymotic diseases which chiefly affect children are measles, scarlatina, diphtheria, croup, whooping-cough, dysentery, and diarrhoea. The following table shows the number of deaths from such diseases which occurred during the twenty-three years ended with 1887, the annual means of the decade 1864-1873 and of the decade 1874-1883 being also given:—

Zymotic diseases affecting children.

DEATHS FROM ZYMOTIC DISEASES CHIEFLY AFFECTING CHILDREN, 1864 TO 1887.

Year.	Number of Deaths from—							Total.
	Measles.	Scarlet Fever.	Diphtheria.	Croup.	Whooping-cough.	Dysentery.	Diarrhoea.	
1864	7	278	451	160	25	243	528	1,692
1865	11	215	391	171	304	402	864	2,358
1866	427	462	331	132	365	525	1,027	3,269
1867	630	621	334	115	205	430	986	3,321
1868	24	460	451	194	243	220	640	2,232
1869	24	224	493	162	100	306	858	2,167
1870	3	24	418	99	50	244	706	1,544
1871	4	27	255	90	318	316	626	1,636
1872	7	135	320	121	227	424	747	1,981
1873	1	188	420	142	299	357	629	2,036
Annual mean } 1864-1873 }	113.8	263.4	386.4	138.6	213.6	346.7	761.1	2,223.6

* In cases of the one cicatrix being well marked the death-rate was 4.25 per cent.; in cases of its being badly marked it was 12 per cent.

† In cases of the two cicatrices being well marked the death-rate was 2.75 per cent.; in cases of the being badly marked it was 7.25 per cent.

DEATHS FROM ZYMOTIC DISEASES CHIEFLY AFFECTING CHILDREN,
1864 TO 1887—*continued.*

Year.	Number of Deaths from—							
	Measles.	Scarlet Fever.	Diph- theria.	Croup.	Whooping- cough.	Dysen- tery.	Diarrhœa.	Total.
1874 ...	256	120	375	159	151	325	846	2,232
1875 ...	1,541	985	239	135	58	509	1,002	4,469
1876 ...	5	2,240	201	173	13	202	675	3,509
1877 ...	6	183	359	315	245	254	963	2,325
1878 ...	5	136	336	331	291	197	877	2,173
1879 ...	3	61	337	275	193	140	698	1,707
1880 ...	252	26	198	156	179	122	604	1,537
1881 ...	62	86	114	125	167	115	671	1,340
1882 ...	15	89	122	142	109	182	968	1,627
1883 ...	7	59	131	167	48	139	885	1,436
Annual mean } 1874-1883 }	215·2	398·5	241·2	197·8	145·4	218·5	818·9	2,235·5
1884 ...	233	34	162	181	209	78	643	1,540
1885 ...	69	14	152	180	168	115	827	1,525
1886 ...	20	14	121	160	209	115	906	1,545
1887 ...	78	4	199	191	129	138	933	1,672

NOTE.—Croup is included in this table, although not now classed as a zymotic disease, since a large number of deaths are set down to diphtheria and croup conjointly.

Children's
zymotic
diseases,
1887.

659. The year 1887 has been marked by an increase in the mortality from measles, diphtheria, croup, dysentery, and diarrhœa, the only complaints named in the table which caused fewer deaths than in the previous year being scarlet fever and whooping-cough. Taken as a whole, these diseases caused more deaths in 1887 than in any other year since 1879. Some increase was naturally to be expected, as the number of children must have increased largely since that period. It will be remarked that scarlet fever, as a fatal complaint, has, for the time being, almost disappeared from the colony.

Measles.

660. An epidemic of measles occurred in 1884, and caused in that and the following year 302 deaths, or 12 less than resulted from the preceding epidemic of the same complaint in 1880 and 1881. Neither of these outbreaks of measles was so serious in its effects as the two previous ones of 1874-5 and 1866-7, when the resulting deaths numbered 1,797 and 1,057 respectively. As compared with the previous two years, the table shows an increased number of deaths from measles in 1887, and it is possible that a recurrence of that complaint in an epidemic form may be pending. Reference to a previous table* will

* See table following paragraph 646 *ante.*

show that per 10,000 of the population, the proportion of deaths from measles was .76 in 1887 and .85 in the five years ended with 1885, both of which proportions are lower than those in any of the following European countries, the proportions given for which relate generally to the average of the four years 1881 to 1884:—

ANNUAL DEATH RATE FROM MEASLES IN VARIOUS COUNTRIES,
1881 TO 1884.*

	Deaths from Measles per 10,000 persons living.
Spain (principal towns)	11.44
Spain	8.84
Italy	7.04
Scotland (eight towns)	5.34
Belgium	5.24
Austria	4.60
England and Wales	4.01
Denmark (towns)	3.66
Scotland... ..	3.58
Prussia	3.51
Sweden (principal towns)	3.27
Germany (principal towns)	3.15
Holland	2.88
Belgium (principal towns)... ..	2.80
Switzerland (principal towns)	2.46
Sweden	2.40
Austria (principal towns)	2.32
Ireland	1.81
Massachusetts	1.16
Russia in Europe... ..	1.09
Switzerland ... ..	.88

661. The following useful circular, recently issued under the direction of the Central Board of Health, describes the symptoms of measles, the precautions necessary to be taken to prevent its spread, and mode of treatment in the absence of medical aid:—

Central
Board of
Health on
measles.

MEASLES.

"The danger of measles depends almost exclusively on its complications."—DR. CHAS. WEST.

Symptoms.—The first symptoms are similar to those of a severe cold: chilliness, thirst, furred tongue, hot dry skin, and sometimes vomiting. The eyes become red and watery, and unable to bear the light, and the eyelids swell. Sneezing is common; there is a dry frequent cough, and some hoarseness. About the fourth day from the commencement of these symptoms, the characteristic red-spotted rash appears on the forehead and face, and spreads over the body. At first the spots are not unlike fleabites, but soon run into blotches of a horseshoe or crescent-

* See Dr. Raseri's paper already alluded to, page 193.

like shape. The rash is of a dull deep-red colour, and not so bright as in scarlet fever. The time which elapses between infection and the first sign of illness is called the period of incubation, and varies from ten to fourteen days. These are the usual symptoms, but the severity of an attack varies greatly. In children, convulsions may occur as one of the earliest indications, even before the rash appears. The most frequent complications are bronchitis, inflammation of the lungs, and occasionally croup, which complications are more dangerous than the measles itself. A severe form of inflammation of the eye and sometimes of the ear is apt to occur, ending in blindness or deafness. Risk to life is greater in the cases of infants and adults than of young persons, and all children under four or five years should be carefully kept from danger of infection.

Precautions.—Measles is highly contagious, and the danger may last for a month or six weeks from the beginning of the sickness. The infection is readily carried, and is long retained in clothes or other similar material, and it also spreads through the air. Clothing of patients should be carefully disinfected, and articles of small value destroyed.

Treatment.—Rest, fresh air, prevention of chills, suitable drinks and nourishment. The room should be well ventilated by leaving the door and fireplace open and be kept moderately warm, and always at about the same temperature. It should also be darkened or shaded, as light is annoying to tender eyes. Children should not be allowed to become uncovered in bed during the night, and the bed clothes should not be too heavy. Linseed poultices, moist and warm, are useful when the lungs are affected. Diet should be light at first—plenty of liquids—little at a time, but frequently. Water, barley water, milk and water, &c., may be taken cold or even iced. When more nourishment is required, chicken or beef tea or mutton broth is suitable. The juice of grapes or oranges is agreeable, but the skin, seeds, and crude pulp must be avoided. Purgatives should be avoided, but the bowels should be kept open—once or twice a day—during the fever. To relieve the heated skin, the whole body should be sponged with tepid water two or three times a day.

N.B.—In all serious cases, especially of adults, and when the eye, ear, or lungs are affected, medical assistance should be speedily obtained.

662. On the occasion of both the earlier visitations of measles just referred to, the epidemic was accompanied or followed by one of scarlet fever (scarlatina), which proved to be even more fatal than the former complaint; but no such calamity has attended the last two outbreaks of measles, during the whole period of which, especially the last outbreak, the mortality from scarlet fever was exceedingly low. The fatality attending this complaint has very much diminished of late years, the deaths from it—notwithstanding the increased population—having numbered only 387 in the last nine years, or an average of 43 per annum; as against 3,987, or an average of 570 per annum, in the preceding seven years; and 2,260, or an average of 377 per annum, in the six years ended with 1869. In 1887, scarlet fever almost disappeared as a cause of death, only 4 deaths having been recorded, or a proportion of .04 per 10,000 of the population, as against .62 in the five years ended with 1885, and 5.1 in the ten years ended with 1880. Whilst the death rate from this complaint in the last seven years was lower than the average prevailing in any of the following countries, that in the decade preceding those years was higher than in the most of the countries named:—

ANNUAL DEATH RATE FROM SCARLATINA IN VARIOUS COUNTRIES,

1881 TO 1884.*

	Deaths from Scarlatina per 10,000 persons living.		Deaths from Scarlatina per 10,000 persons living.
Sweden (principal towns) ...	6.10	Belgium ...	2.90
Austria ...	5.86	Denmark (towns) ...	2.64
Prussia ...	5.30	Massachusetts ...	2.54
England and Wales ...	5.29	Spain ...	2.00
Germany (principal towns) ...	5.09	Russia in Europe ...	1.79
Sweden ...	4.85	Belgium (principal towns) ...	1.58
Scotland (8 towns) ...	4.77	Switzerland (principal towns) ...	1.49
Austria (principal towns) ...	4.45	Spain (principal towns) ...	1.46
Scotland ...	4.44	Holland ...	1.15
Ireland ...	3.00	Switzerland ...	1.01
Italy ...	2.94		

663. In consequence of the similarity of the complaints, and the number of deaths set down to a combination of both, it is misleading to consider the deaths caused by diphtheria apart from those caused by croup. Taking the two affections together, they were to every 10,000 of the population in the proportion of 3.83 in 1887, 2.85 in 1886, 3.23 in the five years ended with 1885, and 6.19 in the ten years ended with 1880. The proportion in 1887 was lower than the average rate in any of the following countries except Ireland, England, Holland, and Belgium; that in the previous five years was lower than in any except Ireland and England; whilst that in the decade preceding these five years was higher than in those countries or in Holland, Belgium, Scotland, Russia, or Switzerland, as will be seen by the following figures:—

ANNUAL DEATH RATE FROM DIPHTHERIA AND CROUP IN VARIOUS COUNTRIES, 1881 TO 1884.*

	Deaths from Diphtheria per 10,000 persons living.		Deaths from Diphtheria per 10,000 persons living.
Austria ...	16.63	Spain ...	6.85
Prussia ...	15.45	Denmark (towns) ...	6.28
Spain (principal towns) ...	11.83	Switzerland ...	6.09
Germany (principal towns) ...	11.54	Scotland (8 towns) ...	4.99
Massachusetts ...	11.13	Russia in Europe ...	4.67
Austria (principal towns) ...	10.36	Scotland ...	4.55
Sweden ...	9.79	Belgium (principal towns) ...	3.79
Sweden (principal towns) ...	9.74	Holland ...	3.76
Italy ...	9.18	England and Wales ...	3.05
Switzerland (principal towns) ...	8.49	Ireland ...	2.70
Belgium ...	7.72		

664. In view of the increasing prevalence of diphtheria in Victoria during the early part of 1888, the Central Board of Health recently

Central Board of Health on diphtheria.

* See Dr. Raseri's paper, page 193.

issued the following circular, giving the symptoms of that complaint, and directions for its management in the absence of medical assistance:—

DIPHTHERIA.

[N.B.—In all diseases of the air passages, it is specially desirable that the services of a medical man be obtained without delay.]

General symptoms.—Prostration of strength and soreness of throat are the two most marked symptoms, and, as a rule, come on gradually, and often with little warning, so that the disease is sometimes well established before the patient or friends are aware of its true nature. In some cases the patient sinks rapidly almost from the commencement from great exhaustion or suffocation. There is often mental depression, headache, drowsiness, weakness of the limbs, and chilliness.

Local symptoms.—Stiffness of neck, sore throat, and, at times, difficulty in swallowing. On examining the throat, it is found swollen and inflamed, and, sooner or later, a smooth, tough, thickish deposit of yellowish-white matter appears on or about the tonsils, and quickly spreads to the neighbouring parts. This false membrane resembles wetted felt, or damp, dirty wash-leather. The breath becomes offensive; there is generally some discharge from the mouth, and the voice is often changed. External swelling takes place about the angle or corner of the jaw. It is important to distinguish between this state of the throat in diphtheria and that of the ordinary sore throat inflamed from cold—commonly called quinsy. In the latter, there is also redness, swelling, and some yellowish matter about the tonsils, but it is thin, semi-transparent, and limited in extent, thus differing from the tough, thick, spreading membrane of diphtheria.

Prevention.—Dampness and filth of all kinds, especially night-soil, are chief causes in developing and spreading diphtheria. Every cesspit should be abolished, and closets, drains, and premises generally kept in a sound, healthy state. Sewers, pipes, and all covered channels should be well ventilated and air-disconnected, according to the requirements of modern sanitary science, as foul air is a dangerous source of diphtheria poisoning. Good drainage, dry houses (particularly as regards foundations and under the floors), cleanliness, ventilation, and sunshine are of primary importance in the prevention of this disease. Drinking water should be protected against every form of pollution, and where there is risk of contamination it should be boiled—filtering is not enough. Wells and underground tanks (both of which are very liable to pollution) require to be ventilated, and well constructed with cement and puddle to prevent percolation, especially in sandy soil. No stagnant water should be allowed near a dwelling-house. Cellars should be kept dry and well ventilated. Diphtheria is highly contagious, and the poison spreads through the air. One case is sufficient to infect the other inmates of a house, however carefully they may be kept apart. As children and young persons are most liable to be attacked, they should at once be removed from a house in which a case occurs. It is uncertain when a patient ceases to be infectious. Convalescent children, apparently well for two or three weeks, may communicate the disease to others. In diphtheria, kissing is dangerous, both before and after death. The poison clings tenaciously to some places or articles. A person has been attacked while occupying a room in which a case has occurred eleven months previously. This shows the necessity for thorough cleansing and disinfection. Diphtheria is one of the “filth diseases.” Poultry and other of the lower animals suffer from a disease of the throat which is said, if communicated, to cause diphtheria in man.

Management.—The patient should be kept in bed in a moderately warm and well-ventilated room, and carefully guarded from draughts of cold air. The air in the room should be kept constantly moist by a steaming kettle on the fire night and day, lengthening the spout by a tin tube, roll of paper, or other contrivance, to cause the vapour to spread. A tea-spoonful of eucalyptus oil put into the kettle every two or three hours is very beneficial. Large basins placed about the room and kept constantly full of hot water should also be used. Frequent inhalation of steam from a narrow-mouthed jug (but not from the spout of a

tea-pot, which is dangerous) does much good, and half a spoonful of eucalyptus oil should be put into the jug occasionally. Keep the air in the room at the same temperature.

Diet.—Strength should be kept up in every possible way by nourishing food, such as milk; strong mutton, veal, or chicken broth; or beef tea. The juice of raw meat, and coffee with milk, are useful stimulants when strength is failing. In cases of exhaustion, if the patient shows signs of sinking, a tea-spoonful of brandy to four or six of water, spread over every three hours may be given to a child twelve or eighteen months old, and older ones in proportion.

Medicine.—If the patient be old enough to use a gargle, the mouth and throat may be frequently washed out with a mild lotion, such as 20 drops of Condy's fluid in a cup of tepid water, or a tea-spoonful of borax and glycerine (as sold by chemists) in a wine-glass of water. One of the best gargles is lime-water undiluted. Tonics are necessary. If the breathing be oppressed, or suffocation appear imminent, an emetic should be given. A tea-spoonful of ipecacuanha wine, in tepid water, may be given every ten minutes, till vomiting comes on. A tea-spoonful of powdered alum, mixed with damp sugar, also acts well as an emetic, and may be repeated in a few minutes if necessary; assist the emetic by giving tepid drinks freely. As emetics are depressing, they ought not to be given too often.

N.B.—Many cases regarded and treated as croup are really diphtheria. The same holds true of what is often called "sore throat," "diphtheritic croup," &c.

665. Deaths from whooping-cough in 1887 were in the proportion of 1·27, in 1886 of 2·12, in the previous five years of 1·53, and in the ten years ended with 1880 of 2·48 per 10,000 persons living. All these proportions are lower than those generally prevailing in most of the following countries:—

Whooping-cough.

ANNUAL DEATH RATE FROM WHOOPING-COUGH IN VARIOUS COUNTRIES, 1881 TO 1884.*

	Deaths from Whooping-cough per 10,000 persons living.
Austria	10·63
Scotland (8 towns)	9·64
Belgium	7·18
Denmark	6·62
Scotland	6·23
Prussia	5·40
England and Wales	4·67
Holland	3·82
Germany (principal towns)	3·48
Belgium (principal towns)	3·37
Ireland	3·18
Spain	3·14
Sweden (principal towns)	2·98
Switzerland (principal towns)	2·74
Austria (principal towns)	2·74
Spain (principal towns)	2·68
Italy	2·45
Switzerland	2·31
Sweden	1·80
Massachusetts	1·16
Russia in Europe	·23

* See Dr. Raseri's paper, page 193.

666. The following circular upon whooping-cough has recently been issued under the direction of the Central Board of Health:—

WHOOPING-COUGH.

"In its graver forms it is one of the most fearful diseases that we have to encounter."—Dr CHARLES WEST.

Whooping-cough is probably the most fatal of all the diseases of children under the age of one year. The younger the child the greater the danger; therefore children under three years especially should be kept from its contagion. It is also liable to become complicated with disease of the brain and lungs, as convulsions and bronchitis. Whooping-cough is highly contagious, and active infection may be given off by those slightly affected, or only sickening with the malady. The atmosphere around the sick is always a source of danger, and infectious particles are readily carried away in the clothes of visitors, who thus spread the contagion. Hence the need for disinfection and isolation. Infection may last for months from the time the disorder showed itself, but so long as the patient continues to cough, it is safer to keep him away from those who are susceptible. The contagion of whooping-cough is often received with that of measles, and the characteristic cough of the former is not recognised till the rash of the latter has passed away. The time that elapses from infection till the first sign of illness is called the period of incubation, and extends from four to ten days or a fortnight. It is well, however, to remember that children exposed to the infection of whooping-cough may not show symptoms of it, so far as the whoop is concerned, for about a month, and, therefore, they should not mix with those who have not had the disease until this period has fully passed.

The course of the disease is usually divided into three stages. The *first* stage resembles a common cold, and cannot for some days be distinguished from it. There is some feverishness, with a peculiar, hard, obstinate cough, which is generally worse at night. This period lasts about twelve days, and embraces the time from the first appearance of sickness, until the well-known "*whoop*" confirms the true nature of the disorder. In the *second* stage, the whoop follows a fit of convulsive coughing. This is the time of danger, and of complication with other diseases. It continues from four to six weeks, or longer according to the management. The *third* stage is that of convalescence when the attacks grow milder and have longer intervals. It lasts for several weeks, but may be greatly lengthened, or a relapse occur, by exposure to cold or damp.

Treatment.—There is no real specific for whooping-cough, although many remedies have been vaunted. Something, however, can be done to lessen its severity, and ward off complications. In the first place, prevent infection during infancy particularly, and when the disease does appear, avoid cold and wet, and indigestible food. The first stage should be treated like a severe cold, and it is better to keep the child indoors until this period is over. If there is much feverishness a day or two in bed is necessary, as the great object in this, and all the stages, is to keep the disease simple, and uncomplicated with disorder of the brain and lungs. Shun draughts, but keep the room fresh with pure air and sunshine; moderately warm, and always about the same temperature. If possible, change the patient from one room to another, two or three times a day, for the sake of freshness; and before changing see that the apartments are equally warm. When the cough is troublesome, put a warm linseed poultice round the back of the chest, and the feet in warm water and mustard, especially at night. Give six or eight drops of ipecacuanha wine in a little sweetened water to a child five years of age, and half the quantity to an infant twelve months old. These doses may be given every four hours, between food, during the day, and oftener (every two hours, or so) at night when the cough is always more troublesome. Sips of cold water often relieve cough. When the patient is restless at night, or distressed in breathing, an emetic soothes by emptying the stomach; give a teaspoonful of ipecacuanha wine in tepid water every ten minutes till free vomiting comes on. An emetic is useful in the *second* and *third* stages, also whenever there is much phlegm or wheezing at the chest. It is best given at night, or twice a day if necessary. The diet throughout should be light and nourishing, as milk,

tea made from mutton or chicken, rice, and light puddings. The juice of grapes or oranges, and stewed fruit, are agreeable, but the skins, seeds, and crude pulp must not be taken. Water and all drinks may be taken *cold* without harm; and better frequently and in small quantities than much at a time. Keep the bowels regular, and rather free than bound, by gentle aperients, as fluid magnesia, &c. In the *second* stage, the child may be out in fine weather, and the clothing now and from the first should be suitably warm. If the cough is very severe, and no medical aid available, *bromide of ammonium*, prepared by a chemist, may be safely given. The dose is one grain for each year of the patient's age, three or four times in the twenty-four hours, in a little sweetened water. Chloral is also most beneficial to allay spasm, given in the same quantity and manner, but requires medical supervision. For *external use*, a liniment of equal parts of oil of amber, turpentine, and eucalyptus oil should be rubbed into the chest, back and front, and along the spine, night and morning. A narrow warm poultice, with a little mustard in it to cause temporary redness, may be put along the spine each night after rubbing in the liniment. Avoid all source of irritation and fatigue. In the *third* stage, but not before, change of air is of the greatest value. There is no good, but harm, in taking children with whooping-cough to gas-works. In this stage it is still necessary to guard against cold, wet, and improper food. Nourishing diet is specially required now.

667. Deaths from typhoid fever in 1887 numbered 631, or 108 more ^{Typhoid fever.} than in 1886. In proportion to population, the mortality from typhoid fever in 1887 was much above the average. During the last 22 years, the death rate from typhoid fever has fluctuated considerably, but, nevertheless, there were three pretty well-marked maximum periods, viz., 1866-7, 1877-8, and 1883, when the rates rose to over $6\frac{1}{2}$ per 10,000 persons living; whilst from the increase in 1887, there is every appearance of a fourth maximum period. The minimum periods are not so well marked; but the two principal ones appear to be 1871-3 and 1880-81, when the average rate was below 4 per 10,000. Typhoid fever causes, on the average, over 3 per cent. of the total deaths from all causes, and as many as 13 per cent. of those at between 10 and 25 years of age. The following table shows the number of deaths from typhoid fever, and their proportion to the population, during each of the past 22 years:—

DEATHS FROM TYPHOID FEVER, 1866 TO 1887.*

Year.	Deaths from Typhoid Fever.	
	Total Number.	Number per 10,000 Persons Living.
1866	528	8.39
1867	455	7.06
1868	295	4.45
1869	360	5.24
1870	416	5.83

* In the new classification, simple continued fever is entered as a separate complaint from typhoid fever, but as no such distinction was observed in former years, cases occurring in 1886 and 1887, which might possibly have been placed under the former head have, for the sake of comparison, been still placed under the latter.

DEATHS FROM TYPHOID FEVER, 1866 TO 1887*—*continued.*

Year.	Deaths from Typhoid Fever.	
	Total Number.	Number per 10,000 Persons Living.
1871	269	3·65
1872	323	4·29
1873	282	3·68
1874	470	6·04
1875	455	5·78
1876	375	4·71
1877	532	6·58
1878	532	6·48
1879	438	5·25
1880	297	3·49
1881	351	4·04
1882	472	5·30
1883	661	7·26
1884	456	4·88
1885	424	4·42
1886	523	5·30
1887	631	6·19
Mean	434	5·38

Central
Board of
Health on
typhoid.

668. A valuable circular on typhoid fever, of which the following is a copy, was issued some time since by the Central Board of Health:—

TYPHOID FEVER.

“The grand fact is clear that the occurrence of typhoid fever points unequivocally to defective removal of excreta, and that it is a disease altogether and easily preventable.”—DR. PARKES.

Typhoid fever is called by various names, such as enteric, gastric, low, colonial, infantile remittent, &c., but the disease is one and the same, and a misleading name puts people off their guard and often leads to fatal results. When a person is ill with what is called colonial or gastric fever, danger is perhaps scarcely apprehended, whereas, if the friends really knew these to be merely other names for typhoid—a most deceptive, infectious, and frequently fatal fever—they would be alive to the risk, both to the patient and to others. The great mortality from typhoid fever in this colony shows there is urgent need to lessen the ignorance and consequent neglect of sanitary laws which prevail on this subject. Returns give an average of over 400 deaths in Victoria every year from typhoid fever. If the same number of deaths took place from some other avoidable cause (like the falling of an insecure building every year), the whole community would cry out against such a sacrifice of human life. Typhoid fever is a preventable disease, and if proper measures were taken to keep it from spreading by infection, would soon disappear. But because it carries off its victims one by one, scattered over the colony, it is allowed to pursue its course comparatively unchecked. The sacredness of human life demands that every one should do his utmost to stamp out such a scourge, and (in the absence of medical aid) the instructions in this paper should be carefully carried out.

Cause and prevention.—The chief source of infection is the discharges from the bowels of patients. Some eminent authorities are of opinion that such discharges

* See footnote on previous page.

are the only source, while others think that infection may also arise from decaying or putrid animal matter, especially night-soil. All are agreed, however, that preventive measures are of the first importance, that cleanliness should be insisted on, and that animal filth of every kind, but particularly bowel discharges, should be effectually prevented from contaminating air and water. The poison-germs which pass with the motions should not "be let loose upon society in the cesspool or sewer, or on the dung-heaps, in full possession of all their deadly power." Still less should these contagious germs be allowed to find their way into milk or drinking water. There are various ways by which the poison spreads, such as drains laden with typhoid infection emptying themselves into a creek or reservoir which supplies drinking water; wells and tanks contaminated with poisonous filth washed into them from the surface on the occasion of rainfall, or soaking through gravelly, porous ground, when the well or tank is not far enough removed from the cesspit or on a lower level than the source of infection; leaking water-pipes through which contagious sewage finds its way into water used for household purposes; foul air from drains or sewers, conveying fever-germs along empty outlet pipes used for waste water; milk infected by contaminated water being added to it, or by typhoid-germs in the air coming in direct contact with the milk itself. Hundreds of cases have been known to occur from a single case at a dairy. As, therefore, this disease spreads in so many ways, the best method is to destroy the poison at its source by disinfecting, and, if possible, burning all discharges as soon as they pass from the bowels. If this cannot be done they should be disinfected and buried at least a foot in depth. On no account should the discharges be thrown into any closet or drain, or on the ground or dung-heap. Where neither burning nor burying can be carried out, the bowel discharges ought to be thoroughly disinfected and kept separately in a well closed vessel until finally removed. The most effective disinfectant (and very cheap) is *corrosive sublimate*, but being a deadly poison, should be kept from children or careless persons, and not allowed to come in contact with wounds or sores. Ten grains to a pint of water will destroy typhoid-germs, and, being in a powder form, can be easily conveyed any distance and then dissolved in water for use. *Sulphate of iron* (two ounces to each pint of water) and *chloride of lime* (four ounces to each pint of water) are also good disinfectants, but are not equal to *corrosive sublimate*. Soiled spots on bed or body linen should be at once dusted with *chloride of lime* by means of a common dredger, and the same powder should be freely sprinkled about the sick room to purify the air. All bed and body clothing—especially when stained with typhoid discharges—ought, immediately on removal, to be put into water containing *corrosive sublimate* (of the strength already mentioned) and then boiled before being washed. A piece of waterproof under the sheet or blanket prevents discharges soaking into the mattress. Some disinfectant should be put into the bedpan immediately before and after use. The hands of those in attendance should be washed and disinfected frequently. Isolate the patient.

Symptoms.—The onset of the disease is often very deceptive. In many cases it comes on slowly, and without any well-marked signs. The patient feels languid and out of sorts, and gradually gets worse, and complains of headache, chilliness, loss of appetite, thirst, and sense of weakness. The skin gets hot and dry, the tongue furred in the centre, but red at the tip and edges. The face pale with a bright patch on each cheek. The bowels may occasionally be constipated, but are generally loose, with offensive, yellowish or drab-coloured motions, often excessive, and greatly exhausting the patient. Usually, about the beginning of the second week, a few small, round spots, the size of a pin's head, and of pink or rose colour, appear on the chest and abdomen. These are the most common symptoms, but, in some instances, after only slight indisposition, the patient is somewhat suddenly overtaken with vomiting, purging, pain in the bowels, shivering, and severe headache. He soon becomes delirious, and sinks in a few days. Young persons are more liable to the disease than those in advanced life.

Treatment.—Exhaustion and ulceration of the bowels are the two subjects that claim special consideration. Hence regulation of the diet is most important. The strength must be kept up, while the tender inflamed state of the bowel renders it necessary that no solid food be taken till the patient has fully recovered. Vegetables, fruit, fish, oatmeal, and everything except liquids, must be carefully

avoided till convalescence has been fully established. The juice of grapes or oranges is much relished, and may be given in small quantities at a time, to relieve the parched mouth, but the seeds, skins, and crude pulp must not be swallowed. Children should not be trusted with such fruit by themselves. A single grape seed, taken by mistake, may cause death by bringing on bleeding, or perforation of the ulcerated bowel. New milk is the chief article of diet in typhoid fever. It is both food and drink. If, however, too much is taken or in too large a quantity at a time, undigested curds pass over the tender surfaces of the diseased bowel with injurious effect. This should be watched by inspecting the stools. Careful management of the diet is almost everything, and of far more value than drugs. When curds are thus seen, either less milk should be given, or lime-water added to it, viz., a wine-glassful to each half-pint of milk. Soda-water, or a small pinch of baking-soda, can be used instead of lime-water. Chicken-broth or calves-foot jelly may be given time about with the milk; also beef-tea if it does not cause diarrhœa. Raw eggs are suitable. The best stimulant is good brandy, but this should, if possible, be under medical direction. Simple drinks may be freely allowed from the first, such as cold water, rice or toast water. No opening medicine should be given, only an enema if required. Frequent sponging of the body with tepid water cools, soothes, and cleanses the patient. When there is much weakness, sitting up in bed may prove fatal. Remember this when giving food or attending to the bowels. Avoid travelling or exertion for a fortnight after recovery—to prevent relapse.

Typhoid
fever in
Austral-
asian
colonies.

669. The following table shows the mortality from typhoid fever in all the Australasian colonies except Western Australia during the fourteen years ended with 1886, or during as many of those years as the information is available for:—

DEATHS FROM TYPHOID FEVER* IN AUSTRALASIAN COLONIES,
1873 TO 1886.

Year.	Number of Deaths from Typhoid Fever.					
	Total.	Per 10,000 Persons Living.	Total.	Per 10,000 Persons Living.	Total.	Per 10,000 Persons Living.
	VICTORIA.		NEW SOUTH WALES.		QUEENSLAND.	
1873 ...	282	3·68	...	...	67	4·78
1874 ...	470	6·05	...	...	78	5·03
1875 ...	455	5·78	298	5·10	158	9·16
1876 ...	375	4·71	401	6·64	72	3·91
1877 ...	532	6·58	375	5·96	105	5·38
1878 ...	532	6·48	441	6·70	197	9·53
1879 ...	438	5·25	265	3·84	132	6·16
1880 ...	297	3·49	240	3·31	54	2·03
1881 ...	351	4·04	266	3·50	85	3·30
1882 ...	472	5·30	450	5·66	166	6·31
1883 ...	661	7·26	397	4·76	255	8·89
1884 ...	456	4·88	516	5·86	563	19·10
1885 ...	424	4·42	503	5·40	541	17·52
1886 ...	523	5·30	591	6·03	408	12·27
Total...	6,268	5·23	4,743	5·23	2,881	9·14

* Including simple continued and ill-defined fever. It is possible that in some of the colonies a few cases of remittent fever may be returned under one or other of these heads.

DEATHS FROM TYPHOID FEVER* IN AUSTRALASIAN COLONIES,
1873 TO 1886—continued.

Year.	Number of Deaths from Typhoid Fever.					
	Total.	Per 10,000 Persons Living.	Total.	Per 10,000 Persons Living.	Total.	Per 10,000 Persons Living.
	SOUTH AUSTRALIA.		TASMANIA.		NEW ZEALAND.	
1873 ...	68	3·48	24	2·32	127	4·41
1874 ...	97	4·82	44	4·22	161	5·05
1875 ...	94	4·53	50	4·81	340	9·47
1876 ...	92	4·22	26	2·49	195	5·03
1877 ...	84	3·63	41	3·86	133	3·26
1878 ...	106	4·37	50	4·61	131	3·11
1879 ...	101	3·97	38	3·42	208	4·64
1880 ...	63	2·39	29	2·55	177	3·73
1881 ...	85	2·95	33	2·81	137	2·78
1882 ...	146	5·03	36	2·98	128	2·51
1883 ...	135	4·51	64	5·15	182	3·44
1884 ...	151	4·89	50	3·89	118	2·15
1885 ...	145	4·63	30	2·27	128	2·26
1886 ...	106	3·39	47	3·47	134	2·30
Total ...	1,473	4·06	562	3·49	2,299	3·87

670. In Victoria, New South Wales, and Queensland the death rate from typhoid fever in 1886 was above, but in the other colonies it was below the average. The rates in Victoria and Tasmania in 1886, although higher than in the previous year, are still considerably below the exceptionally high rates which prevailed in 1883, whilst the rate in New Zealand was at a minimum during the last three years named. In Queensland the mortality from typhoid fever in 1884 and 1885 was simply enormous, amounting to 19 and 17½ per 10,000 of the population in the two years respectively, but it fell off considerably in 1886, although it was still much above the average, and much higher than in any of the other colonies.

Deaths from typhoid fever in the colonies, 1886, and previous years compared.

671. In England and Wales the mortality from typhoid or enteric fever† has been considerably reduced of late years, and is now lower than in any of the Australasian colonies except Tasmania and New Zealand. During the ten years ended with 1880 the mean death rate therefrom was 4·30, but in the five years ended with 1886 only 2·49 per 10,000 persons living, the latter being even lower than the minimum rate (3·49) recorded in Victoria during the last twenty-two years.

Typhoid fever in England and Wales.

* Including simple continued and ill-defined fever. It is possible that in some of the colonies a few cases of remittent fever may be returned under one or other of these heads.

† The English figures quoted are those of enteric, or typhoid, and simple continued fever, which probably correspond with the fevers tabulated as typhoid in Victoria.

Typhoid and typhus in various countries.

672. In the returns of most European countries deaths from typhoid fever are not distinguished from those caused by typhus, the latter being a complaint which it is said does not exist in the Australasian colonies. In England and Wales these fevers have been returned separately since 1869, and it is probable the following figures, so far as they relate to that country, apply to typhoid only, whilst those for most of the other countries, it is believed, refer to the two descriptions of fever combined:—

ANNUAL DEATH RATE FROM TYPHOID AND TYPHUS IN VARIOUS COUNTRIES, 1881 TO 1884.*

	Per 10,000 Persons Living.		Per 10,000 Persons Living.
Italy	9·37	Sweden (principal towns) ...	3·95
Spain (towns)	8·35	Denmark (towns)	3·85
Austria	7·31	Scotland	3·77
Belgium	6·17	Scotland (8 towns)	3·62
Spain	5·63	Ireland	3·57
Massachusetts	5·30	Germany (principal towns)...	3·56
Prussia	5·14	Sweden	2·87
Belgium (principal towns) ...	4·69	England and Wales	2·70
Austria (15 towns)	4·49	Switzerland	2·30
Switzerland (17 towns)	4·31	Russia in Europe	2·07
Holland	4·24		

Venereal diseases

673. Deaths from venereal diseases numbered 377 in the ten years ended with 1880, 218 in the five years ended with 1885, 40 in the year 1886, and 36 in 1887; being in the ratio per 10,000 of the population annually of ·47 at the first period, of ·48 at the second period, of ·41 at the third, and ·35 at the last period. If deaths from syphilis be considered apart from those caused by other venereal diseases, the numbers at the same periods would be 286, 178, 31, and 23, and the proportions ·36, ·39, ·31, and ·23, which contrast favorably with those in most of the following countries:—

ANNUAL DEATH RATE FROM SYPHILIS IN VARIOUS COUNTRIES, 1881 TO 1884.†

	Per 10,000 Persons Living.		Per 10,000 Persons Living.
Italy	1·65	Scotland	·63
Sweden (towns)	1·16	Massachusetts	·32
Scotland (8 towns)	1·01	Switzerland	·24
Denmark (towns)	·94	Ireland	·16
England and Wales	·84	Holland	·11

Venereal disease amongst the aborigines.

674. Venereal disease has long prevailed amongst the Australian aborigines, and was no doubt first communicated to them by Europeans. Mr. Curr† says "it was first introduced into Australia by the whites

* See Dr. Raseri's paper, page 193. The fevers referred to are there termed "Febbre tifoide e tifo esantematico."

† See Dr. Raseri's paper, page 193.

‡ Volume I., page 227.

many years ago, and has never since ceased to commit terrible ravages among our tribes. Probably this disease alone would suffice to exterminate them."

675. Parasitic diseases, chief amongst which are thrush and hydatids, caused not quite 8 deaths in 1887 per 100,000 of the population, which was nearly 1 below the average of the five years ended with 1885, and $1\frac{1}{2}$ below the average of the ten years 1871 to 1880. These diseases appear to be about 50 per cent. more prevalent in Victoria than in England. Parasitic diseases.

676. Hydatid disease, which is said to be communicated to man by reason of the ova of the tape worm in dogs (*Tænia Echinococcus*), being taken into the stomach, generally in water, and to prove fatal to 25 per cent. of the human victims it attacks, during the fifteen years ended with 1887 has caused 705 deaths, or an average of 47 per annum. Per 100,000 of the population, deaths from this disease ranged from 3·79 in 1873 to 7·19 in 1879, the average for the first seven years being 5·11, for the eight succeeding years 5·70, and for the whole period 5·41. In the last three years, however, the mortality from hydatids was much below that of the previous six years. The following are the figures for the last fifteen years :— Hydatids.

DEATHS FROM HYDATIDS, 1873 TO 1887.

Year.	Deaths from Hydatid Disease.		Year.	Deaths from Hydatid Disease.	
	Total Number.	Number per 100,000 Living.		Total Number.	Number per 100,000 Living.
1873 ...	29	3·79	1882 ...	58	6·52
1874 ...	41	5·27	1883 ...	56	6·15
1875 ...	47	5·97	1884 ...	59	6·32
1876 ...	36	4·52	1885 ...	47	4·90
1877 ...	37	4·57	1886 ...	51	5·17
1878 ...	37	4·50	1887 ...	51	5·10
1879 ...	60	7·19			
1880 ...	48	5·64			
1881 ...	48	5·50	Mean ...	47	5·41

677. According to the returns of the five years ended with 1886, as embodied in the following table, hydatids in a fatal form appear to be much more common in Victoria than in any of the other Australasian colonies. It should be mentioned, however, that medical men sometimes enter the cause of death simply as "disease" of the liver, lungs, kidney, &c. In such cases inquiry should be made as to whether the "disease" referred to was hydatid disease or not, which may possibly not be done so rigidly in the other colonies as it is in Victoria, and for Hydatids in Australasian colonies.

this reason the mortality from the complaint may appear to be relatively higher here than it really is :—

DEATHS FROM HYDATIDS IN AUSTRALASIAN COLONIES,
1882 TO 1886.

Colony.	Year.	Number of Deaths from Hydatids.	
		Total.	Per 100,000 Persons Living.
Victoria ... }	1882	58	6·52
	1883	56	6·15
	1884	59	6·32
	1885	47	4·90
	1886	51	5·08
	Mean of 5 years	54	5·79
New South Wales ... }	1882	12	1·51
	1883	10	1·20
	1884	20	2·27
	1885	28	2·92
	1886	23	2·35
	Mean of 5 years	19	2·05
Queensland ... }	1882	3	1·26
	1883	4	1·50
	1884	8	2·71
	1885	3	·97
	1886	Nil	...
	Mean of 5 years	4	1·29
South Australia ... }	1882	12	4·14
	1883	6	2·01
	1884	13	4·21
	1885	5	1·60
	1886	18	5·76
	Mean of 5 years	11	3·54
Tasmania ... }	1882	4	3·31
	1883	4	3·22
	1884	6	4·67
	1885	2	1·51
	1886	2	1·46
	Mean of 5 years	4	2·83
New Zealand ... }	1882	7	1·37
	1883	1	·19
	1884	3	·55
	1885	3	·53
	1886	4	·68
	Mean of 5 years	4	·66

NOTE.—In Western Australia no deaths are set down to this disease.

678. Hydatid disease is much more fatal in all the Australasian colonies than it is in England and Wales, where there were only 58 deaths from it in 1886, or a proportion of .25 per 100,000 persons living, as compared with a mean of .20 in the previous five years. Hydatids in England.

679. Almost any part of the body may be affected by hydatid disease. The affected part is not always mentioned in the returns, but Dr. J. D. Thomas, of Adelaide, South Australia, in his exhaustive work upon the subject of hydatids,* gives information, obtained from Australasian, European, Indian, and American sources, of the following 1,897 cases, which are here arranged according to the frequency with which the respective parts were found to be affected with the disease:— Seat of hydatid disease.

SEAT OF HYDATID DISEASE.

Locality of Hydatid Cyst.	Cases of Hydatid Disease.	
	Number.	Proportions per cent.
Liver	1,084	57.14
Lungs	220	11.60
Kidney	90	4.75
Brain, its membranes, and cranial cavity	83	4.38
Spleen	40	2.11
Pelvis	40	2.11
Heart, pericardium, and organs of circulation	37	1.95
Abdominal cavity, place unspecified	35	1.85
Bones	31	1.63
Uterus	29	1.53
Peritoneum, omentum, and mesentery	26	1.37
Abdominal wall	21	1.11
Subcutaneous cellular tissue	21	1.11
Face, orbit, and mouth	20	1.06
Female breast	20	1.06
Pleura	19	1.00
Ovary	16	.84
Spinal canal, spinal cord and its membranes	15	.79
Muscles	13	.69
Neck	10	.53
Male organs of generation, chiefly the scrotum	7	.37
Discharged from intestines... ..	5	.26
Mediastinum	4	.21
Trunk and limbs	2	.10
Vomited... ..	2	.10
Expectorated	2	.10
Stomach	1	.05
Bladder	1	.05
Prostate gland	1	.05
Thorax	1	.05
Bile duct	1	.05
Total	1,897	100.00

* *Hydatid Disease; with special reference to its prevalence in Australia.* By John Davies Thomas, M.D. and F.R.C.S. Adelaide: Pooller, 1884. Page 124.

Tape worms
in dogs.

680. Dr. Thomas mentions* that he examined the intestines of a number of dogs in Adelaide and the south-eastern district of South Australia, and of ten dogs in Melbourne, and that 40 per cent. of the former, and 50 per cent. of the latter were found to contain echinococci.

Dietic
diseases.

681. Dietic diseases, consisting principally of want of breast milk and alcoholism, caused 17 deaths in 1887 per 100,000 persons living, which proportion is over 30 per cent. below the average, viz., 25. These diseases appear to be nearly four times as fatal in Victoria as in England.

Alcoholism.

682. In 1887, 100 deaths were set down to alcoholism, as against 107 in 1886, 394 in the previous five years, and 646 in the ten years preceding that period. These figures furnish annual proportions per million persons living of 98 for 1887, of 108 for 1886, 86 for the quinquennium 1881 to 1885, and 81 for the decennium 1871 to 1880, and would appear to indicate that the mortality from this cause was increasing. As a matter of fact, however, returns of the mortality from alcoholism are of doubtful value, as comparatively few deaths are set down to intemperance pure and simple, although a large number of complaints are, no doubt, brought on or aggravated, and many lives are doubtless shortened, from that cause, which, however, is not mentioned in the returns. By the following figures, taken from Dr. Raseri's paper†—which must only be accepted for what they may be worth—the mortality from alcoholism would appear to be as high in Victoria, especially in 1886, as compared with that prevailing in most of the countries and towns named:—

ANNUAL DEATH RATE FROM ALCOHOLISM IN VARIOUS TOWNS AND COUNTRIES.

	Deaths from Alcoholism per 1,000,000 persons living.
Denmark (towns)	274
Sweden (principal towns)	99
Paris	95
Switzerland	88
Scotland (8 towns)	83
Connecticut	80
Belgium	76
London	74
Russia in Europe	70
Massachusetts	65
Scotland	61
Italy	47
England and Wales	46
Berlin	40
Vienna	36
Sweden	34
Ireland	30
Holland	21

* Pages 191 and 192.

† Page 186.

683. The name "Constitutional Diseases," originally used in the old, has been continued in the new classification as applying to a group of complaints of obscure origin, which the committee of the Royal College of Physicians did not attempt to classify or even name in their own classification. These complaints for the most part appear to arise from morbid poisons—deeply seated and widely diffused throughout the system, affecting several organs, in which new products are often deposited. The most prominent are phthisis and other tubercular diseases, and cancer; also rheumatism, gout, and diabetes mellitus. Under this class there were, in 1887, 260 deaths per 100,000 of the population, or 27 more than the average of the five years 1881–85, and as many as 44 above the average of the decade 1871–80. Of the 260 deaths per 100,000 referred to, 153 resulted from phthisis, or pulmonary consumption; 52 were set down to cancer; 37 to tabes mesenterica, acute hydrocephalus and other tubercular or scrofulous diseases; and 18 to other constitutional diseases.

684. Phthisis, or pulmonary consumption, caused 1,557 deaths in 1887, this being a marked increase on the almost stationary mortality from that complaint in the three preceding years. Except during the prevalence of epidemics, phthisis is the occasion of more deaths in Victoria than any other disease*; next to phthisis, diarrhoea is the most fatal disease on the list,* but this complaint causes less than two-thirds of the number of deaths set down to phthisis. It should also be borne in mind, as showing its baneful effects as compared with those of the other diseases named, that the deaths ascribed to diarrhoea are for the most part those of infants and young children, whilst the majority of the victims of phthisis are at the adult period of life. The following table shows the number of deaths from phthisis, and their proportions to the total population, in each of the last twenty-seven years:—

DEATHS FROM PHTHISIS IN VICTORIA, 1861 TO 1887.

Year.	Deaths from Phthisis.	
	Total Number.	Number per 10,000 Persons Living. †
1861	753	13·94
1862	707	12·90
1863	717	12·74
1864	686	11·70

* See table following paragraph 645 *ante*.

† For figures of mean population used in making these calculations, see table "Breadstuffs Available for Consumption" in Part "Production" *post*.

DEATHS FROM PHTHISIS IN VICTORIA, 1861 TO 1887—*continued.*

Year.	Deaths from Phthisis.	
	Total Number.	Number per 10,000 Persons Living.*
1865	741	12·12
1866	782	12·43
1867	793	12·31
1868	746	11·25
1869	893	12·99
1870	888	12·45
1871	841	11·41
1872	876	11·63
1873	945	12·34
1874	1,011	13·00
1875	1,027	13·04
1876	1,010	12·68
1877	1,088	13·46
1878	1,124	13·68
1879	1,058	12·69
1880	1,175	13·82
1881	1,199	13·80
1882	1,274	14·31
1883	1,212	13·30
1884	1,359	14·55
1885	1,384	14·44
1886	1,375	13·93
1887	1,557	15·26
Total in 27 years	27,221	13·04

NOTE.—Deaths registered as occurring from hæmoptysis are included in this table.

Death rate
from
phthisis.

685. By the figures in the table it appears that the death rate from phthisis fell with tolerable steadiness from 1861 to 1871, but since that period there has, on the whole, been a gradual increase. During the whole period of twenty-seven years the deaths from this complaint were in the proportion of 13 to every 10,000 persons living; during the first eleven of those years that proportion was $12\frac{1}{3}$ (12·38), and in the last sixteen years it was $13\frac{1}{2}$ (13·50). It will be observed that the death rate from phthisis in 1887 (15·26 per 10,000) was much higher than the rate during any other year of the period.

Deaths of
males and
females
from
phthisis.

686. Phthisis in Victoria generally affects males more heavily than females. In 1887, 935 of the former, and 622 of the latter, died of that complaint; the males being in the proportion of 17·28, but the females of only 13·00, per 10,000 of their respective sexes living.

* For figures of mean population used in making these calculations, see "Breadstuffs Available for Consumption" in Part "Production" *post.*

687. The following table gives the number of deaths from phthisis ^{Ages at death from phthisis.} at each age in 1887 ; also the proportion which such deaths bore to the total deaths from all causes in 1887 and in the ten years ended with 1880 :—

DEATHS FROM PHTHISIS, 1887.—AGES AT DEATH.

Ages.	Number who Died from Phthisis, 1887.			Percentage of Deaths from Phthisis to those from all Causes.	
	Males.	Females.	Total.	1887.	Ten Years : 1871-80.
Under 5 years ...	10	13	23	·39	·51
5 to 10 „ ...	9	3	12	2·62	1·40
10 „ 15 „ ...	7	16	23	8·42	5·15
15 „ 20 „ ...	48	71	119	23·75	21·22
20 „ 25 „ ...	125	109	234	34·06	32·22
25 „ 35 „ ...	258	189	447	34·25	29·18
35 „ 45 „ ...	132	110	242	23·02	20·27
45 „ 55 „ ...	168	65	233	15·84	13·69
55 „ 65 „ ...	128	37	165	9·32	8·30
65 „ 75 „ ...	43	7	50	3·39	2·97
75 years and upwards...	7	2	9	·83	·83
Total ...	935	622	1,557	9·73	8·29

688. From a comparison of the figures in the last two columns, it ^{Phthisis most fatal to adults.} will be observed that in proportion to the total deaths the mortality from phthisis in 1887, at nearly all periods of life, was considerably above the average. In the year under review, over one-third of the deaths in the colony between the ages of 20 and 35, nearly one-fourth of those between 15 and 20, and between 35 and 45, and nearly a sixth of those between 45 and 55, were caused by phthisis.

689. Of the 1,557 deaths from phthisis in 1887, 909 occurred in ^{Phthisis in Melbourne and country.} Melbourne and suburbs (Greater Melbourne) and 648 in other parts of the colony. In proportion to population, the deaths from phthisis have always been much more numerous in the metropolis than in the remainder of the colony, although by the following figures, which are the results for twenty-seven years, it appears that the increased death rate in 1887, already alluded to, was confined chiefly to the extra metropolitan districts :—

DEATHS FROM PHTHISIS PER 10,000 PERSONS LIVING IN AND OUTSIDE
GREATER MELBOURNE, 1861 TO 1887.

Year.					Greater Melbourne.	Extra- Metropolitan Districts.
1861	...	...	...	...	23·44	10·63
1862	...	...	...	..	24·64	8·71
1863	...	...	...	...	23·71	8·79
1864	...	...	...	...	20·08	8·70
1865	...	...	...	...	22·11	8·57
1866	...	...	...	...	20·42	9·53
1867	...	...	...	...	21·56	8·87
1868	...	...	...	...	20·83	7·63
1869	...	...	...	...	23·87	8·83
1870	...	...	...	...	22·49	8·56
1871	...	...	...	...	22·08	7·20
1872	...	...	...	...	18·69	8·62
1873	...	...	...	...	20·51	8·77
1874	...	...	...	...	22·04	8·94
1875	...	...	...	...	21·46	9·25
1876	...	...	...	...	22·46	8·28
1877	...	...	...	...	22·74	9·29
1878	...	...	...	...	22·62	9·63
1879	...	...	...	...	21·77	8·45
1880	...	...	...	...	23·95	8·92
1881	...	...	...	...	22·71	9·45
1882	...	...	...	...	23·09	10·03
1883	...	...	...	...	22·27	8·80
1884	...	...	...	...	24·45	9·32
1885	...	...	...	...	23·92	9·10
1886	...	...	...	...	21·25	9·51
1887	...	...	...	...	23·22	10·31
Means					22·31	8·99

690. In England and Wales, in the twenty-four years ended with 1885, the death rate from phthisis, per 10,000 persons, ranged from 26·02 in 1866 to 17·52 in 1885, the mean of the first five years of the period having been as high as 25·32, whilst that of the last five years was as low as 18·22.* The latter proportion, though considerably lower than that of Greater Melbourne, is still much higher than that of Victoria taken as a whole. It may be remarked that there is no doubt the death rate from phthisis in the metropolis has for years past been swelled by the presence of persons who started from Europe whilst suffering from the disease in an advanced stage, having been induced to take the voyage under the hope that benefit might be derived from the Australian climate, but have landed in Melbourne only to die there.

* See Forty-eighth Report of the Registrar-General of England, pages lvi. and lviii.

691. Of the Chinese who died in Victoria in 1887, 23, or 15 per cent., fell victims to phthisis. In the previous year 19 per cent. of the deaths of Chinese were from phthisis. Phthisis
among
Chinese.

692. Four out of the 24 deaths of Aborigines in 1887 were set down to phthisis. Mr. Henry Jennings, Vice-Chairman of the Board for the Protection of the Aborigines, in his report dated 1st July, 1879,* says—“Lung disease” (with which he probably includes phthisis) “is the chief cause of the death of the Aborigines, who, when once affected, very seldom recover;” and Mr. Richard Bennet, in an article entitled *Some Account of Central Australia*,† says, with reference to the Australian Aborigines generally, “From my experience among the blacks, I believe nine-tenths of them die of consumption.” Mr. E. M. Curr, in his admirable and exhaustive work *The Australian Race*, remarks on the subject as follows ‡ :— Phthisis
among
Aborigines.

“During the first eight years of my residence amongst several large tribes near Echuca, in 1841, I can recollect no instance of consumption; nor, though I have made inquiries on the subject of a few old residents who were good observers, have I heard of more than one death of that disease at that period. Nowadays, a large portion of the blacks and half-castes located on the Aboriginal stations maintained by the Victorian Government fall victims to this complaint. Generally they are the offspring of parents who have suffered from venereal. With many about 17 years of age, very little work brings on spitting of blood. Others spit blood without work—many women, for instance; but those who were matured before consumption became common are strong and healthy. But besides blacks who live on our establishments, and under conditions new to the race, the reader will find my correspondents from localities far removed from civilization pointing out that, even there, the principal disease among the blacks is consumption, and that they are dying out of it, even in places where their primitive mode of life is but little interfered with. Can one help asking, what is the cause of this late great and apparently increasing prevalence of consumption amongst the race? Can it have come from the whites?”

693. The rate of mortality from phthisis in Victoria would appear, by the calculations in the following table, to have been, over a series of years, lower than in Queensland, but much higher than in any other of the Australasian colonies. It will be observed that the figures of the other colonies in the several years exhibit more variation than those of Victoria, and that Queensland is the only colony besides Victoria in which the rate in any of the years exceeded 13 per 10,000; also that the rate in Queensland in 1884 and 1885, viz., 19 per 1,000, was most exceptionally high § :— Phthisis in
Austral-
asian
colonies.

* See Fifteenth Report of the Board, Parliamentary Paper No. 68, Session 1879.

† See *Victorian Review* for April 1880, page lxxv.

‡ Volume I., page 227: Ferres, Melbourne. 1886.

§ It is pointed out by the Registrar-General of Queensland, in recent Annual Reports, that the death rate from phthisis as well as from other complaints in that colony is considerably swelled by the high mortality amongst the Polynesians. For example, nearly half the deaths from phthisis in 1884 and 1885, and nearly two-fifths in 1886 were of Polynesians, although they form less than 4 per cent. of the total population. Excluding the Polynesians from the calculation, the death rate from phthisis in Queensland in 1884 was only 10·4, in 1885 only 10·5, and in 1886 only 9·2 per 10,000. It is stated that the general death rate of Polynesians in Queensland during 1884 was as high as 148, and during 1885 as high as 99, per 1,000!

DEATHS FROM PHTHISIS IN AUSTRALASIAN COLONIES,
1873 TO 1886.

Year.	Number of Deaths from Phthisis.					
	Total.	Per 10,000 Persons Living.	Total.	Per 10,000 Persons Living.	Total.	Per 10,000 Persons Living.
	VICTORIA.		NEW SOUTH WALES.		QUEENSLAND.	
1873 ...	945	12·34	...	...	145	10·35
1874 ...	1,011	13·00	...	...	163	10·51
1875 ...	1,027	13·04	614	10·50	228	13·22
1876 ...	1,010	12·68	616	10·21	260	14·12
1877 ...	1,088	13·46	597	9·49	225	11·53
1878 ...	1,124	13·68	652	9·91	263	12·72
1879 ...	1,058	12·69	746	10·80	281	13·12
1880 ...	1,175	13·82	803	11·06	301	13·56
1881 ...	1,199	13·80	874	11·50	292	13·21
1882 ...	1,274	14·31	927	11·66	404	17·00
1883 ...	1,212	13·30	948	11·36	471	17·58
1884 ...	1,359	14·55	1,018	11·56	572	19·40
1885 ...	1,384	14·44	1,078	11·58	593	19·20
1886 ...	1,375	13·71	1,051	10·73	494	14·86
Total...	16,241	13·49	9,924	10·86	4,692	14·31
	SOUTH AUSTRALIA.		TASMANIA.		NEW ZEALAND.	
1873 ...	153	7·84	115	11·10	206	7·16
1874 ...	179	8·89	101	9·69	270	8·47
1875 ...	209	10·07	114	10·97	339	9·45
1876 ...	226	10·36	102	9·75	307	7·92
1877 ...	203	8·78	127	11·95	326	7·98
1878 ...	267	11·00	115	10·60	326	7·73
1879 ...	271	10·66	90	8·09	399	8·90
1880 ...	277	10·51	113	9·95	447	9·42
1881 ...	274	9·49	115	9·80	468	9·28
1882 ...	341	11·77	127	10·52	438	8·60
1883 ...	313	10·47	139	11·18	500	9·45
1884 ...	323	10·46	145	11·29	498	9·07
1885 ...	307	9·80	145	10·97	514	9·08
1886 ...	339	10·85	145	10·57	500	8·48
Total...	3,682	10·07	1,693	10·46	5,538	8·64

Tubercular
diseases.

694. Deaths from tubercular diseases, viz., tabes mesenterica, tubercular meningitis (acute hydrocephalus), phthisis, and "other forms of tuberculosis" taken as a whole numbered 13,052 in the ten years 1871 to 1880, 7,932 in the five years 1881 to 1885, 1,732 in the year 1886, and 1,946 in 1887. These numbers furnish proportions per 10,000 of the population of 16·36 deaths annually at the first period, 17·38 at the second, 17·55 at the third, and 19·08 at the fourth, which

are lower than the proportions relating to any of the subjoined countries except Spain :—

ANNUAL DEATH RATE FROM TUBERCULAR DISEASES IN VARIOUS COUNTRIES, 1881 TO 1884.*

	Deaths from Tubercular Diseases per 10,000 persons living.			
Austria (principal towns)	72·20
Austria	38·39
Belgium (towns)	35·11
Germany (principal towns)	34·40
Massachusetts	34·25
Switzerland (towns)	32·50
Sweden (towns)	31·61
Scotland (8 towns)	31·12
Prussia	30·88
Belgium	30·48
Denmark (towns)	30·42
Spain (towns)	29·24
Scotland	25·93
Italy	25·54
Ireland	22·43
Switzerland	21·79
England and Wales	21·09
Holland	19·73
Spain	12·32

695. Next to phthisis, the most fatal of the constitutional diseases is cancer. This complaint caused 527 deaths in 1887, or 31 more than in 1886, and a larger number than in any previous year. Cancer in a fatal form has been much increasing of late years, for during the ten years ended with 1880 it caused only 1 death in every 41 from all causes, but in 1887 the proportion had risen to 1 in 30; moreover, since 1861 the death rate from it has increased steadily from less than 2 to over 5 per 10,000 of the population. The following table shows the number of deaths from cancer, and the number per 10,000 persons living, in each of the last twenty-seven years :—

DEATHS FROM CANCER, 1861 TO 1887.

Year.	Deaths from Cancer.			
	Total Number.			Number per 10,000 Persons Living.
	Males.	Females.	Total.	
1861	52	50	102	1·89
1862	30	50	80	1·46
1863	58	45	103	1·83
1864	55	72	127	2·17
1865	81	70	151	2·47

* See Dr. Raseri's paper, page 193. The diseases referred to are there termed "Tubercolosi diffusa, Tisi polmonare, Tubercolosi meningea, ed Idrocefalo."

DEATHS FROM CANCER, 1861 TO 1887—*continued.*

Year.	Deaths from Cancer.			
	Total Number.			Number per 10,000 Persons Living.
	Males.	Females.	Total.	
1866	52	64	116	1·84
1867	63	57	120	1·87
1868	95	88	183	2·76
1869	85	99	184	2·68
1870	109	105	214	3·00
1871	100	93	193	2·62
1872	130	96	226	3·00
1873	122	128	250	3·27
1874	146	122	268	3·45
1875	168	140	308	3·91
1876	150	153	303	3·80
1877	169	160	329	4·07
1878	182	132	314	3·82
1879	205	178	383	4·59
1880	202	181	383	4·50
1881	172	179	351	4·04
1882	208	165	373	4·19
1883	234	216	450	4·94
1884	221	225	446	4·78
1885	234	211	445	4·64
1886	247	249	496	5·02
1887	275	252	527	5·17
Total in 27 years...	3,845	3,580	7,425	3·40

Proportions
of the sexes
who died of
cancer.

696. Cancer is a complaint which generally affects females more than males.* In the twenty-seven years of which mention is made in the table, 93 of the former have died of it to every 100 of the latter, whereas the proportion of females to males at ages at which cancer is most prevalent (*i.e.*, above 30 years of age) has over the whole period† been considerably below the proportion named. In 1887, 92 females died of cancer to every 100 males, although, in the population, females over the age of 30 were in the proportion of only 77 to every 100 males.

Cancer in
Austral-
asian
colonies.

697. Judging from the experience of the five years ended with 1886, cancer is more fatal in Victoria than in any other Australasian colony except Tasmania, the latter being a colony in which—as cancer is essentially a complaint of advanced life—the large proportion of old people would naturally result in a high death rate therefrom. The following are the figures for the five years referred to :—

* The difference may not really be so great as it appears to be from the figures. See paragraph 700 *post*.

† At the age referred to, females in the population were in the proportion of 42 at the census of 1861, of 59 at the census of 1871, and of 74 at the census of 1881, to every 100 males.

DEATHS FROM CANCER IN AUSTRALASIAN COLONIES, 1882 TO 1886.

Colony.	Year.	Number of Deaths from Cancer.	
		Total.	Per 10,000 Persons Living.
Victoria ...	1882	373	4.19
	1883	450	4.94
	1884	446	4.78
	1885	445	4.64
	1886	496	4.94
	Mean of 5 years	442	4.70
New South Wales ...	1882	215	2.71
	1883	215	2.58
	1884	233	2.65
	1885	267	2.87
	1886	333	3.40
	Mean of 5 years	253	2.84
Queensland ...	1882	54	2.27
	1883	70	2.61
	1884	94	3.19
	1885	53	1.71
	1886	92	2.68
	Mean of 5 years	73	2.49
South Australia ...	1882	89	3.07
	1883	86	2.88
	1884	109	3.53
	1885	100	3.19
	1886	104	3.33
	Mean of 5 years	98	3.20
Western Australia ...	1882	9	2.96
	1883	10	3.20
	1884	10	3.09
	1885	17	4.99
	1886	15	3.74
	Mean of 5 years	12	3.60
Tasmania ...	1882	60	4.97
	1883	67	5.39
	1884	65	5.06
	1885	60	4.54
	1886	57	4.16
	Mean of 5 years	62	4.82
New Zealand ...	1882	147	2.88
	1883	158	2.99
	1884	191	3.48
	1885	177	3.13
	1886	214	3.63
	Mean of 5 years	177	3.22

Deaths from
cancer in
England
and Wales.

698. In England and Wales there has for years past been a progressive increase in the death rate from cancer. This rate, in the five years ended with 1885, was somewhat higher than that prevailing in Tasmania, but much higher than that in any other Australasian colony. The following figures are taken from the forty-ninth report of the Registrar-General* :—

DEATHS FROM CANCER IN ENGLAND AND WALES.

					Deaths from Cancer per 10,000 persons living.
1861 to 1865	...	...	...	...	3·68
1866 to 1870	...	...	...	...	4·04
1871 to 1875	...	...	...	...	4·46
1876 to 1880	...	...	...	...	4·95
1881 to 1885	...	...	...	...	5·45
1886	...	...	...	...	5·83
					—
			Mean	...	4·51
					—

Increase
of cancer
in England
doubtful.

699. In the following remarks the Registrar-General of England, Sir Brydges Henniker, indicates that he entertains doubts as to whether the whole of the increase in the death rate from cancer shown in the returns is warranted by the facts† :—

“ How much, if any, of this increase was real cannot be stated with any certainty, but that some part of the apparent increase was only apparent, and due to improved diagnosis and more careful statement of cause, can scarcely be doubted. Year by year the number of deaths ascribed to ‘abdominal disease,’ and other imperfectly stated causes, has been undergoing diminution, and there has been of course a corresponding addition to the mortality under the more definite headings. Moreover, the increase of mortality from cancer has been considerably greater in the male than in the female sex. Now, were the rise not only apparent but real, there would seem to be no reason why males should have suffered more than females, whereas the difference is really intelligible on the hypothesis that the rise was, at any rate in great measure, merely due to improved diagnosis. For the cancerous affections of males are in much larger proportion internal or inaccessible than are those of females, and consequently are more difficult of recognition, so that any improvement in medical diagnosis would add more to the male than to the female figures.”

Deaths from
cancer in
various
countries.

700. According to the following figures, cancer would appear to be less fatal in Victoria and Tasmania than in any of the countries named except Prussia, Ireland, and Austria; less fatal in South Australia, Western Australia, and New Zealand than in any except Prussia; and less fatal in the other three colonies than in any one of the countries referred to :—

* Page xlviii.

† See his Forty-sixth Annual Report, page xviii.

ANNUAL DEATH RATE FROM CANCER IN VARIOUS COUNTRIES,
1881 to 1884.*

Deaths from Cancer per 10,000 persons living.			Deaths from Cancer per 10,000 persons living.		
Austria (15 principal towns) ...	...	11.20	England and Wales ...	...	5.35
Denmark (towns) ...	...	10.98	Massachusetts ...	...	5.30
Sweden (towns) ...	...	8.71	Scotland (8 towns) ...	...	5.27
Switzerland ...	...	8.46	Scotland ...	...	5.26
Italy ...	...	6.13	Austria ...	...	4.23
Holland ...	...	5.82	Ireland ...	...	3.69
			Prussia ...	...	3.13

701. Developmental diseases,† Class V., caused 108 deaths in 1887 to every 100,000 of the population. Of these 47 were due to diseases peculiarly affecting infants, such as premature birth and malformations, and 61 to old age. The rate of mortality from the whole class in 1887—viz., 108 per 100,000—appears to have been about 11 more than the average of the five years 1881–5, and 32 more than the average of the ten years ended with 1880; the increase being chiefly confined to deaths from old age. The increased death rate from old age is accounted for by the circumstance that the proportion of old people in the population has increased since 1871–80 by over 90 per cent., whilst the average age of such persons has advanced also. The actual deaths of infants born prematurely numbered 381 in 1887—which number gives a proportion of nearly 9 per cent. of the total deaths under 1 year, or of 1½ per cent. of the total births recorded, which proportions closely corresponded with the average during the five years ended with 1885.

702. Local diseases, Class VI., or diseases of special organs or systems, usually cause a much higher mortality than any other class of complaints; thus, in 1887, 7,260 deaths, or over 45 per cent. of the deaths from all causes, were ascribed to them, that being almost the same proportion as in the five years 1881 to 1885. The deaths from diseases placed in this class were in 1887 in the proportion to every 100,000 of the population of 712, or 42 above the five years' average. Nearly a fourth of these diseases were due to affections of the brain and nerves; nearly a sixth to diseases of the circulatory system, including heart diseases; about two-sevenths to lung and throat diseases—viz., croup, bronchitis, pneumonia, pleurisy, &c.; over a fourth to diseases of the digestive organs; 6 per cent. to diseases of the urinary organs; a little over 1½ per cent. to the accidents of childbirth; and the remainder to diseases of the integumentary, locomotive, and generative systems, of the lymphatic and ductless glands, and of the organs of special sense, in

* See Dr. Raseri's paper, page 193.

† This class of diseases differs from that under the old nosology; dentition, paramenia and childbirth and atrophy and debility not being now classed as developmental diseases.

the order named. In the year under review the death rates from diseases of all the principal sub-classes of local diseases, except diseases of the respiratory system and childbirth, were considerably above the average of the five years ended with 1885; and excepting diseases of the nervous system and childbirth, they were also, for the most part, higher than in the earlier period 1871-80. In reference to the falling-off in the death rate from diseases of the respiratory system, it should be explained that this has been more than compensated by the increased mortality from phthisis already alluded to.*

Diseases of
respiratory
system.

703. The mortality from diseases of the respiratory system in 1887, was below the average of recent years, but slightly above that of earlier ones. The proportion in 1887 was 202 to every 100,000 persons living, whilst it was 218 in the five years 1881-5, but only 195 during the ten years 1871-80. The diseases in this group cause, on the average, more than half as many deaths again as phthisis (which is not included amongst "lung diseases," being classed as a "constitutional" disease†), and in recent years more than one-seventh of the total mortality, although in 1887 it was little more than one-eighth. The victims are, for the most part, young children and old people, the majority dying in the winter quarter (July to September). In the year under review the actual number of deaths from these causes was 2,065, being equal to about one-eighth of the total mortality; and of these pneumonia caused 725, bronchitis 697, congestion of the lungs 169, and croup 191. Of those who died from these complaints 811 were under 5 years—more than half of these being under 1 year—and 761 were over 50 years of age. If deaths from phthisis be added to those from diseases of the respiratory system, it will be found that altogether 3,622 deaths in 1887 (or only 2 more than in 1886) were from diseases particularly affecting the organs of respiration, which is equal to nearly one-fourth of the total mortality.

Bronchitis
and pneu-
monia in
various
countries.

704. Bronchitis and pneumonia, with congestion of the lungs, caused 11,477 deaths in the ten years ended with 1880, 7,857 in the five years ended with 1885, 1,777 in 1886, and 1,591 in 1887, which numbers furnish proportions per 10,000 of the population of 14·40 deaths annually for the first period, of 17·22 annually for the second period, of 18·00 for 1886, and 15·60 for 1887. From these results it would appear that the complaints referred to are gradually becoming more and more fatal in this colony, the low proportion for 1887 being exceptional; they are, however, according to the following figures, still much less fatal here than in any of the countries named except Prussia,

* See paragraphs 684 and 685 *ante*.

† See paragraph 683 *ante*.

it being assumed that congestion of the lungs is included with bronchitis and pneumonia in the returns of the various countries:—

ANNUAL DEATH RATE FROM BRONCHITIS AND PNEUMONIA IN VARIOUS COUNTRIES, 1881 TO 1884.*

	Per 10,000 persons living.		Per 10,000 persons living.
Spain (principal towns) ...	53·15	Germany (principal towns)	27·87
Italy ...	45·31	Denmark (towns) ...	27·47
Scotland (8 towns) ...	38·06	Belgium (principal towns)	27·06
Austria (principal towns)	37·95	Ireland ...	26·76
Holland ...	36·32	Switzerland (principal towns) ...	26·69
Scotland ...	34·13	Spain ...	24·12
Belgium ...	32·87	Sweden (principal towns)	24·10
England and Wales ...	32·25	Massachusetts ...	21·03
Switzerland ...	31·52	Prussia ...	16·63
Austria ...	28·09		

705. The death rate from a given complaint is usually ascertained by comparing the number of deaths from it with the number of persons living, but the death rate of women in childbed is better realized by comparing the number of deaths of parturient women with the total number of births. Such deaths are classified in two ways. If the death is supposed to occur merely from the consequences of child-bearing without specific disease, it is set down as of Childbirth, Class VI., Sub-class 9; but, if it should arise from Puerperal Fever, it is placed under that head, Class I., Sub-class 6. In 1887 the proportion of deaths of child-bearing women to the number of children born was the lowest recorded in the last seven years, and was much below the average of the twenty-four years ended with 1887, as is shown in the following table:—

DEATHS OF WOMEN IN CHILDBIRTH, 1864 TO 1887.

Year.	Number of Mothers who died of—			Deaths of Mothers to every 10,000 Children Born Alive.
	Childbirth.	Puerperal Fever (Metria).	Total.	
1864 ...	100	21	121	47·12
1865 ...	99	24	123	47·46
1866 ...	112	26	138	55·18
1867 ...	117	20	137	53·51
1868 ...	110	23	133	48·82
1869 ...	105	18	123	47·23
1870 ...	115	9	124	45·67
1871 ...	90	12	102	37·25
1872 ...	123	16	139	50·80
1873 ...	127	44	171	60·85
1874 ...	142	109	251	93·66
1875 ...	154	83	237	88·70
1876 ...	117	48	165	61·64
1877 ...	131	42	173	66·51

* See Dr. Raseri's paper, page 193. The complaints referred to are there termed "Bronchite e Polmonite."

DEATHS OF WOMEN IN CHILDBIRTH, 1864 TO 1887—*continued.*

Year.	Number of Mothers who died of—			Deaths of Mothers to every 10,000 Children Born Alive.
	Childbirth.	Puerperal Fever (Metria).	Total.	
1878	149	49	198	74·49
1879	123	38	161	59·99
1880	111	20	131	50·09
1881	155	78	233	85·84
1882	117	59	176	65·80
1883	115	43	158	57·37
1884	131	72	203	70·36
1885	106	62	168	56·05
1886	122	70	192	62·29
1887	116	58	174	52·66
Total in twenty-four years	2,887	1,044	3,931	59·97

Increase of deaths in childbed at epidemic periods.

706. In 1884, the death rate of parturient women showed a sudden increase concurrently with the prevalence of an epidemic of measles, followed by a remarkable decrease in 1885 coincidentally with the gradual disappearance of that epidemic. It is a singular fact that at or about the four periods during the last twenty-two years at which epidemics of measles and scarlatina have prevailed in Victoria,* viz., 1866-7, 1874-5, 1881-2, and 1884, the mortality of child-bearing women largely increased. Whether this is only a coincidence, or whether there is any connexion between the two circumstances, is a matter which merits the consideration of the medical faculty. It should be mentioned that the visitation in 1881-2 differed somewhat from the others, as the deaths of child-bearing women did not increase in numbers concurrently with the epidemic, but in the year following that in which it was most fatal.

Deaths in childbed in Victoria and United Kingdom.

707. The proportion of women dying in childbed during the whole period of twenty-four years was 1 to 167 births, and in 1887 the proportion was 1 to every 190 births. In 1886, the proportion was 1 to every 161 births; in 1885, 1 to every 178 births; in 1884, it was as high as 1 to every 142 births; and in 1883, it was 1 to every 174 births. All these proportions are much higher than those in England and Wales, where, in the five years ended with 1885, 202 births occurred to each death of a mother.† In Scotland, 1 woman died in childbirth to every 207 births during 1873, and to every 149 births

* See table following paragraph 658 *ante*.

† There is reason to believe, however, that the mortality from childbirth and metria in England is much understated, as the sending out of letters of inquiry in 1882—an exceptional proceeding—respecting certain ill-defined causes of death had the effect of increasing the recorded mortality from childbirth and metria 10 per cent. If this correction be applied to the average above stated, the proportion would be one death of a mother to as few as 185 births.—See 45th Annual Report of the Registrar-General of England, page xvii.

in 1874; and in Ireland, during the ten years, 1869-78, 1 woman died to every 151 births.

708. In the Midwifery Department of the Melbourne Women's Hospital*, 615† women were confined, and 571‡ infants were born alive, during the year ended 30th June, 1887. Twenty-two deaths of mothers occurred during or shortly after parturition; or 1 death of a mother to every 28 deliveries, or to every 26 births. In 1885-6, 1 death of a mother took place in this institution to every 34 deliveries, or 32 births; in 1884-5, 1 to every 17 deliveries, or 16 births; in 1883-4, 1 to every 31 deliveries, or 28 births; in 1882-3, 1 to 86 deliveries or 77 births; in 1882 (first six months), 1 to 60 deliveries or 56 births; in 1881, 1 to 29 deliveries or 27 births; in 1880, 1 to 98 deliveries or 89 births; in 1879, 1 to 71 deliveries or 67 births; in 1878, 1 to 92 deliveries or 86 births; in 1877, 1 to 65 deliveries or 61 births; and in 1876, 1 to 68 deliveries or 65 births. These proportions are, on the average, about $2\frac{1}{2}$ times as high as those for the whole colony; but it should be mentioned that, all over the world, maternity hospitals are subject to receive a worse class of cases than the average of those dealt with outside, women not unfrequently being brought in such a state as to render their recovery from the first almost hopeless; therefore, in all such institutions, the death rate of the inmates is higher than that which prevails amongst child-bearing women in the general population.

Deaths from
childbirth in
Women's
Hospital.

709. Deaths of lying-in women appear to be more common in Victoria than in any other Australasian colony. It should, however, be mentioned that the fact of a woman dying in childbed is not always at once discoverable from the death registers. Whether from a desire to conceal the fact of their losing patients in this manner, or from inadvertence, medical men frequently enter the cause of death as debility, exhaustion, blood-poisoning, pyæmia, septicæmia, phlebitis, embolism, peritonitis, hæmorrhage, &c., omitting to state that these circumstances were consequent upon child-bearing until specially asked whether such was the case. The causes of death of females at child-bearing ages should be carefully scrutinized, and the entry should be referred back for inquiry in all cases where the death is stated to have occurred from any of the above causes. It is questionable whether in any of the other colonies the scrutiny is as close as it is in Victoria, and hence it is probable that the full extent of the mortality in childbirth occurring is not known. The inaccuracy with which such deaths are often described has recently excited attention in England, where the Registrar-General

Deaths in
childbed in
Austral-
asian
colonies.

* Formerly known as the Lying-in Hospital.

† Including 125 cases occurring outside the hospital at houses provided by the committee, amongst whom only 1 death occurred.

‡ Including 3 cases of twins.

in 1881 and 1882 caused special letters of inquiry to be sent out respecting doubtful deaths of women at child-bearing ages, with the result that 348 deaths in the former and 428 in the latter year were added to those assigned to puerperal fever and the other incidents of childbirth.* Such a practice has been followed for some years in Victoria, and it is much to be wished it should be adopted by the other colonies of this group. The following table contains a statement of the deaths recorded as having occurred from childbirth and metria in all the Australasian colonies except Western Australia during the fourteen years ended with 1886, and the proportion of such deaths to every 10,000 children born alive in each colony:—

DEATHS FROM CHILDBIRTH AND PUERPERAL FEVER (OR METRIA)
IN AUSTRALASIAN COLONIES, 1873 TO 1886.

Year.	Number of Deaths from Childbirth and Puerperal Fever.					
	Total.	Per 10,000 Children Born Alive.	Total.	Per 10,000 Children Born Alive.	Total.	Per 10,000 Children Born Alive.
	VICTORIA.		NEW SOUTH WALES.		QUEENSLAND.	
1873 ...	171	60·85	...	...	23	40·21
1874 ...	251	93·66	...	...	33	51·70
1875 ...	237	88·70	149	66·14	37	55·17
1876 ...	165	61·64	186	79·84	43	62·29
1877 ...	173	66·51	113	47·38	53	73·93
1878 ...	198	74·49	103	40·67	46	62·19
1879 ...	161	59·99	90	33·42	38	48·28
1880 ...	131	50·09	127	45·10	42	51·24
1881 ...	233	85·84	117	40·35	70	85·15
1882 ...	176	65·80	118	39·73	49	57·53
1883 ...	158	57·37	114	36·44	42	42·47
1884 ...	203	70·36	137	40·36	67	62·74
1885 ...	168	56·05	127	36·24	69	59·12
1886 ...	192	62·29	191	52·64	71	56·43
Sums & Means }	2,617	68·12	1,572	46·53	683	57·74
	SOUTH AUSTRALIA.		TASMANIA.		NEW ZEALAND.	
1873 ...	22	30·96	26	85·30	52	46·34
1874 ...	38	49·38	20	64·58	74	57·61
1875 ...	54	72·89	32	103·06	93	64·41
1876 ...	49	59·58	20	63·51	74	45·77
1877 ...	45	52·08	25	77·86	74	43·90
1878 ...	41	44·17	16	45·69	85	47·83
1879 ...	50	50·49	11	30·86	81	44·83
1880 ...	39	38·00	18	48·14	76	39·29
1881 ...	63	58·83	14	35·73	92	49·11
1882 ...	70	64·55	14	34·63	101	53·14
1883 ...	49	43·86	19	44·61	95	49·47
1884 ...	49	41·36	12	26·21	137	69·03
1885 ...	53	44·00	16	34·50	144	73·12
1886 ...	36	32·21	13	28·10	111	57·52
Sums & Means }	658	48·74	256	51·63	1,289	52·96

* See 45th Annual Report for the year 1882.

710. The above figures show that, in proportion to the children born alive, the number of deaths of child-bearing women in 1886 was much below the average in all the colonies except New Zealand. In that colony the rate in 1886, although above the average, was not so high as in the two previous years.

Low death rate from childbirth in colonies, 1886.

711. Comparing the deaths of child-bearing women with every 10,000 of the population, the proportions annually are 2.17 for the decennial period 1871 to 1880, 2.05 for the quinquennial period 1881 to 1885, 1.94 for the year 1886, and 1.71 for 1887. These and the following figures show Victoria to stand rather high in regard to the mortality of women in childbed as compared with many other countries, and especially so as it would appear that deaths from diseases of pregnancy, as well as from circumstances attendant upon childbearing, are included in the following list, which they are not in the figures for Victoria :—

Deaths from child-bearing in various countries.

ANNUAL DEATH RATE FROM DISEASES OF PREGNANCY AND CHILD-BEARING IN VARIOUS COUNTRIES, 1881-84.*

	Deaths from Pregnancy and Child-bearing per 10,000 persons living.
Spain (principal towns)	3.77
Spain	3.56
Belgium	2.32
Prussia	2.20
Italy	2.13
Scotland (eight towns)	2.10
Switzerland	2.06
Switzerland (principal towns)	2.02
Scotland	1.87
Massachusetts	1.80
Denmark (towns)	1.76
Belgium (principal towns)	1.72
Ireland	1.65
England and Wales	1.60
Holland	1.43
Sweden	1.29
Sweden (principal towns)	1.27
Germany (principal towns)	1.23

712. Deaths from external causes, Class VII., in proportion to population, were formerly twice as numerous in Victoria as in England and Wales; but in recent years, as the number of individuals engaged in mining operations has decreased, and greater precautions are taken for the prevention of accidents, the rate in the former has fallen considerably. Over a series of twenty-seven years, the average annual number of violent deaths per 100,000 of the population was 136, but

Violent deaths.

* See Dr. Raseri's paper, page 193; the complaints referred to are there termed "Malattie di gravidanza, parto e puerperio."

during the ten years 1871-80 it was only 108, and in the subsequent five years it fell to as low as 93. The last-named rate, however, is still higher by nearly a third than the rate prevailing in England and Wales, where it averages only 72. The greater frequency of violent deaths in Victoria than in England appears in all classes of such deaths, those from accidents and suicide being, in proportion to population, about a third more numerous, homicides more numerous by two-thirds, and executions twice as numerous.

Violent
deaths, 1887
and pre-
vious years.

713. The number of violent deaths recorded in Victoria during 1887 was 1,023, of which 869, or 85 per cent., were ascribed to accident; 22, or 2 per cent., to homicide; 132, or 13 per cent., to suicide; but not one was due to execution. Deaths from accidents were formerly more numerous than those from any single disease, and more recently than those from any specific disease except phthisis, diarrhœa, and pneumonia.* Forty-two per cent. of the deaths from accidents in 1887 were due to fractures, 26 per cent. to drowning, and 10 per cent. to burns and scalds. Suicides were much above, but homicides about the same as the average of the five years ended with 1885. The following table shows the number of deaths and the exact modes of death under the heads of accident and suicide, also the number of deaths from homicide and execution, during the year 1887 and the five years ended with 1885, the sexes of those who died being distinguished:—

VIOLENT DEATHS.

Causes of Death.	Year 1887.			Five Years: 1881 to 1885.		
	Males.	Females.	Total.	Males.	Females.	Total.
Accidents:—						
Fractures and contusions	324	40	364	1,464	168	1,632
Gunshot wounds ...	18	1	19			
Cuts, stabs, &c. ...	9	5	14			
Burns and scalds ...	44	44	88			
Sunstroke ...	27	7	34	44	255	434
Lightning ...	2	1	3	11	1	12
Poison ...	22	6	28	63	30	93
Snake, insect—bite ...	6	3	9	16	2	18
Drowning ...	187	41	228	754	179	933
Suffocation ...	27	21	48	169	114	283
Others ...	29	5	34	44	19	63
Total ...	695	174	869	2,851	811	3,662
Homicide ...	16	6	22	53	57	110

* See table following paragraph 645 *ante*.

VIOLENT DEATHS—*continued.*

Causes of Death.	Year 1887.			Five Years : 1881 to 1885.		
	Males.	Females.	Total.	Males.	Females.	Total.
Suicide :—						
Gunshot wounds ...	28	1	29	67	2	69
Cuts, stabs, &c. ...	18	...	18	61	13	74
Poison ...	18	8	26	45	26	71
Drowning ...	16	9	25	68	27	95
Hanging ...	26	1	27	131	7	138
Otherwise ...	7	...	7	15	1	16
Total ...	113	19	132	387	76	463
Execution ...	...	...	...	8	...	8
Grand Total ...	824	199	1,023	3,299	944	4,243

714. During the five years ended with 1885, 38,213 males and 28,478 females died of specified causes ; and it results from these figures and those in the foregoing table, that, of the males, 1 in every 12 died a violent death ; 1 in every 13 died of an accident ; 1 in every 721 was a victim to homicide ; 1 in every 99 committed suicide ; and 1 in every 4,780 was executed. Of the females, 1 in every 30 died a violent death ; 1 in every 35 died of an accident ; 1 in every 500 died by the hand of another ; 1 in every 375 committed suicide ; but, happily, not one was executed.

Violent deaths in proportion to total deaths.

715. Males are much more subject to violent deaths than females. Of those who so died in 1887, 824, or 80 per cent., belonged to the male, and 199, or 20 per cent., to the female, sex. In the five years ended with 1885 these proportions were 78 and 22 per cent. respectively.

Violent deaths of males and females.

716. Omitting fractions, it may be roughly stated that, where 1 female dies a violent death in Victoria, 4 males die violent deaths ; where 1 female dies of an accident, 4 males die of accidents ; where 1 female commits suicide, 5 males do so ; but, according to the experience of recent years, more females are murdered than males. Only 1 woman has been executed in the colony since its first settlement ; but in the 36½ years since Victoria has been an independent colony as many as 128 males have been executed.

Violent deaths : proportion of males and females.

717. The only violent deaths which habitually affect females more than males are those resulting from burns and scalds. All other circumstances which occasion such deaths, as a rule, bear more hardly upon males than upon females.

Burns and scalds.

Suicidal
deaths.

718. One hundred and thirty-two persons took their own lives in 1887, and 101 in the previous year. During the five years ended with 1885 the mean annual number of deaths by suicide was 93.

Modes of
suicide in
Victoria.

719. Hanging is the most common mode by which men commit suicide, drowning and shooting with almost equal frequency the next, cutting or stabbing the next, and taking poison the next. Females most frequently take their lives by drowning or by taking poison, next by stabbing or hanging, but only thrice in 106 cases which have occurred during the last seven years by shooting. It may be mentioned that suicide by shooting is much more common now than formerly, the number of cases in the five years ended with 1885 being equal to the number in the preceding ten years.

Modes of
suicide in
England.

720. Dr. Ogle, in an able and interesting paper on suicide, read by him before the Statistical Society of London, in February 1886, gives the following table, showing the proportion during a series of years of suicides effected by different methods in England and Wales.* With the exception of shooting, the relative frequency of each method follows substantially the same order as that obtaining in Victoria:—

MODES OF COMMITTING SUICIDE IN ENGLAND AND WALES.

Methods.	Number by each Method per 1,000 by all Methods.		
	Males.	Females.	Both.
Hanging or strangulation ...	417	240	365
Drowning	152	264	185
Cut or stab	207	129	184
Poison	79	145	99
Shooting	67	2	48
Jump from height	21	36	25
Railway train	24	8	19
Otherwise	33	176	75
Total	1,000	1,000	1,000

Suicides of
Chinese.

721. Suicide frequently occurs amongst the Chinese. Eleven men of this race committed that act in 1886, but only two in 1887. Of the 13 referred to, all but 2 hanged themselves. The total number of Chinese males in the colony is about 12,000; so that those who committed suicide during 1886 were in the proportion of about 1 in 1,100, and during 1887 about 1 in 6,000. In the general population the proportion of persons committing self-destruction averages only 1 in about 10,000.

Suicides in
Austral-
asian
colonies.

722. According to the results in the following table, it would appear that, in proportion to population, suicide is more common in Victoria

* "Suicides in England and Wales," by William Ogle, M.A., M.D., F.R.C.P., *Journal of the Statistical Society*, March, 1886.

than in any other Australasian colony except Queensland. It should, however, be stated that the death records frequently do not upon the surface show that the death has been suicidal, and close examination, with sometimes further inquiry, is therefore necessary to determine that fact. It is hence likely that the full extent to which suicide prevails in some of the colonies is not ascertained. The following are the suicides and their proportion to every 100,000 of the population during the fourteen years ended with 1886 recorded in all the Australasian colonies except Western Australia :—

DEATHS FROM SUICIDE IN AUSTRALASIAN COLONIES,
1873 to 1886.

Year.	Number of Deaths from Suicide.					
	Total.	Per 100,000 Persons Living.	Total.	Per 100,000 Persons Living.	Total.	Per 100,000 Persons Living.
	VICTORIA.		NEW SOUTH WALES.		QUEENSLAND.	
1873 ...	97	12·7	41	7·5	22	15·7
1874 ...	97	12·5	64	11·2	10	6·4
1875 ...	91	11·6	55	9·4	23	13·3
1876 ...	100	12·6	61	10·1	24	13·0
1877 ...	92	11·4	66	10·5	27	13·8
1878 ...	87	10·6	48	7·3	29	14·0
1879 ...	108	13·0	62	9·0	40	18·7
1880 ...	118	13·9	68	9·4	22	9·9
1881 ...	102	11·7	83	10·9	21	9·5
1882 ...	83	9·3	55	7·0	40	16·8
1883 ...	103	11·3	54	6·5	37	13·8
1884 ...	86	9·2	81	9·2	45	15·3
1885 ...	89	9·3	95	10·2	36	11·7
1886 ...	101	10·2	95	9·7	44	13·2
Means...	97	11·4	66	9·1	30	13·2
	SOUTH AUSTRALIA.		TASMANIA.		NEW ZEALAND.	
1873 ...	10	5·1	6	5·8	20	7·0
1874 ...	22	10·9	6	5·8	20	6·3
1875 ...	24	11·5	6	5·8	29	8·1
1876 ...	15	6·9	6	5·7	42	10·8
1877 ...	17	7·3	10	9·4	32	7·8
1878 ...	18	7·4	8	7·4	37	8·8
1879 ...	18	7·1	5	4·5	42	9·4
1880 ...	25	9·5	8	7·0	38	8·0
1881 ...	34	11·8	6	5·1	42	8·5
1882 ...	18	6·3	3	2·5	53	10·4
1883 ...	31	10·4	5	4·0	55	10·4
1884 ...	31	10·0	7	5·5	57	10·4
1885 ...	32	10·2	5	3·8	54	9·5
1886 ...	31	9·9	3	2·2	66	11·3
Means...	23	8·9	6	5·3	42	9·0

Proportion
of suicides
in different
colonies.

723. It will be observed that, according to the records, the suicides which take place annually in Victoria and Queensland are almost invariably above 1 per 10,000 persons living, but those which take place in the other colonies are generally below that proportion, which indeed was not once reached in Tasmania, five times in New South Wales, five times in New Zealand, and six times in South Australia, during the fourteen years named in the table. The rate in Tasmania appears to be much lower than in any of the other colonies.

Suicides in
England
and Wales.

724. In England and Wales, according to figures given by Dr. Ogle,* the suicide rate is lower than in any of the Australasian colonies, except Tasmania. In England and Wales it increased considerably during the five years ended with 1880, since which period it appears to have remained uniform. The following are the figures referred to:—

DEATHS FROM SUICIDE IN ENGLAND AND WALES.

	Deaths from Suicide per 100,000 Persons Living.					
1861 to 1865	6·52
1866 to 1870	6·64
1871 to 1875	6·62
1876 to 1880	7·38
1881 to 1885	7·38
						6·91
						6·91

Suicides in
France.

725. Suicide in France appears to be much more rife than it is in England and Wales, or than in any of the Australasian colonies; it also seems to be largely increasing in that country. This is shown by the following calculations, which have been based upon figures given in a recent number of the *Journal Officiel*:—

DEATHS FROM SUICIDE IN FRANCE.

	Deaths from Suicide per 100,000 Persons Living.					
1861 to 1865	12·4
1866 to 1870	13·5
1871 to 1875	16·9
1876 to 1880	16·9
1881 to 1884	18·9
						15·7
						15·7

Suicides in
Foreign
countries.

726. Statistics of suicide in a number of countries have been collected with much care by Dr. Enrico Morselli, Professor of Psychological Medicine in the Royal University of Turin. Dr. Morselli arrives at the conclusion that suicide is increasing in almost every country; that "religion and morals have never reached the root of the calamity"; that the sole preventive, not only against suicide but against madness, would

* See *Statistical Journal*, March, 1886, page 112.

consist in "diminishing the struggle for life amongst men, and in developing in man the well-ordering sentiments and ideas by which to reach a certain aim in life; in short, to give force and energy to the moral character." From his work on the subject, the following proportions have been abstracted* :—

DEATHS FROM SUICIDE IN FOREIGN COUNTRIES.

	Deaths from Suicide in each year per 100,000 Persons Living.		Deaths from Suicide in each year per 100,000 Persons Living.
Saxony ...	31·1	Norway ...	7·5
Denmark ..	25·8	Belgium ...	6·9
Schleswig-Holstein ...	24·0	Hungary ...	5·2
Austria ...	21·2	Italy ...	3·7
France ...	15·0	Netherlands ...	3·6
Hanover ...	14·0	United States ...	3·5
Prussia ...	13·3	Russia ...	2·9
Bavaria ...	9·1	Spain ...	1·4
Sweden ...	8·1		

727. It will be observed that, in proportion to population, suicide is more rife in Saxony, Denmark, Schleswig-Holstein, Austria, France, Hanover, and Prussia than in Queensland or Victoria; and in those countries, with the addition of Bavaria, than in New South Wales, South Australia, or New Zealand; whilst Tasmania stands not only below these, but also below Sweden, Norway, and Belgium. The only countries quoted which stand below any of the Australasian colonies in point of frequency of suicide are Hungary, Italy, the Netherlands, the United States, Russia, and Spain. Suicides in Australasia and Foreign countries.

728. In addition to the above, figures for the following countries are given by Mr. Mulhall.† The observations extend over the years 1871 to 1877:— Suicides in certain countries.

DEATHS FROM SUICIDE IN CERTAIN COUNTRIES.

	Deaths from Suicide in each year per 100,000 Persons Living.		Deaths from Suicide in each year per 100,000 Persons Living.
Switzerland ...	20·2	Scotland ...	4·0
Germany ...	14·3	Ireland ...	1·7
Sweden and Norway ...	8·1		

729. Mr. Mulhall thinks that the most notable causes of the increase of suicide are "the increase of railways and commerce, the great consumption of spirits and flesh meat, the spread of secular education and infidelity, the rapid growth of urban and decline of rural life, the higher ratio of insanity, the increase of wealth, the new system of divorce, and the keener struggle for existence in Europe, owing to the greater density of population." Causes assigned for increase of suicide.

* See *Suicide*, by Henry Morselli, M.D. Table IV., page 30. London: Kegan Paul & Co., 1881.

† *Dictionary of Statistics*, page 429.

Suicide more
destructive
than war.

730. In another work* the same writer points out that suicide is a more terrible destroyer of human life than war, for whilst during the fifty years of the Queen's reign war has occasioned 52,000 deaths of subjects of the United Kingdom, and 316,000 deaths of subjects of France, Germany, and Austria, suicide has claimed 77,000 victims in the first-named country and 610,000 victims in the other three countries named.

Violent
deaths in
Austral-
asian
colonies.

731. According to the following figures, violent deaths during the five years ended with 1886 were less common in Victoria than in any other of the Australasian colonies, except South Australia and Tasmania :—

VIOLENT DEATHS IN AUSTRALASIAN COLONIES, 1882 TO 1886.

Colony.	Year.	Number of Violent Deaths.	
		Total.	Per 10,000 Persons Living.
Victoria ...	1882	841	9·44
	1883	908	9·97
	1884	799	8·56
	1885	846	8·83
	1886	942	9·54
	Mean of 5 years	867	9·27
New South Wales ...	1882	904	11·37
	1883	850	10·19
	1884	990	11·24
	1885	1,106	11·88
	1886	1,083	11·05
	Mean of 5 years	987	11·15
Queensland ...	1882	439	18·48
	1883	396	14·78
	1884	509	17·27
	1885	492	15·93
	1886	496	14·92
	Mean of 5 years	466	16·28
South Australia ...	1882	210	7·24
	1883	202	6·76
	1884	239	7·74
	1885	212	6·77
	1886	272	8·69
	Mean of 5 years	227	7·44
Western Australia ...	1882	53	17·44
	1883	59	18·89
	1884	51	15·78
	1885	45	13·21
	1886	67	18·02
	Mean of 5 years	55	16·67

* *Fifty Years of National Progress*, page 11.

VIOLENT DEATHS IN AUSTRALASIAN COLONIES, 1882 TO 1886—
continued.

Colony.	Year.	Number of Violent Deaths.	
		Total.	Per 10,000 Persons Living.
Tasmania ...	1882	87	7·21
	1883	106	8·53
	1884	90	7·01
	1885	91	6·89
	1886	94	6·94
	Mean of 5 years	94	7·32
New Zealand ...	1882	505	9·92
	1883	494	9·33
	1884	548	9·98
	1885	517	9·13
	1886	571	9·81
	Mean of 5 years	527	9·63

732. It will be readily believed that violent deaths are not so frequent in Victoria now as in the early days of the gold discoveries. By the following figures, however, which, with the exception of those in the first line, have been extracted from the appendix to the 40th Report of the Registrar-General of England, it appears that such deaths are still more common here than in any European country. Fatal accidents seem to occur with more frequency in Victoria than in any of those countries; and suicides than in any except Switzerland, Prussia, Austria, and Bavaria. Homicide, relatively to population, appears to be more prevalent than in the United Kingdom, Norway, Sweden, Prussia, Belgium, and Finland, but to be much less rife than in Switzerland, Bavaria, or Italy. It must be remembered, however, that the proportions in the table (except in the case of Victoria) have been calculated in relation to the events occurring in one year only, and might not hold good if those in a series of years were taken into account:—

Violent deaths in Victoria and European countries.

DEATH RATE FROM VIOLENCE IN VICTORIA AND IN CERTAIN EUROPEAN COUNTRIES.*

Countries.	Proportion to 100,000 Living of Deaths from—			
	Violence of all kinds.	Accident and Negligence.	Homicide.	Suicide.
Victoria ...	95·4	81·4	3·7	10·2
Switzerland ...	92·4	68·9	3·9	19·6
United Kingdom†	77·5	69·7	1·6	6·2
England and Wales ...	75·7	66·7	1·7	7·3
Scotland ...	72·0	68·2	·1	3·7
Ireland ...	39·1	35·3	1·7	2·1

* The proportions have been calculated upon the occurrences in Victoria during the five years, 1881 to 1885, in Norway during 1873, in Scotland during 1875, in Finland during 1874, in Prussia during 1875, and in other countries during 1876. The figures in the last column in a few instances differ from those of Dr. Morselli (*ante*), which have been calculated over a series of years.

† Including the shipping.

DEATH RATE FROM VIOLENCE IN VICTORIA AND IN CERTAIN EUROPEAN COUNTRIES*—*continued.*

Countries.	Proportion to 100,000 Living of Deaths from—			
	Violence of all kinds.	Accident and Negligence.	Homicide.	Suicide.
Norway	72·4	64·1	1·3	7·0
Finland	62·6	55·7	3·5	3·4
Sweden	61·9	50·7	2·0	9·2
Prussia	61·6	46·1	2·1	13·4
Bavaria	51·9	37·7	3·9	10·3
Belgium	48·3	38·5	1·6	8·2
Austria	47·1	...	...	11·3
Italy	24·0	14·9	5·4	3·7

Railway accidents.

733. The following table gives a statement of the number of cases of death and injury from accidents on the Government lines of railway during the twenty-eight and a half years ended with 30th June, 1887, embracing the whole period of the existence of railways in Victoria:—

DEATHS FROM RAILWAY ACCIDENTS, 1859 TO 1886-7.

Year.	Total Number.	Passengers.			Servants of the Railway Department or of Contractors.			Others.		
		From causes beyond their own control.	From their own misconduct or want of caution.	Total.	From causes beyond their own control.	From their own misconduct or want of caution.	Total.	At crossings.	Trespassers.	Miscellaneous.
1859 to 1868	37	...	...	...	3	19	22	1	14	...
1869	4	...	...	...	...	2	2	...	1	1
1870	2	...	...	...	...	1	1	...	1	...
1871	6	...	...	...	...	2	2	...	2	2
1872	3	...	...	...	...	...	...	...	3	...
1873 ... ..	...	...	...	...	...	...	...	...	...	...
1874	10	...	...	...	4	...	4	1	4	1
1875	11	...	...	...	...	6	6	...	4	1
1876	23	...	...	...	3	10	13	2	6	2
1877	22	...	1	1	3	10	13	...	8	...
1878	16	...	...	...	...	7	7	2	6	1
1879	21	...	...	...	1	8	9	2	9	1
1880	18	...	...	...	...	7	7	3	6	2
1881	34	4	4	8	...	14	14	3	8	1
1882	38	1	1	2	...	22	22	3	9	2
1883	32	...	5	5	...	10	10	5	10	2
1884 (six months) ...	10	1	...	1	4	2	6	...	3	...
1884-5	36	...	1	1	...	12	12	7	14	2
1885-6	38	...	1	1	1	15	16	5	14	2
1886-7†	50	4	...	4	2	14	16	5	25	...
Total killed	411	10	13	23	21	161	182	39	147	20

* See footnote (*) on previous page.

† The high mortality in 1886-7 was chiefly due to the Windsor railway accident. So far as the numbers killed and injured are concerned, this is the worst railway accident which has occurred in Victoria.

PERSONS INJURED BY RAILWAY ACCIDENTS, 1859 TO 1886-7.

Year.	Total Number.	Passengers.			Servants of the Railway Department or of Contractors.			Others.		
		From causes beyond their own control.	From their own misconduct or want of caution.	Total.	From causes beyond their own control.	From their own misconduct or want of caution.	Total.	At crossings.	Trespassers.	Miscellaneous.
1859 to 1868 ...	84	22	2	24	5	45	50	1	7	2
1869 ...	...	...	...	...	...	...	...	...	...	...
1870 ...	4	...	...	...	4	...	4	...	...	...
1871 ...	3	...	...	...	...	1	1	...	1	1
1872 ...	32	28	2	30	1	1	2	...	...	...
1873 ...	1	...	...	...	...	1	1	...	...	...
1874 ...	1	...	...	...	...	1	1	...	...	...
1875 ...	8	...	...	...	6	1	7	...	1	...
1876 ...	27	1	1	2	4	15	19	...	5	1
1877 ...	49	36	...	36	3	5	8	1	2	2
1878 ...	40	22	3	25	6	5	11	...	1	3
1879 ...	45	7	2	9	11	20	31	3	1	1
1880 ...	20	5	...	5	1	7	8	2	3	2
1881 ...	64	46	4	50	1	10	11	...	2	1
1882 ...	261	210	5	215	13	25	38	1	2	5
1883 ...	101	67	8	75	7	12	19	2	1	4
1884 (six months) ...	90	44	9	53	10	21	31	2	1	3
1884-5 ...	116	13	23	36	10	46	56	5	9	10
1885-6 ...	191	3	33	36	17	101	118	6	4	27
1886-7* ...	358	266	24	290	16	43	59	3	3	3
Total injured ...	1495	770	116	886	115	360	475	26	43	65

734. It will be observed that, in the whole period of twenty-eight and a half years, 411 persons were killed and 1,495 were injured on the State lines of railway, and that, exclusive of trespassers, persons crossing the lines, &c., 174 of the former and 476 of the latter met their death or injury in consequence of their own misconduct or want of caution. Of the persons killed throughout the period, 23 were passengers, and as many as 182 railway or contractors' servants; 13 of the former, and 161 of the latter, having suffered in consequence of their own carelessness. The passengers injured numbered 886, and the railway servants 475; as many as 360 of the latter, but only 116 of the former, suffered from their own action. At crossings, 39 persons were killed, and 26 injured. As many as 147 trespassers were killed, no less than 53 being in the last 3 years; these no doubt included persons who committed suicide by placing themselves in the way of trains. During the same three years the trespassers injured have only numbered 16.

Railway passengers and servants killed and injured.

* See footnote (t) on last page.

Mining accidents.

735. In the fourteen years ended with 1887, embracing the whole period during which the Regulation and Inspection of Mines and Machinery Statutes* have been in operation, 785 persons lost their lives, and 1,772 persons were injured, from accidents connected with mining operations. The following were the numbers in each year and their proportion to the number of miners at work :—

DEATHS AND INJURIES FROM MINING ACCIDENTS, 1874 TO 1887.

Year.	Average Number of Miners at work.	Number of Persons—			Numbers per 1,000 Miners at work—		
		Killed.	Injured.	Total.	Killed.	Injured.	Total.
1874 ...	46,512	90	245	335	1·93	5·27	7·20
1875 ...	42,058	83	217	300	1·97	5·16	7·13
1876 ...	41,531	55	170	225	1·32	4·10	5·42
1877 ...	38,860	64	154	218	1·65	3·96	5·61
1878 ...	37,212	40	106	146	1·07	2·85	3·92
1879 ...	37,195	48	112	160	1·29	3·01	4·30
1880 ...	38,076	50	89	139	1·31	2·34	3·65
1881 ...	38,436	72	108	180	1·87	2·81	4·68
1882 ...	37,446	71	130	201	1·90	3·47	5·37
1883 ...	33,927	59	128	187	1·74	3·77	5·51
1884 ...	29,182	41	106	147	1·40	3·63	5·03
1885 ...	27,033	40	67	107	1·48	2·48	3·96
1886 ...	25,361	44	68	112	1·73	2·68	4·41
1887 ...	25,511	28	72	100	1·09	2·82	3·91
Means ...	35,596	56	127	183	1·57	3·57	5·14

Mining accidents, 1887.

736. In 1887, fatal mining accidents numbered 16 less than in the previous year, and, in proportion to the number of miners at work, were 30 per cent. below the average. The proportion (1·09 per 1,000) is, with one exception, the lowest recorded since mining accidents were first specially distinguished in 1874. In comparison with earlier years, the persons killed and injured in and in connexion with mines have much diminished both in numbers and in proportion to the miners at work.

Mining accidents in Victoria and England.

737. According to the mean of the fourteen years to which reference is made, 1 miner in every 637 loses his life annually. In 1887 the proportion was as low as 1 in 909. These proportions contrast favorably with the proportion of fatal accidents in the metalliferous mines of Great Britain and Ireland, where, according to the report of Her Majesty's Inspectors of Mines for 1883, 1 person in every 584 employed in and about mines lost his life by accident during the year, and 1 in every 607 during the ten years 1874 to 1883. This is exclusive of accidents in coal mines,

* 37 Vict. No. 480, 41 Vict. No. 583, 45 Vict. No. 719, and 47 Vict. No. 783.

in respect to which the proportion of fatal accidents is much higher. Dr. Raseri says that in Italy, during the six years 1879 to 1884, 1 miner in 450 lost his life annually by accident.

738. It appears by the following table that, in the fourteen years named, 1,244, or 48 per cent., of the mining accidents in Victoria were caused by the fall of earth or materials; 496, or 20 per cent., by falling down shafts, &c., and cage accidents; 314, or 12 per cent., by explosions, principally of blasting charges; and the balance, or 20 per cent., by timber and truck accidents, machinery in motion, foul air, flooding, and undescribed casualties:—

CAUSES OF MINING ACCIDENTS, 1874 TO 1887.

Nature of Accident.	Number of Persons—		
	Killed.	Injured.	Total.
Fall of earth or rock underground	310	569	879
" " on surface	99	73	172
" materials down shafts, passes, &c.	41	150	191
" " winzes, &c.	2	...	2
Falling down shafts	114	151	265
" " winzes, shoots, &c.	15	68	83
Cage accidents	46	102	148
Timber accidents	15	22	37
Truck accidents	5	42	47
Machinery in motion	19	78	97
Explosion of charges of gunpowder	22	132	154
" " guncotton	1	10	11
" " nitro-glycerine compounds	26	58	84
" stored explosives	6	28	34
" boilers	2	6	8
" fire damp	1	22	23
Foul air	10	1	11
Flooding of mines	23	...	23
Undescribed	28	260	288
Total	785	1,772	2,557

739. One effect of the new classification is to remove from the list of diseases, and to place under the head of "Ill-defined and unspecified causes" instead, a number of indefinite causes of death, which, although constantly appearing in medical certificates, are almost worthless for purposes of statistical investigation. Prominent among these are atrophy and debility, dropsy, tumor, mortification, abscess, hemorrhage, &c. It is obviously desirable that as few entries as possible should be made under this head, and it may be hoped that medical men will, as far as possible, avoid such terms in future when certifying to the cause of death, and that, wherever practicable, the name of the primary complaint may be given, rather than that of some affection which is merely

Causes of mining accidents.

Ill-defined and unspecified causes of death.

a result or symptom thereof. In the year under review there were no fewer than 1,285 deaths from ill-defined or unspecified causes, or about 8 per cent. of the deaths from all causes, as compared with an identical proportion in 1886, $7\frac{1}{2}$ per cent. in the five years ended with 1885, and 7 per cent. in the ten years ended with 1880. The great majority of these—viz., 1,162 in 1887—were returned as from atrophy and debility; whilst 21 were set down to tumours, 27 to dropsy, 20 to abscess, 26 to other ill-defined causes, and 29 were altogether unspecified.

740. The mortality under the head of atrophy and debility is almost entirely confined to infants and young children—thus, of the 1,162 deaths set down thereto in 1887, 1,078 were under 5 years, 952 were under 1 year, 303 were under 1 month, of age. It is probable that a large number of these deaths might have been returned more definitely if sufficient pains had been taken. The following are the numbers of both sexes recorded as having died from atrophy and debility in each of the twenty-one years ended with 1887 :—

DEATHS FROM ATROPHY AND DEBILITY, 1867 TO 1887.

Year.	Males.	Females.	Total.
1867	399	347	746
1868	337	328	665
1869	386	337	723
1870	422	368	790
1871	368	311	679
1872	354	338	692
1873	378	336	714
1874	402	337	739
1875	413	349	762
1876	344	305	649
1877	344	304	648
1878	389	311	700
1879	407	304	711
1880	369	324	693
1881	392	345	737
1882	493	442	935
1883	412	387	799
1884	488	365	853
1885	541	414	955
1886	577	472	1,049
1887	659	503	1,162
Annual mean 1867 to 1887	423	358	781

741. Notwithstanding the proportions of the sexes of persons at ages to be affected by atrophy and debility were about equal, it will be observed that in every one of the years more males died than females. During the whole period, females died of these complaints in the proportion of 85 to every 100 males.

Atrophy and
debility in
Victoria.

Sex of those
who died
of atrophy,
&c.

742. The practice of returning atrophy and debility as causes of death appears to be no less common in the other Australasian colonies than in Victoria, the mortality (generally of infants or young children) from those circumstances which medical men seem to find a difficulty in giving a more definite name to being apparently more common generally in the warmer than in the cooler colonies. The following are the figures for the five years ended with 1886 :—

Atrophy and debility in Australasian colonies.

DEATHS FROM ATROPHY AND DEBILITY IN AUSTRALASIAN COLONIES, 1882 TO 1886.

Colony.	Year.	Number of Deaths from Atrophy and Debility.	
		Total.	Per 10,000 Persons Living.
Victoria ...	1882	935	10·49
	1883	799	8·77
	1884	853	9·13
	1885	955	9·96
	1886	1,049	10·63
	Mean of 5 years	918	9·80
New South Wales ...	1882	776	9·76
	1883	832	9·97
	1884	975	11·07
	1885	1,059	11·38
	1886	971	9·91
	Mean of 5 years	923	10·42
Queensland ...	1882	299	12·58
	1883	344	12·84
	1884	438	14·86
	1885	402	13·02
	1886	297	8·93
	Mean of 5 years	356	12·45
South Australia ...	1882	337	11·62
	1883	353	11·81
	1884	380	12·31
	1885	307	9·81
	1886	315	10·06
	Mean of 5 years	338	11·12
Western Australia ...	1882	30	9·87
	1883	19	6·08
	1884	35	10·83
	1885	48	14·09
	1886	47	12·64
	Mean of 5 years	36	10·70

DEATHS FROM ATROPHY AND DEBILITY IN AUSTRALASIAN COLONIES,
1882 TO 1886—*continued.*

Colony.	Year.	Number of Deaths from Atrophy and Debility.	
		Total.	Per 10,000 Persons Living.
Tasmania ...	1882	112	9·28
	1883	124	9·98
	1884	126	9·81
	1885	124	9·38
	1886	115	8·49
	Mean of 5 years	120	9·39
New Zealand ...	1882	334	6·56
	1883	269	5·08
	1884	304	5·54
	1885	294	5·19
	1886	318	5·46
	Mean of 5 years	304	5·57

Causes of death of octogenarians.

743. The number of deaths of persons over 80 years of age, and their exact ages at death, have been already quoted for the year 1887 and the two preceding periods of five and eleven years respectively.* The following table shows the causes of death of these persons:—

CAUSES OF DEATH OF OCTOGENARIANS, 1871 TO 1887.

Causes of Death.	Year 1887.		Five Years, 1882-86.		Eleven Years ended with 1881.	
	Males.	Females.	Males.	Females.	Males.	Females.
Influenza, Coryza, Catarrh	5	2	5	11
Diphtheria	1	...	...	...
Typhoid Fever, &c. ...	2	...	4	2	3	2
Cholera	2	...	...	6	1
Dysentery and Diarrhœa ...	13	6	43	37	51	36
Veneral Diseases	2	...	4	...
Erysipelas	6	2	3	7
Hydatids	1	...
Privation	2	...	3	...
Scurvy	1	...
Intemperance	2	1
Rheumatism	4	4	3	7	4
Gout	3	1	2	...
Cancer ...	6	4	32	14	35	13
Tabes Mesenterica	1	...	...	...

* See table following paragraph 637 *ante.*

CAUSES OF DEATH OF OCTOGENARIANS, 1871 TO 1887—*continued.*

Causes of Death.	Year 1887.		Five Years, 1882-86.		Eleven Years, ended with 1881.	
	Males.	Females.	Males.	Females.	Males.	Females.
Phthisis	1	...	2	3	3	3
Diabetes Mellitus	1	...	...	...	...	...
Old Age	149	143	628	483	631	538
Brain Diseases, &c.	22	15	110	79	136	103
Ear and Nose Diseases ... ..	...	3	...	...	...	...
Heart Diseases, &c.	26	20	81	48	66	46
Lung Diseases, &c.	43	27	187	133	183	116
Quinsy ... ..	...	...	...	...	...	1
Stomach Diseases, &c.	10	6	43	27	37	21
Kidney Diseases, &c.	10	2	44	8	47	1
Genetic Diseases ... ..	...	...	1	1	...	1
Bone Diseases	1	...	...	...	...	...
Carbuncle, Boil ... ..	...	...	...	1	3	2
Skin Diseases, &c. ... ..	...	...	...	...	4	2
Accidents	7	4	22	19	22	18
Suicide	1	...	...	2	4	...
Dropsy	2	...	6	9	20	18
Mortification ... ..	...	...	4	2	9	3
Tumour	1	...	2	1	...	3
Abscess, &c. ... ..	...	...	...	...	1	...
Unspecified causes ... ..	..	...	4	3	2	...
Total	295	236	1,237	880	1,291	951

744. It will be noticed that during the seventeen years referred to, in the case of more than half of both the males and females, no complaint was set down except old age. Little is to be learnt from such a vague definition, and it is much to be wished that medical men would endeavour to describe the causes of death with more precision. Of the remainder, over two-sevenths of both sexes died of diseases of the organs of respiration, chiefly pneumonia and bronchitis, and about one-fifth died of affections of the brain and nerves.

Complaints most fatal to octogenarians—1871-87.

745. Elaborate tables showing the occupations at death of males at various ages in Melbourne, in the extra-metropolitan towns, and in the extra-urban districts, were published in the Statistical Register of Victoria for 1883, and statements based upon these have been given in former issues of the *Victorian Year-Book*.* The following is a summary of the proportions of adult males of each class of occupations dying annually in the three years embracing the census year (1881), and the year immediately succeeding and following it, the groups being arranged according to the order of fatality:—

Occupations at death.

* See *Statistical Register*, 1883, page 278; also, *Victorian Year-Book*, 1883-4, paragraph 619; *ibid.*, 1884-5, paragraph 669; *ibid.*, 1885-6, paragraph 684 *et seq.*

OCCUPATIONS OF ADULT MALES AT DEATH IN ORDER OF FATALITY.

			Annual Deaths of Males over 20 per 1,000 Living.
1.	Engaged in industrial pursuits	...	21·89
2.	„ entertaining and serving	...	20·42
3.	„ commercial pursuits	...	17·62
4.	„ professional pursuits	...	16·51
5.	„ food and drinks	...	15·53
6.	„ books and literature	...	12·48
7.	„ on land and with animals	...	9·96

Medical men
in various
countries.

746. As bearing upon the mortality, it is important to consider whether the number of medical men is sufficient to minister to the health of the population. At the census of 1881, 454 legally qualified medical practitioners were returned, which gives 1 to every 1,900 persons, or to every 194 square miles. The first of these proportions compares favorably with that in most other countries, the only ones known to have a higher proportion being England and Wales, Italy, and Switzerland. In regard to the second proportion, in consequence of Victoria being much more thinly peopled than any of the countries of the old world, it is naturally low; lower, in fact, than in any other country respecting which the information is at hand, except Sweden and Norway. These results are shown in the following table, in which the countries are arranged in order according to the proportion of medical men to the population and to the area of each country:—

MEDICAL MEN IN PROPORTION TO POPULATION AND AREA IN
VARIOUS COUNTRIES.

Countries.	Year.	Medical Men per 100,000 Persons Living.	Countries.	Square Miles to a Medical Man.
Switzerland ...	1880	75	England and Wales ...	3·9
Italy ...	1885	60	Belgium ...	4·7
England and Wales ...	1881	58	Italy ...	6·2
Victoria ...	1881	53	Holland ...	6·9
Scotland ...	1881	50	Switzerland ...	7·3
Ireland ...	1881	48	Ireland ...	13·2
Holland ...	1884	43	France ...	13·9
Belgium ...	1884	42	Germany ...	15·1
France ...	1883	39	Austria ...	15·8
Germany ...	1876	32	Scotland ...	15·9
Austria ...	1884	32	Hungary ...	33·6
Norway ...	1882	32	Spain ...	37·1
Spain ...	1877	31	Portugal ...	43·4
Hungary ...	1876	24	Russia in Europe ...	148·4
Portugal ...	1880	18	Victoria ...	193·6
Russia in Europe ...	1882	16	Norway ...	205·0
Sweden ...	1883	13	Sweden ...	294·9

NOTE.—The figures, except those relating to Victoria, have been taken (with some corrections) from a table given by Dr. Raseri. The area per medical man is there stated in square kilometres, which have been converted into square miles on the assumption that one of the former is equal to ·386 of one of the latter.

747. There are 38 general hospitals in Victoria, 9 of which are also benevolent asylums. The total number of cases of sickness treated in these institutions during the year ended 30th June, 1887, was 16,056, and the number of deaths was 1,780. In the previous twelve months the cases of sickness treated numbered 15,987, and the deaths 1,719. There was thus 1 death to every 9·0 cases of sickness treated in hospitals during the year 1887, as against 1 death to every 9·3 cases of sickness treated therein during the previous year. The following table gives a list of the various hospitals throughout the colony, also a statement of the number of cases treated, the number of deaths which occurred, in the year ended 30th June, 1887, and the proportion of deaths to cases in each hospital during that and the previous year:—

Sickness and
deaths in
general
hospitals.

SICKNESS AND MORTALITY IN GENERAL HOSPITALS.

Name of Hospital.	Year ended 30th June, 1887.			Percentage of Mortality to Cases treated, Year ended 30th June, 1886.
	Number of Cases treated.	Number of Deaths.	Percentage of Mortality to Cases treated.	
Alexandra	28	4	14·29	12·50
Amherst	372	28	7·53	6·28
Ararat*	367	37	10·08	6·06
Ballarat	1,008	137	13·59	8·82
Beechworth	450	48	10·67	6·83
Belfast* (Port Fairy) ...	54	7	12·96	5·36
Bendigo	1,220	136	11·15	10·11
Castlemaine	503	53	10·54	9·05
Clunes	154	16	10·39	8·28
Colac	66	10	15·15	5·26
Creswick	271	12	4·43	6·09
Daylesford*	167	24	14·37	13·41
Dunolly	294	24	8·16	7·99
Echuca	208	24	11·54	12·02
Geelong*	919	75	8·16	9·58
Hamilton*	304	29	9·54	8·15
Heathcote	80	11	13·75	14·29
Horsham	261	17	6·51	11·67
Inglewood	373	32	8·58	6·69
Kilmore	152	8	5·26	10·08
Kyneton	379	26	6·86	5·81
Maldon*	65	5	7·69	17·31
Mansfield	77	4	5·19	8·49
Maryborough	446	29	6·50	7·73
Melbourne	3,535	531	15·02	16·99
Melbourne (Alfred) ...	1,727	189	10·94	10·96
Melbourne (Austin)† ...	132	49	37·12	20·41
Melbourne (Homœopathic)	570	45	7·89	5·26
Mooroopna	382	40	10·47	7·56
Nhill	77	6	7·79	7·02
Pleasant Creek (Stawell)*	255	25	9·80	11·16
Portland*	35	1	2·86	8·51
Sale	371	40	10·78	12·50
St. Arnaud	231	11	4·76	6·85

* This institution is also a Benevolent Asylum.

† For incurables.

SICKNESS AND MORTALITY IN GENERAL HOSPITALS—*continued.*

Name of Hospital.	Year ended 30th June, 1887.			Percentage of Mortality to Cases treated, Year ended 30th June, 1886.
	Number of Cases treated.	Number of Deaths.	Percentage of Mortality to Cases treated.	
Swan Hill	76	5	6·58	5·83
Wangaratta	218	25	11·47	9·31
Warrnambool*... ..	118	12	10·17	9·73
Wood's Point	111	5	4·50	3·92
Total	16,056	1,780	11·09	11·12

Highest and lowest death rates.

748. In proportion to the cases treated in 1886-7, the greatest mortality occurred in the Austin (Melbourne),† Colac, Melbourne, Daylesford, and Alexandra Hospitals; and the lowest in the Portland, Creswick, Wood's Point, St. Arnaud, Mansfield, and Kilmore Hospitals. In the previous year the rate of mortality was highest in the Austin (Melbourne),† Heathcote, Maldon, and Melbourne Hospitals; and the least in the Kyneton, Portland, Wood's Point, Creswick, Homœopathic (Melbourne), and Belfast Hospitals.

Proportion of deaths in Hospitals in various countries.

749. The following figures, calculated from numbers given in Dr. Raseri's paper‡ show the proportions of deaths to inmates of hospitals in various countries; those for Victoria during the six years ended with 1885 being added:—

PROPORTIONS OF DEATHS TO INMATES OF HOSPITALS IN VARIOUS COUNTRIES.

	1880-85	Per cent.
Victoria	1880-85	11·85
England and Wales	1884	11·11
Austria	1883	10·43
Italy	1885	10·22
Saxony	1882	9·40
Norway	1883	9·36
France	1883	9·14
Portugal	1884	9·02
Hungary	1882	8·68
Prussia	1882	8·24
German Empire	1882	7·18
Sweden	1883	6·23
Baden	1882	4·86
Bavaria	1882	3·86
Württemberg	1882	3·49

Deaths in Victorian and other Hospitals.

750. The rate of mortality in hospitals would appear by the figures to be higher in Victoria than in any of the other countries named. In the absence of information it is impossible to say whether the cases treated

* These institutions are also Benevolent Asylums.

† For incurables.

‡ Page 195.

in the hospitals of this colony may not be of a worse class than those in the other countries, or whether hospitals for special complaints—ophthalmic, maternity, &c., where the mortality would naturally not be so great as in general hospitals—may not be included with the latter in the returns of some of the countries.

751. The patients treated in the Infirmary Department* of the Women's Hospital numbered 446 during the year 1885-6, and 411 in 1886-7. The deaths in the same institution numbered 21 in the former, and 15 in the latter year. Therefore, 1 patient in 22 died in 1885-6, and 1 in 27 in 1886-7.

Sickness and deaths in Women's Infirmary Department

752. In the Midwifery Department* of the Women's Hospital, Melbourne, 550 women were confined in 1885-6, and 615 in 1886-7.† Sixteen died in the former period, and 22 in the latter. Thus, 1 woman in 34 died in 1885-6, and 1 woman in 28 in 1886-7. From the founding of the institution to the end of June, 1887, 13,050 women were accouched therein,‡ of whom 243 died, which is equivalent to 1 death to every 54 confinements.‡

Deaths of mothers in Women's Midwifery Department

753. The infants born alive in the Women's Hospital numbered 514 in the year 1885-6, and 571 during the year 1886-7, and of these, 24 in the former and 22 in the latter year died before being taken from the institution; thus 1 infant in 21 died in the former, and 1 in every 26 in the latter year. §

Deaths of infants in Women's Hospital.

754. In the Melbourne Hospital for Sick Children 593 cases were treated, and 35 deaths occurred, in the year 1885-6; 544 cases were treated, and 37 deaths occurred, during the year 1886-7. These numbers furnish proportions of 1 death to every 17 patients in the former, and 1 death to every 15 patients in the latter, period.

Sickness and deaths in Children's Hospital.

755. Cases of sickness in benevolent asylums (exclusive of Melbourne Immigrants' Home) numbered 1,817 in 1885-6, and 2,590 in the year 1886-7; deaths numbered 198 and 211. The deaths were thus to the cases treated in the proportion of 1 to every 9 in 1885-6, and of 1 to 14 in 1886-7.

Sickness and deaths in benevolent asylums.

756. In the Melbourne Immigrants' Home the cases of sickness in the year 1885-6 amounted to 520, and the deaths to 99, or 1 death to every 5 cases of sickness. In the year 1886-7 the cases of sickness in this institution numbered 659, and the deaths 133, or 1 death to every 5 cases of sickness.

Sickness and deaths in Immigrants' Home.

* The Midwifery and the Infirmary Departments of the "Women's Hospital" were formerly known under the names of the "Lying-in Hospital" and the "Hospital for Diseases of Women and Children" respectively.

† Including women accouched outside the hospital by midwives connected with the institution, who numbered 125 in 1886-7.

‡ See paragraph 708 *ante*.

§ See paragraph 627 *ante*.

Sickness and deaths in orphan asylums.

757. In 1885-6 the cases of sickness in orphan asylums numbered 143, and the deaths 3. In the year ended 30th June, 1886-7, these numbers were 133 and 10 respectively. Thus, in 1885-6, 1 death occurred to every 48 cases of sickness, and in 1886-7, 1 death to every 13 cases of sickness.

Sickness and deaths in lunatic asylums.

758. In hospitals for the insane during 1886, the cases of sickness numbered 906, and during 1887 they numbered 1,018. The deaths amounted to 256 at the former period, and 235 at the latter, or an average of 1 death to every 4 cases of sickness in both years.

Sickness and deaths in gaols.

759. In gaols and penal establishments 5,553 cases of sickness occurred in 1887. The deaths in the same year were 62. Thus, 1 death occurred to every 14 cases of sickness.

Deaths in public institutions.

760. Altogether the number of deaths in penal or charitable institutions during 1886-7* was 2,594, being in the proportion of 1 to every 6 deaths which took place in Victoria during the year. The deaths in such institutions in the five years ended with 1886 were in the proportion of 1 to every 6·3 deaths; and in the four years, 1877-80, in that of 1 to every 6 deaths which took place in the whole colony. The following are the names of the institutions and the number of deaths which occurred in each during the year 1886-7:—

DEATHS IN PUBLIC INSTITUTIONS, 1886-7.

	Number of Deaths.
General hospitals	1,780
Women's Hospital—	
Infirmery Department†	15
Midwifery Department‡	44
Hospital for Sick Children	37
Benevolent asylums	211
Melbourne Immigrants' Home	133
Orphan asylums	10
Eye and Ear Hospital	2
Victorian Asylum and School for the Blind	1
Deaf and Dumb Institution	1
Hospitals for the insane	235
Female refuges	17 §
Victorian Infant Asylum	5
Industrial and reformatory schools	40 ||
Gaols (inclusive of Police gaols)	62
Penal establishments	1
Total	2,594

* The figures relating to hospitals for the insane, industrial and reformatory schools, gaols, and penal establishments are for the year ended 31st December, and those relating to the other institutions are for the year ended 30th June, 1887.

† Formerly known as the Hospital for Diseases of Women and Children.

‡ Formerly known as the Lying-in Hospital. The deaths include those of 22 infants born in the institution.

§ This includes the deaths of 10 infants in the Female Refuge, Madeline-street.

|| Including deaths of boarded-out and licensed children.

761. In England and Wales during 1882, 1 out of every 10 deaths registered occurred in a workhouse, hospital, or lunatic asylum. Of such deaths, 63 per cent. occurred in the first of these institutions, 28 per cent. in the second, and 9 per cent. in the third. Deaths in public institutions in England.

762. The householder's schedule used at the census of 1881 contained a column headed "Health," respecting which an instruction was given to the effect that, if any person was unable to follow his usual occupation by reason of illness or accident, or was afflicted with deafmutedism, blindness, lunacy, idiocy, epilepsy, or leprosy,* the name of such infirmity should be entered. As the result of this inquiry, the following information was obtained :— Sick and infirm.

SICKNESS AND INFIRMITY, 1881.

	Males.	Females.	Total.
Suffering from sickness ...	7,381	5,822	13,203
" " accident ...	1,162	202	1,364
" " deafmutedism ...	168	119	287
" " blindness ...	502	240	742
" " lunacy ...	1,590	1,243	2,833
" " idiocy ...	108	53	161
" " epilepsy ...	176	114	290
" " lameness, mutilation, deformity, &c. †	83	49	132
Total ...	11,170	7,842	19,012

763. The total numbers furnish a proportion of 221 persons suffering from infirmity in every 10,000 of the population, of 247 infirm males in every 10,000 males, of 191 infirm females in every 10,000 females. Proportion of infirm to population.

764. The sick when the census of 1881 was taken were found to be in the proportion of 153, and those laid up in consequence of accidents in that of 16, to every 10,000 of the population. The two combined, representing those entirely disabled for the time being, but not as a rule permanently affected, were thus in the proportion of 169 to every 10,000 living, or 1 in 59. A similar combination gives a proportion of 189 disabled males in every 10,000 males living, or 1 in 53; of 147 disabled females in every 10,000 females living, or 1 in 68. Sickness and accidents.

765. The deafmutes, the blind, the lunatics, the idiots, and the crippled, maimed, and deformed persons represent those having some Permanent infirmities.

* No case of leprosy was returned either in 1871 or 1881. It is known that this infirmity existed at both periods, to a small extent, among the Chinese; but the sub-enumerators did not distinguish it from ordinary sickness.

† The information in this line was not asked for, and is no doubt incomplete.

defect or injury which is generally permanent, but which often does not disable them from following some description of labour, and does not always prevent them from earning their own livelihood, although no doubt in most cases it seriously affects their usefulness to the community. These numbered 4,445, viz., 2,627 males and 1,818 females, or 1 person in every 194, 1 male in every 172, and 1 female in every 226.

Deafmute-
ism.

766. The deaf and dumb were in the proportion of 3·33 per 10,000 persons living; of 3·72 deaf and dumb males per 10,000 males, and of 2·90 deaf and dumb females per 10,000 females. These proportions, stated in other words, are 1 deafmute in 3,005 of the total population, 1 in 2,691 of the males, and 1 in 3,448 of the females.

Deaf-
muteism in
various
countries.

767. The following are the proportions per 10,000 of the population of deaf and dumb persons in as many Australasian Colonies and other countries as the information is available for:—

DEAFMUTEISM IN VARIOUS COUNTRIES.

	Deafmutes per 10,000 living.		Deafmutes per 10,000 living.
Switzerland ...	24·52	France ...	6·26
Austria ...	13·07	Denmark ...	6·20
Hungary ...	12·63	Great Britain and Ireland ...	5·74
Sweden ...	10·23	Tasmania ...	5·44
Prussia ...	10·19	Italy ...	5·37
Finland ...	10·18	Spain ...	4·59
Germany (exclusive of Prussia) ...	9·31	Belgium ...	4·45
Norway ...	8·64	Holland ...	3·35
Canada ...	8·05	Victoria ...	3·33
Portugal ...	7·47	South Australia ...	2·90
United States ...	6·75	Western Australia ...	2·36
Greece ...	6·46	New Zealand ...	2·33

NOTE.—The figures, except those relating to the Australasian colonies, have been taken (with some corrections) and rearranged from Dr. Raseri's paper, page 179.

Deaf-
muteism in
Australasia
and else-
where.

768. It will be observed that the proportions of deaf and dumb persons to the population are smaller in New Zealand, Western Australia, South Australia, and Victoria, than in any other countries; but Holland, Belgium, Spain, and Italy, stand above Tasmania. The country in which deafmuteism prevails to its greatest extent is Switzerland, about 1 person in every 400 being affected in this manner.

Blindness.

769. Blind persons in Victoria were found in 1881 to be in the proportion of 8·60 per 10,000 persons living; blind males in that of 11·10 to every 10,000 males; blind females in that of 5·85 to every 10,000 females. There was thus 1 blind person in every 1,162 of mixed sexes, or 1 blind male in every 901 males, and 1 blind female in every 1,709 females.

770. Subjoined are the proportions of blind persons to the populations of the respective countries named:—

Blindness in various countries.

BLINDNESS IN VARIOUS COUNTRIES.

	Blind persons per 10,000 living.
Portugal	21·90
Finland	21·15
Tasmania	16·00
Spain	14·79
Western Australia	13·79
Norway	13·57
Hungary	13·24
Great Britain and Ireland	9·85
United States	9·75
Austria	9·07
Greece	8·96
Victoria	8·60
France	8·37
Prussia	8·31
Belgium	8·11
Sweden	8·06
Germany (exclusive of Prussia)	7·93
Denmark	7·86
Italy	7·63
Switzerland	7·61
South Australia	7·06
Canada	6·19
Holland	4·45
New Zealand	2·82

NOTE.—The figures, except those relating to the Australasian colonies, have been taken (with some corrections) and rearranged from Dr. Raseri's paper, page 179.

771. According to these figures, the people of New Zealand enjoy a greater immunity from blindness than those of any other country, and the people of South Australia than those of any other country except New Zealand, Holland and Canada. Victoria has a larger proportion of blind persons than 12, but a smaller one than 11 of the other countries named; whilst Western Australia has a larger proportion than all but 4, and Tasmania than all but 2 of the other countries. Most blindness appears to exist in two countries situated so widely apart as Portugal and Finland, the proportion being 1 blind person to about every 450 of the population.

Blindness in Australasian colonies and elsewhere.

772. Lunatics in Victoria were in the proportion of 32·85 per 10,000 of the population, viz., 35·17 male lunatics per 10,000 males living, and 30·30 female lunatics per 10,000 females living. Thus 1 person in every 304, 1 male in every 284, 1 female in every 330, was a lunatic.

Lunacy.

773. From whatever cause, lunacy appears to be much more rife in Victoria than in England and Wales. When the census of 1881 was taken, the proportion in the latter was 1 lunatic in every 502 of the

Lunacy in England and Wales.

population, which is a much lower proportion than that found to exist in Victoria at the same census.*

Lunacy in
Austral-
asian
colonies.

774. The only Australasian colonies besides Victoria which collected complete returns of lunacy apart from idiocy were New Zealand, South Australia, and Tasmania, in all of which the proportion was lower than in this colony, as will be seen by the following figures:—

LUNACY IN AUSTRALASIAN COLONIES, 1881.

1. Victoria had 1 lunatic in every	...	...	304 persons.
2. Tasmania	"	"	334 "
3. South Australia	"	"	436 "
4. New Zealand	"	"	437 "

Lunacy in
Queensland.

775. The census returns of Queensland contain a return of the number of lunatics in asylums, but give no account of those in private houses, gaols, &c. The number was 563, or 1 in 379 of the population, which is a higher proportion than that which the total number of lunatics bore to the population of New Zealand or South Australia, but not so high as that which obtained in the other two colonies furnishing returns.

Idiocy.

776. Persons returned as idiots in this colony were in the proportion of 1·87 per 10,000 of the population; 2·38 idiot males per 10,000 males, 1·29 idiot females per 10,000 females. These proportions may be otherwise stated as 1 idiot in every 5,356 persons, 1 idiot male in every 4,186 males, 1 idiot female in every 7,741 females.

Idiocy in
various
countries.

777. The following are the proportions of idiots to the populations of three of the Australasian colonies and various countries. It is probable that imbeciles are included with idiots in most if not all the countries out of Australasia, as the proportions relating to such countries are in every case higher than those relating to New Zealand and Victoria, and in all cases but four they are also higher than those relating to Tasmania:—

IDIOCY IN VARIOUS COUNTRIES.

	Idiots per 10,000 living.		Idiots per 10,000 living.
United States	15·33	Italy	6·91
Portugal	15·09	Tasmania	6·57
Austria	14·64	Greece	6·53
Germany (exclusive of Prussia)	13·65	Spain	5·47
Great Britain and Ireland	12·92	Belgium	5·02
Hungary	11·86	Sweden	3·92
France	11·40	Victoria	1·87
Denmark	8·31	New Zealand	1·18

NOTE.—The figures, except those relating to the Australasian colonies, have been taken (with some corrections) and rearranged from Dr. Raseri's paper, page 179.

* See General Report on the Census of England and Wales, 1881, page 67.

778. Epileptic persons in 1881 were in proportion of 3·36 per 10,000 of the population of Victoria, of 3·89 per 10,000 males, and of 2·78 per 10,000 females ; or, in other words, 1 person in every 2,974, 1 male in every 2,569, 1 female in every 3,599, was subject to attacks of epilepsy.

Epilepsy.

779. The census of England and Wales does not supply any information on the subject of epilepsy, and the only Australasian colony, except Victoria, which collects such information appears to be New Zealand, in which, according to the census of 1881, the proportion of epileptic persons was 1 in every 2,525 of the population, thereby showing a higher ratio of epilepsy than that found to prevail in Victoria.

Epilepsy in
New
Zealand.

780. The Victorian Central Board of Health, which consists of a President and nine members, renders important service in devising and carrying into effect measures for the preservation of the public health, and especially in preventing the spread of contagious diseases. The Board meets fortnightly, but the President, who is a salaried officer, and gives his whole time and attention to the duties of his position, is empowered to take all necessary action during the intervals, reporting fully to the Board at its next meeting. The number of Local Boards is 184, and these are in constant communication with, and take instructions from the Central Board. A short account of its work and objects, written by Mr. A. P. Akehurst, the President of the Central Board, specially for the *Victorian Year-Book*, together with several important circulars issued by the Board, was published in an Appendix near the end of the *Victorian Year-Book* 1885-6. The Board in their report for 1886-7,* lays down the following as the position which a Central Board of Health ought to occupy :—

Central
Board of
Health.

“To keep all local authorities and their officers in the active exercise of their own legally-imposed and responsible functions; to make itself acquainted with any default, and to remedy it; to direct inquiries, medical and otherwise; to give advice and plans when required; to sanction some of the larger proceedings of the local authorities; to issue provisional orders, subject to Parliamentary confirmation; to receive complaints and appeals; to issue medical regulations on emergencies, and to collect medical reports.”

781. The following are the results of meteorological observations taken at different stations throughout the colony during 1887. These places are arranged in the table in the order of their altitude above the level of the sea. The last three are situated in the interior, but the others are on the sea-board. The times at which the observations for mean temperature and mean atmospheric pressure are obtained differ at the various stations; but a correction is applied, in order to make the

Meteorologi-
cal observa-
tions, 1887.

results equivalent to those which would be derived from hourly observations taken throughout the day and night :—

METEOROLOGICAL OBSERVATIONS AT VARIOUS STATIONS, 1887.

Stations.	Height above Sea-level.	Temperature in the Shade.		
		Max.	Min.	Mean.
	feet.	°	°	°
Portland ...	37·0	104·0	34·0	57·0
Gabo Island ...	50·0	86·0	32·0	56·8
Melbourne... ..	91·3	104·9	33·0	58·1
Cape Otway ...	270·0	102·0	34·0	55·3
Wilson's Promontory	301·0	95·0	36·0	56·5
Echuca	314·0	105·0	31·0	61·6
Sandhurst	701·0	107·2	29·0	58·9
Ballarat	1,438·0	106·5	31·0	54·9

Stations.	Mean Atmospheric Pressure.	Days on which Rain fell.	Amount of Rainfall.	Mean Relative Humidity.	Amount of Cloud.
	inches.	No.	inches.	0-1.	0-10.
Portland	29·978	198	37·07	·75	4·9
Gabo Island ...	29·911	165	45·56	·87	6·1
Melbourne	29·944	153	32·29	·74	6·1
Cape Otway ...	29·759	196	31·49	·78	6·3
Wilson's Promontory	29·637	181	43·76	·77	6·4
Echuca	29·618	78	29·09	...	...
Sandhurst	29·272	106	26·25	·71	4·5
Ballarat	28·537	161	30·83	·74	5·4

Meteorology
in Mel-
bourne, 1864
to 1887.

782. The following are the results for Melbourne in each of the twenty-four years ended with 1887 :—

METEOROLOGICAL OBSERVATIONS AT MELBOURNE.—RETURN FOR TWENTY-FOUR YEARS.

(Observatory 91·3 feet above the Sea-level.)

Year.	Temperature in the Shade.			Mean Atmospheric Pressure.	Days on which Rain fell.	Amount of Rainfall.	Mean Relative Humidity.	Mean Amount of Cloud.
	Max.	Min.	Mean.					
	°	°	°	inches.	No.	inches.	0-1.	0-10.
1864	96·6	30·5	57·1	29·94	144	27·40	·72	6·1
1865	103·4	30·9	56·5	29·94	119	15·94	·68	5·6
1866	108·2	28·0	57·8	29·95	107	22·41	·70	5·5
1867	108·4	29·7	57·7	29·92	133	25·79	·72	5·7
1868	110·0	27·4	57·1	29·98	120	18·27	·70	5·7
1869	108·4	27·0	57·2	29·94	129	24·59	·71	6·0
1870	109·0	29·6	57·4	29·93	129	33·76	·74	5·8
1871	106·0	32·1	57·7	29·93	125	30·17	·74	5·9

METEOROLOGICAL OBSERVATIONS AT MELBOURNE.—RETURN FOR
 TWENTY-FOUR YEARS—*continued.*

(Observatory 91·3 feet above the Sea-level.)

Year.	Temperature in the Shade.			Mean Atmospheric Pressure.	Days on which Rain fell.	Amount of Rainfall.	Mean Relative Humidity.	Mean Amount of Cloud.
	Max.	Min.	Mean.					
	°	°	°	inches.	No.	inches.	0—1.	0—10.
1872	103·3	32·5	57·6	29·92	136	32·52	·74	6·4
1873	102·4	30·2	58·0	29·94	134	25·61	·72	6·0
1874	102·7	29·3	56·6	29·93	134	28·10	·72	6·1
1875	110·4	31·1	56·6	29·89	158	32·87	·72	6·2
1876	110·7	29·0	57·0	29·93	134	24·04	·70	5·8
1877	100·7	31·0	56·7	29·99	124	24·10	·70	5·8
1878	103·4	31·1	57·4	29·90	116	25·36	·71	6·0
1879	106·0	30·5	56·8	29·92	127	19·28	·71	5·8
1880	106·5	29·0	57·8	29·92	147	28·48	·72	6·0
1881	99·9	31·9	57·1	29·97	134	24·08	·68	5·9
1882	110·5	31·5	57·4	29·90	131	22·39	·68	5·6
1883	104·9	31·7	58·0	29·92	130	23·71	·69	5·9
1884	100·7	29·9	56·7	29·94	128	25·85	·71	6·2
1885	101·6	29·9	57·1	30·00	123	26·94	·71	6·3
1886	104·1	28·1	57·1	29·96	128	24·00	·71	6·0
1887	104·9	33·0	58·1	29·94	153	32·39	·74	6·1
Means	105·0	30·2	57·3	29·94	131	25·75	·71	5·9

783. It will be noticed that in 1887, according to observations taken at the Melbourne Observatory, the maximum temperature was slightly below, but the minimum temperature 3 degrees above, the mean of the maxima and minima in twenty-four years; that the mean temperature was nearly one degree above, and the mean relative humidity was also considerably above the average, but the mean atmospheric pressure was exactly the same as the average; also that, whilst the amount of cloud which prevailed was above the average, rain fell on twenty-two days more than usual, and the rainfall was over 6½ inches above the average.

Observations in 1887 compared with means.

784. During the period of twenty-four years a higher temperature than the maximum of 1887 was experienced in twelve, and a lower one than the minimum in every one of the previous years; the mean temperature was also higher than in any previous year; the days on which rain fell were more numerous than in any previous year except 1875, and the amount of rainfall was higher than in any except 1870, 1872, and 1875.

Observations in 1887 and former years compared.

Mean temperature in Melbourne and elsewhere.

785. The mean temperature of Melbourne over a series of years ($57\cdot3^{\circ}$) corresponds with that of Bathurst, a town in the interior of New South Wales, situated 2,150 feet above the sea-level, and is about equal to that of Washington ($56\cdot9^{\circ}$), Bordeaux ($57\cdot0^{\circ}$), Madrid ($57\cdot2^{\circ}$), and Marseilles ($58\cdot3^{\circ}$). It is lower by $5\frac{1}{3}$ degrees than that of Sydney ($62\cdot5^{\circ}$), and lower by $7\frac{1}{3}$ degrees than that of Adelaide ($64\cdot6^{\circ}$).*

Mean rainfall in Melbourne and elsewhere.

786. The mean rainfall in Melbourne ($25\cdot75$ in.) corresponds approximately with that of Ventnor in England ($25\cdot5$ in.), Bathurst in New South Wales ($25\cdot0$ in.), and Toulouse in France ($24\cdot9$ in.). It is above that in London ($24\cdot0$ in.), Nottingham ($23\cdot7$ in.), or Paris ($22\cdot9$ in.), is 5 inches above that in Adelaide ($20\cdot5$ in.), but is only about half as much as that in Sydney ($50\cdot1$ in.).*

Meteorology elsewhere treated on.

787. An extended account of the meteorology and climate of Victoria will be found in the *Victorian Year-Book*, 1874, paragraphs 54 to 95.

* The observations, except those for Melbourne and Adelaide, have been taken from a work entitled *Physical Geography and Climate of New South Wales*, by H. C. Russell, F.R.A.S., Government Astronomer of that colony.

END OF VOLUME I.