VITAL STATISTICS.

Law as to marriages in Victoria.

Marriages in Victoria can only be celebrated by a minister of religion whose name is registered in the office of the Government Statist, by the Government Statist, or the Assistant Government Statist, or by any duly appointed registrar of marriages. In order to guard against the celebration of marriages by undesirable persons, the present law provides that no person shall be registered as a minister of religion unless he ordinarily officiates as such in one of the officially recognised religious denominations, is nominated by the recognised head of the denomination in Victoria, or, if there be no such head, then by at least two registered ministers; and unless he satisfies the Government Statist that he is a fit and proper person to celebrate marriages. The Governor in Council may prohibit from celebrating marriages any minister who is proved guilty of any offence, misconduct, or impropriety unworthy of his calling; and the Government Statist, at the request of the head of his denomination, may cancel the registration of any minister who ceases to officiate or otherwise loses his qualifications. Any clergyman or person officiating as such who celebrates a marriage without being duly registered, or any person who obtains registration untruly representing himself as an officiating minister, or who personates a registrar, shall be guilty of a misdemeanour, punishable by a penalty not exceeding £500, or by imprisonment not exceeding five years, or by both; but, if the omission were accidental, the penalty is reduced to a maximum of £20 on summary conviction. In the case of a minor (not being a widower or widow), wishing to marry, there must be obtained the written consent (*a*) of the father if he be within Victoria; if not (*b*) of a guardian appointed by him; if there be no such appointment (*c*) of the mother if within Victoria; if the parent be incapable of consenting, or if there be no such parent or guardian (*d*) of a police magistrate, or a justice appointed for the purpose by the Chief Justice or a Judge of the Supreme Court. If the mother has been deserted by the father, or obtained a protection order against him, or if, through divorce or judicial separation she has become the guardian *de facto*, her consent is sufficient authority for the marriage. If the minor is a ward of the Neglected Children's or Reformatory Schools' Department, the Departmental Secretary's consent is the authority. In all cases the consent must be indorsed on the marriage certificate. Marriages of

Jews and Quakers are exempted from the above provisions, and are deemed legal and valid if celebrated according to their respective usages. To guard against the abuse of the system of matrimonial agencies, the Governor in Council is empowered, if deemed expedient, to prohibit ministers from celebrating marriages in any undesirable place or building. No marriage shall be invalid by reason of having been celebrated by an unqualified person if either of the parties shall have believed at the time that such person was qualified, nor by reason of any formal defect or irregularity. Marriage with a deceased wife's sister has been legalized in Victoria since 1873; but there is no provision to validate a marriage of a woman with a deceased husband's brother.

Registration.

The present official system of compulsory registration of births, deaths, and marriages in Victoria has been in force since 1853, and the registers—framed on the best models—are replete with all necessary information bearing on the family history of the people. The statutory duties under the Registration Acts are performed by the Government Statist, who has control over the local registrars of births and deaths, and (so far as regards their registration duties) over the officiating clergymen and lay registrars; and copies of all entries certified by him or by the Assistant Government Statist, are *primâ facie* evidence in the Courts of Australia of the facts to which they relate. At the head office in Melbourne there is kept for reference a complete collection of all registrations effected since 1st July, 1853, as well as certified copies or originals of all existing church records relating to earlier periods, as far back as 1837. For the registration of births and deaths, the State is divided into about 600 registration districts, for each of which a registrar is appointed, who (if not a public servant) is paid by fees at the rate of 2s. 6d. per entry, but is not prevented from following his or her own private business; whilst the marriages are recorded by the clergyman or lay registrar who performs the ceremony. Registrations of marriages are made in triplicate, and of births and deaths in duplicate—each copy bearing the original signatures of the parties married and witnesses (in case of marriage), or of the informant (in case of a birth or death), and of the minister or registrar. One copy is retained by the registrar or minister; one is forwarded to the Government Statist—to be kept as a permanent record; and the third (in case of marriage only) is given to one of the parties married. Births must be registered within 60 days by the father or mother or the occupier of the house where the birth occurred, or by some person authorized by one of these. A person who fails in his duty to register within 60 days is liable to a penalty of £10, although he still may register within twelve months on payment of a fee of 5s. To insure registration of all births, doctors and nurses may, and are expected to, report cases of births to the registrars. After twelve months registration can only be effected after proper legal authority has been obtained, and on payment of a fee of 10s. Deaths must, under a penalty of £10, be notified within seven days to the local registrar

by the father or mother or the occupier of the house where the death occurred, or the doctor or nurse, and must be registered within twenty-one days by some person present at death or in attendance during the last illness, or in default of such persons by the occupier of the house where the death occurred, or by some person authorized by one of these. An exception is made in regard to sudden deaths, and deaths of boarded-out children under the age of 5 years, which should be at once reported to the Coroner, and can only be registered by him or on his authority. This exception does not apply to wards of the State or infants retained by or received into any approved public charitable institution. In addition to ordinary registration, every birth or death under the age of 5 of an illegitimate child must be notified in writing by the occupier of the house where the event occurred within three days to the local registrar, if in any city, town, or borough, or within seven days to the local registrar or police officer in charge, if elsewhere, provided that if the mother is the occupier, the period for notification is extended to three weeks. Offenders against this provision are liable to imprisonment for six months, or a penalty of £25. Illegitimate children may be legitimized within six months of the marriage of the parents on application to the Government Statist or to any Registrar of Births and Deaths, and on the payment of fees varying from 5s. to 12s. 6d. Applicants for searches or certificates of births, deaths, or marriages should, in applying to the Government Statist, furnish particulars of the date and place of the event; also the names of the parties in the case of a marriage, or the name, age (if a death), and parentage in the case of a birth or death.

MARRIAGES.

Marriages in 1908 numbered 9,334, which was the second highest total recorded, and 715 above the average of the preceding five years. The marriages in Victoria in each of the last eighteen years are as follows:— Marriages.

MARRIAGES IN EACH YEAR, 1891 TO 1908.

Year.	No. of Marriages.	Year.	No. of Marriages.
1891 ...	8,780	1900 ...	8,308
1892 ...	7,723	1901 ...	8,406
1893 ...	7,004	1902 ...	8,477
1894 ...	7,029	1903 ...	7,605
1895 ...	7,181	1904 ...	8,210
1896 ...	7,625	1905 ...	8,774
1897 ...	7,568	1906 ...	8,930
1898 ...	7,620	1907 ...	9,575
1899 ...	8,140	1908 ...	9,334

Between 1891 and 1894, a period of commercial depression, a fall in the number of marriages amounting to 20 per cent. took place. A slight recovery occurred in 1895, and with three exceptions it was followed by varying increases in subsequent years. The substantial nature of this improvement is indicated by the fact that after allowing for the increase in population 5,650 more persons were married in the past five years than in the period 1899-1903. As the tendency to marry is necessarily influenced by the view taken of present and future prospects, the relatively large numbers of marriages in each of the past five years are an indication of the general prosperity of that period.

The ordinary marriage rate—per 1,000 of the total population—like birth and death rates similarly estimated, is somewhat unreliable in comparatively newly settled countries like Australia, especially in earlier years, but as it affords a ready and approximate comparison between years not widely separated, the figures relating to Victoria are shown in the following table for the last ten years :—

MARRIAGE RATES, 1899 TO 1908.

Year.	Marriage Rate.	Year.	Marriage Rate.
1899 ...	6.86	1904 ...	6.80
1900 ...	6.96	1905 ...	7.24
1901 ...	6.97	1906 ...	7.28
1902 ...	7.00	1907 ...	7.68
1903 ...	6.29	1908 ...	7.38

The steady yearly increase in the ratio of marriages to population between 1903 and 1907 was not continued in 1908, when the rate was 4 per cent. lower than in the previous year, but slightly above the average of the period 1904-8.

Factors in marriage rates.

It has been frequently shown that the marriage rate is not so dependent upon the number of marriageable women as upon the number of marriageable men the community contains, and, to

demonstrate this the following table is designed, showing the proportion of marriages to the population, to the number of single men, and of single women in each census year 1854 to 1901:—

PROPORTION OF MARRIAGES PER 1,000 OF POPULATION AND OF SINGLE MEN AND WOMEN, 1854 TO 1901.

Year of Census.	Exclusive of Chinese and Aborigines.						
	Enumerated Population.	Number Marriageable—		Marriages.	Proportion of Marriages per 1,000 of the—		
		Men (aged 20 and over).	Women (aged 15 and over).		Population.	Marriageable Men.	Marriageable Women.
1854 ..	234,361	70,865	15,083	3,696	15.77	52.16	245.04
1857 ..	383,668	95,427	26,317	4,465	11.64	46.79	169.66
1861 ..	513,896	106,940	37,006	4,528	8.81	42.34	122.36
1871 ..	712,263	89,921	65,386	4,715	6.62	52.43	72.11
1881 ..	849,438	99,824	119,360	5,732	6.75	57.42	48.02
1891 ..	1,130,463	163,048	173,138	9,007	7.97	55.24	52.02
1901 ..	1,193,340	154,334	211,087	8,468	7.08	54.87	40.12

NOTE.—The figures in this table relate to the twelve months of which the date of census is the middle.

Fluctuations in marriage rate.

It will thus be observed that, whilst the proportion of marriages to the population (marriage rate) and to the marriageable women has fluctuated considerably, the proportion to the marriageable men has been tolerably constant, the extremes being 57½ in 1881, and 42⅓ in 1861, and the usual range has been between the narrow limits of 52 and 55. This proportion steadily diminished from 57½ in 1881 to 55 in 1901, although the latter rate was higher than at any period prior to 1881. The proportion of marriages per 1,000 marriageable women, on the other hand, has fallen off considerably. Even in the more settled times, after the gold rush, it fell from 72 in 1871 to a level of about 50 in 1881 and 1891, and still further to as low as 40 in 1901, owing to the generally increased proportion of marriageable women to men, which at the last period reached as high as 137 per 100 men. In other words, the chances of a woman marrying in Victoria are now very much smaller than at any earlier period, the proportions having fallen from about 1 in every 4 of the marriageable women in 1854, and 1 in 8 in 1861, to 1 in 20 in 1891, and 1 in every 25 in 1901 marrying within a year. The last rate is slightly less than that for England and Wales, where 1 in every 22 marriageable women entered wedlock within a year during the period 1900-2.

Marriage rates in age groups.

To further investigate this subject, it will be interesting to ascertain the marriage rates amongst marriageable men and women at different periods of life, and, with this view, the rates have been computed for various age groups between 15 and 50 at each of the last three census periods, and are shown in the following table:—

PROPORTION OF MARRIAGES PER 1,000 MARRIAGEABLE MEN AND WOMEN AT EACH AGE.

Age Group (Years.)	Men.			Women.		
	1881.	1891.	1901.	1881.	1891.	1901.
15—21	..	..	..	24.6	23.6	18.8
21—25*	57.8	44.3	44.6	118.8	106.0	87.2
25—30	114.2	85.9	90.5	105.7	100.5	84.7
30—35	82.9	75.2	82.1	73.1	66.4	57.9
35—40	56.4	51.1	62.6	53.8	46.4	37.2
40—45	30.5	33.4	39.9	32.5	27.7	22.3
45—50	21.8	25.9	29.8	22.1	17.8	14.3
50 upwards ..	10.5	9.1	9.1	4.9	4.2	2.4
15-45	..	..	..	55.9	58.7†	49.0

* In the case of men 20–25.

† The apparent anomaly of the rate for women between 15 and 45 being higher in 1891 than in 1881, whilst the rate in each age group in 1881 is higher than that in the corresponding group in 1891, is due to the changes in the age constitution of women under 45 years of age.

Tendency amongst men to defer marriage.

In the last two periods, as compared with the first, there is every evidence of a tendency amongst men to defer marriage to a later period in life—the turning point being age group 30-35, for there has been a marked decrease in the rates below, but an increase in the rates above that age. In 1901, as compared with 1891, however, there was a considerable increase in the rate at every age period except 20-25 and over 50.

Fall in marriage rates of women at all ages.

In the case of marriageable women, there was, it will be observed, a fall between 1881 and 1891, and a greater fall between 1891 and 1901 in the proportion marrying at each age group under 35; but a rapid fall from each census to the subsequent one in the proportions at ages over 35. In this connexion it may be noted that whilst the marriageable women between 15 and 45 increased by 25,300 during the intercensal period 1891-1901, the number of marriageable men between 20 and 50 decreased by 9,156—a decrease chiefly due to the efflux of single men to Western Australia and South

Africa. Thus, there were resident in Western Australia, according to the last census returns of that State, 17,433 adult males of Victorian birth (besides 6,909 minors), of whom 6,701 were married, and 10,732 were single.

The ages of bridegrooms and brides who were married in 1908 are shown in combination for various groups in the following table:— Ages of bride-grooms and brides.

AGES OF BRIDEGROOMS AND BRIDES IN COMBINATION IN VICTORIA, 1908.

Ages of Bridegrooms.	Ages of Brides.																	Total Bridegrooms.
	14.	15.	16.	17.	18.	19.	20.	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.	
16 ...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
17 ...	...	...	2	1	1	1	...	1	...	...	...	...	...	...	...	...	...	...	6
18 ...	...	...	2	3	11	11	1	3	...	...	...	...	...	...	...	...	...	...	31
19 ...	...	...	5	11	27	18	10	18	1	...	...	...	...	...	...	...	...	...	90
20 ...	...	1	6	9	19	23	17	39	7	1	...	...	...	...	...	...	...	...	122
21 to 25 ...	1	2	18	68	152	189	224	1,365	309	36	10	2	1	...	...	...	...	...	2,377
25 to 30 ...	...	1	10	33	68	119	173	1,326	1,113	217	32	7	...	...	...	...	...	...	3,099
30 to 35 ...	...	...	1	9	23	31	53	433	617	293	97	16	6	3	...	...	...	...	1,582
35 to 40 ...	...	2	...	4	7	10	22	156	268	241	145	42	9	1	...	...	...	...	907
40 to 45 ...	...	...	1	...	...	6	7	47	111	110	121	69	19	7	1	...	...	...	499
45 to 50 ...	...	...	...	...	1	1	2	17	51	57	70	50	40	11	2	...	...	...	302
50 to 55 ...	...	...	...	...	...	...	...	5	16	20	21	23	24	17	2	...	1	...	129
55 to 60 ...	...	...	...	...	...	...	...	4	4	10	9	12	12	9	5	1	...	...	66
60 to 65 ...	...	...	...	...	...	...	...	1	3	7	6	3	9	9	5	4	1	...	48
65 to 70 ...	...	...	...	..	...	...	1	1	2	5	3	1	5	5	2	3	3	1	32
70 to 75 ...	...	...	...	...	...	...	...	...	3	1	3	3	1	6	2	1	5	...	25
75 to 80 ...	...	...	...	...	...	...	...	...	...	1	...	...	1	1	2	1	2	2	10
80 and over	...	...	...	...	...	...	...	...	...	...	...	2	1	...	...	1	...	3	7
Total Brides	1	6	45	140	309	409	510	3,416	2,505	999	517	230	128	69	21	11	12	6	9,334

Some inequalities of age appear amongst the persons married, as for instance, 2 men between 35 and 40 were married to girls of 15 years of age, 9 men between 30 and 35 to girls of 17, and 1 between 65 and 70 years of age to a woman of 20. Of every 1,000 men married during the year, 718 were older and 177 were younger than their brides, and 105 were of the same age as their partners.

Proportion of marriages at various ages.

The proportions of both sexes marrying in the various age groups are shown in the following table for the averages of the periods 1881-90 and 1905-7, also for the year 1908:—

PROPORTION OF MALES AND FEMALES MARRYING AT DIFFERENT AGES, 1881-90, 1905-7, AND 1908.

Ages (Years).	Proportion per 1,000 of total.					
	Bridegrooms.			Brides.		
	1881-90.	1905-7.	1908.	1881-90.	1905-7.	1908.
Under 15	...	...	...	·15	·14	·11
15 to 16	...	...	...	1·17	1·11	·64
16 to 17	·03	·07	·22	6·53	5·10	4·82
17 to 18	·29	·40	·64	20·32	14·33	15·00
18 to 19	1·46	2·45	3·32	42·94	31·43	33·10
19 to 20	5·62	8·05	9·64	65·03	46·54	43·82
20 to 21	15·19	13·98	13·07	73·84	57·95	54·64
21 to 25	321·02	255·06	254·66	432·34	371·93	365·98
25 to 30	365·48	325·36	332·01	223·83	264·63	268·37
30 to 35	134·57	178·82	169·49	62·07	107·76	107·03
35 to 40	58·29	105·20	97·17	29·53	49·94	55·39
40 to 45	32·54	53·73	53·46	17·10	25·97	24·64
45 to 50	24·77	26·82	32·36	12·23	12·11	13·71
50 to 55	18·40	11·61	13·82	6·74	5·62	7.39
55 to 60	11·49	6·85	7·07	3·40	2·26	2·25
60 and over	10·85	11·60	13·07	2·78	3·18	3·11
Total	1,000·00	1,000·00	1,000·00	1,000·00	1,000·00	1,000·0

It will be observed that in later years the proportion of both sexes marrying between 21 and 30 shows a decline. This is more marked amongst the men than the women, the former having fallen from 69 per cent. in 1881-1890 to 59 in 1908, or nearly 15 per cent.—as compared with a decline of only 4 per cent. amongst the women. On the other hand, a large increase occurred in later years in the proportions of bridegrooms and brides between 30 and 40, the former being 27 and the latter 16 per cent. in 1908 as against 19 and 9 per cent. respectively in 1881-1890.

Increased age at marriage.

A high proportion of re-marriages has the effect of increasing the average marrying age of bridegrooms and brides. This is readily seen by comparing for 1908 the mean age at marriage of bachelors —29.03—with that of divorced men and of widowers—43.11 and 46.55 respectively. The average age of spinsters marrying was 25.65 as against 35.53 for divorced women and 39.76 for widows. Although the ratio of re-marriages declined there was a gradual rise in the marrying ages of bridegrooms marrying brides under 45, and

in the ages of such brides during the 27 years ended 1906. For the years 1907-8, however, the average age at marriage was slightly lower than in 1906, as will be seen in the following table :—

MEAN AGES AT MARRIAGE.

Period.	Average Age of—	
	Brides under 45.	Bridegrooms of Brides under 45.
	years.	years.
1870-4	24·13	29·93
1880-4	23·83	28·61
1890-4	24·66	28·66
1900-4	25·44	29·70
1905	25·77	29·76
1906	25·97	29·90
1907	25·82	29·78
1908	25·85	29·77

The average age of brides under 45 for the period 1900-8 was 25.62 years as compared with 24.66 in 1890-4, 23.83 in 1880-4, and 24.13 in 1870-4. As the fertility of married women is greater at younger than at older ages, it is apparent that the later marrying age in recent years has had an adverse effect upon the birth rate. For Victoria in 1908, and for England and Wales in 1907, the mean marrying ages of all brides were almost identical, being 26.54 and 26.49 respectively. There was, however, a difference of 1.76 years between the mean ages of all bridegrooms in the same period, these being 30.42 in Victoria and 28.66 in England and Wales.

Marriage rates in Australian States and New Zealand.

In the following table are shown the marriage rates per 1,000 of the population in the Australian States and New Zealand for each of the last five years, and also the average rates for the whole period :—

MARRIAGE RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND: 1904 TO 1908.

Year.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand
1904 ..	6·80	7·21	5·93	6·85	8·83	7·55	7·00	8·26
1905 ..	7·24	7·42	6·04	6·94	8·48	7·61	7·21	8·28
1906 ..	7·28	7·63	6·73	7·05	8·70	7·74	7·43	8·48
1907 ..	7·68	7·84	7·58	7·94	8·02	7·91	7·78	8·91
1908 ..	7·38	7·97	7·22	7·84	7·50	7·74	7·64	8·82
Average	7·28	7·61	6·70	7·32	8·31	7·71	7·41	8·55

According to the average of the five years 1904-8, the highest rate prevailed in New Zealand, followed by Western Australia, Tasmania, New South Wales, South Australia, and Victoria in that order,

and the lowest in Queensland. In all the States except New South Wales, a lower marriage rate was experienced in 1908 than in the preceding year, the decline varying from 1 per cent. in South Australia to 6 per cent. in Western Australia. The rate for Australia decreased by nearly 2 per cent. in the same period.

Marriage rates in various countries.

The average marriage rate in Australia for the period 1904-8 was lower than in ten of the seventeen countries shown in the following table during the years 1903-7 :—

MARRIAGES PER 1,000 OF THE POPULATION IN VARIOUS COUNTRIES, 1903-7.

Bulgaria (1902-6)	10·2	Switzerland	7·5
Ontario, Province of ..	8·9	Spain	7·4
Hungary	8·8	Holland	7·4
Belgium	8·0	Denmark	7·3
German Empire (1902-6) ..	8·0	Scotland	6·9
Austria (1902-6)	7·8	Norway	5·9
England and Wales ..	7·8	Sweden	5·9
France	7·7	Ireland	5·2
Italy	7·6		

Marriages in proportion to marriageable males in Australasia.

For reasons already explained, a better and more reliable index of the frequency of marriage in the different States is a comparison of the marriages with the number of marriageable males, aged 21 and upwards, such as is contained in the following statement for the average of the three years 1900 to 1902 :—

MARRIAGES PER 1,000 MARRIAGEABLE MALES IN AUSTRALASIA.

Victoria	56.0
New South Wales	58.3
Queensland	41.6
South Australia	56.8
Western Australia	41.9
Tasmania	65.7
Total Australia	55·7
New Zealand	55·1

Although high marriage rates are generally regarded as evidence of prosperity in a community, low rates can hardly be considered as showing the reverse in some of the Australian States, where the age and sex constitutions are not normal. Thus, in Queensland and Western Australia, the low rates amongst marriageable men cannot be said to be due to the absence of prosperity, as compared with the other States, or to greater disinclination on the part of the men to marry, but rather to the fact that the ratio of marriageable women to men is small in both those States.

Marriage rates in urban and rural districts.

Formerly the marriages which were celebrated in urban and rural districts were compared with the populations of those districts respectively, but since the place where a marriage is solemnized is no guide as to domicile, the method has been abandoned, and the classification

according to the usual residence of the parties adopted instead. The following table gives the numbers and rates per 1,000 of the population of brides and of bridegrooms, whose usual place of residence (if in Victoria) was in Melbourne and suburbs, other urban districts, or rural districts respectively, or was outside the State—during the year 1908:—

USUAL RESIDENCE OF BRIDES AND BRIDEGROOMS DURING 1908.

Usual Residence of Bridegroom.	Usual Residence of Bride.				Total Bride-grooms.	Proportion of Bride-grooms per 1,000 of Population.
	Metropolitan.	Other Urban.	Rural.	Outside Victoria.		
In Victoria—						
Metropolitan Districts	3,770	128	228	43	4,169	7·7
Other Urban Districts	123	1,105	243	11	1,482	7·0
Rural Districts	402	299	2,464	33	3,198	6·3
Outside Victoria ..	193	73	103	116	485	..
Total Brides	4,488	1,605	3,038	203	9,334	..
Proportion of Brides per 1,000 of Population ..	8·3	7·6	6·0	..	..	..

Of the 369 men residing outside the State who married Victorian women, 148 were residents of New South Wales, 21 of Queensland, 36 of South Australia, 46 of Western Australia, 37 of Tasmania, 31 of New Zealand, 9 of the United Kingdom, 3 of South Africa, 6 of India, and 32 of other countries.

Compared with the average of the five years, 1900-4, the marriage rates of both sexes in 1908 showed a marked increase in the metropolitan and rural districts, but only a small increase in the urban districts. The rates prevailing in each division of the State for the two periods are shown in the following statement:—

Period.		Marriage Rates in Victoria.		
		Metropolitan.	Urban.	Rural.
Males	1900–4	6·9	6·8	5·8
	1908	7·7	7·0	6·3
Females	1900–4	7·5	7·4	5·5
	1908	8·3	7·6	6·0

Variations in sex distribution in town and country are largely responsible for the differences between the male and female rates. For both sexes the marriage rates of persons residing in the rural division are considerably below those among residents in the remainder

of the State. Migration of marriageable persons from the country towards the metropolis and large towns accounts in a large measure for the low country rate.

Marrying age according to occupation.

In order to obtain information regarding the influence of occupation upon the marrying age, the following table has been constructed, based upon 16,513 marriages which took place during the two years 1907 and 1908, in which definite occupations were given :—

AGE AT MARRIAGE ACCORDING TO OCCUPATION.

Occupation.	Number Married.	Average Age at Marriage.	Percentage Marrying at Age Group.			
			Under 25.	25 to 35.	35 to 45.	45 and over.
Hairdresser, Tobacconist	130	28·28	41·54	43·08	12·30	3·08
Ironworker, Foundry Employé, &c.	272	28·35	43·38	40·81	11·03	4·78
Carter, Driver, Carrier ...	768	28·53	41·28	43·88	9·63	5·21
Blacksmith	329	28·88	33·74	50·46	12·46	3·34
Labourer	2,769	29·08	35.43	47·17	12·53	4·87
Salesman, Storeman, &c.	448	29·15	28.57	56·92	12·05	2·46
Grocer, Baker, Butcher, Fruiterer	1,077	29·17	33·99	49·02	12·53	4·46
Coachbuilder	120	29·33	36·67	42·50	16·67	4·16
Miner	1,136	29·49	35·12	45·95	14·00	4·93
Bootmaker	313	29·77	37.06	44·41	10·54	7·99
Mechanical Engineer, Fitter, Engine-driver ...	654	29·81	29·66	52·30	11·92	6·12
Clerk	886	29·94	24·94	56·32	15·35	3·39
Carpenter, Bricklayer, Mason, &c.	1,020	30·09	34·12	43·53	14·90	7·45
Printer, Stationer, Newsagent	278	30·15	27·34	52·88	14·03	5·75
Railway, Tramway Employé	456	30·25	26·75	51·76	17·32	4·17
Tailor	278	30·26	26·62	53·24	12·95	7·19
Constable, Warder, Soldier	136	30·38	25·00	53·68	15·44	5·88
Cook, Steward, Waiter ...	130	30·53	32·31	46·15	15·39	6·15
Sailor, Mariner ...	175	31·55	21·71	49·72	20·57	8·00
Brewer, Cordial-maker, Hotel-keeper ...	163	32·13	22·70	44·79	23·31	9·20
Civil Servant	183	32·15	25·68	41·53	26·23	6·56
Farmer, Dairy-farmer, Grazier, &c.	3,175	32·28	15·05	56·60	21·39	6·96
Professional	484	32·31	12·19	61·78	18·18	7·85
Market Gardener ...	265	32·43	18·11	53·21	19·25	9·43
School Teacher ...	140	32·44	14·29	63·57	12·14	10·00
Commercial Traveller, Agent, &c.	496	32·47	16·53	54·03	20·97	8·47
Builder, Contractor ...	232	33·34	21·98	44·40	19·83	13·79

An inspection of the table shows that wage-earners marry at an earlier age than persons working on their own account and employers of labour. And further that some wage-earners, such as ironworkers,

foundry employés, &c., carters, drivers, carriers, &c., and labourers, who generally receive the highest wage of their occupations in comparatively early manhood, marry at an earlier age than those whose highest wage is reached at a later age, of whom clerks, civil servants, school teachers, carpenters, bricklayers, masons, &c., and railway employés may be taken as examples.

This is emphasized by comparing the proportion of labourers marrying under 25 years of age, which was equal to 35.43 per cent., with that of school teachers (14.29), civil servants (25.68), and clerks (24.94) per cent. The group comprising farmers, dairy-farmers, graziers, &c., shows a late marrying age, and has, with two exceptions (professional and school teachers), the lowest proportion marrying at the earliest age division. The average age at marriage of this class is greater than that of hairdressers and tobacconists by 4 years; of ironworkers and foundry employés by 3.93; of carters, drivers, and carriers by 3.75; of blacksmiths by 3.40; of labourers by 3.20; of grocers, bakers, butchers, &c., by 3.11; of miners by 2.79; and of carpenters, bricklayers, masons, &c., by 2.19 years. The high marrying age of farmers, dairy-farmers, graziers, &c., accounts to some extent for the low marriage and birth rates in the rural division of the State.

Birthplaces of persons married, 1907-8.

The birthplaces of persons married in the years 1907-8 show that only a small proportion—equivalent to 20 per 1,000 bridegrooms and 5 per 1,000 brides—was born in foreign countries, of which Germany contributed about one-fourth. Of every 1,000 men married, 858 were born in Australia, 68 in England and Wales, 17 in Scotland, 16 in Ireland, and 21 in other British Possessions. The corresponding proportions for women married were 930, 33, 8, 9, and 15 respectively.

Marriages in quarters.

The Autumn quarter is the most frequently selected season for marrying. Of the 194,871 marriages recorded in the twenty-five years 1881-1905, 26.86 per cent. were celebrated in the Autumn, 25.74 in the Spring, 24.03 in the Summer, and 23.37 in the Winter quarter. For the corresponding periods of 1908, the percentages were 27.37, 24.89, 24.08, and 23.66 respectively.

Former condition of persons married.

The following statement shows the percentages of persons in each conjugal condition, who married in the periods specified :—

CONJUGAL CONDITIONS OF PERSONS MARRYING, 1871-1908.

Conjugal Conditions.	Percentage of total Marriages.				
	1871–80.	1881–90.	1891–1900.	1901–5.	1908.
Bachelors and Spinsters	80·59	85·84	87·22	88·06	88·61
Bachelors and Widows	7·10	4·72	4·23	3·73	3·82
Widowers and Spinsters	7·75	6·17	6·07	5·94	5·52
Widowers and Widows	4·56	3·27	2·48	2·27	2·05

The proportion of re-marriages shows a steady decline in recent years, and is now slightly lower than the ratio obtaining in England and Wales. Of every 1,000 persons of each sex married in Victoria during last year, 76 were widowers and 59 were widows, as against 94 and 80 respectively during the decade 1881-90. As the proportion of widows in the population is nearly double that of widowers, and the numbers of widowed women and men married in 1908 were 547 and 706 respectively, it appears that the chances of the former re-marrying are only slightly more than one-third of the chances of the latter, which are about the same as in England and Wales.

Divorced persons re-marrying.

The number of divorced persons re-married during 1908 was 102, which was slightly below the average of the preceding four years. Of the 89,646 persons married during the last five years, divorced persons numbered 526, or 1 in every 170 persons, as compared with 1 in every 869 in England and Wales in 1907. The following are the numbers of divorced persons re-marrying in Victoria since 1903:—

DIVORCED PERSONS RE-MARRYING, 1904 TO 1908.

Year.	Males.	Females.	Total.
1904	45	68	113
1905	38	64	102
1906	42	58	100
1907	52	57	109
1908	44	58	102

Marriages of minors.

During the year 1908, the proportion of brides under 21 years of age in Victoria was the lowest of all the Australian States, and the ratio of bridegrooms under 21 was less than in any other State except Western Australia. The percentages for each State were as follows:—

	Percentage under 21 years of age.	
	Bridegrooms.	Brides.
Victoria	2.69	15.21
New South Wales ...	4.11	23.27
Queensland	3.69	23.75
South Australia ...	3.27	17.49
Western Australia ...	1.39	21.72
Tasmania	4.05	28.44

These ratios show that in Tasmania more than 1 in every 4, and in Queensland and New South Wales about 1 in every 4 brides was under 21 years of age, while in Western Australia slightly more than 1 in 5, and in Victoria little more than 1 in every 7 was under that age. The percentage of minors in Victoria in the year under review was about equal to the average of the previous ten years, but

below the mean of the decennium 1881-1890. In England and Wales in 1907 the percentage of bridegrooms under 21 years of age, 4.07, is 51 per cent. higher, whilst that for brides, 14.18, is slightly less than in Victoria.

Marriages by principal denominations.

During the five years, 1904 to 1908, an annual average of 8,965 marriages was registered, of which only 98, or 1.1 per cent., were celebrated by lay registrars. The proportion was as high as 7 in the ten years, 1881-90, but dropped to 3.7 in 1894, and has since declined to 1.2 in 1908, probably owing to the competition of matrimonial agencies, which sprang up about 1894. Of the annual average marriages in 1904-8, 1,899 were solemnized according to the rites of the Church of England, 1,468 of the Presbyterians, 1,382 of the Methodists, 335 of the Baptists, 1,001 of the Independents, 60 of the Lutherans, 1,310 of "other sects"—chiefly Protestants—1,387 of the Roman Catholic Church, and 25 according to those of the Jews.

Marriages at matrimonial and advertising agencies.

The number of marriages solemnized at matrimonial and advertising agencies gradually rose from 1,409 in 1898 to 1,701 in 1900, and fell to 1,188 in 1902, but increased again to 1,353 in 1903, 1,502 in 1904, 1,792 in 1905, 1,941 in 1906, and 2,140 in 1907. In 1908 they numbered 2,004. About 20 per cent. of the total marriages were performed in such agencies in 1900, 18 per cent. in 1903 and 1904, 20 per cent. in 1905, nearly 22 per cent. in 1906, 22 per cent. in 1907, and over 21 per cent. in 1908. This accounts for the unduly large proportion of marriages celebrated by "other sects," whose clergymen acted for such agencies.

BIRTHS.

Number of births.

The number of births registered in Victoria during the year 1908 was 31,101, of which 16,073 were males and 15,028 females. This was 268 below the number recorded for the preceding year, but 771 above the average of the period 1903-7. On the experience of the past eighteen years, there were 105 male to every 100 female births. The figures for each year since 1890 are as follows:—

BIRTHS IN VICTORIA, 1891 TO 1908.

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1891 ..	19,598	18,907	38,505	1900 ..	15,834	14,945	30,779
1892 ..	19,405	18,426	37,831	1901 ..	15,876	15,132	31,008
1893 ..	18,823	17,729	36,552	1902 ..	15,583	14,878	30,461
1894 ..	17,501	16,757	34,258	1903 ..	15,115	14,454	29,569
1895 ..	17,372	16,334	33,706	1904 ..	15,313	14,450	29,763
1896 ..	16,460	15,718	32,178	1905 ..	15,523	14,584	30,107
1897 ..	16,013	15,297	31,310	1906 ..	15,716	15,128	30,844
1898 ..	15,435	14,737	30,172	1907 ..	15,989	15,380	31,369
1899 ..	15,785	15,223	31,008	1908 ..	16,073	15,028	31,101

During the twenty years ended with 1883 the number of births remained almost stationary; but in 1884 a marked increase took place which continued during the subsequent seven years; the number in 1891 being the highest. Since 1891, however, a rapid falling off has taken place down to the period embraced in the last eleven years, when the number has fluctuated at a lower level than that which had prevailed at any other year since 1886. In connexion with the decline in the number of births between 1891 and 1904 it must be borne in mind that during the intervening period Victoria suffered serious loss of population by emigration, principally to Western Australia. Since 1903, when the fewest births since 1884 were recorded, the numbers have shown an increase—the total for 1908 being 1,532 greater than in 1903.

Birth rates.

In young communities, birth rates calculated per 1,000 of the population are to some extent unreliable and misleading. In the earlier years when, owing to immigration, the population consists for the most part of men and women at the reproductive period of life, the rates are obviously high. As time proceeds, however, notwithstanding that immigration of reproductive adults may be maintained, the proportion of such to the total population must continuously diminish, and with it, of necessity, the birth rate.

The following table shows the birth rates in Victoria from 1860 to 1908:—

BIRTH RATES IN VICTORIA PER 1,000 OF POPULATION, 1860 TO 1908.

Year.	Birth Rate.	Year.	Birth Rate.	Year.	Birth Rate.
1860 ..	42·81	1893 ..	31·18	1901 ..	25·78
1865 ..	42·40	1894 ..	29·05	1902 ..	25·15
1870 ..	38·07	1895 ..	28·46	1903 ..	24·46
1875 ..	33·94	1896 ..	27·19	1904 ..	24·65
1880 ..	30·75	1897 ..	26·49	1905 ..	24·83
1885 ..	31·33	1898 ..	25·51	1906 ..	25·14
1890 ..	33·60	1899 ..	26·14	1907 ..	25·16
1891 ..	33·57	1900 ..	25·79	1908 ..	24.58
1892 ..	32·51				

From 1891 to 1903, there was a heavy decline in the crude birth rate, but, during the four years 1904-7 a slight continuous improvement set in, which, however, was not maintained for the year under review (1908), although the marriage rate for each of the preceding four years had gradually increased.

The following table gives the birth rates, calculated in the ordinary way, per thousand of the population in the Australian States and New Zealand for 1891, and for each of the last five years:— Birth rates in Australian States and New Zealand.

BIRTH RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND: FOR 1891 AND 1904 TO 1908.

Year.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1891 ..	33·57	34·50	36·35	33·92	34·85	33·37	34·23	29·01
1904 ..	24·65	26·73	27·12	24·70	30·34	29·59	26·30	26·94
1905 ..	24·83	26·72	25·92	23·66	30·30	29·32	26·10	27·21
1906 ..	25·14	27·04	26·31	23·54	30·02	29·52	26·35	27·08
1907 ..	25·16	27·14	26·87	23·82	29·24	29·68	26·44	27·30
1908 ..	24·58	26·77	26·71	24·59	28·90	30·36	26·20	27·45
Mean of 5 Years	24·87	26·88	26·59	24·06	29·76	29·69	26·28	27·20

Excepting South Australia and Tasmania, all the States show lower birth rates in 1908 than in the previous year. The births in Australia in the year under review numbered 111,613, and the deaths 46,465, thus showing a natural increase of 65,148 persons. The corresponding numbers for the previous year were 110,344, 45,304, and 65,040 respectively.

On the average of the past five years the birth rate in Victoria was lower than in any other State except South Australia. It was also below the rates in all of the following countries excepting Ireland, Ontario, and France, on the average of the latest five years for which this information is available:— Birth Rates in various countries.

BIRTHS PER 1,000 OF POPULATION, IN VARIOUS COUNTRIES.

Country.	Births per 1,000 of population.	Country.	Births per 1,000 of population.
Russia (European) ...	48·8	Norway	27·5
Hungary	36·3	England and Wales ...	27·4
Austria	35·2	New Zealand ...	27·2
Spain	34·4	Belgium	27·0
German Empire ...	33·8	New South Wales ...	26·9
Prussia	33·8	Queensland	26·6
Italy	32·1	Sweden	25·7
The Netherlands ...	30·8	Victoria	24·9
Western Australia ...	29·8	South Australia ...	24·1
Tasmania	29·7	Ireland	23·4
Denmark	28·6	Ontario, Province of ...	22·5
Scotland	28·2	France	20·6
Switzerland	27·8		

Corrected birth rates per 1,000 wives.

An accurate view of the alteration in the fertility of wives is obtained by comparing the ratio of legitimate births to wives at reproductive ages, and allowing for the difference in their age distribution at each period. The following table shows the distribution in six five-year groups at the last four census years:—

PROPORTION OF MARRIED WOMEN IN AGE GROUPS TO TOTAL BETWEEN 15 AND 45 IN THE LAST FOUR CENSUS YEARS.

Census Year.	Proportion in each Age Group to Every 1,000 Married Women between 15 and 45.					
	15—20.	20—25.	25—30.	30—35.	35—40.	40—45.
1871 ..	20·3	130·4	211·4	230·7	233·2	174·0
1881 ..	17·3	159·5	204·6	206·0	209·7	202·9
1891 ..	13·5	156·9	275·2	244·1	172·1	138·2
1901 ..	8·1	99·0	198·3	249·6	249·2	195·8

An analysis of the minor age groups of which the whole group 15 to 45 is composed, discloses the fact that there was a considerable falling off in 1901 as compared with previous census periods in the proportion of married women at the younger ages. To estimate the effect which the alteration in age distribution had on the birth rate, the proportion in each of the above groups was multiplied by the average natality rate for the group according to a standard table—the standard used for this purpose being the Swedish table of 1891. The sum of the products for each census year represented the number of births which would have occurred in that year per 1,000 married women between 15 and 45 had the fertility of these women remained unaltered, *i.e.*, the potential births. The year 1871 was used as a basis with which to compare the three subsequent census years, and corrections were applied to the actual births (per 1,000) occurring in those years, so as to make them conform to the age constitution in the first-mentioned year. The correction factors were obtained by taking the number of births per 1,000 married women aged 15-45 which would have occurred in 1871 had the standard natality rates prevailed, and dividing this number by the corresponding numbers of potential births for 1881, 1891, and 1901. The above method was applied to find what proportion of the alteration in the ratio of births to married women under 45 was due to causes other than varying age constitution:—

CORRECTED LEGITIMATE BIRTH RATES.

(1) Census Year.	(2) Married Women between 15 and 45 years of age.	(3) Legitimate Births.	(4) Legitimate Births per 1,000 Married Women 15–45.	(5) Corrected Legitimate Births per 1,000 Married Women 15–45.	(6) Factors for Correction of Rates in Column 4.
1871 ..	88,561	26,805	302·67	..	..
1881 ..	84,831	25,675	302·66	303·14	1·0016
1891 ..	120,700	35,853	297·04	281·98	0·9493
1901 ..	127,858	29,279	229·00	238·75	1·0426

An inspection of the ratios in column (5) shows that there was a fall of 7 per cent. in 1891 as compared with 1881, and a further serious decline of over 15 per cent. in 1901 as compared with 1891, which were not due to variations in the age distribution of the married women between 15 and 45 in the community.

Corrected legitimate birth rates for Victoria.

Legitimate birth rates (per 1,000 of the total population) for widely separated periods do not give a correct indication of the relative fertilities of those periods, unless the number of married women at reproductive ages, in proportion to the population and the age constitution of such women, have remained unchanged. In order to allow for the disturbance which may have been introduced through variations in the above elements, it is necessary that corrections be made in the crude rates. The factor to correct the result of changes in the proportion of married women between 15 and 45 is obtained by comparing the number of such women in the community at the period of observation with the number in a standard population. The method of obtaining the correcting factor for the disturbance due to the second element was explained in a previous paragraph.

The following table shows the crude legitimate birth rates in the last four census years, the corrections to be applied thereto for the reasons mentioned above, the amended birth rates, and the difference between these and the crude rates. The standard used in the computation of the correction factors was the Victorian population of 1871. Corrected birth rates per 1,000 of the population in the years 1881, 1891, and 1901 were as follows:—

CORRECTED LEGITIMATE BIRTH RATES PER 1,000 OF POPULATION.

Year.	Enumerated Population.	Legitimate Births	Legitimate Births per 1,000 of population (crude rates).	Wives aged 15–45, per 1,000 of population.	Correction factors for variations in—		Corrected Birth Rates.	Difference between crude and corrected rates.
					Proportions of wives aged 15–45.	Age distribution of wives aged 15–45.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1871	731,528	26,805	36·64	121·1	..	..	..	..
1881	862,346	25,675	29·77	98·4	1·2307	1·0016	36·70	6·93
1891	1,140,405	35,853	31·44	105·8	1·1446	0·9493	34·16	2·72
1901	1,201,341	29,279	24·37	106·4	1·1382	1·0426	28·92	4·55

An inspection of the crude rates in the fourth column of the above table shows that legitimate births per 1,000 of population apparently declined by 6.87 in 1881, 5.20 in 1891, and 12.27 in 1901, as compared with the first census date. After making allowance for the disturbing elements known to exist, the apparent decline of 6.87 in 1881 is altered to an increase of .06 per 1,000, while the decline of 1891 is reduced from 5.20 to 2.48, and that of 1901 from 12.27 to 7.72 per 1,000 as compared with 1871. It will be noted that between 1891 and 1901 there was a reduction of over 15 per cent. in the rate due to other than normal causes.

Decline in the number of legitimate births.

The following table shows the legitimate births per 1,000 married women (not allowing for their differing age distribution) in each State and New Zealand at the last two census years:—

PROPORTION OF LEGITIMATE BIRTHS PER 1,000 MARRIED WOMEN UNDER 45 YEARS OF AGE.

State.	Proportion of Legitimate Births per 1,000 Married Women, aged 15 to 45.		Decrease per cent.
	1891.	1901.	
Victoria	297·0	229·0	22·9
New South Wales	298·9	235·6	21·2
Queensland	315·0	251·0	20·3
South Australia	311·1	235·0	24·5
Western Australia	352·8	244·0	31·1
Tasmania	315·9	254·6	19·4
New Zealand	279·1	246·1	11·8

It will be seen from these figures that between 1891 and 1901 there was a pronounced decline in the proportion of legitimate births to married women under 45 years of age in the different States, varying from 31 per cent. in Western Australia, 24 in South Australia, 23 in Victoria, to about 20 in Queensland and Tasmania, and to nearly 12 per cent. in New Zealand. It must be borne in mind, however, that a considerable portion of the decline in Victoria was due to the altered age distribution of married women under 45 years of age, and it is probable that this cause is also responsible for a portion of the decrease in each of the other States and New Zealand.

The ratios of legitimate births to married women at reproductive ages in various European countries, the Australian States and New Zealand are given in a table published by the Registrar-General of England, of which the following is a copy :— Births to married women in various countries.

LEGITIMATE BIRTH RATES.

COUNTRY.	Proportion of Legitimate Births per 1,000 Wives aged 15-45 years. Approximate Periods.			Increase + or Decrease – per cent. in Fertility during 20 years.
	1880-82.	1890-92.	1900-02.	
The Netherlands	347·5	338·8	315·3	–9·3
Norway	314·5	306·8	302·8	–3·7
Prussia	312·6	307·6	290·4	–7·1
Ireland	282·9	287·6	289·4	+2·3
German Empire	310·2	300·9	284·2	–8·4
Austria	281·4	292·4	283·7	+0·8
Scotland	311·5	296·4	271·8	–12·7
Italy	276·2	?	269·4	–2·5
Sweden	293·0	280·0	269·0	–8·2
Switzerland	284·1	274·0	265·9	–6·4
Denmark	287·1	278·1	259·1	–9·8
Spain	257·7	263·9	258·7	+0·4
Belgium	312·7	285·1	250·7	–19·8
England and Wales	286·0	263·8	235·5	–17·7
France	196·2	173·5	157·5	–19·7
Tasmania	?	311·0	256·4	?
Queensland	329·0	320·6	252·8	–23·2
Western Australia	323·9	338·8	246·4	–23·9
South Australia	326·5	307·5	235·0	–28·0
New South Wales	337·8	298·5	234·3	–30·6
Victoria	299·2	297·8	226·8	–24·2
New Zealand	322·1	277·5	243·2	–24·5

In commenting upon these figures the English Registrar-General says—"It appears that among European countries from which it has been possible to obtain returns, there were only two—Austria and Spain—in which the fertility of wives during the 20 years (1881-1901) showed a tendency to increase, and this also applied to Ireland. In all the remaining countries a decrease in human fertility had taken place in the period under review ranging from 2.5 to as much as 19.8 per cent."

Corrected birth rates (allowing for the varying proportion and age distribution of married women at reproductive ages in each community) were given for the undernoted countries and cities by Drs. Corrected Birth Rates in various communities.

Newsholme and Stevenson in the *Journal of the Royal Statistical Society* for March, 1906, in a paper on the "Decline in Human Fertility in the United Kingdom and other Countries":—

CORRECTED BIRTH RATES IN VARIOUS COUNTRIES AND CITIES.

Country or City.	Corrected Birth Rate per 1,000 of Population.		Percentage Decline in Corrected Birth Rate.
	1880 or 1881.	1901–4.	
Bavaria	45·49	40·37	11
Saxony	41·45	31·76	23
Belgium	40·76	31·01	24
German Empire	40·37	35·34	12
Norway	40·12	37·79	6
Prussia	39·87	35·72	10
Scotland	39·29	33·38	15
Austria	39·04	38·50	1
Denmark	38·92	33·12	15
New South Wales	38·80	26·47	32
Sweden	38·49	36·19	6
Italy	36·89	33·71	9
New Zealand	36·68	29·63	19
Victoria	36·02	27·04	25
Ireland	35.17	36·08	3 (increase)
Hamburg	34.98	25·40	27
Edinburgh	34·97	28·08	20
England and Wales ...	34.65	28·41	18
Berlin	33·11	21·89	34
Dublin	32·24	35·39	10 (increase)
London	32·21	26·83	17
France	25·06	21·63	14
Paris	23·27	16·65	28

The above method of calculating birth rates allows for the differing ages and proportions of married women at child-bearing years in the countries compared, and gives them higher statistical value than ordinary or crude ratios. A very striking illustration of the necessity for a method which takes into account these important factors in each population is shown in the case of Ireland, which has one of the highest corrected birth rates in Europe, but has nearly the lowest rate when no allowance is made for the unfavorable age distribution and proportion of married women of child-bearing years in the community. The corrected rates show that (with the exception of Ireland and Dublin, whose rates increased), all the countries and cities had a lower rate in 1901-4 than in 1880 or 1881. The greatest decline—34 per cent—occurred in Berlin, followed by 32 per cent. in New South Wales, 28 in Paris, 27 in Hamburg, 25 in Victoria, 24 in Belgium, 23 in Saxony, 20 in Edinburgh, 19 in New Zealand, 18 in England, 17 in London, 15 in Scotland and Denmark, 14 in France, and the least decline—1 per cent.—in Austria.

Birthplaces of parents of legitimate children.

The birth records for 1908 show that the proportion of parents born in Australia has increased by comparison with the ratio for even such a recent period as 1903-5. Unless affected by immigration, a further increase in this proportion may be expected in future years. In the year under review, 82 out of every 100 children were born to Australian parents, and over 97 out of every 100 to one or both parents born in Australia. Of the total fathers, 78.75 per cent. were born in Victoria; 86.52 in Australia; 1.43 in New Zealand; 6.21 in England and Wales; 1.50 in Scotland; 2.02 in Ireland; .34 in other British Possessions; and 1.98 per cent. in foreign countries. The corresponding percentages for mothers were: Victoria, 84.31; Australia, 93.10; New Zealand, 1.35; England and Wales, 2.97; Scotland, .70; Ireland, 1.04; other British Possessions, .22; and foreign countries, .62.

Chinese and half-caste Chinese births.

The births to Chinese parents numbered 56, and the Chinese half-caste births (fathers only Chinese) amounted to 151 during the five years 1904-8.

Ages of parents of legitimate children.

The average ages of fathers and mothers of legitimate children whose births were recorded in 1908 were 34.68 and 30.38 years respectively, which were 4.91 and 4.53 years above the average ages of bridegrooms marrying brides under 45 years of age, and of such brides for the same period. The proportions of both parents in various age groups are shown in the following table for the latest year:—

PERCENTAGE OF PARENTS IN AGE GROUPS, 1908.

Father.		Mother.	
Age Group (Years).	Proportion per 100 Births.	Age Group (Years).	Proportion per 100 Births.
Under 20	·31	Under 20	2·59
20 to 25	8·98	20 to 25	20·64
25 to 30	22·29	25 to 30	28·33
30 to 35	22·42	30 to 35	23·37
35 to 40	21·29	35 to 40	17·22
40 to 45	14·71	40 to 45	7·24
45 to 50	7·14	45 and over ...	·61
50 and over	2·86		
Total ...	100·00	Total ...	100·00

It will be seen that on the experience of 1908, 48.97 per cent. of the mothers were between 20 and 30, and 40.59 per cent. between 30 and 40. The proportions of fathers at corresponding ages were 31.27 and 43.71 per cent. Of every 1,000 legitimate births, about 26 were due to mothers under 20 years, and only 6 to mothers aged 45 years and upwards.

Ages of mothers of first births.

The proportion of legitimate births recorded as first births was 25.43 per cent. in 1908, as compared with 24.98 in 1907, 24.78 in 1906, and 21.87 per cent. in 1901, being equivalent to an increase of

over 16 per cent. for the period 1901-8. The percentages of mothers of first births at various ages are shown in the following table for the last three years:—

PERCENTAGE OF MOTHERS OF FIRST-BORN CHILDREN IN AGE GROUPS, 1906-1908.

Ages.	Percentage of Mothers in Age Groups.		
	1906.	1907.	1908.
Under 20	8·8	8·3	8·4
20 to 25	40·9	41·4	42·0
25 to 30	30·6	30·2	31·5
30 to 35	13·4	13·6	12·3
35 to 40	5·3	5·4	4·7
40 to 45	1·0	1.1	1·1
Total	100·0	100·0	100·0

The experience of the period 1906-8 shows that of every 100 mothers of first-born children, 8.5 were under 20 years of age, 49.9 were under 25, 80.7 were under 30, and only 1 was aged 40 to 45. These proportions are very similar to the ratios of brides in the same groups during the period dealt with, which showed that 9.7 per cent. of the women marrying were under 20, 52.3 per cent. were under 25, 79.1 per cent. were under 30, and only 2.6 per cent. were aged 40 to 45.

Birth rates in town and country.

The following table shows the number of births per 1,000 of the population in the metropolitan, the other urban, and the rural districts, for 1875 and each subsequent fifth year, also the averages of the years 1901-5 and the rates for the years 1906, 1907, and 1908.

BIRTH RATES IN METROPOLITAN, OTHER URBAN, AND RURAL DISTRICTS, 1875 TO 1908.

Year.	Births per 1,000 of the Population.			
	Metropolitan District.	Other Urban Districts.	Rural Districts.	Victoria.
1875	33·63	38·63	31·54	33·94
1880	31·19	34·21	28·72	30·75
1885	34·94	31·87	28·12	31·33
1890	37·71	34·43	28·93	33·60
1895	29·46	34·03	25·49	28·46
1900	24·54	32·29	24·26	25·79
1901–5	24·10	32·11	23·36	24·97
1906	23·75	32·87	23·38	25·14
1907	24·16	32·31	23·24	25·16
1908	23·94	31·49	22·40	24·58

Since 1890 the birth rate in the metropolitan area has been considerably lower than in the urban districts, and only slightly higher than in the rural division of the State.

The birth rates in the seven principal country towns are shown in the following table for the years 1904-8 :— Birth rates in seven principal country towns.

BIRTH RATES IN THE SEVEN PRINCIPAL COUNTRY TOWNS, 1904 TO 1908.

Year.	Births, per 1,000 of the Population.						
	Ballarat and Suburbs.	Bendigo and Suburbs.	Geelong and Suburbs.	Castlemaine and Suburbs.	Maryborough.	Warrnambool.	Stawell.
1904 ...	24·96	31·95	27·12	28·55	29·74	29·02	25·58
1905 ...	24·45	32·52	26·51	28·66	32·50	29·40	31·35
1906 ...	26·25	33·55	25·35	32·52	36·61	34·29	30·96
1907 ...	22·96	36·12	23·69	28·49	32·36	34·39	31·13
1908 ...	24·70	32·02	22·45	29·29	30·19	35·52	28·73
Average	24·66	33·23	25·02	29·50	32·28	32·52	29·55

On the average of the five years 1904-8, the birth rates in all of the above towns exceeded that of Melbourne and suburbs and, with the exception of Ballarat, that of the State. The highest rate prevailed in Bendigo and suburbs, and the lowest in Ballarat and suburbs.

The birth rates in the various districts of Greater Melbourne (exclusive of those in hospitals and public institutions) are shown in the following table for each of the five years, 1904-8 :— Birth rates in districts of Greater Melbourne.

BIRTH RATES IN DISTRICTS OF GREATER MELBOURNE. 1904 TO 1908.

Districts.	Births per 1,000 of the Population.				
	1904.	1905.	1906.	1907.	1908.
Melbourne City	20·30	19·45	19·54	20·75	20·75
Fitzroy City	18·97	21·20	19·29	22·25	20·89
Collingwood City	22·82	21·92	23·98	22·58	21·80
Richmond City	23·70	21·80	24·40	23·22	25·65
Brunswick City	26·50	26·55	24·30	29·64	24·57
Northcote Town	27·84	29·73	26·16	26·98	33·63
Prahran City	21·25	21·52	21·85	21·79	21·80
South Melbourne City	21·05	21·38	21·66	22·80	21·82
Port Melbourne Town	24·21	24·48	26·94	23·79	26·78
St. Kilda City...	17·61	19·34	18·78	17·53	17·87
Brighton Town	19·36	19·90	17·95	17·68	15·79
Essendon City	22·29	21·96	20·84	23·19	21·56
Hawthorn City	18·66	18·68	19·67	19·46	18·55
Kew Borough	18·22	19·69	20·39	22·41	22·00
Footscray City	27·99	29·36	29·53	29·12	28·83
Williamstown Town	24·13	21·37	24·96	21·74	24·04
Oakleigh Borough	22·31	36·15	28·37	28·39	28·31
Caulfield Town	19·80	19·54	22·02	17·96	20·31
Malvern Town	19·15	19.09	22·52	19·85	20·64
Camberwell Town	15·77	18·56	17·30	19·47	16·47
Preston Shire	21·82	25·83	25·12	26·48	24·60
Coburg Borough	21·38	15·81	20·13	22·46	22·44
Remainder of District	22·36	19·97	18·01	18·63	17·22
Greater Melbourne (including Hospitals, &c.)	23·54	23·33	23'75	24·16	23·94

The births in Greater Melbourne in 1908 numbered 13,015, and corresponded to a rate of 23.94 per 1,000 of the population, which was slightly higher than the average of the preceding five years, but over 16 per cent. below the mean of the period 1892-1901, when the proportion was 28.55. Excluding the rates for the numerically small districts of Oakleigh and Preston, which are susceptible to slight influences, the ratios in some populous districts show considerable differences. These are strikingly shown in the rates prevailing in Footscray, Northcote, Brunswick, and Port Melbourne, which were 28.97, 28.87, 26.31, and 25.24 respectively, as compared with 17.51 in Camberwell, 18.14 in Brighton, 18.23 in St. Kilda, and 19.00 in Hawthorn, on the average of the last five years.

Birth rates in capital cities and suburbs.

The next table shows the mean population, number of births, and birth rates in each Australasian capital city and suburbs during the year 1908, and the birth rates for 1907 :—

BIRTH RATES IN CAPITAL CITIES OF AUSTRALASIA.

Capital Cities and Suburbs.	Year 1908.			Births per 1,000 of the population, 1907.
	Mean Population.	Number of Births.	Births per 1,000 of the population.	
Melbourne	543,600	13,015	23·94	24·16
Sydney	584,640	14,861	25·42	26·32
Brisbane	136,662	3,411	24·96	24·70
Adelaide	179,793	4,442	24·71	22·86
Perth	51,045	1,913	37·48	40·81
Hobart	36,000	1,052	29·22	27·70
Wellington	72,332	2,008	27·76	27·34

Although the birth rate in Adelaide was slightly higher, and that in Perth considerably higher, than in their respective States, the average ratio of the six capitals—25.26 births per 1,000 of the population —was 5½ per cent. lower than the rate obtaining in the remainder of Australia.

Birth rates in various cities.

The birth rate of Melbourne for 1908 was lower than that of any of the other State capitals. It was also below the rate obtaining in the same year in 23 of the 31 under-mentioned cities for which this information is given in the English Registrar-General's Annual Summary for 1908 :—

BIRTHS PER 1,000 OF THE POPULATION IN VARIOUS CITIES.

Cities.	1881 to 1885.	1901 to 1905.	1906.	1907.	1908.
Montreal ...	?	35·2	37·4	36·1	38·4
Moscow ...	37·0	33·8	33·7	32·4	35·6
Toronto ...	29·2	23·6	26·3	29·7	34·6
Trieste ...	34·7	32·4	33·6	31·6	32·5
Rotterdam ...	37·4	34·9	33·3	33·5	32·3
Dublin ...	31·9	31·6	32·4	31·2	31·8
Bucarest ...	?	28·1	28·8	29·4	31·1
Breslau ...	36·5	31·9	30·9	29·2	29·9
Belfast ...	31·8	31·4	31·0	30·3	29·7
Copenhagen	37·6	29·0	27·8	28·3	28·7
St. Petersburg	30·3	29·6	29·5	30·4	28·5
The Hague ...	38·7	28·5	29·3	29·2	28·2
Glasgow ...	37·9	31·3	29·4	28·3	27·7
Munich ...	36·6	33·4	29·1	27·2	26·9
Budapest ...	35·4	29·3	27·0	26·4	26·6
Hamburg ...	36·4	26·5	25·8	25·2	25·7
London ...	34·3	28·1	26·5	25·6	25·2
Christiania ..	35·9	31·7	26·6	25·3	25·1
Stockholm ..	32·9	23·8	24·3	24·2	25·0
Dresden ...	34·1	30·6	27·5	25·8	24·7
Rome ...	29·2	24·4	23·6	23·5	24·4
Milan ..	34·0	26·8	25·7	25·8	24·4
Venice ...	27·1	24·3	—	23·3	24·4
Amsterdam	37·1	27·9	25·8	25·5	23·6
Vienna ...	36·6	29·2	26·4	24·8	23·4
Berlin ...	36·5	25·4	24·9	24·3	23·4
Prague ...	39·2	26·5	24·0	23·4	23·1
Edinburgh ...	30·7	24·2	22·4	21·7	21·3
Turin ...	28·7	20·4	19·6	22·2	20·4
Paris ...	27·4	20·2	18·8	18·6	18·5
Brussels ...	33·0	21·0	18·5	17·6	16·6

A comparison of the birth rates prevailing in nearly all the above cities in 1908 with those for the period 1881-5 shows that a very serious decline has taken place in the intervening years, amounting to 26½ per cent. in the rate for London, 32½ in that for Paris, about 36 in the rates for Vienna and Berlin, and almost 50 per cent. in that for Brussels.

Twin and triplet births.

The numbers of cases of twin and triplet births in Victoria in the past five years are as follows:—

CASES OF TWINS AND TRIPLETS, 1904 TO 1908.

Year.	Cases of Twins.	Cases of Triplets.
1904	299	2
1905	336	4
1906	355	...
1907	330	7
1908	288	3

On the average of the five years 1 mother in every 94 gave birth to twins and 1 in every 9,472 was delivered of three children at a birth. These proportions were considerably higher than in the decennium ended 1900, when the ratios were 1 in every 103 and 1 in every 11,893 respectively.

Children legitimized under Legitimation Act.

Under a section of an Act passed in 1903, an illegitimate child, whose parents subsequently marry, may, provided there be no lawful impediment at the time of birth to the marriage of the parents, be legitimized if registered for that purpose within six months after marriage. Advantage was taken of this section to legitimate 228 children, of whom 14 were registered in 1903, 19 in 1904, 34 in 1905, 43 in 1906, 58 in 1907, and 60 in 1908. In addition, there were 247 children legitimated in 1903 under another section, which provides that if the parents were married before the passing of the Act, the child should be registered for that purpose within six months of the passing of the Act.

Illegitimate births and rates.

The number of illegitimate births registered in Victoria during the year 1908 was 1,790, which gives a proportion of 5.76 to every 100 births registered, being slightly above the ratio of the previous year. This proportion was much lower than in New South Wales and Queensland, slightly higher than in Tasmania, and much higher than in either of the other two Australian States or New Zealand; it was also lower than in Scotland, but much higher than in the other portions of the United Kingdom. The following are the proportions of illegitimate births to every 100 children born in the Australian States and New Zealand, for the year 1908, and in the United Kingdom for 1907:—

ILLEGITIMATE BIRTH RATES.

Queensland	7·45	South Australia ..	4·36
New South Wales ..	6·89	Western Australia ..	4·35
Scotland	6·48	New Zealand	4·26
Victoria	5·76	England and Wales ..	3·94
Tasmania	5·24	Ireland	2·52

The higher percentage of illegitimate births to total births (5.64) in the past eight years, as compared with the ratio (5.51) in the preceding decennium was almost wholly due to the

decreasing number of legitimate births. It is thus seen that the ratio of illegitimate births to total births is not a satisfactory indication of the degree of illegitimacy, as it does not take into account the relative proportions of married, unmarried, and widowed women of conceptive ages at different periods. A more satisfactory method of expressing the degree of illegitimacy in the community is to state the proportion of infants born out of wedlock to the unmarried and widowed women between 15 and 45 years of age. Such proportions are shown in the subjoined table for the census years 1891 and 1901, when the conjugal condition of the population was known :—

ILLEGITIMATE BIRTHS PER 1,000 SINGLE WOMEN.

Period.	Single Women Aged 15 to 45.	Illegitimate Births.	Illegitimate Births per 1,000 Single Women.
1891	142,443	2,064	14·49
1901	167,760	1,729	10·31

Although the proportion of illegitimate births to total births was higher in 1901 than in 1891, the ratio of infants born out of wedlock per 1,000 unmarried and widowed women fell from 14.49 in 1891 to 10.31 in 1901, which was equal to a decrease of 29 per cent. in the intercensal period. The proportion of illegitimate births to every 1,000 unmarried and widowed women in England and Wales was 14.1 in 1880-2, 10.5 in 1890-2, and 8.5 in 1900-2. In Scotland the proportion was 13.9 in 1905.

Illegitimacy in town and country.

It will readily be supposed that a larger proportion of illegitimacy prevails in Melbourne and suburbs than in any other district of Victoria, and that the proportion in country districts is the smallest of all. During the five years 1900-4, in the metropolitan districts, about 1 birth in 11; in the other urban districts, about 1 in 18; and in the rural districts, only 1 birth in 38 was registered as illegitimate. The proportions in 1908 were 1 in 11, 1 in 21, and 1 in 40 respectively.

DEATHS.

Deaths.

The following return shows the number of deaths—males and females—also the quarters in which they were registered and the proportion per 1,000 of the population, during the years 1904-8.

DEATHS IN EACH QUARTER, 1904 TO 1908.

Year.	Total Deaths.	Sex.		Quarter of Registration.				Death Rate per 1,000 of the Population.
		Males.	Females.	March.	June.	September	December.	
1904 ..	14,393	7,992	6,401	3,439	3,590	3,992	3,372	11·92
1905 ..	14,676	8,273	6,403	3,912	3,540	3,710	3,514	12·10
1906 ..	15,237	8,342	6,895	3,896	3,550	3,875	3,916	12·42
1907 ..	14,542	7,980	6,562	3,285	3,391	4,011	3,855	11·66
1908 ..	15,767	8,815	6,952	4,349	3,760	4,130	3,528	12·46
Average	14,923	8,280	6,643	3,776	3,566	3,944	3,637	12·11

The number of deaths in 1908 was 15,767, which was 878 above the average of the preceding five years. The seasonal mortality showed that the quarter ending 31st March was most fatal, the next being that ending 30th September, and that the last quarter of the year was least fatal. This differed from the average experience of the previous five years, when the highest number of deaths occurred in the third quarter, the second highest in the first and the lowest in the second quarter.

Death rates in Australian States and New Zealand.

For purposes of comparison the death rates per 1,000 of the population for each of the Australian States and New Zealand are shown in the following statement, for a period of five years from 1904 to 1908:—

DEATH RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND: 1904 TO 1908.

Year.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1904 ..	11·92	10·62	10·11	10·22	11·91	11·01	11·01	9·57
1905 ..	12·10	10·13	10·47	10·15	10·83	10·28	10·82	9·27
1906 ..	12·42	9·89	9·56	10·34	11·87	11·17	10·83	9·31
1907 ..	11·66	10·56	10·35	9·87	11·09	11·22	10·86	10·95
1908 ..	12·46	10·13	10·23	9·84	10·74	11·51	10·91	9·57
Average	12·11	10·27	10·14	10·08	11·29	11·04	10·89	9·73

The death rate in Victoria, according to the average of the five years, 1904-8, was higher than in any other State, but this result was due to the larger proportion of elderly persons, amongst whom the death rate is very high. In any comparison of crude death rates of the different States and New Zealand, it is therefore necessary to bear in mind the proportion of persons aged (say) 60 years and upwards in each community. This was accurately known at the last census when Victoria had 798 persons aged 60 years and over, per 10,000 of the population, as compared with 558 in New South Wales, 482 in Queensland, 633 in South Australia, 326 in Western Australia, 608 in Tasmania, 623 in Australia, and 676 in New Zealand. Of the persons who died in 1908, 37.1 per cent. were aged 65 years and over in Victoria, 28.9 in New South Wales, 23.6 in Queensland, 32.1 in South Australia, 13.9 in Western Australia, 29.2 in Tasmania, 30.4 in Australia, and 31.2 in New Zealand. It will thus be seen that though Victoria had a higher crude death rate, it had concurrently a larger proportion of elderly persons in the population and a greater percentage of total deaths due to persons aged 65 years and upwards, than any other State or New Zealand. Excepting Victoria and Tasmania all the States had slightly lower rates in 1908 than in the previous year; while the ratio for Australia remained near the same level as in the preceding four years.

Death rates in various countries.

The following were the maximum, minimum, and mean death rates per 1,000 of the population in various countries during the five years ended with 1907, also the average of the 25 years ended 1901. In all, except Japan and Ontario, there has been a noticeable decrease, and in Austria, Hungary, Switzerland, Germany, Prussia, Spain, Denmark, The Netherlands, and Italy, there has been a considerable decrease in the recent five-year period, as compared with the average of 25 years. The countries are arranged in order according to the average rate of mortality in the more recent period :—

DEATH RATES IN VARIOUS COUNTRIES.

Country.	Five Years, 1903-1907.			Average of 25 Years. 1877-1901.
	Max.	Min.	Mean.	
Province of Ontario (1902-6)	14·8	12.6	13·8	11.3*
Norway	14·8	13·6	14·3	16·4
Denmark	15·0	13·5	14·3	18·1
Sweden	15·6	14·4	15·0	16·8
The Netherlands ..	15·9	14·6	15·2	20·1
England and Wales ..	16·2	15·0	15·4	18·9
United Kingdom ..	16·5	15·4	15·8	18·8
United States (registration area), 1902-6	16·6	15·9	16·2	?
Scotland	16·9	15·9	16·3	19·1
Belgium (1902-6) ..	17·3	16·4	16·8	19·9
Ireland	18·1	17·0	17·5	18·2
Switzerland (1902-6) ..	17·9	17·0	17·5	20·3
Prussia	19·7	17·8	18·8	23·5
Germany (1902-6) ..	20·0	18·2	19·4	23·9
France	20·2	19·2	19·7	21·8
Japan (1901-5) ..	22·0	20·0	20·9	20·5*
Italy	22·4	20·8	21·4	26·2
Austria (1902-6) ..	25·0	22·5	23·9	28·4
Spain	25·6	24·0	25·0	30·2
Hungary	27·8	24·8	25·7	31·8

*1881-1901.

Comparing this statement with the previous one, it will be noticed that the death rate in Victoria—the highest in Australasia, for the reason previously stated—is considerably lower than that in Norway—the lowest in Europe. And although, owing to the fact that emigration from the older to the newer countries tends to raise the death rate in the former, and to lower it in the latter, the death rates, calculated on the total population, would naturally be on a higher level in Europe than in Australasia, yet it may be safely affirmed that the true rate of mortality, allowing for differences in the age constitution of the people, is considerably lighter in Australasia than in any country in Europe, except, perhaps, Norway, Sweden, and Denmark.

Death rates in town and country.

The death rate is higher in towns than it is in country 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 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 a serious illness for the sake of the superior nursing and medical attendance to be obtained in towns. The following are the average death rates of the periods, 1881-90 and 1891-1900, and the rates for each year since 1900.

DEATH RATES IN METROPOLITAN, OTHER URBAN, AND RURAL DISTRICTS.

Period.	Metropolitan District.	Other Urban Districts.	Rural Districts.
1881–90	20·65	19·90	8·90
1891–1900	16·25	21·17	8·98
1901	15·09	19·54	8·73
1902	14·93	20·86	8·77
1903	14·37	20·17	8·41
1904	12·99	18·71	8·02
1905	12·88	19·62	8·19
1906	13·59	19·39	8·30
1907	12·82	17·73	7·93
1908	13.77	18.36	8.62

In the ten years ended 1890 the rate in the metropolitan area was higher than in the other urban districts but since then it has been much lower. In the rural districts the rate has remained fairly constant at less than 9 per 1,000 or less than half that prevailing in extra metropolitan towns.

Death rates in principal country towns.

The death rates in the principal country towns for the years 1904-8 are shown in the following table, also the average rates of that period:—

DEATH RATES IN PRINCIPAL COUNTRY TOWNS, 1904 TO 1908.

Year.	Deaths per 1,000 of the Population.						
	Ballarat and Suburbs.	Bendigo and Suburbs.	Geelong and Suburbs.	Castlemaine and Suburbs.	Maryborough.	Warrnambool.	Stawell.
1904 ...	16·34	18·59	15·41	18·45	17·09	14·13	18·27
1905 ...	17·68	18·25	15·41	19·84	20·50	17·42	17·88
1906 ...	17·48	19·46	14·26	19·46	17·61	13·23	16·15
1907 ...	15·65	17·86	13·21	18·99	16·94	15·15	16·23
1908 ...	16·96	17·23	13·79	15·29	19·06	16·57	15·27
Average of 5 years ...	16·82	18·28	14·42	18·41	18·24	15·30	16·76

On the average of the five years, 1904-8, the death rates in all of the above towns were higher than in Melbourne and suburbs, and, as might be expected, they were considerably higher than the rate for the State, on account of the hospitals situated in those centres. On the average of the five years under review, the lowest rate obtained in Geelong, followed by Warrnambool, Stawell, Ballarat, Maryborough, Bendigo and Castlemaine, in that order.

Death rates in Melbourne and suburbs.

The deaths in Greater Melbourne in 1908 numbered 7,486 or 663 more than in the previous year, and represented a death rate of 13.77 per 1,000 of the population. Excluding the deaths in hospitals and other public institutions, which numbered 2,383, the rate was 9.47 for the same period. The rates for each district, exclusive of hospitals, &c., for the latest five years are shown in the following table :—

DEATH RATES IN DISTRICTS OF MELBOURNE AND SUBURBS, EXCLUSIVE OF HOSPITALS, 1904-8.

Districts.	Deaths per 1,000 of the Population.				
	1904.	1905.	1906.	1907.	1908.
Melbourne City	10·43	10·25	10·49	9·54	9·83
Fitzroy City	10·89	9·67	11·02	9·71	10·81
Collingwood City	9·55	9·31	8·72	8·95	8·75
Richmond City	9·40	8·68	8·83	8·88	8·92
Brunswick City	9·96	10·41	10·28	9·73	8·67
Northcote Town	7·84	9·05	9·74	8·32	9·02
Prahran City	9·07	9·71	9·31	9·04	10·00
South Melbourne City	8·95	9·26	9·49	8·31	9·32
Port Melbourne Town	8·91	8·35	8·79	7·85	10·42
St. Kilda City	10·00	9·72	9·39	8·27	10·94
Brighton Town	10·21	8·95	10·23	10·09	10·90
Essendon City	8·07	7·48	8·24	8·01	9.47
Hawthorn City	9·15	7·68	9·19	8·02	7.28
Kew Borough	7·46	8·73	7·49	8·17	9·44
Footscray City	9·71	8·74	11·84	8·21	7·51
Williamstown Town	12·75	10·39	10·41	9·42	11·48
Oakleigh Borough	12·31	9·23	11·35	11·61	16·27
Caulfield Town	7·09	7·18	8·16	7·76	6.88
Malvern Town	6·16	7·38	7·69	7·47	9·09
Camberwell Town	7·94	8·59	7·80	5·73	9·79
Preston Shire	7·79	11·90	10·84	9·69	10·61
Coburg Borough	9·56	8·30	9·28	10·91	10·73
Remainder of District	10·82	9·11	8·79	7·58	9·80
Greater Melbourne, excluding Hospitals	9·54	9·26	9·58	8·80	9.47
Greater Melbourne, including Hospitals	12·99	12·88	13·59	12·82	13·77

The death rate of Melbourne and suburbs in 1908 was higher than in the preceding four years, but the average rate of the last five years shows a substantial reduction on the rates for previous periods although the higher proportion of aged people—65 years and upwards—in the community in recent, as compared with earlier, years has had an unfavorable effect upon the mortality rate. In 1904-8 the deaths per 1,000 of the population were 13.21 as against 16.25 for 1891-1900—a decrease of nearly 19 per cent. in the intervening period. For the past five years much lighter mortality rates have prevailed in the principal centres of population in Greater Melbourne, thus indicating that the effects of improved sanitation are being reflected in the general health of the community. This is strikingly evidenced by comparing the death rates in certain districts in different periods. On the average of the five years, 1904-8, the ratio of deaths to population was 25 per cent. lower in Collingwood, 23 per cent. lower in Richmond, 20 per cent. lower in Footscray, 18 per cent. lower in Brunswick, over 15 per cent. lower in Fitzroy, and 14 per cent. lower in Prahran than in the period 1899-1904. Taking the mean of the latest five years, the highest death rate—12.15—prevailed in Oakleigh, followed by 10.89 in Williamstown, 10.42 in Fitzroy, 10.17 in Preston Shire; the lowest rates were 7.41 in Caulfield, 7.56 in Malvern, 7.97 in Camberwell and 8.25 in Essendon.

Deaths in hospitals, &c.

In 1908 the deaths in public institutions in Victoria numbered 3,892, or 1 in every 4.1 of the total deaths. In similar institutions in Greater Melbourne the deaths were 2,383, or 1 in every 3.1. The proportion dying in public institutions in the metropolitan area is nearly twice as great as in the remainder of the State.

DEATHS IN PUBLIC INSTITUTIONS IN GREATER MELBOURNE, 1908.

Institution.	No. of Deaths.	Institution.	No. of Deaths.
Melbourne Hospital ...	808	Benevolent Asylum ...	165
Alfred Hospital	251	Old Colonists' Home ...	3
Homœopathic Hospital ...	77	Convent of the Little Sisters of the Poor	47
St. Vincent's Hospital ...	135	Metropolitan Lunatic Asylum	89
Williamstown Hospital ...	9	Yarra Bend Lunatic Asylum	103
Austin Hospital	152	Protestant Refuge	4
Women's Hospital	92	Melbourne Gaol	5
Children's Hospital ...	219	Eye and Ear Hospital ...	7
Infectious Diseases Hospital	33	Queen Victoria Hospital ...	19
Foundling Hospital, Broadmeadows	10	Other Institutions	22
Foundling Hospital and Infants' Home	21		
Victorian Homes for Aged and Infirm	112	Total	2,383

The deaths in Public Institutions in Greater Melbourne has steadily increased during the last five years, the number in 1908 being 200 greater than in the preceding year and 567 greater than in 1904.

The next table shows the number of deaths and births, and the death rates in the Australasian Capital Cities; also the numerical and centesimal excess of births over deaths in each during 1908:— Deaths and births in Australasian capitals.

DEATHS AND BIRTHS IN CAPITAL CITIES, 1908.

Capital City with Suburbs	Number of Deaths.	Deaths per 1,000 of population.	Number of Births.	Excess of Births over Deaths.	
				Numerical.	Centesimal.
Melbourne ...	7,486	13·77	13,015	5,529	74
Sydney	6,036	10·32	14,861	8,825	146
Brisbane	1,397	10·22	3,411	2,014	144
Adelaide	2,126	11·82	4,442	2,316	109
Perth	812	15·91	1,913	1,101	136
Hobart	632	17·56	1,052	420	66
Wellington ...	658	9·10	2,008	1,350	205

The deaths in the Capital Cities of the six States numbered 18,489, or nearly 40 per cent. of the total deaths in Australia, during the year 1908. The centesimal excess of births over deaths for each city shows that for every 100 deaths there were 305 births in Wellington, 246 in Sydney, 244 in Brisbane, 236 in Perth, 209 in Adelaide, 174 in Melbourne, and 166 in Hobart, giving an average of 209 for the metropolitan cities of Australia.

Although the death rate of Melbourne was higher than that of Sydney, Brisbane, Adelaide and Wellington in 1908, it was lower than the average rate of the last three years for 32 of the 35 cities for which similar information was available:— Death rates in various cities.

DEATHS PER 1,000 OF POPULATION IN VARIOUS CITIES, 1906-8.

City.	Death Rate.	City.	Death Rate.
Moscow	27·1	Glasgow	18·0
St. Petersburg	26·1	Paris	17·9
Rio de Janeiro	25·1	New York	17·8
Trieste	25·1	Vienna	17·5
Bucarest	23·9	Edinburgh	15·8
Dublin	23·9	Copenhagen	15·7
Montreal	22·8	Berlin	15·5
Breslau	21·4	Dresden	15·2
Belfast	20·3	Hamburg	15·1
Milan	20·1	Stockholm	14·5
Prague	19·7	Chicago	14·5
Budapest	19·5	London	14·5
Toronto	19·2	Brussels	14·3
Turin	19·1	Rotterdam	14·0
Boston	19·1	The Hague	13·7
Rome	18·5	Christiania	13·5
Munich	18·0	Amsterdam	13·4
Philadelphia	18·0		

In 1908 the death rate for the metropolitan cities of Australia was 12.07 per 1,000 of their combined populations which was below the proportionate mortality of all of the above cities on the average of the past three years.

Index of mortality 1908.

The misleading results arrived at by a comparison of the ordinary death rates of different countries, or of the same country at different periods, unless the age distribution is identical, have been pointed out in former editions of this work. This applies particularly to a comparison of newly-settled communities—such as the Australian States—with one another, and with the old-established communities of (say) Europe. In the former the population is, on the average, younger than in the older countries, and is, moreover, constantly being strengthened by immigrants at the younger adult ages, at which the mortality is low; whereas, in the latter, not only is the age distribution more constant from year to year, but there is relatively a much larger proportion of elderly people, amongst whom the death rate is very high, concurrently with a smaller proportion of young and middle-aged adults, at the most vigorous period of life. Considerable disparity exists between the proportions of the population at certain ages in the different States, and this accounts in a large measure for the inequalities in their ordinary death rates. When the age distribution of the people is taken into consideration, as is done in computing an "index of mortality," the results approximate much more closely than the ordinary death rates for the Australian States. The Victorian "index of mortality," has been computed by applying the ascertained death rates in the age groups specified below to a population whose age distribution corresponds with that of Sweden in 1890, this standard having been accepted by the Conference of Statisticians. The result for the year 1908 is shown in the following table:—

INDEX OF MORTALITY FOR VICTORIA IN 1908.

Age.	Standard Population per 1,000. (Sweden, 1890.)	Death rate per 1,000 at each age in Victoria in 1908.	Index of Mortality for Victoria, 1908.
0–1	25·5	91·01	2·32
1–20	398·0	3·18	1·27
20–40	269·6	4·68	1·26
40–60	192·3	14·62	2·81
60 and over	114·6	66·63	7·64
Total	1000·0	12·46	15·30

In 1908 the "index of mortality" for all ages was 15.30 as against 14.22 in the preceding year, and 15.63 in 1901. The ratios for the age groups 40 to 60 and 60 and upwards were slightly above, and those for each of the three younger age groups were considerably below the proportions in 1901.

A reliable estimate of the improvement in the health of the community is obtained by comparing the death rates for each age group at different periods. Such rates for Victoria for the decennial periods 1881-1890, and 1891-1900, and for the three years 1900-1902, and for England and Wales for 1891-1900, are given in the following statement:— Death rates at various ages.

DEATH RATES AT CERTAIN AGE GROUPS IN VICTORIA AND ENGLAND AND WALES.

Age Groups.	Deaths per 1,000 at each age.			
	Victoria.			England and Wales.
	1881–1890.	1891–1900.	1900–1902.	1891–1900.
Males.				
Under 5	44.79	39·29	34·07	62·71
5 to 10	4·06	3·36	2·70	4·31
10 to 15	2·65	2·20	2·10	2·45
15 to 20	4·03	3·28	3·11	3·79
20 to 25	6·35	4·79	4·90	5·06
25 to 35	7.72	6·60	6·25	6·76
35 to 45	11·23	9·03	8·81	11·50
45 to 55	19·28	15·32	15·34	18.95
55 to 65	33·25	32·90	29·86	34·95
65 to 75	61·13	62·99	61·57	70·39
75 and upwards	137·18	145·05	141·59	160·09
All ages	16·55	15·47	14·80	19·32
Females.				
Under 5	39·46	34·09	29·10	52·80
5 to 10	3·92	3·12	2·63	4·37
10 to 15	2·56	2·06	1·92	2·57
15 to 20	4·17	3·43	2·92	3·67
20 to 25	5·81	4·81	4·10	4·46
25 to 35	7·90	6·89	6·00	6·08
35 to 45	10·93	8·68	8·32	9·59
45 to 55	14·84	12·12	11·48	14·74
55 to 65	23·49	23·64	21·49	28·44
65 to 75	50·32	45·87	45·07	60·72
75 and upwards	129·00	124·33	122·77	146·46
All ages	13·56	12·36	11·43	17·14

Excepting the male death rate for the age groups, 20-25 and 45-55, a lower mortality was experienced for both sexes at each age during 1900-1902 than in the ten years 1891-1900, and a still more favorable death rate for all age groups up to 65, than in the ten years 1881-1890. These rates are comparable and point to continuously improving hygienic conditions, and consequently to a general improvement in the health of people in later years. A comparison of English and Victorian death rates for the same period in the foregoing table indicates the marked superiority of Victoria over England at almost

every age group for both sexes. This is specially evident in the death rate for children under 5 years of age, which was 57 per cent. higher in England and Wales than in Victoria.

Death rates of aged people.

The proportion of deaths per 1,000 persons aged 60 years and upwards in the Commonwealth, is of special interest now, in view of recent legislation relating to old-age pensions, and the following table has been constructed, showing, in age groups, the proportions for the Australian States and New Zealand on the average of the years 1900-2 :—

DEATH RATES OF PERSONS AGED 60 YEARS AND UPWARDS.

Ages at Death.	Deaths per 1,000 of the Population in Age Groups in							
	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
60 to 65	30·1	29·8	29·8	25·3	32·1	25·2	29·3	24·3
65 to 70	43·9	45·4	47·7	41·1	51·4	41·0	44·5	39·9
70 to 75	69·5	71·7	72·1	58·9	67·8	66·2	68·9	64·4
75 to 80	104·5	105·8	124·4	88·8	127·4	106·0	101·8	97·8
80 & over	181·7	195·2		162·4	186·8	199·1	185·0	182·0
Total ..	62·2	58·9	52·1	54·5	56·6	65·1	58·4	49·2

The experience of the three years, 1900-2, shows that of every 1,000 persons aged 60 years and upwards in Australia, 58.4 died during the year, a rate lower than that of Tasmania, Victoria, or New South Wales, but higher than that of the other States and New Zealand, the proportion of deaths for each State and New Zealand being :—Victoria, 62.2 ; New South Wales, 58.9 ; Queensland, 52.1 ; South Australia, 54.5 ; Western Australia, 56.6 ; Tasmania, 65.1 ; and New Zealand, 49.2. As the average age of persons over 60 years tends to increase in young countries, it may be expected that these rates will become higher, until the normal, or settled conditions of older countries are reached.

Infantile mortality in 1908 and previous years.

The mortality of children under one year in proportion to births has been considerably less in recent than in earlier periods, but the necessity for reducing the risks to infant health and life, particularly amongst illegitimate children, is still apparent. Of every 100 infants born in the five years 1904-8, 8.26 died within a year, as against 11.11 in 1891-1900. The lower rate for the recent five-year period represented a saving of 4,364 infant lives in those years. The deaths of infants in 1908 numbered 2,677, and, as the births were 31,101, it follows that of every 100 infants born, approximately, 8.61 died within twelve months.

Infantile mortality in Melbourne and country.

The prejudicial effect of city surroundings on infant life is evidenced by the fact that the mortality rate in the metropolitan area exceeded that in the remainder of the State by 27 per cent. in 1908, and by a larger average percentage in the period 1903-7. That the difference in favour of infants in less densely populated centres is not confined to Victoria is indicated by the English Registrar-General's Report for 1905, which shows that the death rate of

infants was 30 per cent. higher in Urban Areas than in Rural Counties of England and Wales. The following table shows the infantile mortality rates in Melbourne and suburbs, and in the remainder of the State, and the difference in favour of the latter during the years 1873-1908 :—

INFANTILE DEATH RATES IN MELBOURNE AND SUBURBS, AND IN THE REMAINDER OF THE STATE, 1873-1908.

Period.	Melbourne and Suburbs—Deaths per 100 Births.	Remainder of State—Deaths per 100 Births.	Excess per cent. of Melbourne over Country Rate.
1873-80	16·85	10·16	66
1881-90	17·14	9·50	80
1891-1900	13·36	9·60	39
1901	12·41	8·89	39
1902	12·74	9·55	33
1903	12·43	9·42	32
1904	9·27	6·81	36
1905	9·48	7·57	25
1906	11·35	7·92	43
1907	8·57	6·34	35
1908	9·83	7·72	27

Infantile death rates in various cities in 1908.

In 1908 the proportion of deaths of infants under one year per 100 births was 9.83 in Melbourne, as compared with 8.27 in Sydney, 7.21 in Brisbane, 7.36 in Adelaide, 10.04 in Perth, 9.13 in Hobart and 8.17 in Wellington. The rates in Australasian capitals and 28 other cities in 1908 are shown in the following table :—

INFANTILE DEATH RATES IN VARIOUS CITIES, 1908.

City.	Deaths under 1 Year per 100 Births.	City.	Deaths under 1 Year per 100 Births.
St. Petersburg	28·2	Milan	12·3
Montreal	25·9	Rome	12·0
Bucarest	21·3	Christiania	11·5
Trieste	19·8	London	11·3
Breslau	19·4	Rotterdam	11·1
Munich	19·2	Paris	10·3
Vienna	18·3	The Hague	10·2
Venice	17·6	Perth	10·0
Berlin	16·8	Melbourne	9·8
Antwerp	16·5	Amsterdam	9·5
Prague	16·0	Hobart	9·1
Brussels	15·9	Stockholm	8·7
Hamburg	15·6	Buenos Ayres	8·6
Dresden	15·2	Sydney	8·3
Budapest	15·0	Wellington	8·2
Copenhagen	15·0	Adelaide	7·4
Turin	13·4	Brisbane	7·2
New York	12·8		

Infantile death rates in metropolitan districts.

If the deaths of infants in districts of Greater Melbourne during the five years 1904-8 be compared with the births in the same districts and deaths under one year and births occurring in hospitals be excluded, some remarkable differences will be found to exist in the various metropolitan divisions:—

INFANTILE DEATH RATES IN METROPOLITAN DISTRICTS, 1904-8.

Districts.	Total in five Years, 1904–8.		Deaths under 1 year per 100 births, 1904-8.
	Births.	Deaths under 1 year.	
Fitzroy City	3,348	428	12·78
Melbourne City	9,862	1,042	10·57
Brunswick City	3,413	359	10·52
Collingwood City	3,877	406	10·47
Williamstown Town	1,603	160	9·98
South Melbourne City	4,448	404	9·08
Port Melbourne Town	1,583	143	9·03
Footscray City	2,682	237	8·84
Richmond City	4,588	391	8·52
Prahran City	4,579	375	8·19
St. Kilda City	1,948	156	8·01
Northcote Town	1,717	119	6·93
Essendon City	2,083	143	6·87
Hawthorn City	2,218	141	6·36
Malvern Town	1,301	80	6·15
Caulfield Town	1,099	60	5·46
Camberwell Town	881	47	5·33
Kew Borough	906	40	4·42

It is noticeable that the seven centres having the lowest infantile death rates are mainly residential areas, and are not so thickly populated as the other principal metropolitan districts which have higher mortality ratios. Kew had about one-third, Camberwell, Caulfield, Malvern and Hawthorn had less than one-half, and Essendon and Northcote slightly more than one-half the rate experienced in Fitzroy, which had the highest infantile death rate and the largest number of persons to the acre of any district in the metropolis.

Deaths of infants at different ages.

Of the total mortality of infants under 1 year, two-fifths occurred in the first month and more than one-half in the first three months of life. The annual deaths at ages under 1 month, from 1 to 3 months, from 3 to 6 months, and from 6 to 12 months, during the ten years ended with 1900, and the period 1904 to 1908, are shown in the following table, together with the percentage of deaths at each of those periods of age and the proportion of deaths to each 100 births. It will be noticed that in the last five years the

mortality of infants per 100 births at each age period, was below the average of the ten years ended with 1900:—

DEATHS OF INFANTS AT DIFFERENT AGES, 1891-1900 AND 1904-8.

Ages.	Average Annual Deaths of Infants under 1 year of Age.					
	Ten Years—1891-1900.			Five Years—1904-8.		
	Number.	Percentage at each Age.	Number per 100 Births.	Number.	Percentage at each Age.	Number per 100 Births.
Boys.						
Under 1 month	650	31·7	3·79	590	41·6	3·75
1 to 3 months	355	17·3	2·07	236	16·7	1·50
3 to 6 „	445	21·7	2·59	261	18·4	1·66
6 to 12 „	600	29·3	3·50	331	23·3	2·11
Total ..	2,050	100·0	11·95	1,418	100·0	9·02
Girls.						
Under 1 month	488	28·7	2·98	430	38·7	2·88
1 to 3 months	301	17·7	1·84	183	16·5	1·23
3 to 6 „	385	22·6	2·35	222	20·0	1·49
6 to 12 „	528	31·0	3·23	276	24·8	1·85
Total ..	1,702	100·0	10·40	1,111	100·0	7·45

In the period 1904-8, the births of boys were in the proportion of slightly over 105 to every 100 girls, but as the mortality among the former was greater than among the latter at each age group, more especially under 1 month, the proportion alive at the end of the year was reduced to 103 boys to 100 girls. The death rate of infants under 1 month remained fairly constant in both periods, but a large decrease is shown for each of the three remaining age groups in 1904-8 as compared with 1891-1900 that for the age group 6 to 12 months amounting to 41 per cent. This may be attributed chiefly to the improved milk supply and the consequent lighter mortality from digestive and diarrhœal diseases.

Probable mortality of infants.

The experience of the years 1904-8 shows that of every 20,000 newly-born boys and girls in equal numbers, 902 boys and 745 girls died within twelve months, and 9,098 of the former and 9,255 of the latter, or 18,353 of mixed sexes were living at the end of the year. The proportions surviving the first year were 17,765 in the ten years 1891-1900 and 17,468 in 1881-1890. It is thus seen that of every 20,000 births comprising equal numbers of each sex there were 885 more survivors in 1904-8 than in 1881-1890, and 588 more than in 1891-1900.

Infantile death rates from certain causes.

Although the infantile death rate in Victoria has fluctuated considerably in recent years, and was comparatively high in 1908, it shows on the whole a tendency to decrease, which was much more marked in the period 1904-8 than in the five preceding years. The rate for the year under review—8.61 deaths per 100 births—was more than 22 per cent. below that for the decennium 1891-1900. Any investigation of this subject would be incomplete unless the diseases which proved fatal to infant life in different years were ascertained, and their incidence in each period compared. This method reveals the causes of high mortalities, and, when a fairly early period is selected for comparison with recent years, it shows in what direction the improvement is tending. A detailed comparison of the mortalities from each disease would be less useful than one giving the main preventable and non-preventable causes of death, grouped under certain headings, such as is shown in the following table for the periods 1891-3, 1901-6, and for the years 1907 and 1908.

INFANTILE DEATH RATES FROM CERTAIN CAUSES, 1891-3, 1901-6, 1907 AND 1908.

Causes of Death.	Deaths under 1 year per 1,000 births in—			
	1891-3.	1901-6.	1907.	1908.
Diarrhœal Diseases, all forms	29·66	26·31	18·49	27·01
Wasting Diseases (Marasmus, Atrophy, &c.)	22·24	13·45	9·82	13·12
Prematurity	13·13	15·46	14·47	15·63
Bronchitis, Broncho-pneumonia, Pneumonia	11·37	9·37	5·64	7·68
Convulsions	6·83	3·57	2·55	2·54
Congenital Defects and Malformations ...	3·45	5·29	4·27	4·02
Violence	3·16	2·65	2·36	3·05
Whooping Cough	2·60	2·71	2·68	1·61
Other causes	24·49	16·52	12·28	11·41
Total all causes	116·93	95·33	72·56	86·07

In 1908 the rates from all the principal causes were much higher than in the preceding year. A further examination of the foregoing table shows that the death rates from certain causes, which may be regarded as of a non-preventable nature, such as prematurity, congenital defects and malformations were responsible over the whole period for one-fifth of the total infantile mortality. Of the deaths from preventable causes about 1 in every 3 is due to diarrhœal diseases, which are specially prevalent and fatal in hot weather, when milk food, the chief diet of children, undergoes rapid changes and consequently becomes dangerous to infant life. The influence of the seasons on the mortality amongst children under 1 year is vividly shown by the deaths in certain months. The Victorian experience shows a high death rate in December, January, February, and March co-existent with a heavy mortality rate from diarrhœal diseases, and a low rate in the remaining eight months, concurrently with a very

low rate from these complaints. On the average of the last eight years of every 1,000 children born, over 25 died from diarrhœal diseases within a year, a proportion which shows the necessity for preventive measures in this direction. The rate attributable to diarrhœal complaints in Victoria is equal to that in England and Wales, but the proportion from bronchitis, broncho-pneumonia and pneumonia is three times as high in the latter country as in the former.

Infantile deaths in seasons from certain causes.

The influence of temperature on infantile mortality from the chief digestive and respiratory diseases is specially noticeable, whilst on deaths from other causes, particularly those of a developmental character, very little influence is apparent. The deaths in Melbourne and suburbs from the two former classes of complaint in each of the quarters of the past four years are shown in the following statement:—

Cause of Death.	Deaths during 1905-8 in the Quarter ended—			
	March.	June.	September.	December.
Diarrhœal Diseases	746	263	98	337
Bronchitis, Broncho-pneumonia, Pneumonia	70	112	254	68

The experience of the four years 1905-8 shows that the first three months of the year furnish a greater infantile mortality from diarrhœal complaints than the remaining nine months, and that the deaths of infants in the September quarter from bronchitis, broncho-pneumonia and pneumonia are as numerous as in the other three quarters combined.

Legitimate and illegitimate infantile death rates.

On the average of the past five years, slightly more than 1 in every 5 illegitimate infants died within a year, as against 1 in every 13 legitimate children. It is thus seen that the chance of an illegitimate child dying before the age of 1 year is nearly three times that of the legitimate infant. In the year 1908 the mortality rate for legitimate infants—7.92—was higher than in the preceding year when it was exceptionally low. The children born out of wedlock during the same period numbered 1,790, and the deaths of illegitimate infants were 354, which corresponded to a rate of 19.78 per 100 births. With the view of ascertaining the chief reasons for the marked disproportion in the mortality rates between the two classes,

the following table has been constructed, showing the deaths from certain causes per 1,000 legitimate and illegitimate births on the average of the years 1904-8.

DEATH RATES OF LEGITIMATE AND ILLEGITIMATE INFANTS FROM CERTAIN CAUSES 1904-8.

Cause of Death.	Deaths under 1 year per 1,000 Births.	
	Legitimate.	Illegitimate.
Diarrhœal Diseases	19·8	72·6
Prematurity, Congenital Defects, Marasmus, &c. ...	30·3	52·1
Bronchitis, Broncho-pneumonia, Pneumonia ...	6·9	18·6
Other causes	18·3	58·7
Total all causes	75·3	202·0

The rates for 1904-8 show that of every 1,000 children born out of wedlock, 72.6 died from diarrhœal diseases within a year as compared with 19.8 deaths per 1,000 legitimate infants from the same cause. Owing to a larger proportion of the former being deprived of breast food a higher mortality might be expected among them than among legitimate infants from these diseases, but the striking differences in death rates from this cause and from the chief respiratory diseases would indicate considerable neglect in the rearing of illegitimate infants.

Infantile mortality in Australasia.

The following table shows the proportion of deaths of infants under one year to the total births in each Australian State and in New Zealand for each of the last five years, and the average for the ten years ended with 1900:—

INFANTILE MORTALITY IN AUSTRALASIA.

Period.	Deaths under 1 year per 100 Births.						
	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.
1891–1900 ..	11·11	11·22	10·34	10·54	14·48	9·58	8·38
1904	7·79	8·24	7·61	7·05	11·30	9·07	7·10
1905	8·33	8·06	7·55	7·30	10·42	7·97	6·75
1906	9·29	7·45	7·47	7·59	11·00	9·09	6·21
1907	7·26	8·86	7·76	6·59	9·77	8·28	8·88
1908	8·61	7·58	7·07	6·97	8·46	7·52	6·79
Average 1904–8..	8·26	8·04	7·49	7·10	10·19	8·39	7·15

On the average of the last five years the lowest infantile death rate prevailed in South Australia, followed by that in New Zealand, Queensland, New South Wales, Victoria, and Tasmania, in that order, and the highest in Western Australia. Although the rates varied considerably in the States during any one year, and in different years in the same State, it is noticeable that the pronounced improvement which commenced in all the divisions of the Commonwealth in 1904 has continued with slight variations up to the latest year. Compared with the infantile death rate in 1891-1900, the rate for 1908 showed a decline of 22½ per cent. in Victoria, 32½ in New South Wales, 31½ in Queensland, 34 in South Australia, 41½ in Western Australia, and 21½ per cent. in Tasmania. This reduction in infantile mortality rates in all the States in 1908 was equivalent to a saving of 3,742 infant lives, of which 777 were in Victoria.

Decrease in infantile mortality in Australasia.

The following table shows the infantile death rates for various foreign countries for the average of the latest five years for which this information is available, and for the Australian States and New Zealand for the average of the years 1904-8:—

Infantile mortality in various countries.

INFANTILE MORTALITY IN VARIOUS COUNTRIES.

Country.	Deaths under 1 year per 100 births.	Country.	Deaths under 1 year per 100 births.
Russia (European) ...	26.1	United Kingdom	12.9
Austria	21.7	The Netherlands	12.8
Hungary	21.0	Scotland	11.7
German Empire ...	19.5	Denmark	11.4
Prussia	18.4	Western Australia	10.2
Spain	17.0	Ireland	9.5
Italy	16.7	Sweden	9.1
Japan	15.4	Tasmania	8.4
Belgium	15.0	Victoria	8.3
Servia	14.9	New South Wales ...	8.0
Bulgaria	14.3	Norway	7.6
Ontario, Province of	14.2	Queensland	7.5
France	13.9	New Zealand	7.1
Switzerland ...	13.2	South Australia	7.1
England and Wales ...	13.1		

Of all the countries for which information is available Russia has the highest and South Australia and New Zealand have the lowest infantile mortality. In the former 1 in every 4, and in the two latter 1 in every 14 infants dies within its first year.

In the year 1908 deaths of male children under 5 years of age numbered 1,920, and deaths of female children under that age numbered 1,512—the former being in the proportion of 21.78 per cent., and the latter of 21.75 per cent., to the total number of deaths of the respective sexes at all ages. These proportions are higher than those for the previous year, but below the average of the last eight years. Comparing the averages of the three decades ended with 1900, and the deaths during the eight subsequent years, it will be seen that a marked falling off took place, from period to period, in the mortality of children relatively to that of persons of all ages.

Deaths of children under 5.

The following table shows the annual number of such deaths at each year of age, and their proportion to the deaths at all ages, in the periods mentioned.

MORTALITY OF CHILDREN UNDER FIVE YEARS.

Period.	Years of Age at Death.					Total under 5 Years.	
	0.	1.	2.	3.	4.	Number.	Proportion Per 100 Deaths at all Ages.
Males.							
1871-1880.. ..	1,783	508	206	148	119	2,764	39·41
1881-1890.. ..	2,158	464	161	114	92	2,989	34·28
1891-1900.. .	2,050	432	143	93	76	2,794	30·05
1901	1,788	317	90	77	58	2,330	25·79
1902	1,793	345	106	67	37	2,348	25·65
1903	1,694	271	100	76	47	2,188	25·36
1904	1,299	192	85	55	50	1,681	21·03
1905	1,446	210	73	69	39	1,837	22·20
1906	1,563	255	82	38	32	1,970	23·62
1907	1,286	193	72	53	32	1,636	20·50
1908	1,497	246	81	58	38	1,920	21·78
Females.							
1871-1880 ..	1,482	482	198	139	106	2,407	46·06
1881-1890 ..	1,805	423	151	105	84	2,568	39·61
1891-1900 ..	1,702	385	129	82	68	2,366	33·61
1901	1,404	308	100	61	48	1,921	28·11
1902	1,515	285	110	52	51	2,013	28·65
1903	1,452	267	103	67	51	1,940	27·84
1904	1,020	169	79	49	56	1,373	21·45
1905	1,062	183	79	52	40	1,416	22·11
1906	1,303	235	80	51	31	1,700	24·65
1907	990	167	59	44	21	1,281	19·52
1908	1,180	200	68	36	28	1,512	21·75

Proportion of infants surviving their fifth year.

The increasing proportion of infants who survive their fifth year shows that the health of young children has materially improved in the past twenty-eight years, and that the improvement has been very pronounced since 1900. The increasing ratio of survivors is marked at each year of age, but is especially noticeable between ages 1 and 5 during the eight years 1901-8. In this period also a low death rate between 1 and 5 years was coincident with a low mortality in the first year of life, while in the decades 1881-1890 and 1891-1900 the high rates which prevailed under 1 year were associated with high

mortality rates for each of the four following years. It would thus appear that the effects of illness in the first year of life, as indicated by a high death rate, are conducive to a high mortality in each of the four succeeding years. The following table gives the numbers of survivors at each year of age from 1 to 5 inclusive per 10,000 male and 10,000 female infants born in Victoria for the averages of the decennia 1881-1890, 1891-1900, and of the eight years 1901-8.

SURVIVORS AT EACH YEAR OF AGE, 1 TO 5 INCLUSIVE, PER 10,000 MALES AND 10,000 FEMALES BORN 1881-1890, 1891-1900, AND 1901-8.

Age.	Survivors at each year of age 1 to 5 inclusive per 10,000 births of—					
	Males.			Females.		
	881-1890.	1891-1900.	1901-1908.	1881-1890.	1891-1900.	1901-1908.
1 year	8,652	8,805	9,011	8,816	8,960	9,166
2 years	8,351	8,540	8,831	8,529	8,713	8,999
3 "	8,252	8,459	8,768	8,430	8,629	8,935
4 "	8,180	8,396	8,722	8,361	8,577	8,896
5 "	8,121	8,349	8,691	8,305	8,534	8,864

According to the experience of the period 1901-8 of every 10,000 boys and 10,000 girls born in Victoria, 9,011 of the former and 9,166 of the latter may be expected to survive the first year of life, 8,831 boys and 8,999 girls will be alive at the end of the second year, 8,768 and 8,935 at the end of the third year, 8,722 and 8,896 at the end of the fourth year, and 8,691 and 8,864 at the end of the fifth year. Combining the two sexes the average number of survivors is 8,777 per 10,000 births—a proportion very much larger than either of those deduced from the mortalities in the decennia 1891-1900 and 1881-1890, when the corresponding averages were 8,441 and 8,213 respectively. Of every 10,000 infants born in Victoria there are, on the average, 5,120 boys and 4,880 girls—being in the ratio of 105 of the former to every 100 of the latter. According to the mortality experienced in the period 1901-8 these will be reduced at the end of five years to 4,450 boys and 4,325 girls, and the ratio of the sexes will be altered to 103 males for every 100 females. Thus, two-fifths of the excess of males over females at birth is neutralized in the first five years by the heavier mortality among boys.

Percentage of deaths in age groups.

The following table shows the number of deaths in various age groups in 1908, and the percentage of the total deaths in such groups in 1891-5, 1901, and 1908:—

PERCENTAGE OF DEATHS IN AGE GROUPS, 1891-5, 1901, AND 1908.

Age Groups. (Years).	Number of Deaths in 1908.	Percentage of Deaths in Age Groups.		
		1891-5.	1901.	1908.
Under 5	3,432	33·82	26·75	21·77
5 to 10	299	2·59	2·51	1·90
10 to 15	214	1·57	1·68	1·36
15 to 20	404	2·38	2·38	2·56
20 to 25	454	3·72	3·00	2·88
25 to 35	920	8·48	7·46	5·83
35 to 45	1,275	6·60	8·96	8·09
45 to 55	1,526	7·39	7·11	9·68
55 to 65	1,397	12·18	9·11	8·86
65 to 75	2,470	12·26	17·36	15·66
75 and over	3,376	9·01	13·74	21·41
Total	15,767	100·00	100·00	100·00

In proportion to the total deaths, the deaths of persons aged 75 and upwards increased from 9.01 per cent. in 1891-5 to 21.41 in 1908 or by 138 per cent. in the intervening years, and the proportion in the next younger age group—65 to 75—increased by nearly 28 per cent. in the same period. The higher proportion of deaths of elderly people in the latest year accounts for a higher death rate per 1,000 of the population than would otherwise be shown. On the other hand, the proportion of deaths under 5 years diminished by nearly 36 per cent. between 1891-5 and 1908.

Altered classification of causes of deaths.

In accordance with the decision of the Conference of Statisticians held in Melbourne in 1906, the causes of death were classified for the first time in 1907 according to the Bertillon Index of Diseases. This differs so materially in some respects from the mortality lists previously used in Victoria that comparisons of deaths and death rates from certain causes in 1907 and 1908 with earlier years are impossible. This applies even to some causes which appear to be similarly grouped, but are actually of a non-comparable character owing to their limitations in 1907-8 differing from those of earlier periods. In any comparison of mortalities from detailed causes it is therefore necessary to bear in mind the minor diseases excluded from or included in the assigned causes in the years compared. This precaution is especially necessary in comparing certain mortalities of the digestive, nervous and respiratory systems.

Death rates from certain diseases.

With regard to the selection of the primary cause of death when two or more associated diseases are stated, there is no material difference between the Bertillon method and that previously followed

in Victoria, except in a few minor nervous and respiratory complaints of persons dying in Hospitals for the Insane. Many important causes of death are practically unaffected by the new classification referred to in the preceding paragraph, and consequently retain their comparative character. Amongst these are cancer, tubercular diseases, typhoid fever, whooping cough, measles, influenza, scarlet fever, meningitis and encephalitis, diabetes, appendicitis, urinary, liver and puerperal diseases, suicide, old age, &c. In many other instances, such as diarrhœa and enteritis, diphtheria and croup, hydatids, accidental violence, homicide, &c., a re-arrangement of the mortalities is made which permits a comparison with different years and preserves the value of earlier Victorian mortalities as comparative records. The health of the community, as reflected in the death rates from the chief diseases arranged on a comparative basis, is shown in the following table for the period 1890-2 and for the last five years :—

DEATHS PER MILLION FROM CERTAIN CAUSES.

Cause of Death.	Deaths per Million of the Population.					
	1890-2.	1904.	1905.	1906.	1907.	1908.
Typhoid Fever	369	157	100	132	71	137
Scarlet Fever	34	19	8	3	2	17
Measles	2	..	65	6	33	16
Whooping Cough	129	38	16	201	103	54
Diphtheria and Croup	552	172	73	48	79	88
Influenza	381	213	110	198	221	131
Hydatids	51	33	24	23	34	21
Cancer	584	740	786	755	796	794
Phthisis	1,365	1,111	1,019	988	958	955
Other Tubercular Diseases ..	379	311	282	273	209	200
Syphilis	39	39	35	50	63	56
Diabetes	38	82	82	85	110	98
Anæmia, Chlorosis, Leucæmia ..	28	57	50	60	45	85
Meningitis and Encephalitis ..	113	102	119	145	161	164
Locomotor Ataxia and other diseases of Spinal Cord	43	60	50	50	65	80
Congestion and Hæmorrhage of the Brain	344	389	401	404	463	467
Epilepsy	74	47	35	43	32	43
Convulsions	353	94	99	90	87	88
Heart Disease (including Endocarditis and Pericarditis)	950	1,049	1,099	1,177	1,254	1,381
Acute and Chronic Bronchitis ..	691	320	425	477	343	374
Pneumonia and Broncho Pneumonia	853	709	850	884	780	918
Pleurisy	96	78	83	86	46	46
Congestion of Lungs and Pulmonary Apoplexy	140	46	45	50	54	69
Asthma and Pulmonary Emphysema	70	64	70	66	43	56

DEATHS PER MILLION FROM CERTAIN CAUSES—*continued.*

Cause of Death.	Deaths per Million of the Population.					
	1890-2.	1904.	1905.	1906.	1907.	1908.
Enteritis, Gastro-enteritis, and Diarrhœal Diseases	1,342	761	813	943	718	1,061
Hernia, Intestinal Obstruction ..	124	93	96	131	125	100
Diseases of the Stomach (Cancer excepted)	175	103	100	108	101	113
Cirrhosis and other diseases of the Liver (Cancer excepted) ..	329	173	182	175	165	163
Biliary Calculi	11	21	33	33	28	22
Appendicitis and Abscess of the Iliac Fossa	..	71	72	96	66	80
Simple Peritonitis (non-puerperal)..	106	56	61	61	52	48
Acute and Chronic Nephritis, Uræmia, Bright's Disease	294	540	559	551	596	614
Diseases of the Bladder and Prostate	86	104	103	127	107	88
Calculi of the Urinary System ..	8	6	9	10	6	8
Old Age	631	991	1,041	928	982	1,111
Suicide	109	94	115	90	95	92
Accidental Violence	811	526	574	535	568	647
Homicide	34	19	33	16	17	15

The striking feature of the preventable mortality in 1908, as compared with the previous year, was the great increase in infantile fatality from diarrhœa and enteritis, bronchitis, broncho-pneumonia and pneumonia. The higher general death rate was largely due to the heavier mortality among children in 1908, when 515 more deaths under 5 years of age were recorded than in the previous year. Phthisis, other tubercular diseases, cancer, whooping cough, measles, influenza, diabetes, and suicide, furnished lower rates, and typhoid fever, scarlet fever, diphtheria, diarrhœal complaints, diseases of the circulatory and respiratory systems, and accidents, were responsible for higher rates than in the previous year. These and other comparable causes of death are fully dealt with in subsequent paragraphs.

Typhoid fever.

Typhoid fever, which is really a preventable disease and is most fatal between 15 and 50 years, showed a mortality rate of 137 per million of population in 1908, as against 71 in 1907, 132 in 1906, 100 in 1905, 157 in 1904, and 369 in 1890-2. The rate for the latest year was less than two-fifths of that for the period 1890-2, but above the average of the preceding four years. For Greater Melbourne also a rapidly diminishing death rate from this cause is shown in recent years, the ratio for 1904-8 being only about

one-third of that for the decennium 1891-1900. In regard to the prevalence of typhoid fever in different divisions of the State it is notable that the reported cases in the metropolitan area furnish a lower "attack rate" in proportion to population than those in the remainder of the State on the average of the past five years. Comparing the deaths from typhoid fever with the cases reported in the five years 1904-8 in Greater Melbourne, the fatality rate was 1 in every 10 cases, which was only slightly more than two-thirds of the fatality experienced in London in the same period. The typhoid mortality rate on the average of the past three years was lower in Victoria than in any other Australian State except South Australia on the average of the period 1905-7. The deaths from typhoid fever per 100,000 of the population in various countries for the latest three-year period for which this information is available are shown in the following table:—

DEATH RATES FROM TYPHOID FEVER IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of population.	Country.	Period.	Deaths per 100,000 of Population
Western Australia	1905–7	46·3	Ireland ...	1905–7	9·6
Spain	1905–7	37·7	Scotland ...	1904–6	8·4
Ontario, Province of	1904–6	27·4	England and Wales	1905–7	8·3
Austria... ...	1903–5	18·9	The Netherlands	1905–7	7·8
Tasmania ...	1905–7	18·0	Sweden ...	1903–5	6·7
Queensland ...	1905–7	16·7	German Empire...	1904–5	6·7*
New South Wales	1905–7	15·3	Switzerland ...	1904–6	5·8
Belgium ...	1904–6	13·6	New Zealand ...	1905–7	5·4
Victoria ...	1906–8	11·3	Norway ...	1904–6	4·5
South Australia ...	1905–7	11·3			

* Average of two years.

Scarlet fever.

The mortality from scarlet fever varies considerably in different years, but on the average of recent periods it exhibits a diminishing proportion. The deaths referred to this cause in 1908 numbered 21, and corresponded to a rate of 17 per million of the population, as compared with 19 in 1904, and 34 in 1890-2. The ratio of deaths to notified cases in Greater Melbourne during the period 1904-8 was 13 in every 1,000, as compared with a fatality rate of 26 per 1,000 in London for the same years. Death rates from scarlet fever are considerably lower in Victoria, the other Australian States and New Zealand than in European countries. The deaths from this disease, per 100,000 of the population, in various countries on the average

of the latest three years for which this information is available are given in the following table:—

DEATH RATES FROM SCARLET FEVER IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Austria... ...	1903–5	41·1	The Netherlands	1905–7	3·6
German Empire	1904–5	18·7*	Ireland ...	1905–7	3·2
Belgium ...	1904–6	10·6	South Australia	1905–7	2·2
England and Wales	1905–7	10·2	New Zealand ...	1905–7	2·0
Sweden ...	1903–5	9·0	New South Wales	1905–7	2·0
Spain	1905–7	8·2	Victoria ...	1906–8	·7
Switzerland ...	1904–6	7·2	Western Australia	1905–7	·6
Scotland ...	1904–6	5·1	Queensland ...	1905–7	·3
Ontario, Province of	1904–6	4·5	Tasmania ...	1905–7	.2
Norway ...	1904–6	4·1			

* Average of two years.

Measles.

The mortality from measles has varied very considerably from period to period, although there have been only two severe epidemic outbreaks during the past seventeen years, and these did not extend beyond the years—1893 and 1898—in which they occurred. In 1908 there were 20 deaths attributed to this cause, representing a rate of 16 per million of the population, as compared with ratios of 33 in 1907, 6 in 1906, and 65 in 1905, whilst in 1904 there were no deaths recorded from the disease. The deaths from measles per 100,000 of the population in different countries for the latest three years for which this information is available, are shown in the next table:—

DEATH RATES FROM MEASLES IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Spain	1905–7	50·1	Norway ...	1904–6	5·3
Belgium ...	1904–6	35·7	New Zealand ...	1905–7	4·5
Scotland ...	1904–6	32·9	Ontario, Province of	1904–6	3·3
England and Wales	1905–7	32·0	New South Wales	1905–7	3·0
Austria... ...	1903–5	25·3	Victoria ...	1906–8	1·8
The Netherlands	1905–7	24·0	Queensland ...	1905–7	1·6
Switzerland ...	1904–6	19·7	Western Australia	1905–7	1·6
German Empire ..	1904–5	18·5*	Tasmania ...	1905–7	1·5
Ireland... ...	1905–7	13·5	South Australia	1905–7	·5
Sweden... ...	1903–5	7·1			

* Average of two years.

The average rate of the last three years in Victoria was greatly below that experienced in European countries, being only one-seventeenth of that in England, and one-twenty-eighth of the rate in Spain in the period 1905-7.

There were 68 deaths referred to whooping cough in 1908, which equalled a rate of 54 per million of the population at all ages, as compared with 103 in the previous year, and 201 in 1906, when the mortality was exceptionally heavy. The infantile death rate is more affected than the general rate by this ailment, as it is practically confined to children. In the year under review 50, or over 73 per cent., of the deaths were of infants under 1 year, and 66, or 97 per cent., were of children less than five years of age. As in previous periods the sex incidence of this disease shows that it is more fatal to girls than to boys, the rate amongst the former having been about 20 per cent. higher than among the latter during 1908. The deaths from whooping cough per 100,000 of the population for various countries, during the latest three-year period for which this information is available, are given in the following table:— Whooping cough.

DEATHS FROM WHOOPING COUGH PER 100,000 OF POPULATION IN DIFFERENT COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Scotland ...	1904–6	42·8	Norway ...	1904–6	15·1
Austria... ...	1903–5	38·6	Western Australia	1905–7	14·9
Belgium	1904–6	38·0	New South Wales	1905–7	13·4
German Empire ...	1904–5	31·1*	New Zealand ...	1905–7	12·5
England and Wales	1905–7	26·3	Victoria ...	1906–8	11·9
Spain	1905–7	21·3	Tasmania ...	1905–7	8·9
Switzerland ...	1904–6	20·6	Queensland ...	1905–7	8·7
The Netherlands	1905–7	19·3	South Australia...	1905–7	8·4
Ireland... ...	1905–7	17·6	Ontario, Province of	1904–6	8·0
Sweden... ...	1903–5	16·5			

* Average of two years.

On the average of the past five years the mortality rate from diphtheria and croup was considerably less than in earlier years. For 1908 the number of deaths was 111, which equalled a rate of 88 per million of the population, being less than one-sixth of the proportion—552—for 1890-2, and about half the ratio—171—experienced in England and Wales in 1906-7. It was, however, in excess of the rate on the average of the previous three years when it was unusually low. Like measles, scarlet fever, and whooping cough, it is an ailment chiefly affecting children. Of the 111 deaths attributed to this disease in the latest year, 93 were of children under 10 years of age of whom 50 had not completed their fifth year. The incidence of the malady is light in the first year of life, as compared with Diphtheria and croup.

the subsequent four years, and is about equal for both sexes. The fatality rate of diphtheria, *i.e.*, the proportion of deaths to the cases in Greater Melbourne notified to the Board of Health, shows that 64 in every 1,000 ended fatally in 1904-8, as against 90 in every 1,000 in London in the same period. Prior to the employment of the anti-toxin treatment of diphtheria the fatality rate in Melbourne was over four times that experienced in the past five years.

Hydatids.

The deaths attributed to hydatids in 1908 numbered 27, being equivalent to a rate of 21 per million of the population, as compared with rates of 34 in 1907, 23 in 1906, 24 in 1905, 33 in 1904, and 51 in 1890-2. Of the 164 persons who died from this disease in the last five years 87 were males and 77 females; only 2 were under 5 years of age. In 1908, 72 per cent. of the fully defined cases were of the liver and 17 per cent. of the lungs. Hospital returns for the latest five years show that 597 cases of hydatids were treated therein, and that 1 in every 10 ended fatally.

Anæmia, chlorosis, leucæmia.

Anæmia, chlorosis and leucæmia were responsible for 108 deaths in 1908, which corresponded to a rate of 85 per million of the population. This was 60 per cent. above the mortality ratio—53—for the average of the preceding four years, and nearly 56 per cent. higher than the death rate experienced from these causes in England and Wales in 1907.

Diabetes.

The death rate from diabetes has shown a varying increase in recent periods, and now exceeds the rate of 96 per million which prevailed in England and Wales in 1907. In the year under review there were attributed to this cause 51 male and 73 female deaths, which represented a rate of 98 per million of the population. This was the second highest recorded, and 158 per cent. above the rate for 1890-2. Of the 124 persons who died from this disease in 1908 3 were under 10 years and only 19 were under 30 years of age, the heaviest mortality being experienced in the age group 60 years and upwards. The higher rates in later periods cannot be wholly explained by the sex and age constitution of the population, although an increasing proportion of middle-aged and elderly people, among whom the heaviest mortality prevails, would lead one to expect a higher rate than in former years.

Influenza.

The deaths from influenza in 1908 numbered 166, corresponding to a rate of 131 per million of the population, which was below the average of the previous five years. Of the deaths from this cause in the year under review 53 per cent. occurred in the three months ending in October. Although this disease has varied in form in different periods it has always proved more fatal at the extremes of life than in middle age. Three-fifths of the deaths in 1908 were of persons aged 60 years and upwards, and the experience of the preceding three years was somewhat similar. The age incidence of the disease at various periods is shown in the next table, which gives the average yearly proportion of deaths from influenza per 10,000 of the population in age groups during the years adjoining the last four census dates, and shows that during the latest two periods the

proportion of deaths resulting from the disease was eleven times as great as in the two preceding ones:—

DEATHS FROM INFLUENZA IN VICTORIA PER 10,000 OF POPULATION AT EACH AGE.

Age-Group (Years).	Males.				Females.			
	1870-2.	1880-2.	1890-2.	1900-2.	1870-2.	1880-2.	1890-2.	1900-2.
0—15 ...	·69	·34	2·50	1·10	·52	·34	1·86	1·15
15—20 ...	...	·07	·64	·34	...	...	·92	·83
20—25 ...	...	...	1·20	·59	...	...	1·28	·69
25—35 ...	·05	·07	1·50	·79	·07	·07	2·35	·89
35—45 ...	·05	...	3·04	1·31	...	·08	4·11	1·86
45—55 ...	·09	·24	5·12	3·20	·17	...	5·39	2·02
55—65 ...	·67	·24	12·65	5·25	·39	·62	11·46	5·53
65 and upwards	1·09	2·36	27·13	17·02	·84	3·18	35·22	16·02
All ages ...	·33	·25	3·94	2·30	·28	·24	3·72	2·13

Since 1890, there have been two severe epidemic outbreaks of influenza—in 1891, and 1899—resulting in 1,035 and 963 deaths respectively. The deaths due to this cause in 1903 numbered 129, which was the lowest number during the past eighteen years.

The average yearly proportion of deaths from influenza and respiratory diseases (combined) per 10,000 males and females respectively living at different ages at the latest four census dates, is shown in the following table:—

DEATH RATES FROM INFLUENZA AND RESPIRATORY DISEASES (COMBINED).

Age Group (Years).	1870-2.	1880-2.	1890-2.	1900-2.
Males.				
0—15	23·34	29·36	31·02	17·63
15—20	3·05	3·37	3·56	3·04
20—25	5·70	5·34	6·08	5·44
25—35	5·74	8·38	8·35	6·73
35—45	10·33	15 80	16·59	10·80
45—55	20·52	26·83	30·30	21·24
55—65	42·46	51·89	69·16	43·62
65 and upwards	109·20	138·90	168·20	129·40
All ages	17·62	24·73	28·24	20·96
Females.				
0—15	19·02	24·52	25·99	15·00
15—20	1·88	2·02	4·44	3·17
20—25	3·54	4·23	4·33	4·03
25—35	4·58	5·79	8·00	4·64
35—45	7·94	12·61	15·66	9·54
45—55	8·04	13·63	22·40	13·82
55—65	23·36	29·77	43·56	32·95
65 and upwards	73·94	119·30	147·60	102·80
All ages	12·91	17·32	21·34	15·41

Excepting the age group 15-20 during 1890-2, and 1900-2, the proportion of deaths of males from influenza and respiratory diseases combined, was greater in every instance at each census period, than that for females. The mortality rates showed a considerable decrease for both sexes at the last census period, as compared with the two preceding ones, such decrease amounting to 26 per cent. in male, and 28 per cent. in female rates.

Respiratory diseases.

In 1908 the deaths from respiratory diseases numbered 1,937, which represented a rate of 1,531 per million of the population, as compared with 1,343 in the previous year, 1,622 in 1906, 1,552 in 1905, 1,297 in 1904, and 2,029 in 1890-2. Of the deaths from complaints of this nature in the year under review, 121 were referred to acute bronchitis, 352 to chronic bronchitis, 377 to broncho-pneumonia, 785 to pneumonia and 58 to pleurisy. These five diseases accounted for seven-eighths of the total respiratory mortality. The seasonal incidence of these maladies is evidenced by the large proportion of deaths, amounting to 37 per cent., resulting from them in the months of July, August, and September in the latest year. Complaints of this nature are much more fatal at the extremes of life than at middle ages, and among males than females. This is shown in the next table, which gives the death rates in age groups for each sex during four census periods, when the age and sex constitution of the population were accurately known.

DEATH RATES IN VICTORIA FROM RESPIRATORY DISEASES.

Age Group (Years).	Males.				Females.			
	1870-2.	1880-2.	1890-2.	1900-2.	1870-2.	1880-2.	1890-2.	1900-2.
0—15 ...	22·65	29·02	28·52	16·53	18·50	24·18	24·13	13·85
15—20 ...	3·45	3·30	2·92	2·70	1·88	2·02	3·52	2·34
20—25 ...	5·70	5·34	4·88	4·85	3·54	4·23	3·05	3·34
25—35 ...	4·69	8·31	6·85	5·94	4·51	5·72	5·65	3·75
35—45 ...	10·28	15·80	13·55	9·49	7·94	12·53	11·55	7·68
45—55 ...	20·43	26·59	25·18	18·04	7·87	13·63	17·01	11·80
55—65 ...	41·79	51·65	56·51	38·37	22·97	29·15	32·10	27·42
65 and upwards	108·11	136·54	141·07	112·38	73·10	116·12	112·38	86·78
All ages ...	17·29	24·48	24·30	18·66	12·63	17·08	17·62	13·28

An examination of the above table shows that the proportion of males dying from diseases of the respiratory system exceeded that of females at each census period. The average mortality per 10,000 of the population for the four census periods was 21.18 deaths for males, and 15.15 for females, and in each age group (except 15-20 in 1890-2), the mortality rate of males was heavier than that of females. There was a considerable decrease during 1900-2 as compared with 1890-2, not only in the proportionate mortality of each sex, but in the rate for nearly every age group.

Diseases of the digestive system.

The very satisfactory decrease in the death rates from diseases of the digestive system (excluding hydatids) in the period 1904-7 was not continued in the year under review. In 1908 there were 2,034 deaths from digestive ailments, representing a proportion of 1,609 per million of the population, which was above the average of the period 1904-8, but slightly more than two-thirds of the rate —2,331—experienced in 1890-2, and about 8 per cent. in excess of the rate—1,494—in England and Wales in 1903-7. The large reduction in the general mortality rate from complaints of this character in 1904-7 was coincident with a comparatively light mortality among infants. Victorian experience shows that more than half of the mortality from digestive maladies was ascribed to diseases of a diarrhœal nature. In 1908 diarrhœal complaints were responsible for 1,343 deaths, equivalent to 1,061 per million, which was 21 per cent. below the ratio—1,342—for 1890-2. In 1904, 1905, 1906, and 1907, the rates were 761, 813, 943, and 718 respectively. The age incidence of this disease is heaviest at the extremes of life. Of the 1,343 deaths in the year under review, 1,005, or 75 per cent., were of children under 2 years of age. The seasonal influence on the mortality is much more strongly marked among infants than aged people, as was evidenced by the fact that half the deaths of children under 1 year from diarrhœa and enteritis occurred in the three months ending in March, whilst at other ages the proportion was only slightly higher for that quarter than for the others.

Appendicitis

Of the total deaths attributed to diseases of the digestive system about 1 in every 20 is due to appendicitis. The experience of the five years 1904-8 shows that this disease was more fatal to males than females, and that the incidence of mortality was greatest between ages 15 and 35. The deaths numbered 101 in 1908, 82 in 1907, 118 in 1906, 87 in 1905, and 86 in 1904, and corresponded to rates of 80, 66, 96, 72, and 71 per million of the population respectively, as against 57 in England and Wales in 1904-7. An idea of the fatality of appendicitis may be obtained by comparing the number of deaths therefrom in the past five years in general hospitals —214—with the total cases treated therein, 2,927, which shows that 1 case in every 14 ended fatally.

Diseases of urinary system.

A very marked alteration in mortality rates from diseases of the urinary system has taken place in recent years. Excepting urinary calculi, all the impotant diseases constituting this group exhibit increasing rates, which are now in excess of the proportions in England and Wales. In the year under review, 955 deaths were attributed to these diseases, which corresponded to a ratio of 755 per million of the population, as against 408 in 1890-2, or to an increase of 85 per cent. in the intervening years. Bright's disease, uræmia and nephritis were responsible for 777 deaths, or 81 per cent., complaints of the bladder for 63 deaths, or nearly 7 per cent., and ailments of the prostate for 48 deaths, or over 5 per cent., of the total referred to maladies of the urinary system, which furnish

a male death rate nearly double that of the female rate. A larger proportion of elderly people in the community, among whom the heaviest mortality occurs, would account for a portion of the increase in the death rate in recent years, but as the age constitution of the population of Victoria would warrant a lower rate than in England, the marked disparity between the rates in the two countries—755 in Victoria and 492 in England—indicates a greater prevalence of urinary diseases in this State.

Phthisis.

The deaths from phthisis in 1908 numbered 1,209, and equalled a rate of 955 per million of the population, as compared with 958 in 1907, 988 in 1906, 1,019 in 1905, 1,111 in 1904, and 1,365 in 1890-2. The improvement in the death rate from this cause has not been so marked in the past three years as it was in 1905, but it is evidenced by the very substantial reduction of over 400 deaths per million of the population in 1908, as compared with 1890-2. The rates are more fully shown in the following table, which gives the mortality per 10,000 of the population of each sex, in age groups, at the last five census periods.

DEATH RATES IN VICTORIA FROM PHTHISIS IN AGE GROUPS AT FIVE CENSUS PERIODS, 1860-2, 1870-2, 1880-2, 1890-2, 1900-2.

Ages (Years).	Annual Mortality from Phthisis per 10,000 of the Population at each age.				
	1860-2.	1870-2.	1880-2.	1890-2.	1900-2.
Males.					
0 to 15	2·55	1·22	1·74	·90	·38
15 " 20	7·72	5·71	6·88	5·41	5·06
20 " 25	12·23	18·75	21·19	18·29	14·35
25 " 35	16·53	22·21	30·33	23·70	20·31
35 " 45	21·63	21·83	25·11	28·28	22·07
45 " 55	23·14	22·24	28·65	31·17	25·05
55 " 65	25·63	27·86	31·41	36·48	35·75
65 and upwards	23·20	19·56	18·08	25·40	31·07
All ages	13·33	12·89	15·33	15·73	13·51
Females.					
0 to 15	3·70	·98	1·76	1·43	·93
15 " 20	14·07	12·37	12·50	9·51	8·18
20 " 25	18·95	19·28	21·00	18·49	12·79
25 " 35	24·76	22·02	26·56	21·77	18·15
35 " 45	25·62	21·65	24·06	22·53	17·74
45 " 55	25·01	19·60	20·72	16·13	14·41
55 " 65	22·59	10·51	14·26	12·35	12·52
65 and upwards	18·03	12·61	13·12	8·25	8·18
All Ages	14·46	10·62	12·75	11·51	9·72

It will thus be seen that the male death rates per 10,000 of the population from phthisis were greater at the latest four census periods than those of females; but the proportion of deaths of females under 20 years of age, was nearly twice as great as that of males at each period, whilst the death rate of males, aged 45 years and upwards, was considerably greater than that of females at all periods except the first. The figures for 1900-2, show that there was a decline in every age group (excepting 65 and upwards amongst males, and 55-65 amongst females) as compared with those for 1890-2.

Pulmonary tuberculosis in various countries.

Death rates from pulmonary tuberculosis, per 10,000 of the population, in various countries for the latest year for which this information is available, and in the Australian States for 1908, are given in the following table:—

DEATH RATES FROM PULMONARY TUBERCULOSIS IN VARIOUS COUNTRIES.

Country.	Deaths per 10,000 of Population.	Country.	Deaths per 10,000 of Population.
Austria (1905) ..	35·9	The Netherlands (1907)	13·0
Servia (1906)	28·7	England & Wales (1907)	11·4
Ireland (1907) ...	20·2	Belgium (1906) ...	10·5
Norway (1906)	19·8	Victoria	9·5
Switzerland (1906) ...	18·4	South Australia ...	9·3
German Empire (1905) ...	17·9	Western Australia ...	8·0
Japan (1905)	16·0	Tasmania	7·8
Spain (1907)	13·8	New South Wales ...	6·8
Scotland (1906) ...	13·6	New Zealand (1907) ...	6·7
Ontario, Province of (1906)	13·1	Queensland	6·2

It appears that the deaths attributable to pulmonary tuberculosis are more numerous in proportion to population in Victoria than in the other States and New Zealand, but are less numerous than in the other countries.

Tubercular death rates in Melbourne, Ballarat, and Bendigo.

The local distribution of tuberculous mortality indicates that certain urban centres—particularly that of Bendigo and suburbs—furnish considerably higher death rates from this cause than the rural portions of the State. The tubercular death rate amongst miners is very considerably more than the ratio among farmers and graziers, and as mining occupations predominate in Bendigo and suburbs, and farming and grazing in the rural districts, the distribution of callings accounts in a large measure for the disparity in the mortality rates from this cause in those divisions of the State. The rates show that during the past eight years nearly 9 more persons in every 10,000

of the population died each year from tubercular diseases in Bendigo than in Melbourne and suburbs, and 8 more per 10,000 than in Ballarat. The rates in the above localities from phthisis and other tubercular diseases are shown in the following statement for the decennium 1891-1900 and for each of the last eight years:—

DEATH RATES FROM TUBERCULAR DISEASES IN MELBOURNE, BALLARAT, AND BENDIGO, 1891-1908.

Period.	Deaths per 10,000 of the Population.								
	Phthisis.			Other Tubercular Diseases.			All Tubercular Diseases.		
	Melbourne and Suburbs.	Ballarat and Suburbs.	Bendigo and Suburbs.	Melbourne and Suburbs.	Ballarat and Suburbs.	Bendigo and Suburbs.	Melbourne and Suburbs.	Ballarat and Suburbs.	Bendigo and Suburbs.
1891–1900 ..	16·7	17·1	24·1	4·7	3·5	4·0	21·4	20·6	28·1
1901 ..	15·5	16·0	22·0	4·4	3·4	6·6	19·9	19·4	28·6
1902 ..	14·3	15·6	27·0	3·9	4·6	4·2	18·2	20·2	31·2
1903 ..	14·0	16·4	20·4	4·2	3·3	3·5	18·2	19·7	23·9
1904 ..	13·5	17·1	22·3	4·4	5·3	5·2	17·9	22·4	27·5
1905 ..	12·2	11·5	21·8	3·9	3·2	3·9	16·1	14·7	25·7
1906 ..	11·5	13·2	21·7	3·9	2·3	2·5	15·4	15·5	24·2
1907 ..	11·6	10·5	20·2	3·4	1·8	2·0	15·0	12·3	22·2
1908 ..	11·5	13·3	18·4	2·6	2·1	1·3	14·1	15·4	19·7
Average of 1901–8 ..	13·0	14·2	21·7	3·8	3·3	3·7	16·8	17·5	25·4

During the period embraced in the above table a steadily diminishing rate from all tuberculous diseases is shown for Greater Melbourne. In the last eight years the Ballarat rate varied from 22.4 to 12.3, and that of Bendigo from 31.2 to 19.7, but they showed on the whole, a diminishing proportion by comparison with the mortality experienced in the decennium 1891-1900.

Tubercular deaths in districts of Greater Melbourne.

In the next table are given the numbers of deaths from tubercular diseases in the last four years in the principal districts of Greater Melbourne, exclusive of Hospitals; also the number of deaths from all causes (including tubercular diseases) during the same period; and the rates per 1,000 of the population in each case.

DEATHS AND DEATH RATES FROM TUBERCULAR DISEASES IN PRINCIPAL DISTRICTS OF GREATER MELBOURNE (EXCLUDING HOSPITALS) 1905 TO 1908.

Districts.	Total Deaths in Four Years—1905, 1906, 1907, and 1908 from—				Deaths per Thousand of the Population. Average of 1905-8.	
	Phthisis.	Other Tubercular Diseases.	All Tubercular Diseases.	All Causes.	From all Tubercular Diseases.	From all Causes.
Footscray City	76	21	97	680	1.29	9.07
Camberwell Town	44	6	50	327	1.22	7.98
Coburg Borough	27	10	37	308	1.18	9.80
Fitzroy City	117	32	149	1,350	1.14	10.30
Northcote Town	43	12	55	442	1.12	9.03
Collingwood City	130	22	152	1,229	1.10	8.93
Brunswick City	88	27	115	1,026	1.09	9.80
South Melbourne City ..	127	37	164	1,497	1.00	9.09
Melbourne City	316	73	389	3,944	.99	10.03
Richmond City	120	27	147	1,363	.95	8.83
Essendon City	58	13	71	636	.93	8.30
Kew Borough	25	7	32	301	.90	8.46
St. Kilda City	58	16	74	830	.85	9.58
Prahran City	120	24	144	1,618	.85	9.52
Malvern Town	37	6	43	412	.83	7.91
Hawthorn City	60	18	78	758	.83	8.04
Brighton Town	29	5	34	444	.77	10.04
Port Melbourne Town ..	24	11	35	446	.70	8.85
Williamstown Town ..	26	11	37	575	.67	10.42
Caulfield Town	26	4	30	337	.67	7.49

It is probable that the mortality from tuberculosis in each district does not correspond with the ratio of infection in these centres, as many persons do not reside in the district in which they are employed, and the locality, or the nature of employment, may have been the place or source of infection. It is also probable that many persons who died from tuberculosis did not, during the course of the disease, reside in the district where the deaths occurred. It is noticeable that there is no correlation between the ordinary and the tubercular death rates in the above districts on the experience of the past four years.

In 1908 there were 253 deaths from tubercular diseases (excluding phthisis), which corresponded to a rate of 200 per million, as compared with 209 in 1907, 273 in 1906, 282 in 1905, 311 in 1904,

and 379 in 1890-2. The death rates in various age groups are shown in the following table for the latest four census periods:—

DEATH RATES FROM TUBERCULAR DISEASES (PHTHISIS EXCEPTED) IN AGE GROUPS DURING THE YEARS 1870-2, 1880-2, 1890-2, 1900-2.

Ages (Years).	Deaths per 10,000 persons at each age during—			
	1870-2.	1880-2.	1890-2.	1900-2.
Males.				
0—15	7·53	7·98	10·36	5·64
15—20	·64	·81	1·17	1·12
20—25	1·80	1·23	·89	1·77
25—35	·70	·66	·84	1·91
35—45	·77	·88	·77	1·39
45—55	·95	·85	·67	1·64
55—65	·88	1·07	·78	2·40
65 and over	1·09	2·36	·56	1·17
All ages	3·46	3·55	4·02	2·99
Females.				
0—15	5·89	7·28	8·43	5·33
15—20	·82	1·30	1·27	1·95
20—25	·52	·69	1·23	2·09
25—35	·54	·41	·88	1·98
35—45	1·04	·70	·42	1·77
45—55	·17	·67	·34	1·01
55—65	·39	·62	·69	·71
65 and over	1·69	1·19	·64	·71
All ages	3·10	3·39	3·58	2·91

It will be noticed that the proportion of persons under fifteen years of age dying from tubercular diseases (excluding phthisis), during 1900-2, as compared with 1890-2, showed a decline of 45 per cent. for males, and nearly 37 per cent. for females. As reductions of 58 and 35 per cent. for males and females respectively occurred also in the proportions of deaths of persons of the same age from phthisis, there is evidence of a gratifying decrease in the mortality rates from all tubercular diseases amongst children during the last decennial period.

The experience of recent years shows that the tubercular death rate in Victoria is but slightly affected by the arrival from beyond Australia of persons suffering from tubercular diseases. In 1908 slightly more than one-half per cent. of the persons who died were born outside and resident less than one year in Australia, and about 1 per cent. were born outside and resident less than five years in the Commonwealth.

Cancer.

Deaths from cancer in 1908 numbered 1,005, and represented a death rate of 794 per million of the whole population as compared with rates of 796 in 1907, 755 in 1906, 786 in 1905, and 740 in 1904. Cancer rates, computed in proportion to the general population in earlier and later periods, are not fairly comparable, owing

to the changed age distribution of the people. A more accurate mortality rate is obtained by comparing the deaths in proportion to the persons of the same sex living in age groups, and this has been done for the census periods 1880-2, 1890-2, and 1900-2, when the numbers of the people in age groups were accurately known.

DEATH RATES FROM CANCER IN AGE GROUPS DURING THE YEARS 1880-2, 1890-2, 1900-2.

Age Group (Years).	Deaths from Cancer per 10,000 of population at each age.		
	1880–2.	1890–2.	1900–2.
Males.			
Under 5	·29	·18	·30
5 to 10	·24	·10	·42
10 " 15	·18	·11	·20
15 " 20	·07	·17	·22
20 " 25	·25	·32	·33
25 " 35	·80	·81	1·26
35 " 45	4·12	4·29	3·69
45 " 55	10·16	14·83	14·14
55 " 65	22·01	31·92	36·00
65 " 75	34·55	52·75	59·04
75 and over	45·12	58·55	74·04
All ages	4·29	6·16	7·52
Females.			
Under 5	·12	·09	·26
5 to 10	·12	·10	·04
10 " 15	·06	·06	...
15 " 20	·26	·12	·28
20 " 25	·39	·22	·23
25 " 35	2·65	1·68	1·61
35 " 45	7·32	7·43	6·05
45 " 55	15·07	18·00	18·13
55 " 65	29·35	31·79	33·05
65 " 75	32·68	53·96	51·18
75 and over	27·56	49·55	62·70
All ages	4·27	5·57	6·64

Deaths from cancer occurred at every age, but the rates in the foregoing table show that it is essentially a disease of later life, increasing rapidly in the groups past middle age, and reaching a maximum mortality rate in the oldest age group. A comparison of the rates for females under 25 years of age at the three census periods shows that there was no increase in mortality in the two later periods, whilst the rates for males and females aged 25 to 45 showed an appreciable decrease in 1900-2 as compared with 1890-2. In the age groups over 55 a marked increase was shown in the later periods, but, probably a superior diagnosis of this disease, and

a higher average age of persons within these groups—particularly that of 75 and upwards—would account in a large measure for the higher rates in the years 1890-2 and 1900-2 as compared with 1880-2.

Seat of cancer.

The following table shows the seat of cancer in persons who died from this disease in 1908:—

SEAT OF CANCER, 1908.

Seat of Disease.	Males.	Females.	Total.
Cancer of the mouth	69	7	76
,, the stomach and liver	219	161	380
,, the peritoneum, the intestines, and the rectum	67	69	136
,, the female genital organs ...	...	92	92
,, the breast	...	86	86
,, the skin	25	9	34
,, the other organs	117	84	201
Total Deaths	497	508	1,005

Over one-third of the persons who died from cancer were affected in the stomach and liver. Of the total females dying from this disease more than one-third were affected in the genital organs and the breast.

Death Rates from Cancer in various countries.

Deaths from cancer per 100,000 of the population in various countries, for the latest three-year period for which this information is available, are given in the following table:—

DEATH RATES FROM CANCER IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Switzerland ...	1904-6	131·2	South Australia ...	1905-7	70·5
The Netherlands ...	1905-7	101·2	New Zealand ...	1905-7	69·4
Norway	1904-6	97·3	New South Wales	1905-7	67·7
England and Wales	1905-7	90·3	Queensland ...	1905-7	62·3
Scotland	1904-6	89·6	Italy	1905-7	60·3
German Empire ...	1904-5	80·4*	Ontario, Province of	1904-6	58·7
Victoria	1906-8	78·2	Belgium	1904-6	57·8
Ireland	1905-7	76·8	Tasmania ...	1905-7	56·3
Austria	1903-5	74·7	Western Australia	1905-7	53·2
Prussia	1905-7	71·1			

*Average of 2 years.

Victoria showed a lower death rate from cancer than six of the above European countries, but a higher one than the other Australian States. The higher rate in Victoria, as compared with the

other States, is chiefly due to the larger proportion of eldery people in the community, amongst whom the mortality is greatest, whilst the high proportion of persons at the less susceptible ages accounts for the low rate in Western Australia.

Senile decay.

Deaths are not attributed to senile decay or old age unless the deceased were 65 years of age or over. During the year 1908, 820 male and 586 female deaths were ascribed to this cause. The deaths at these ages from all causes during the year numbered 5,846—3,358 males and 2,488 females. It is thus seen that 24.4 per cent. of the male and 23.6 per cent. of the female deaths for ages 65 years and upwards were ascribed to senile decay. The death rates of elderly persons in several age groups have been computed for the average of the three years 1900-2, when the numbers of persons within those divisions were accurately known. These show that of every 100 persons in the respective groups, there died within a year, from all causes, 4.39 aged 65 to 70, 6.95 aged 70 to 75, 10.45 aged 75 to 80, and 18.17 aged 80 and upwards.

Accidental violence.

Death rates from accidental violence have been lower in later than in earlier periods, a result that is chiefly due to the lighter mortality rate from accidental drowning. In 1908 there were 591 male and 227 female deaths attributed to accidents and negligence, which represented a rate of 647 per million of the population. This proportion was above the average of the previous five years, but 20 per cent, below the rate—811—for 1890-2. The greatest reduction occurred in the death rate from drowning, which was equivalent to 116 per million in 1908, as against 200 in 1890-2. Of the deaths ascribed to drowning, 123 were those of males; and 24 of females. Fractures, dislocations, and other accidental injuries accounted for 282 male and 65 female deaths, and furnished a death rate of 274 per million as against 329 in 1890-2. Mortality rates from accidental violence are considerably heavier in the country than in Greater Melbourne, the rates per million for the year 1908 having been 687 and 592 respectively. In the year under review 8 male and 5 female deaths occurred through the administration of anæsthetics by medical practitioners. Chloroform was used in ten of these cases, ether in only one, while in two cases the anæsthetic used was not stated. The number of instances in which anæsthetics were administered in the same period is not available for the purpose of computing a fatality rate. Of the 13 persons who died from this cause only three were over 60 years of age.

Suicide.

During the year 1908, 88 males and 28 females took their own lives. The deaths represented a rate of 92 per million of the population as compared with rates of 95 in the previous year, 90 in 1906, 115 in 1905, 94 in 1904, and 109 in 1890-2. The rate in the year under review was below that for Australia—110—and that for England and Wales—101—in 1907. A much lower rate from suicide obtains among females than among males, the rate for the former having been less than one-third of that of the latter in 1908.

Homicide.

The deaths ascribed to homicide in 1908 numbered 19, of which 11 were of males and 8 of females. These represented a rate of 15 per million of the population, which was below the average of the previous five years, and less than half the proportion in 1890-2, but nearly twice the rate prevailing in England and Wales in 1907—8 per million. Of the deaths referred to homicide in the last five years, about half were of infants, of whom nearly all were born out of wedlock and were less than one month old.

Deaths of married women in childbed.

The experience of the period 1906-8 shows that the death rate of women in childbed varies considerably at different ages, and is less between 20 and 25 years than at younger or older age periods. The number of married mothers, the deaths in childbed, and the death rates for various age groups, are shown for the three years 1906-8 in the following table:—

DEATH RATES OF MARRIED MOTHERS IN CHILDBED IN AGE GROUPS. 1906-1908.

Age Group.	Married Mothers.		
	Confinements.	Deaths.	Deaths per 1,000 Confinements.
Under 20 years	2,245	10	4·45
20 to 25 "	17,501	53	3·03
25 " 30 "	24,175	87	3·60
30 " 35 "	20,573	119	5·78
35 " 40 "	15,386	96	6·24
40 " 45 "	6,338	44	6·94

A rapidly increasing death rate is shown for each succeeding age group beyond 20-25, the rate for 40-45 being more than twice that for 20-25. During the last three years the number of deaths per 1,000 married women in first confinements was 6.27, as against an average of 4.25 for subsequent ones.

Deaths in childbed.

The death rate of women in childbed is usually ascertained 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 under the head of childbirth, but if it should arise from puerperal fever or puerperal septicæmia it is placed under puerperal fever. The proportion of deaths of child-bearing women has fallen decade by decade from 64 per 10,000 in 1871-80 to 56 in 1891-00. In the years 1901 and 1902, however, the rate was as high as in the decade 1871-80. The proportions which prevailed in the last eight years, and the averages of previous periods back to 1871 are shown in the following table :—

DEATHS OF MOTHERS (MARRIED AND SINGLE) TO EVERY 10,000 CHILDREN BORN ALIVE.

Period.	Number of Women who Died Annually of—			Deaths of Mothers to every 10,000 Children Born Alive.
	Childbirth.	Puerperal Fever.	Total.	
1871–1880 ..	127	46	173	64·38
1881–1890 ..	121	64	185	59·19
1891–1900 ..	117	66	183	56·01
1901 ..	130	71	201	64·82
1902 ..	131	68	199	65·32
1903 ..	136	53	189	63·92
1904 ..	113	46	159	53·42
1905 ..	119	53	172	57·13
1906 ..	115	51	166	53·82
1907 ..	119	43	162	51·64
1908 ..	80	48	128	41·16

Deaths in childbed from septic diseases.

The proportion per 1,000 births of deaths in childbirth from septic diseases was 1.54 in 1908, 1.37 in 1907, 1.65 in 1906, and 1.93 in 1901-5. In England and Wales for 1907 the proportion was 1.59.

Natural Increase.

Natural increase per 1,000 of population in Australasia.

The natural increase, *i.e.*, the excess of births over deaths, per 1,000 of the population, in the various Australian States and New Zealand for each of the years 1904 to 1908, and also for the mean of that period, is shown in the following table:—

Natural Increase per 1,000 of the Population, Australian States and New Zealand.

Year.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1904	12·73	16·11	17·01	14·48	18·43	18·58	15·29	17·37
1905	12.73	16·59	15·45	13·51	19·47	19·04	15·30	17·95
1906	12·72	17·15	16·75	13·20	18·15	18·35	15·52	17·77
1907	13·50	16·58	16·52	13·95	18·15	18·46	15·58	16·35
1908	12·12	16·64	16·48	14·75	18·16	18·85	15·29	17·88
Mean	12·76	16·61	16·44	13·98	18·47	18·66	15·40	17·46

The mean natural increase in the Australian States for the period 1904-8, viz., 15.40 per 1,000 of population is probably greater than that which will prevail when the age constitution of the people becomes similar to that of old settled countries. At present the proportion of elderly people is smaller than in these countries, and, partly as a consequence of this, the death rate is lower. It has been shown in a previous paragraph that the Victorian death rates at all periods of life are below those of England and Wales. The Australian annual increase due to excess of births over deaths—15.40—would enable a population to double itself in 45 years, whilst at the Victorian rate of 12.76 per 1,000 of population a period of 55 years would be required.

The rate of natural increase in Australia in 1904-8 is higher than in Japan and in all European countries, except Bulgaria, Russia, and the Netherlands, on the average of the latest five years for which this information is available:— Natural increase per 1,000 of population in various countries.

NATURAL INCREASE PER 1,000 OF THE POPULATION IN VARIOUS COUNTRIES.

Country.	Natural Increase per 1,000 of Population.	Country.	Natural Increase per 1,000 of Population.
Bulgaria	19·7	Victoria	12·8
Tasmania	18·7	England and Wales ...	12·0
Western Australia ...	18·5	Scotland	11·9
New Zealand ...	17·5	Austria	11·3
Russia (European) ...	17·0	Japan	10·9
New South Wales ...	16·6	Italy	10·7
Queensland	16·4	Sweden	10·7
The Netherlands ...	15·6	Hungary	10·6
Australia	15·4	Switzerland	10·3
Prussia	15·1	Belgium	10·2
Germany	14·4	Spain	9·4
Denmark	14·3	Ontario, Province of ...	8·7
South Australia ...	14·0	Ireland	5·9
Norway	13·2	France	·9

The rate of natural increase in Victoria is lower than in the other States and New Zealand, and higher than in thirteen of the countries enumerated in the above table.

The following table shows the excess per cent. of births over deaths in each of the Australian States and New Zealand for each of the five years 1904 to 1908, together with the mean excess for the same period:— Excess of births over deaths in Australasia.

EXCESS PER CENT. OF BIRTHS OVER DEATHS, AUSTRALIAN STATES AND NEW ZEALAND.

Year.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1904 ...	107	152	168	142	155	169	139	181
1905 ...	105	164	148	133	180	185	141	194
1906 ...	102	173	175	130	153	164	143	191
1907 ...	116	157	160	141	164	164	144	149
1908 ...	97	164	161	150	169	164	140	187
Mean...	105	162	162	139	164	169	141	180

Taking the average of the period 1904-8, it is seen that the least excess in Australasia was in Victoria, and the greatest in New Zealand. To every hundred deaths that occur there are 205 births in Victoria, 262 in New South Wales and Queensland, 239 in South Australia, 264 in Western Australia, 269 in Tasmania, 241 in Australia, and 280 in New Zealand.

Excess births over deaths in districts.

The excess per cent. of births over deaths varies very considerably in different portions of the State, being greater in areas which have been settled at a comparatively recent date than in old-established districts. This is specially noticeable in the excess rates for the Mallee, Gippsland, and Wimmera districts, where the loss of population through every 100 deaths was replaced by 431, 305, and 275 births respectively, as against 174 births in the Metropolitan, 196 in the Central, and 187 in the North Central districts. The following table shows the excess per cent. of births over deaths in nine divisions of the State for the average of the period 1905-7 and for the year 1908 :—

EXCESS PER CENT. OF BIRTHS OVER DEATHS IN DISTRICTS.

District.	Excess per cent. of Births over Deaths.	
	1905–7.	1908.
Metropolitan	81	74
Central	121	96
North Central	87	87
Western	110	101
Wimmera	179	175
Mallee	305	331
Northern	122	113
North Eastern	133	114
Gippsland	235	205
State	108	97.

The very favorable position of the Mallee, Gippsland, and Wimmera districts in respect of their excess of births over deaths is almost wholly due to their low death rates.

Excess of births over deaths in various countries.

Although the excess per cent. of births over deaths is lower in Victoria than in the other States and New Zealand, it is higher than in any of the other countries in the following table, on the average of the latest five years for which this information is available :—

EXCESS PER CENT. OF BIRTHS OVER DEATHS IN AUSTRALASIA AND OTHER COUNTRIES.

Country.	Excess per cent. Births over Deaths.	Country.	Excess per cent. Births over Deaths.
New Zealand	180	Germany	74
Tasmania	169	Scotland	73
Western Australia ...	164	Sweden	71
New South Wales ...	162	Ontario, Province of ...	63
Queensland	162	Belgium	61
Australia	141	Switzerland	59
South Australia	139	Russia (European) ...	54
Victoria	105	Japan	52
The Netherlands ...	103	Italy	50
Denmark	100	Austria	47
Norway	93	Hungary	41
Bulgaria	88	Spain	38
Prussia	80	Ireland	34
England and Wales ...	78	France	5

The very favorable position of Australasia as regards the excess of births over deaths is wholly due to its low death rate. Excepting Sweden, Ireland, France, and Ontario, higher birth rates prevailed in the above countries than in Australia, but this advantage was more than counterbalanced by their higher death rates. On the average of five years, the loss caused by every 100 deaths was replaced by 241 births in Australia, as compared with 203 in The Netherlands, the highest in Europe, 200 in Denmark, 193 in Norway, 188 in Bulgaria, 180 in Prussia, 178 in England and Wales, 174 in Germany, 173 in Scotland, 154 in Russia, 152 in Japan, and only 105 in France, which had the lowest excess rate of all the countries shown.

Annual increase per cent. in population in various countries.

The annual rate of increase per cent. in population in Victoria was lower than in any of the other Australian States and New Zealand on the average of the period 1901-8. It was also below the rates in England and Wales, Scotland, Germany, Austria, Spain, Japan, Switzerland, Belgium, The Netherlands, Prussia, Denmark and Hungary. The following statement shows the annual rates of

increase per cent. in population in various countries, also the period required for each population to double itself if its rate remain unchanged:—

RATES OF INCREASE PER CENT. IN POPULATION IN VARIOUS COUNTRIES.

Country.	Period.	Annual Rate of Increase per cent.	Period required to double Population.
			Years.
Western Australia ...	1901–1908	5·19	13
New Zealand	1901–1908	2·82	25
New South Wales ...	1901–1908	2·16	32
Prussia	1901–1907	1·57	44
South Australia ...	1901–1908	1·55	45
The Netherlands ...	1901–1906	1·50	46
German Empire ...	1901–1906	1·46	48
Queensland	1901–1908	1·34	52
Belgium	1901–1907	1·23	57
Japan	1901–1905	1·21	58
England and Wales ...	1901–1907	1·15	61
Denmark	1901–1907	1·11	63
Scotland	1901–1907	1·06	66
Austria	1901–1906	1·02	68
Hungary	1901–1907	1·01	69
Switzerland	1901–1906	·96	73
Tasmania	1901–1908	·90	77
Spain	1901–1907	·85	82
Victoria	1901–1908	·71	98
Italy	1901–1907	·66	106
Sweden	1901–1907	·64	109
Norway	1901–1907	·52	134
Ontario, Province of ...	1901–1906	·27	258
France	1901–1907	·12	581
Ireland	1901–1907	−·26	...

The very high rate of increase in population in Western Australia is almost wholly due to the large number of immigrants —55,061—during the period 1901-5. It is probable that the future rate of increase will be considerably less than that for the past seven years.