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 a duly appointed registrar of marriages. It is essential that every marriage be preceded by the parties making a declaration as to age and the absence of any legal impediment, and by three days' notice, except in cases of emergency, also that two witnesses be present at the ceremony; but there is no residential qualification. To be married by a minister, one of the parties must give him at least three days' written notice, or—in cases of emergency—a written permission obtained from any Justice, dispensing with such notice; and the marriage may then be solemnised according to the rites of the religious denomination to which the minister belongs. To be married by a Registrar of Marriages, the parties to the marriage must give written notice, which has to be posted in, and a copy thereof at the outer door of, his office at least three days before the marriage. This can only take place in his office, with open doors, and between the hours of 8 a.m. and 4 p.m. No fee is payable for the celebration of a marriage before a registrar. 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 guardian (*c*) of the mother if within Victoria; if the parent be incapable of consenting, or if there be no such parent or guardian in Victoria (*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 a statement to the effect that the consent has been obtained must be made on the marriage certificates. 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 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, or who makes a business of celebrating marriages for the purpose of profit or gain, irrespective of carrying out the ordinary duties of a minister; and the Government Statist may, at the request of the head of a denomination, cancel the registration of any minister of the same denomination 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 by 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. 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; and ministers are now practically prevented from entering into business relations with such agencies. No marriage shall be invalid by reason of its having been celebrated by an unqualified person if either of the parties shall have believed at the time that such person was qualified, or by reason of any formal defect or irregularity. Marriage with a deceased wife's sister has been legalised in Victoria since 1873; but there is no provision to validate a marriage of a woman with a deceased husband's brother.

Marriages of Jews and Quakers are exempted from the foregoing provisions, and are deemed legal and valid if celebrated according to their respective usages.

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 registrars of marriages. Copies of 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 originals or certified copies 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 nearly 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 registrar of marriages 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 a 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, parents and the occupiers of houses where births occur are required to, and doctors and nurses may, and are expected to, report cases 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 to 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. The fee for a search in the Official Records, or an extract of an entry, is 2s. 6d., and that for a certificate 7s. 6d. (except in cases occurring in the current quarter, when 5s. only is charged). For a search in the early church records, prior to 1st July, 1853, the fee is only 1s., or 2s. if a certificate is required.

MARRIAGES.

Marriages.

Marriages in 1909 numbered 9,431, which was the second highest total recorded, and 466 above the average of the preceding five years. The marriages in Victoria in each of the last nineteen years were as follows :—

MARRIAGES IN EACH YEAR, 1891 TO 1909.

Year.	No. of Marriages.	Year.	No. of Marriages.
1891 ...	8,780	1901 ...	8,406
1892 ...	7,723	1902 ...	8,477
1893 ...	7,004	1903 ...	7,605
1894 ...	7,029	1904 ...	8,210
1895 ...	7,181	1905 ...	8,774
1896 ...	7,625	1906 ...	8,930
1897 ...	7,568	1907 ...	9,575
1898 ...	7,620	1908 ...	9,334
1899 ...	8,140	1909 ...	9,431
1900 ...	8,308		

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 this 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 7,200 more persons were married in the past five years than in the period 1900-4. As the tendency to marry is necessarily influenced by the view taken of present and future prospects, the relatively large number of marriages in each of the past five years is an indication of the general prosperity of that period.

Marriage rates.

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 periods, 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, 1900 TO 1909.

Year.	Marriage Rate.	Year.	Marriage Rate.
1900 ...	6.96	1905 ...	7.24
1901 ...	6.97	1906 ...	7.28
1902 ...	7.00	1907 ...	7.68
1903 ...	6.29	1908 ...	7.38
1904 ...	6.80	1909 ...	7.35

Although the marriage rate was lower in 1909 than in the two preceding years the average for the past five years was 8.7 per cent. higher than in the period 1900-4.

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 to the number 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 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, the latter rate was, however, 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 every 20 in 1891, and 1 in 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 rate 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 and 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.

Ages of bridegrooms and brides.

The ages of bridegrooms and brides who were married in 1909 are shown in combination for various groups in the following table:—

AGES OF BRIDEGROOMS AND BRIDES IN COMBINATION IN VICTORIA, 1909.

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.	75 to 80.	
17	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
18	...	2	3	4	8	5	3	5	1	...	...	...	...	...	...	...	...	...	...	31
19	...	...	4	10	19	10	13	21	4	...	...	...	...	...	...	...	...	...	...	81
20	...	..	4	14	17	39	37	54	7	2	...	...	...	...	...	...	...	...	...	174
21 to 25	2	6	17	60	160	211	243	1,324	311	40	8	1	...	1	...	...	...	...	...	2,384
25 to 30	...	...	7	23	77	113	135	1,308	1,150	231	54	7	2	...	...	...	...	...	...	3,107
30 to 35	...	...	1	7	12	36	53	415	626	314	104	22	3	...	...	...	...	...	...	1,593
35 to 40	...	...	1	1	6	8	16	173	274	255	162	36	13	2	...	...	...	...	...	947
40 to 45	1	...	..	1	5	5	10	51	114	111	111	57	22	1	...	...	...	...	...	489
45 to 50	...	...	...	1	...	...	1	21	49	52	73	74	31	7	1	3	...	...	..	313
50 to 55	...	...	..	1	1	1	...	11	13	26	26	25	28	15	2	2	1	...	...	152
55 to 60	...	...	...	...	...	...	1	2	2	8	10	13	19	11	6	2	2	1	...	77
60 to 65	...	...	...	...	...	...	...	2	3	2	4	6	5	12	..	3	1	...	...	38
65 to 70	...	...	...	..	...	...	...	...	...	3	1	2	5	4	4	2	3	1	1	26
70 to 75	...	...	...	...	...	...	...	1	...	1	3	2	...	1	..	1	1	...	...	10
75 to 80	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	1	1	...	...	5
80 and over	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	2
Total Brides	3	8	38	123	305	428	512	3,388	2,554	1045	556	246	129	54	15	14	9	3	1	9,431

There were fewer striking age inequalities among contracting parties in 1909 than in the preceding year, although there were instances of men marrying women who were their juniors by 30, 40 and 50 years, and of brides who were more than twenty years older than the bridegrooms. Of every 1,000 men married during the year, 715 were older and 177 were younger than their brides, and 108 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 1905-8, also for the year 1909:—

PROPORTION OF MALES AND FEMALES MARRYING AT DIFFERENT AGES, 1881-90, 1905-8, AND 1909.

Ages (Years).	Proportion per 1,000 of total.					
	Bridegrooms.			Brides.		
	1881-90.	1905-8.	1909.	1881-90.	1905-8.	1909.
Under 15	...	...	...	·15	·13	·32
15 to 16	...	...	...	1·17	·99	·85
16 to 17	·03	·11	...	6·53	5·03	4·03
17 to 18	·29	·46	·21	20·32	14·50	13·04
18 to 19	1·46	2·67	3·29	42·94	31·85	32·34
19 to 20	5·62	8·45	8·59	65·03	45·86	45·38
20 to 21	15·19	13·75	18·45	73·84	57·12	54·29
21 to 25	321·02	254·96	252·78	432·34	370·44	359·24
25 to 30	365·48	327·02	329·45	223·83	265·57	270·81
30 to 35	134·57	176·49	168·91	62·07	107·58	110·81
35 to 40	58·29	103·19	100·41	29·53	51·30	58·95
40 to 45	32·54	53·66	51·85	17·10	25·64	26·08
45 to 50	24·77	28·20	33·19	12·23	12·51	13·68
50 to 55	18·40	12·16	16·12	6·74	6·06	5.73
55 to 60	11·49	6·91	8·16	3·40	2·26	1·59
60 and over	10·85	11·97	8·59	2·78	3·16	2·86
Total	1,000·00	1,000·00	1,000·00	1,000·00	1,000·00	1,000·00

It will be observed that the age constitution of brides shows a very marked alteration in recent years. Of every 1,000 women who were married during 1909, 509 were under 25 years, and 271 were aged 25-30, as against 642 and 224 at corresponding ages in 1881-1890. As the fertility of married women is considerably less at older than at younger ages, it is evident that owing to the altered age distribution of wives the potential births to every 1,000 marriages in the year under review are fewer than to marriages contracted during 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 1909 the mean age at marriage of bachelors —29.07—with that of divorced men and of widowers—40.70 and 45.56 respectively. The average age of spinsters marrying was 25.74 as against 33.75 for divorced women and 40.16 for widows. Although the ratio of re-marriages declined there was a rise in the

marrying ages of bridegrooms marrying brides under 45, and in the ages of such brides in the period 1880-1909.

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
1909	25·99	29·78

During the last thirty years the mean marrying age of women at the reproductive period of life has increased by two years. In the five years 1905-9 the average age of brides under 45 years was 25.80 as against 25.44 in 1900-4, 24.66 in 1890-4, and 23.83 in 1880-4. For Victoria in 1909, and for England and Wales in 1908, the mean marrying ages of all brides were almost identical, being 26.60 and 26.61 respectively. There was, however, a difference of 1.55 years between the mean ages of all bridegrooms in the same period, these being 30.33 in Victoria and 28.78 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: 1905 TO 1909.

Year.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
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
1909 ..	7·35	8·03	7·96	7·99	7·27	8·13	7·77	8·33
Average	7·39	7·78	7·11	7·55	7·99	7·83	7·57	8·56

During the last five years marriage rates in all the Australian States, except Western Australia, have shown an improvement, which has been specially marked in South Australia and Queensland. By

comparison with 1900-4, the marriage rates in 1905-9 increased by nearly 9 per cent. in Victoria, 6 per cent. in New South Wales, 13 per cent. in Queensland, 16 per cent, in South Australia, 3 per cent. in Tasmania, and 7 per cent. in the Commonwealth. All the States, except Victoria and Western Australia, had higher rates in 1909 than in the previous year.

Marriage rates in various countries.

The average marriage rate in Australia—7·57—for the period 1905-9 was lower than in eleven of the eighteen countries shown in the following table for the latest five years for which this information is available :—

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

Country.	Marriage Rate.	Country.	Marriage Rate.
Servia	10·2	England and Wales ...	7·7
Bulgaria	10·2	Switzerland	7·6
Hungary	9·0	Holland	7·3
Ontario, Province of ...	8·8	Denmark	7·3
German Empire ...	8·1	Spain	7·1
Belgium	7·9	Scotland	6·8
France	7·8	Sweden	6·0
Italy	7·8	Norway	6·0
Austria	7·7	Ireland	5·2

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 which gives 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; they are ascribable 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.

Prior to 1900 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 a 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 1909:—

USUAL RESIDENCE OF BRIDES AND BRIDEGROOMS DURING 1909.

Usual Residence of Bridegroom.	Usual Residence of Bride.				Total Bridegrooms.	Proportion of Bridegrooms per 1,000 of Population.
	Metropolitan.	Other Urban.	Rural.	Outside Victoria.		
In Victoria—						
Metropolitan Districts	3,725	146	242	47	4,160	7·5
Other Urban Districts	118	1,053	228	20	1,419	6·6
Rural Districts	456	312	2,605	28	3,401	6·6
Outside Victoria ..	166	58	114	113	451	..
Total Brides	4,465	1,569	3,189	208	9,431	..
Proportion of Brides per 1,000 of Population ..	8·0	7·4	6·2	..	..	..

Of the 338 men residing outside the State who married Victorian women, 136 were residents of New South Wales, 25 of Queensland, 51 of South Australia, 39 of Western Australia, 39 of Tasmania, 22 of New Zealand, 6 of the United Kingdom, 3 of South Africa, 3 of India, and 14 of other countries.

Compared with the average of the five years, 1900-4, the marriage rates of both sexes in 1909 showed a marked increase in the metropolitan and rural 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
	1909	7·5	6·6	6·6
Females	1900–4	7·5	7·4	5·5
	1909	8·0	7·4	6·2

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 to the metropolis 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 24,669 marriages which took place during the three years 1907, 1908, and 1909, 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	192	27·90	42·71	43·23	11·46	2·60
Ironworker, Foundry Employé, &c.	406	28·07	42·12	44·09	10·10	3·69
Carter, Driver, Carrier ...	1,147	28·31	42·11	43·51	9·85	4·53
Blacksmith	491	28·70	35·85	48·88	11·61	3·66
Salesman, Storeman ...	649	29·00	29.12	57·17	11·09	2·62
Jockey, Trainer ...	108	29·04	37·96	44·45	13·89	3·70
Baker, Grocer, Butcher, Fruiterer	1,591	29·21	33·56	50·16	11·50	4·78
Labourer	4,083	29·22	34·73	47·29	12·84	5·14
Miner	1,545	29·29	36·44	45·31	13·65	4·60
Coachbuilder	189	29·44	34·39	44·98	16·40	4·23
Bootmaker	441	29·64	38·10	43·76	10·20	7·94
Printer, Stationer, Newsagent	406	29·83	28·33	52·46	14·04	5·17
Mechanical Engineer, Fitter, Engine-driver ...	994	29·89	28·97	52·72	12·37	5·94
Carpenter, Bricklayer, Mason, &c.	1,511	29·96	34·48	43·68	14·49	7·35
Clerk	1,317	30·38	23·08	56·80	16·10	4·02
Tailor	446	30·39	25·34	54·48	12·78	7·40
Constable, Warder, Soldier	214	30·46	23·83	53·74	15·89	6·54
Railway, Tramway Employé	707	30·54	24·89	52·19	18·11	4·81
Cook, Steward, Waiter ...	192	30·62	32·81	43·75	15·10	8·34
Civil Servant	287	31·72	28·22	40·42	25·09	6·27
Market Gardener ...	379	32·03	20·05	53·56	16·89	9·50
Sailor, Mariner ...	236	32·05	20·34	49·58	20·76	9·32
School Teacher ...	203	32·17	14·78	62·56	13·79	8·87
Commercial Traveller, Agent	751	32·18	15·85	56·06	20·37	7·72
Farmer, Dairy-farmer, Grazier, &c.	4,861	32·23	15·70	55·87	21·31	7·12
Brewer, Cordial-maker, Hotel-keeper ...	245	32·42	21·22	45·71	22·86	10·21
Professional	733	32·54	12·28	60·98	18·01	8·73
Builder, Contractor ...	345	33·94	18·84	44·93	22·32	13·91

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. It should be remembered, however, that the average age of the persons in the community who belong to the two last mentioned classes is higher than that of the wage-earners. It is further shown 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 34.73 per cent., with that of school teachers (14.78), civil servants (28,22), and clerks (23.08) 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 4.33 years; of ironworkers and foundry employés by 4.16; of carters, drivers, and carriers by 3.92; of blacksmiths by 3.53; of grocers, bakers, butchers, &c., by 3.02; of labourers by 3.01; of miners by 2.94; and of carpenters, bricklayers, masons, &c., by 2.27 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, 1907-9.

The birthplaces of persons married in the years 1907-9 show that only a small proportion—equivalent to 20 per 1,000 bridegrooms and 6 per 1,000 brides—was born in foreign countries, of which Germany contributed about one-fourth. Of every 1,000 men married, 866 were born in Australia, 64 in England and Wales, 16 in Scotland, 15 in Ireland, and 19 in other British Possessions. The corresponding proportions for women married were 930, 32, 7, 9 and 16 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 1909, the percentages were 26.81, 24.38, 24.79, and 24.02 respectively.

Former condition of persons married.

The proportion of re-marriages has shown during the last forty years a continuous decline, owing to the decreasing ratio of persons who have become widowed at the younger and probable marrying ages, and also to the later marrying age of bachelors and spinsters in recent as compared with earlier periods. The following statement

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

CONJUGAL CONDITIONS OF PERSONS MARRYING, 1871-1909.

Conjugal Conditions.	Percentage of total Marriages.				
	1871–80.	1881–90.	1891–1900.	1901–5.	1909.
Bachelors and Spinsters	80·59	85·84	87·22	88·06	89·08
Bachelors and Widows	7·10	4·72	4·23	3·73	3·60
Widowers and Spinsters	7·75	6·17	6·07	5·94	5·34
Widowers and Widows	4·56	3·27	2·48	2·27	1·98

Of every 1,000 persons of each sex married in Victoria during last year, 73 were widowers and 56 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 1909 were 526 and 691 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 1909 was 112 which was slightly above the average for the preceding four years. Of the 92,088 persons married during the last five years, divorced persons numbered 525, or 1 in every 175 persons, as compared with 1 in every 748 in England and Wales in 1908. The following are the numbers of divorced persons who have re-married in Victoria since 1904 :—

DIVORCED PERSONS RE-MARRYING, 1905 TO 1909.

Year.	Males.	Females.	Total.
1905	38	64	102
1906	42	58	100
1907	52	57	109
1908	44	58	102
1909	49	63	112

Marriages of minors.

During the year 1909, the proportion of brides under 21 years of age in Victoria was the lowest of all the Australian States, and the proportion 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	3.05	15.02
New South Wales ...	4.45	22.96
Queensland	3.30	24.26
South Australia ...	3.82	18.35
Western Australia ...	1.90	22.17
Tasmania	3.34	23.71

These ratios show that in Queensland, Tasmania, New South Wales and Western Australia between one-fourth and one-fifth, in South Australia less than one-fifth, and in Victoria slightly more than one-seventh of the brides were under 21 years of 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 1908 the percentage of bridegrooms under 21 years of age—4.03—was 32 per cent. higher, whilst that of brides—13.97—was slightly less than in Victoria.

Marriages in religious denominations.

The numbers and proportions of marriages solemnized according to the rites of the principal religious denominations and those performed by registrars of marriages for the average of the period 1904-8, and for the year 1909, are shown in the following table :—

MARRIAGES IN VARIOUS DENOMINATIONS.

Denomination.	Annual Average, 1904-8.		1909.	
	Number.	Percentage of Total Marriages.	Number.	Percentage of Total Marriages.
Church of England	1,899	21·18	1,969	20·88
Roman Catholic Church... ...	1,387	15·47	1,628	17·26
Presbyterian Church	1,468	16·37	1,565	16·59
Methodist Church	1,382	15·42	1,412	14·97
Congregational Church	1,001	11·17	1,355	14·36
Baptist Church...	335	3·74	331	3·55
Lutheran Church	60	·67	72	·76
Independent Presbyterian Church	602	6·72	550	5·83
Free Christian Church	358	3·99	87	·92
Salvation Army	34	·38	35	·37
Jews	25	·28	44	·46
Other Sects	316	3·52	289	3·06
Registrars of Marriages... ...	98	1·09	94	·99
Total	8,965	100·00	9,431	100·00

The marriages celebrated by lay registrars were only 1 per cent. of the total marriages in 1905-9, as against 7 per cent. in 1881-1890. The decline was probably owing to the competition of matrimonial

agencies, which sprang up about 1894. The proportion of civil marriages is considerably less in Victoria than in any other State, except Tasmania. The percentages in each State for 1909 were, 1.0 in Victoria, 1.7 in New South Wales, 4.4 in Queensland, 3.6 in South Australia, 7.9 in Western Australia, and .8 per cent. in Tasmania. Excepting the ratios for the Presbyterian and Methodist churches there were great disparities between the proportion of marriages celebrated according to the rites of each of the principal denominations and the proportionate number of adherents possessed by it in the community.

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 it 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 the following year it fell to 2,004, and there was a further decrease to 1,782 in 1909. 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, over 21 per cent. in 1908, and nearly 19 per cent in 1909. As clergymen of the Congregational and Independent Presbyterian churches and of the Free Christian Church acted for such agencies in recent years the marriages in these denominations, as shown in the preceding table, are unduly numerous.

BIRTHS.

Number of births.

The number of births registered in Victoria during the year 1909 was 31,549, of which 16,092 were of males and 15,457 of females. This was 448 above the number recorded for the preceding year, and 912 higher than the average of the period 1904-8. Still-births, which are excluded from both births and deaths, numbered 882, and corresponded to a ratio of 2.8 per 100 infants born alive in 1909. On the experience of the past nineteen 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 1909.

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1891 ..	19,598	18,907	38,505	1901 ..	15,876	15,132	31,008
1892 ..	19,405	18,426	37,831	1902 ..	15,583	14,878	30,461
1893 ..	18,823	17,729	36,552	1903 ..	15,115	14,454	29,569
1894 ..	17,501	16,757	34,258	1904 ..	15,313	14,450	29,763
1895 ..	17,372	16,334	33,706	1905 ..	15,523	14,584	30,107
1896 ..	16,460	15,718	32,178	1906 ..	15,716	15,128	30,844
1897 ..	16,013	15,297	31,310	1907 ..	15,989	15,380	31,369
1898 ..	15,435	14,737	30,172	1908 ..	16,073	15,028	31,101
1899 ..	15,785	15,223	31,008	1909 ..	16,092	15,457	31,549
1900 ..	15,834	14,945	30,779				

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 recorded. 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 1909 being 1,980 greater than that for 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 periods 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 adults 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 1870 to 1909:—

BIRTH RATES IN VICTORIA PER 1,000 OF POPULATION, 1870 TO 1909.

Year.	Birth Rate.	Year.	Birth Rate.	Year.	Birth Rate.
1870 ..	38·07	1894 ..	29·05	1902 ..	25·15
1875 ..	33·94	1895 ..	28·46	1903 ..	24·46
1880 ..	30·75	1896 ..	27·19	1904 ..	24·65
1885 ..	31·33	1897 ..	26·49	1905 ..	24·83
1890 ..	33·60	1898 ..	25·51	1906 ..	25·14
1891 ..	33·57	1899 ..	26·14	1907 ..	25·16
1892 ..	32·51	1900 ..	25·79	1908 ..	24.58
1893 ..	31·18	1901 ..	25·78	1909 ..	24.57

The varying proportions and age distributions of married women at reproductive ages in the population at different periods account in a large measure for the reduction in the crude rate in the above table. The effect which these changes have had upon the ordinary or crude rate for the State is shown on page 304.

Birth rates in Australian States and New Zealand.

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 THE AUSTRALIAN STATES AND NEW ZEALAND: FOR 1891 AND 1905 TO 1909.

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
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
1909 ..	24·57	26·94	27·24	24·56	27·66	29·90	26·23	27·29
Mean of 5 Years	24·86	26·92	26·61	24·03	29·22	29·76	26·26	27·27

Excepting New South Wales and Queensland, all the States show lower birth rates in 1909 than in the previous year. The births in Australia in the year under review numbered 114,070, and the deaths 44,205, thus showing a natural increase of 69,865 persons. The corresponding numbers for the previous year were 111,613, 46,465, and 65,148 respectively.

Birth rates in various countries.

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:—

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) ...	48·7	Scotland	27·8
Bulgaria	42·9	Switzerland	27·4
Roumania	40·3	New Zealand ...	27·3
Servia	39·0	England and Wales ...	27·0
Hungary	36·2	Norway	26·9
Austria	34·6	New South Wales ...	26·9
Spain	33·8	Queensland	26·6
Prussia	33·5	Belgium	26·3
German Empire ...	33·3	Sweden	25·7
Italy	32·4	Victoria	24·9
Japan	31·0	South Australia ...	24·0
The Netherlands ...	30·5	Ireland	23·4
Tasmania ...	29·8	Ontario, Province of ...	22·5
Western Australia ...	29·2	France	20·4
Denmark	28·5		

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 dis-

tribution at each period. The following table shows the distribution of married women in six five-year groups in 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 age groups 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. The last mentioned factor has been taken into account in the computation of the birth rates appearing in column 5 of the subjoined table :—

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 rate 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	26,305	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 in 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, and 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.

Births to married women in various countries.

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 :—

LEGITIMATE BIRTH RATES.

COUNTRY.	Proportion of Legitimate Births per 1,000 Wives aged 15-45 years.			Increase + or Decrease − per cent. in Fertility during 20 years.
	Approximate Periods.			
	1880-82.	1890-92.	1900-02.	
The Netherlands	347·5	338·8	314·6	−9·5
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 in various communities.

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.

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 birth rates shown above allow for the differing ages and proportions of married women at child-bearing years in the countries compared, and they have therefore a 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 1909 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, nearly 83 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, 79.11 per cent. were born in Victoria; 86.94 in Australia; 1.35 in New Zealand; 6.05 in England and Wales; 1.49 in Scotland; 1.89 in Ireland; .30 in other British Possessions; and 1.98 per cent. in foreign countries. The corresponding percentages for mothers were: Victoria, 83.98; Australia, 93.21; New Zealand, 1.28; England and Wales, 3.02; Scotland, .66; Ireland, .99; other British Possessions, .25; and foreign countries, .59.

Chinese and half-caste Chinese births.

The births to Chinese parents numbered 65, and the Chinese half-caste births (fathers only Chinese) amounted to 189 during the six years 1904-9.

Ages of parents of legitimate children.

The average ages of fathers and mothers of legitimate children whose births were recorded in 1909 were 34.66 and 30.34 years respectively, which were 4.88 and 4.35 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 year mentioned:—

PERCENTAGE OF PARENTS IN AGE GROUPS, 1909.

Father.		Mother.	
Age Group (Years).	Proportion per 100 Births.	Age Group (Years).	Proportion per 100 Births.
Under 20	·31	Under 20	2·77
20 to 25	8·86	20 to 25	20·36
25 to 30	22·38	25 to 30	28·29
30 to 35	23·13	30 to 35	23·63
35 to 40	20·76	35 to 40	17·23
40 to 45	14·51	40 to 45	7·07
45 to 50	7·10	45 and over ...	·65
50 and over	2·95		
Total ...	100·00	Total ...	100·00

It will be seen that on the experience of 1909, 48.65 per cent. of the mothers were between 20 and 30, and 40.86 per cent. between 30 and 40. The proportions of fathers at corresponding ages were 31.24 and 43.89 per cent. Of every 1,000 legitimate births, about 28 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 26.20 per cent. in 1909, as compared with 25.43 in the previous year, 24.98 in 1907, 24.78 in 1906, and 21.87 per cent. in 1901, being

equivalent to an increase of nearly 20 per cent. for the period 1901-9. The percentages of mothers of first births at various ages are shown in the following table for the last four years:—

PERCENTAGE OF MOTHERS OF FIRST-BORN CHILDREN IN AGE GROUPS, 1906-1909.

Ages.	Percentage of Mothers in Age Groups.			
	1906.	1907.	1908.	1909.
Under 20	8·8	8·3	8·4	9·0
20 to 25	40·9	41·4	42·0	39·5
25 to 30	30·6	30·2	31·5	31·1
30 to 35	13·4	13·6	12·3	14·0
35 to 40	5·3	5·4	4·7	5·2
40 to 45	1·0	1·1	1·1	1·2
Total	100·0	100·0	100·0	100·0

The experience of the period 1906-9 shows that of every 100 mothers of first-born children, 8.6 were under 20 years of age, 49.6 were under 25, 80.4 were under 30, and only 1.1 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 9.6 per cent. of the women marrying were under 20, 50.9 per cent. were under 25, 78.0 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 each of the last four years:—

BIRTH RATES IN METROPOLITAN, OTHER URBAN, AND RURAL DISTRICTS, 1875 TO 1909.

Year.	Births per 1,000 of the Population.			
	Metropolitan District.	Other Urban Districts.	Rural Districts.	Victoria.
1875	33·63	38·62	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
1909	24·14	31·28	22·25	24·57

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.

Birth rates in seven principal country towns.

The birth rates in the seven principal country towns are shown in the following table for each of the five years, 1905-9 :—

BIRTH RATES IN THE SEVEN PRINCIPAL COUNTRY TOWNS, 1905 TO 1909.

Year.	Births, per 1,000 of the Population.						
	Ballarat and Suburbs.	Bendigo and Suburbs.	Geelong and Suburbs.	Castlemaine and Suburbs.	Maryborough.	Warrnambool.	Stawell.
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
1909 ...	23·70	31·61	24·26	27·98	32·80	36·72	37·09
Average	24·41	33·16	24·45	29·39	32·89	34·06	31·85

On the average of the five years 1905-9, the birth rates in all of the above towns exceeded that of Melbourne and suburbs and, with the exception of Ballarat and Geelong, that of the State. The highest rate prevailed in Warrnambool, and the lowest in Ballarat and suburbs.

Birth rates in districts of Greater Melbourne.

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, 1905-9 :—

BIRTH RATES IN DISTRICTS OF GREATER MELBOURNE, 1905 TO 1909.

Districts.	Births per 1,000 of the Population.				
	1905.	1906.	1907.	1908.	1909.
Melbourne City	19·45	19·54	20·75	20·75	20·41
Fitzroy City	21·20	19·29	22·25	20·89	25·47
Collingwood City	21·92	23·98	22·58	21·80	24·12
Richmond City	21·80	24·40	23·22	25·65	23·02
Brunswick City	26·55	24·30	29·64	24·57	26·06
Northcote Town	29·73	26·16	26·98	33·63	33·69
Prahran City	21·52	21·85	21·79	21·80	21·61
South Melbourne City	21·38	21·66	22·80	21·82	22·36
Port Melbourne Town	24·48	26·94	23·79	26·78	23·72
St Kilda City...	19·34	18·78	17·53	17·87	17·81
Brighton Town	19·90	17·95	17·68	15·79	19·27
Essendon City	21·96	20·84	23·19	21·56	20·92
Hawthorn City	18·68	19·67	19·46	18·55	18·60
Kew Borough	19·69	20·39	22·41	22·00	18·28
Footscray City ...	29·36	29·53	29·12	28·83	30·68
Williamstown Town	21·37	24·96	21·74	24·04	24·59
Oakleigh Borough	36·15	28·37	28·39	28·31	37·02
Caulfield Town	19·54	22·02	17·96	20·31	20·03
Malvern Town	19·09	22·52	19·85	20·64	20·51
Camberwell Town	18·56	17·30	19·47	16·47	16·33
Preston Shire	25·83	25·12	26·48	24·60	24·95
Coburg Borough	15·81	20·13	22·46	22·44	20·84
Remainder of District	19·97	18·01	18·63	17·22	17·15
Greater Melbourne (including Hospitals, &c.)	23·33	23·75	24·16	23·94	24·14

The births in Greater Melbourne in 1909 numbered 13,418, and corresponded to a rate of 24.14 per 1,000 of the population, which was slightly higher than the average of the preceding five years, but over 15 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 Northcote, Footscray, Brunswick, and Port Melbourne, which were 30.04, 29.50, 26.22, and 25.14, respectively, as compared with 17.63 in Camberwell, 18.12 in Brighton, 18.27 in St. Kilda, and 18.99 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 1909, and the birth rates for 1908:—

BIRTH RATES IN CAPITAL CITIES OF AUSTRALASIA.

Capital Cities and Suburbs.	Year 1909.			Births per 1,000 of the population, 1908.
	Mean Population.	Number of Births.	Births per 1,000 of the population.	
Melbourne	555,750	13,418	24·14	23·94
Sydney	599,000	15,461	25·81	25·42
Brisbane	140,374	3,511	25·01	24·96
Adelaide	182,870	4,588	25·09	24·71
Perth	53,772	1,975	36·73	37·48
Hobart	38,532	1,138	29·53	29·22
Wellington	75,043	1,983	26·42	27·76

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—25.53 births per 1,000 of the population—was over 4 per cent. lower than the rate obtaining in the remainder of Australia.

Birth rates in various cities.

The birth rate of Melbourne for 1909 was lower than that of any of the other State capitals. It was also below the rate obtaining in the same year in 18 of the 31 under-mentioned cities for which

this information is given in the English Registrar-General's Annual Summary for 1909:—

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

Cities.	1881 to 1885.	1901 to 1905.	1906.	1907.	1908.	1909.
Montreal ...	?	35·2	37·4	36·1	38·4	—
Moscow ...	37·0	33·8	33·7	32·4	35·6	31·8
Toronto ..	29·2	23·6	26·3	29·7	34·6	33·6
Trieste ...	34·7	32·4	33·6	31·6	32·5	32·7
Rotterdam ...	37·4	34·9	33·3	33·5	32·3	30·8
Dublin ...	31·9	31·6	32·4	31·2	31·8	31·9
Bucarest ...	?	28·1	28·8	29·0	30·8	30·5
Breslau ...	36·5	31·9	30·9	29·2	29·9	28·7
Belfast ...	31·8	31·4	31·0	30·3	29·7	28·3
Copenhagen	37·6	29·0	27·8	28·3	28·7	27·3
St. Petersburg	30·3	29·6	29·5	30·4	28·5	27·8
The Hague ...	38·7	28·5	29·3	29·2	28·2	26·6
Glasgow ...	37·9	31·3	29·4	28·3	27·7	26·5
Rio de Janeiro	?	25·2	25·2	25·1	27·1	26·0
Munich ...	36·6	33·4	29·1	27·2	26·9	25·1
Budapest ...	35·4	29·3	27·0	26·4	26·6	28·2
Hamburg ...	36·4	26·5	25·8	25·2	25·7	24·4
London ...	34·3	28·1	26·5	25·6	25·2	24·2
Christiania ...	35·9	31·7	26·6	25·3	24·2	25·5
Stockholm ...	32·9	23·8	24·3	24·2	25·0	23·8
Dresden ...	34·1	30·6	27·5	25·8	24·7	23·2
Rome ...	29·2	24·4	23·6	23·5	24·4	22·7
Milan ...	34·0	26·8	25·7	25·8	24·4	23·2
Venice ...	27·1	24·3	—	23·3	26·4	23·2
Amsterdam	37·1	27·9	25·8	25·5	23·6	23·9
Vienna ...	36·6	29·2	26·4	24·8	23·7	22·1
Berlin ...	36·5	25·4	24·9	24·3	23·4	21·6
Prague ...	39·2	26·5	24·0	23·4	23·1	22·1
Edinburgh ...	30·7	24·2	22·4	21·7	21·3	20·9
Turin ...	28·7	20·4	19·6	22·2	20·4	19·2
Paris ...	27·4	20·2	18·8	18·6	18·5	17·7
Brussels ...	33·0	21·6	18·5	17·6	16·6	16·8

A comparison of the birth rates prevailing in nearly all the above cities in 1909 with those for the period 1881-5 shows that a very serious decline has taken place in the intervening years, amounting to over 29 per cent. in the rate for London, nearly 35½ in that for Paris, about 39½ in the rate for Vienna, 41 in that for 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 were as follows:—

CASES OF TWINS AND TRIPLETS, 1905 TO 1909.

Year.	Cases of Twins.	Cases of Triplets.
1905	336	4
1906	355	...
1907	330	7
1908	288	3
1909	314	6

On the average of the five years 1 mother in every 92 gave birth to twins and 1 in every 7,666 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 was 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 279 children, of whom 14 were registered in 1903, 19 in 1904, 34 in 1905, 43 in 1906, 58 in 1907, 60 in 1908, and 51 in 1909. 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 1909 was 1,867, which gives a proportion of 5.92 to every 100 births registered, being a ratio slightly above that 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 1909, and in the United Kingdom for 1908:—

ILLEGITIMATE BIRTH RATES.

Queensland	7·05	New Zealand	4·61
Scotland	6·60	Western Australia ..	4·55
New South Wales ..	6·58	South Australia ..	4·21
Victoria	5·92	England and Wales ..	3·99
Tasmania	5·10	Ireland	2·50

The higher percentage of illegitimate births to total births (5.67) in the past nine years, as compared with the ratio (5.51) in the preceding decennium was almost wholly due to the lower 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 for Victoria 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.

Illegitimate births per 1,000 unmarried women in European countries.

The morality of the community, as indicated by the proportion of births to single and widowed women of reproductive ages, compares very favorably with that of nearly all of the following European countries, for which the English Registrar-General has published these particulars :—

ILLEGITIMATE BIRTHS PER 1,000 UNMARRIED WOMEN AGED 15-45 IN EUROPEAN COUNTRIES.

Country.	Illegitimate Births per 1,000 Unmarried Women aged 15–45.	
	1890-2.	1900-2.
German Empire	28·7	27·4
Sweden	22·9	24·3
Denmark	24·5	24·2
Prussia	25·1	23·7
Italy	...	19·4
France	17·7	19·1
Belgium	20·6	17·8
Norway	16·9	17·2
Spain	17·5	15·5
Scotland	17·1	13·4
Switzerland	10·0	9·8
England and Wales	10·5	8·5
The Netherlands	9·0	6·8
Ireland	3·9	3·8

In Victoria the illegitimate births—10.31—per 1,000 unmarried women aged 15-45 were fewer than in all of the above countries, except Ireland, The Netherlands, England and Wales, and Switzerland at the latest census date for which this information is obtainable.

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 year 1909, in the metropolitan area, slightly more than 1 birth in every 11, in other urban districts 1 in 20, and in the rural districts only 1 in 44 was registered as illegitimate. The proportions in 1900-4 were 1 in 11, 1 in 18, and 1 in 38 respectively.

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 1905-9. Deaths.

DEATHS IN EACH QUARTER, 1905 TO 1909.

Year.	Total Deaths.	Sex.		Quarter of Registration.				Death rate per 1,000 of the Population.
		Males.	Females.	March.	June.	September	December.	
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
1909 ..	14,436	8,070	6,366	3,580	3,453	3,860	3,543	11·24
Average	14,932	8,296	6,636	3,805	3,539	3,917	3,671	11·98

The number of deaths in 1909 was 14,436, which was 487 below the average of the preceding five years. The seasonal mortality showed that the quarter ending 30th September was most fatal, the next being that ending 31st March, and that the second quarter of the year was least fatal. This was similar to the average experience of the previous five years. For every 100 female there were 125 male deaths during the past five years, although the sex proportions of the population were practically equal.

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 1905 to 1909:— Death rates in Australian States and New Zealand.

DEATH RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND: 1905 TO 1909.

Year.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
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
1909 ..	11·24	9·75	9·68	9·19	9·85	10·01	10·15	9·22
Average	11·98	10·09	10·06	9·88	10·88	10·84	10·71	9·66

In Australia the year 1909 was specially marked by its favorable mortality rate. All the States, except Queensland, experienced the lowest death rates ever recorded, and the rate for Queensland has been lower only once (in 1906) than in the year under review.

The death rate in Victoria, taking the average of the five years, 1905-9, 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 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 1909, 38.1 per cent. were aged 65 years and over in Victoria, 28.6 in New South Wales, 24.3 in Queensland, 33.6 in South Australia, 16.9 in Western Australia, 30.6 in Tasmania, 31 in Australia, and 30.8 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.

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 latest five years for which these particulars are available, also the averages of the 25 years ended 1901. In all, except Japan and Ontario, there has been a noticeable decrease, and in Austria, Hungary, England and Wales, 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, 1904–1908.			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	14·2	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	14·7	15·3	18·9
United Kingdom ..	16·5	15·1	15·6	18·8

* 1881–1901.

DEATH RATES IN VARIOUS COUNTRIES—*continued.*

Country.	Five Years, 1904–1908.			Average of 25 Years. 1877–1901.
	Max.	Min.	Mean.	
United States (registration states)	16·4	15·3	16·0	?
Scotland	16·9	15·9	16·2	19·1
Belgium (1903–7) ..	17·0	15·7	16·5	19·9
Switzerland (1903–7) ..	17·9	16·8	17·4	20·3
Ireland	18·1	17·0	17·5	18·2
Prussia	19·6	17·8	18·5	23·5
Germany (1903–7) ..	20·0	18·0	19·1	23·9
France	20·2	19·0	19·6	21·8
Japan (1903–7) ..	22·0	19·8	20·8	20·5*
Italy	22·6	20·7	21·4	26·2
Austria (1903–7) ..	25·0	22·4	23·5	28·4
Spain	25·6	23·3	24·7	30·2
Hungary	27·8	24·8	25·5	31·8
Roumania	27·7	24·3	25·6	28·2*

* 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.

Usual residence of persons who died in hospitals 1909.

The usual place of residence of those who died in hospitals throughout the State in 1909 shows that the number of extra-metropolitan residents who died in these institutions in Greater Melbourne was 230, of whom 185 were from rural districts, 20 were from urban areas, and 25 resided outside the State. The non-residents of large towns who died in hospitals situated therein numbered 442. Of that total, 419 lived in rural districts, 13 were from Melbourne and suburbs, and 10 were from outside Victoria. Only 5 persons who usually resided in Melbourne, 2 from urban centres, and 6 from outside Victoria, died in hospitals situated in rural districts. From the above figures it is evident that the opportunities for hospital treatment in the metropolitan and urban centres are largely availed of by country residents, of whom 185 died in the metropolis, and 419 in other towns in the year under review.

Death rates among Metropolitan, Urban, and Rural residents.

The extent to which the metropolitan and urban death rates are increased by residents of country districts dying in hospitals situated in these centres was ascertained for the first time in 1909. The investigation showed that when such deaths were distributed according to the usual residence of deceased the resulting death rates among residents in the Metropolitan, Urban, and Rural Districts of the State in 1909 were 12.08, 15.00, and 8.70 per 1,000 of the population respectively, as compared with rates of 12.47, 16.97, and 7.55 when calculated according to the place of death. The metropolitan and urban death rates, based upon place of death, were therefore .39 and 1.97 per 1,000 higher, and the rural rate, similarly based, was 1.15 per 1,000 lower than the rates in these divisions based upon the usual residence of deceased. The figures for the year under review show that the mortality rate among country residents is very much lighter than that among residents of the metropolitan and urban centres, notwithstanding the migration of adults in the prime of life to Greater Melbourne. It would appear from the high death rate in towns outside Melbourne that many elderly persons following agricultural and pastoral pursuits leave the rural districts to live in these towns, where they subsequently die, and thus increase the urban mortality rate. Another element which tends to reduce the rural and increase the urban rate is the location in towns of benevolent asylums, in which many deaths occur of persons who formerly resided in the country districts. It is probable that an unfavorable age distribution of population in the urban division accounts in some measure for its high death rate. This, however, can only be ascertained, and its effect upon the mortality rate computed, after the next census.

Death rates in principal country towns.

The death rates in the principal country towns for the years 1905-9 are shown in the following table, also the average of the rates for that period:—

DEATH RATES IN PRINCIPAL COUNTRY TOWNS, 1905 TO 1909.

Year.	Deaths per 1,000 of the Population.						
	Ballarat and Suburbs.	Bendigo and Suburbs.	Geelong and Suburbs.	Castlemaine and Suburbs.	Maryborough.	Warrnambool.	Stawell.
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
1909 ...	16·75	17·94	13·20	14·76	17·15	13·73	16·18
Average of 5 years ...	16·90	18·15	13·97	17·67	18·25	15·22	16·34

On the average of the five years, 1905-9, 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 deaths in 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, Castlemaine, Bendigo, and Maryborough, in that order.

Death rates in Melbourne and suburbs.

The deaths in Greater Melbourne in 1909 numbered 6,928, or 558 less than in the previous year, and represented a death rate of 12.47 per 1,000 of the population. Excluding the deaths in hospitals and other public institutions, which numbered 2,287, the rate was 8.42 for the same period. The rates for each district, exclusive of hospitals, &c., for the last five years are shown in the following table :—

DEATH RATES IN DISTRICTS OF MELBOURNE AND SUBURBS, EXCLUSIVE OF HOSPITALS, 1905-9.

Districts.	Deaths per 1,000 of the Population.				
	1905.	1906.	1907.	1908.	1909.
Melbourne City	10·25	10·49	9·54	9·83	8·80
Fitzroy City	9·67	11·02	9·71	10·81	9·58
Collingwood City	9·31	8·72	8·95	8·75	7·45
Richmond City	8·68	8·83	8·88	8·92	8·13
Brunswick City	10·41	10·28	9·73	8·67	9·07
Northcote Town	9·05	9·74	8·32	9·02	7·77
Prahran City	9·71	9·31	9·04	10·00	8·53
South Melbourne City	9·26	9·49	8·31	9·32	8·46
Port Melbourne Town	8·35	8·79	7·85	10·42	7·75
St. Kilda City	9·72	9·39	8·27	10·94	8·05
Brighton Town	8·95	10·23	10·09	10·90	8·28
Essendon City	7·48	8·24	8·01	9.47	8·74
Hawthorn City	7·68	9·19	8·02	7.28	7·67
Kew Borough	8·73	7·49	8·17	9·44	6·13
Footscray City	8·74	11·84	8·21	7·51	8·70
Williamstown Town	10·39	10·41	9·42	11·48	9·86
Oakleigh Borough	9·23	11·35	11·61	16·27	13·81
Caulfield Town	7·18	8·16	7·76	6.88	8·65
Malvern Town	7·38	7·69	7·47	9·09	9·46
Camberwell Town	8·59	7·80	5·73	9·79	7·04
Preston Shire	11·90	10·84	9·69	10·61	10·97
Coburg Borough	8·30	9·28	10·91	10·73	8·74
Remainder of District	9·11	8·79	7·58	9·80	6·98
Greater Melbourne, excluding Hospitals	9·26	9·58	8·80	9.47	8·42
Greater Melbourne, including Hospitals	12·88	13·59	12·82	13·77	12·47

The death rate of Melbourne and suburbs in 1909 was the lowest ever recorded. It was about 5 per cent. below the average rate for the preceding five years, and over 23 per cent. lower than the rate —16.25—for the decennium ended 1900, although the higher proportion of aged people in the community in recent as compared with earlier years has had an unfavorable effect upon the mortality rate. For the past five years much lighter rates have prevailed in the principal centres of population in Greater Melbourne than formerly, 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, 1905-9, the ratio of deaths to population was nearly 24 per cent. lower in Collingwood, 20 per cent. lower in Richmond, about 19 per cent. lower in Footscray, over 15 per cent. lower in Brunswick, 16 per cent. lower in Fitzroy, and 11 per cent. lower in Prahran than in the period 1900-5. Taking the mean of the latest five years, the highest death rate—12.45—prevailed in Oakleigh, followed by 10.80 in Preston Shire, 10.31 in Williamstown, and 10.16 in Fitzroy; the lowest rates were 7.73 in Caulfield, 7.79 in Camberwell, 7.97 in Hawthorn, and 7.99 in Kew.

Deaths in public institutions in Greater Melbourne.

During 1909 the deaths in public institutions in the State numbered 3,818, of which 2,287 occurred in the metropolitan area, and 1,531 in institutions outside the metropolis. As the total deaths in these areas during the same year were 14,436, 6,928, and 7,508 respectively, it follows that slightly more than 1 in every 4 deaths within the State, 1 in every 3 in Greater Melbourne, and 1 in every 5 in extra-metropolitan districts, occurred in public institutions. Slightly less than 1 in every 5 deaths in England and Wales took place in public institutions during 1908.

DEATHS IN PUBLIC INSTITUTIONS IN GREATER MELBOURNE, 1909.

Institution.	No. of Deaths.	Institution.	No. of Deaths.
Hospitals—		Other Public Institutions—	
Melbourne	723	Victorian Homes for Aged and Infirm	111
Alfred	200	Benevolent Asylum ...	131
St. Vincent's	132	Convent of the Little Sisters of the Poor	34
Homœopathic	55	Old Colonists' Home ...	6
Austin	207	Foundling Hospital and Infants Home	26
Children's	253	Foundling Hospital, Broadmeadows	14
Women's	105	Metropolitan Lunatic Asylum	98
Infectious Diseases' ...	42	Yarra Bend Lunatic Asylum...	94
Queen Victoria	7	Receiving Depôt	33
Eye and Ear	6	Protestant Refuge	2
Williamstown	6	Other Institutions	2
Total Hospitals ...	1,736	Total Hospitals and other Institutions	2,287

The next table shows the numbers 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 1909:— Deaths and births in Australasian capitals.

DEATHS AND BIRTHS IN CAPITAL CITIES, 1909.

Capital City with Suburbs.	Number of Deaths.	Deaths per 1,000 of Population.	Number of Births.	Excess of Births over Deaths.	
				Numerical.	Centesimal.
Melbourne ...	6,928	12·47	13,418	6,490	94
Sydney	6,149	10·27	15,461	9,312	151
Brisbane	1,521	10·84	3,511	1,990	131
Adelaide	2,149	11·75	4,588	2,439	113
Perth	768	14·28	1,975	1,207	157
Hobart	541	14·04	1,138	597	110
Wellington ...	684	9·11	1,983	1,299	190

The deaths in the Capital Cities of the six States numbered 18,056, or nearly 40 per cent. of the total deaths in Australia, during the year 1909. The centesimal excess of births over deaths for each city shows that for every 100 deaths there were 290 births in Wellington, 257 in Perth, 251 in Sydney, 231 in Brisbane, 213 in Adelaide, 210 in Hobart, and 194 in Melbourne, giving an average of 224 for the metropolitan cities of Australasia.

Although the death rate of Melbourne—12.47—was higher than that of Sydney, Brisbane, Adelaide and Wellington in 1909, it was lower than the average of the rates for the last three years in all of the 35 cities for which similar information is available:— Death rates in various cities.

DEATHS PER 1,000 OF POPULATION IN VARIOUS CITIES, 1907-9.

City.	Death Rate.	City.	Death Rate.
Moscow	28·4	Paris	17·8
St. Petersburg	26·0	Vienna	17·2
Bucarest	25·1	Philadelphia	17·1
Trieste	24·7	New York	17·1
Rio de Janeiro	24·0	Edinburgh	15·6
Dublin	23·4	Copenhagen	15·4
Venice	21·3	Berlin	15·3
Breslau	21·0	Hamburg	14·9
Toronto	20·9	Stockholm	14·8
Belfast	19·7	Dresden	14·7
Milan	19·7	Chicago	14·5
Prague	19·7	London	14·1
Budapest	19·6	Brussels	14·0
Boston	18·7	Rotterdam	13·5
Rome	18·7	The Hague	13·3
Glasgow	17·9	Christiania	13·3
Munich	17·9	Amsterdam	13·2
Turin	17·8		

In 1909 the death rate of the metropolitan cities of Australia was 11.5 per 1,000 of their combined populations, which was below the proportionate mortality of all of the above cities on the average of the last three years.

Index of mortality, 1909.

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 1909 is shown in the following table:—

INDEX OF MORTALITY FOR VICTORIA IN 1909.

Age.	Standard Population per 1,000. (Sweden, 1890.)	Death rate per 1,000 at each age in Victoria in 1909.	Index of Mortality for Victoria, 1909.
0–1	25·5	75·54	1·70
1–20	398·0	2·79	1·11
20–40	269·6	4·20	1·13
40–60	192·3	13·55	2·61
60 and over	114·6	61·47	7·04
Total	1000·0	11·24	13·59

In 1909 the "index of mortality" for all ages was 13.59 as against 15.30 in 1908, and 15.63 in 1901. The ratio for each of the five age groups was considerably lower than in the preceding year.

Death rates at various ages.

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, are given in the subjoined table:—

DEATH RATES AT CERTAIN AGE GROUPS IN VICTORIA.

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

Excepting the male death rates for the age groups, 20-25 and 45-55, a lower mortality was experienced for both sexes at each group 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. The rates, other than those for very old ages, are comparable, and point to continuously improving hygienic conditions, and consequently to a general improvement in the health of people in later years.

Death rates at different ages in Europe and Australasia.

Interesting information in regard to death rates in various countries for males and females at eleven age groups, and in regard to corrected death rates for all ages based upon the age distribution of the people in England and Wales at the last census, are given in the English Registrar-General's Report for 1908, from which the two following tables are copied :—

DEATH RATES AT CERTAIN AGES IN EUROPEAN COUNTRIES AND AUSTRALASIA.

Countries arranged in order of their corrected Death Rates at all Ages—Persons.	Deaths per 1,000 Living.											
	All Ages.	Under 5 years.	5–	10–	15–	20–	25–	35–	45–	55–	65–	75 years and upwards.
MALES.												
Russia, European (1896–8)	29·80	144·25	12·88	5·37	5·59	7·45	8·14	11·18	18·44	32·31	65·66	116·59
Spain (1900–02)	27·37	109·85	8·49	4·03	6·93	10·07	9·07	11·76	18·04	35·07	80·43	210·22
Hungary (1899–01)	24·96	98·40	11·13	4·90	5·98	8·55	7·61	10·78	17·80	34·00	70·69	169·05
Austria (1899–01)	23·86	93·95	6·88	3·52	4·89	7·47	7·85	11·10	18·68	34·54	72·53	170·53
Bulgaria (1899–01)	20·89	80·45	12·74	5·94	6·67	10·15	8·67	10·55	16·06	23·87	41·35	85·58
Italy (1900–02)	20·09	76·86	5·98	3·15	4·68	6·73	6·73	8·44	13·59	26·99	65·56	177·30
Prussia (1899–01)	21·03	79·84	4·94	2·69	4·19	5·74	6·13	10·38	18·32	33·28	69·47	164·11
German Empire (1901)	20·78	80·33	4·47	2·59	4·06	5·57	6·16	10·10	17·69	32·49	67·56	161·97
Finland (1899–01)	19·98	68·02	11·18	5·24	5·45	7·48	7·34	9·27	14·30	27·96	64·28	152·00
Scotland (1900–02)	18·56	52·13	4·34	2·82	4·64	6·14	7·55	11·68	19·50	37·95	71·61	159·22
France (1900–02)	18·56	51·74	4·69	3·00	5·08	8·10	8·19	11·56	17·54	31·50	69·50	183·78
England and Wales (1900–02)	18·37	58·29	4·06	2·28	3·49	4·77	6·38	10·94	18·67	34·80	70·25	158·18
Switzerland (1899–01)	17·57	50·62	3·80	2·39	3·90	5·75	6·58	10·40	18·83	34·30	70·79	160·83
Belgium (1899–01)	17·80	59·39	4·02	2·19	3·72	5·64	6·17	9·14	16·37	30·11	66·52	162·40
Ireland (1900–02)	16·25	39·36	3·90	2·86	4·83	7·19	8·96	10·62	15·63	29·52	63·07	169·19
Western Australia (1900–02)	17·80	53·81	2·47	2·00	3·66	7·24	7·54	10·93	17·82	32·03	65·07	169·16
The Netherlands (1898–00)	16·03	55·43	3·59	2·28	3·96	5·82	5·70	7·60	12·92	25·40	59·15	142·15
Sweden (1899–01)	14·45	40·30	5·62	3·52	4·96	6·93	6·91	8·28	12·42	21·95	48·98	134·95
Denmark (1900–02)	14·41	42·13	3·67	2·52	3·55	5·34	5·52	8·10	13·54	24·71	55·43	148·53
Queensland (1900–02)	14·88	31·84	2·21	2·11	5·24	8·55	8·95	10·83	16·49	29·31	61·97	132·06
New South Wales (1900–02)	13·79	34·23	2·18	2·02	3·46	4·76	5·62	8·86	14·71	27·86	60·82	151·02
Victoria (1900–02)	13·99	34·01	2·69	2·10	3·11	4·90	6·27	8·82	15·38	29·88	61·58	141·57
South Australia (1900–02)	12·33	32·18	2·81	1·85	2·90	4·21	5·24	7·61	11·96	24·76	54·71	122·31
Tasmania (1900–02)	11·55	26·50	1·71	2·34	2·66	4·11	4·23	7·36	11·27	23·32	52·52	156·07
New Zealand (1900–02)	11·12	25·02	2·35	1·72	2·89	3·90	4·55	6·88	11·94	22·04	51·34	137·86

Death Rates at certain Ages in European Countries and Australasia—*continued.*

Countries arranged in order of their corrected Death Rates at all Ages—Persons.	Deaths per 1,000 Living.											
	All Ages.	Under 5 years.	5–	10–	15–	20–	25–	35–	45–	55–	65–	75 years and upwards.
Females.												
Russia, European (1896–8)	27·49	125·05	12·61	5·48	6·04	7·74	8·81	11·10	16·07	32·54	66·52	116·88
Spain (1900–02)	25·74	98·29	8·70	4·60	7·31	8·70	9·38	10·60	13·99	30·62	76·36	211·06
Hungary (1899–01)	24·79	85·84	11·40	6·25	7·73	9·42	9·75	11·36	15·86	34·11	74·36	172·10
Austria (1899–01)	22·42	79·59	7·43	4·33	5·57	7·46	8·66	10·62	14·96	31·18	72·51	165·83
Bulgaria (1899–01)	20·96	73·19	12·31	6·60	7·58	11·04	11·53	12·61	14·18	22·12	43·75	93·80
Italy (1900–02)	20·36	72·93	6·55	3·76	5·43	6·92	7·77	8·87	11·24	24·13	65·72	182·17
Prussia (1899–01)	18·45	68·08	5·06	2·94	3·71	4·76	6·23	8·11	11·79	25·37	62·16	156·19
German Empire (1901)	18·34	68·07	4·58	2·75	3·72	4·86	6·43	8·24	11·73	25·13	60·60	154·67
Finland (1899–01)	18·32	59·44	10·97	5·93	5·95	6·69	7·37	8·78	10·74	21·54	56·07	141·87
Scotland (1900–02)	16·73	43·91	4·77	3·23	4·69	5·59	7·25	10·04	15·56	30·47	60·17	142·78
France (1900–02)	16·51	43·55	4·81	3·55	5·27	6·88	7·75	9·08	12·72	24·35	58·81	163·58
England and Wales (1900–02)	16·04	48·76	4·16	2·40	3·21	3·94	5·44	8·84	14·26	27·45	59·03	143·48
Switzerland (1899–01)	16·20	41·50	3·87	2·71	4·45	5·62	6·61	8·46	12·80	28·32	68·85	160·35
Belgium (1899–01)	15·82	50·11	4·14	2·49	4·08	5·49	6·24	7·76	11·25	22·70	54·98	149·89
Ireland (1900–02)	16·90	35·01	4·82	3·92	5·99	6·65	8·58	10·81	14·98	29·65	67·15	168·01
Western Australia (1900–02)	14·00	42·38	2·03	2·05	3·42	6·18	6·88	9·29	10·44	21·56	41·18	126·17
The Netherlands (1898–00)	14·81	47·01	3·59	2·52	3·71	4·42	5·86	7·82	10·29	21·69	52·22	139·31
Sweden (1899–01)	13·36	34·58	5·75	4·21	5·24	6·00	6·52	7·51	9·78	17·35	42·71	126·30
Denmark (1900–02)	12·90	34·21	3·69	3·25	4·21	4·52	5·53	7·09	10·05	18·74	46·36	133·97
Queensland (1900–02)	11·80	27·69	1·92	1·76	2·55	3·75	5·83	8·32	10·98	20·60	47·81	117·25
New South Wales (1900–02)	12·44	30·58	2·01	1·69	2·51	3·84	5·48	7·58	10·43	20·15	46·49	155·21
Victoria (1900–02)	12·22	29·06	2·63	1·92	2·92	4·10	6·00	8·33	11·46	21·50	44·64	122·82
South Australia (1900–02)	11·16	27·25	2·03	1·62	3·47	4·16	5·30	7·35	9·34	17·03	43·33	118·06
Tasmania (1900–02)	11·33	22·13	2·30	1·62	3·97	4·78	4·86	7·74	9·13	18·28	51·52	136·03
New Zealand (1900–02)	10·51	21·36	1·93	1·80	2·97	3·74	4·74	6·56	10·11	18·95	43·48	122·87

The low mortality rate at each age in Australia, by comparison with the rates prevailing in European countries, evidences the healthy climate and the favorable social and industrial conditions of the Commonwealth. A striking feature of Australian and Victorian mortalities is the light rate among infants and children of school age. The foregoing tables show that for Victoria the corrected death rate for each sex for all ages is lower than that for any of the European countries mentioned. The rate for each sex is lower in Victoria than in England for all age groups, except 20-25 and 25-35 for females, and 25-35 for males. The superiority of the Victorian over the English rate is very pronounced for the age groups 0-5 and 5-10, but is less marked for the next ten years of life; for the age period 20-35 the difference between the Victorian and English rates is small, and is in favour of the latter, but for ten-year age periods after 35 the death rates for both sexes in Victoria are lighter than in England.

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 each of the other States and New Zealand. As the average age of persons over 60 years tends to increase in young countries, it may be expected that the rates will become higher, until the normal, or settled conditions of older countries are reached.

Infantile mortality in 1909 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 1905-9, 8.12 died within a year, as against 11.11 in 1891-1900. The reduction in the rate represents a saving during the last five years of 4,633 infant lives. The deaths of infants in 1909 numbered 2,251, and, as there were 31,549 births, it follows that of every 100 infants born, approximately, 7.13 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 35 per cent. in 1909, and by 33 per cent. in the period 1904-8. That the difference in favour of infants in less densely populated centres is not confined to Victoria is indicated by the experience in England, where the rate is about 30 per cent. higher in Urban Areas than in the Rural Districts. 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 1873-1909:—

INFANTILE DEATH RATES IN MELBOURNE AND SUBURBS, AND IN THE REMAINDER OF THE STATE, 1873-1909.

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
1909	8·39	6·20	35

Infantile death rates in various cities in 1909.

In 1909 the proportion of deaths of infants under one year per 100 births was 8.39 in Melbourne, as compared with 8.16 in Sydney, 9.26 in Brisbane, 7.02 in Adelaide, 9.01 in Perth, 7.12 in Hobart

and 8.42 in Wellington. The rates in Australasian capitals and 24 other cities in 1909 are shown in the following table:—

INFANTILE DEATH RATES IN VARIOUS CITIES, 1909.

City.	Deaths under 1 Year per 100 Births.	City.	Deaths under 1 Year per 100 Births.
St. Petersburg ...	24·9	Copenhagen	10·9
Breslau	21·2	London	10·8
Trieste	20·6	Paris	9·6
Munich	19·2	Brisbane	9·3
Vienna	17·2	Rotterdam	9·0
Rio de Janeiro ...	16·0	Perth	9·0
Budapest	15·9	The Hague	8·5
Berlin	15·8	Stockholm	8·5
Prague	15·0	Wellington	8·4
Dublin	14·5	Melbourne	8·4
Hamburg	14·2	Amsterdam	8·2
Milan	13·9	Sydney	8·2
Dresden	13·9	Christiania	8·1
Belfast	13·9	Hobart	7·1
Glasgow	13·3	Adelaide	7·0
Edinburgh	11·9		

Infantile death rates in metropolitan districts.

If the deaths of infants in districts of Greater Melbourne during the five years 1905-9 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, 1905-9.

Districts.	Total in five Years, 1905-9.		Deaths under 1 year per 100 births, 1905-9.
	Births.	Deaths under 1 year.	
Fitzroy City	3,596	422	11·74
Brunswick City	3,514	365	10·39
Melbourne City	9,953	985	9·90
Williamstown Town	1,614	158	9·79
Port Melbourne Town	1,590	151	9·50
Collingwood City	3,969	375	9·45
South Melbourne City	4,562	420	9·21
Footscray City	2,819	242	8·58
Richmond City	4,600	377	8·20
Prahran City	4,643	356	7·67
St. Kilda City	2,003	149	7·44
Essendon City	2,107	140	6·64
Malvern Town	1,352	87	6·43
Northcote Town	1,910	121	6·34
Hawthorn City	2,268	137	6·04
Caulfield Town	1,162	70	6·02
Camberwell Town	922	49	5·31
Kew Borough	928	41	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 over one-third, Camberwell, Caulfield and Hawthorn had about one-half, and Northcote and Malvern 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 1905 to 1909, are shown in the following table, together with the percentage of deaths at each of those age-periods 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 1905-9.

Ages.	Average Annual Deaths of Infants under 1 year of Age.					
	Ten Years—1891-1900.			Five Years—1905-9.		
	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	593	41·8	3·74
1 to 3 months	355	17·3	2·07	241	17·0	1·51
3 to 6 „	445	21·7	2·59	254	17·9	1·60
6 to 12 „	600	29·3	3·50	331	23·3	2·08
Total ..	2,050	100·0	11·95	1,419	100·0	8·93
Girls.						
Under 1 month	488	28·7	2·98	430	39·2	2·85
1 to 3 months	301	17·7	1·84	187	17·0	1·23
3 to 6 „	385	22·6	2·35	215	19·6	1·42
6 to 12 „	528	31·0	3·23	265	24·2	1·76
Total ..	1,702	100·0	10·40	1,097	100·0	7·26

In the period 1905-9, 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 1905-9 as compared with 1891-1900 that for the age group 6 to 12 months amounting to 43 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 1905-9 shows that of every 20,000 newly-born boys and girls in equal numbers, 893 boys and 726 girls died within twelve months, and 9,107 of the former and 9,274 of the latter, or 18,381 of mixed sexes were living at the end of the year. The corresponding numbers surviving the first year in earlier periods 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 913 more survivors in 1905-9 than in 1881-1890, and 616 more than in 1891-1900.

Infantile death rates from certain causes.

Although the infantile death rate in Victoria has fluctuated considerably in recent years, it shows on the whole a tendency to decrease. This tendency was much more marked in the period 1905-9 than in the five preceding years. The rate for last year—7.13 deaths per 100 births—was nearly 36 per cent. below that for the decennium 1891-1900. Any investigation of this subject would be incomplete unless the diseases which have 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, 1901-7, and for the years 1908 and 1909.

INFANTILE DEATH RATES FROM CERTAIN CAUSES, 1891-3, 1901-7, 1908 AND 1909.

Causes of Death.	Deaths under 1 year per 1,000 Births in—			
	1891-3.	1901-7.	1908.	1909.
Diarrhœal Diseases, all forms	29·66	25·19	27·01	18·48
Wasting Diseases (Marasmus, Atrophy, &c.)	22·24	12·93	13·12	11·76
Prematurity	13·13	15·32	15·63	13·44
Bronchitis, Broncho-pneumonia, Pneumonia	11·37	8·84	7·68	6·85
Convulsions	6·83	3·42	2·54	2·16
Congenital Defects and Malformations ...	3·45	5·14	4·02	3·65
Violence	3·16	2·61	3·05	1·93
Whooping Cough	2·60	2·71	1·61	3·23
Other causes	24·49	15·92	11·41	9·85
Total all causes	116·93	92·08	86·07	71·35

In 1909 the rates from all causes except whooping cough were much lower 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 nine years of every 1,000 children born nearly 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 proportionate mortality 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 five years are shown in the following statement:—

Cause of Death.	Deaths during 1905-9 in the Quarter ended—			
	March.	June.	September.	December.
Diarrhœal Diseases	910	315	121	416
Bronchitis, Broncho-pneumonia, Pneumonia	87	130	293	24

The experience of the five years 1905-9 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 more numerous than in the other three quarters combined.

Legitimate and illegitimate infantile death rates.

On the average of the past six years, 1 in every 5 illegitimate infants died within a year, as against slightly less than 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 1909 the mortality rate for legitimate infants—6.38 per 100 births—was lower than in the preceding year. The children born out of wedlock during the same period numbered 1,867, and the deaths of illegitimate infants were 356, which corresponded to a rate of 19.07 per 100 births. In England and Wales, in 1908, the corresponding mortality rates for legitimate and illegitimate infants were 11.57 and 23.31 respectively. 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 in Victoria from certain causes per 1,000 legitimate and illegitimate births on the average of the years 1904-8 and for the year 1909.

DEATH RATES OF LEGITIMATE AND ILLEGITIMATE INFANTS FROM CERTAIN CAUSES 1904-8 AND 1909.

Cause of Death.	Deaths under 1 year per 1,000 Births.			
	Legitimate.		Illegitimate.	
	1904–8.	1909.	1904–8.	1909.
Diarrhœal Diseases	19·8	15·1	72·6	71·8
Prematurity, Congenital Defects, Marasmus, &c.	30·3	27·1	52·1	56·8
Bronchitis, Broncho-pneumonia, Pneumonia	6·9	6·5	18·6	12·8
Other causes	18·3	15·1	58·7	49.3
Total all causes	75·3	63·8	202·0	190·7

The rates for 1909 show that of every 1,000 children born out of wedlock 71.8 died from diarrhœal diseases within a year as compared with 15.1 deaths per 1,000 legitimate infants from the same cause. For 1904-8 the corresponding rates were 72.6 and 19.8 respectively. Owing to a larger proportion of the former children being deprived of breast food a higher mortality from these diseases might be expected among them than among legitimate infants, but the striking differences in the 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
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
1909	7·13	7·43	7·19	6·13	7·80	6·49	6·16
Average 1905–9..	8·12	7·83	7·41	6·92	9·49	7·87	6·96

Decrease in infantile mortality in Australasia.

On the average of the last five years the lowest infantile death rate prevailed in South Australia, followed by that in New Zealand, Queensland, Tasmania, New South Wales, and Victoria, in that order, and the highest in Western Australia. Although the rates show considerable variations 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 1909 showed a decline of nearly 36 per cent. in Victoria, 34 in New South Wales, 30 in Queensland, 42 in South Australia, 46 in Western Australia, and 32 per cent. in Tasmania. This reduction in infantile mortality rates in all the States in 1909 was equivalent to a saving of 4,531 infant lives, of which 1,257 were in Victoria.

Infantile mortality in various countries.

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 1905-9:—

INFANTILE MORTALITY IN VARIOUS COUNTRIES.

Country.	Deaths under 1 year per 100 Births.	Country.	Deaths under 1 year per 100 Births.
Russia (European) ...	25·6	England and Wales ...	12·9
Austria	21·5	United Kingdom ...	12·6
Roumania	21·3	The Netherlands ...	12·6
Hungary	20·7	Scotland	11·6
German Empire	19·3	Denmark	11·3
Prussia	18·0	Western Australia ...	9·5
Spain	17·0	Ireland	9·5
Italy	16·3	Sweden	8·5
Japan	15·3	Victoria	8·1
Servia	15·0	New South Wales ...	7·9
Bulgaria	15·0	Tasmania	7·9
Belgium	14·8	Norway	7·4
Ontario, Province of ...	14·2	Queensland	7·4
France	13·9	New Zealand	7·0
Switzerland	13·0	South Australia ...	6·9

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 only about 1 in every 14 infants dies within its first year.

Deaths of children under 5.

In 1909 the deaths of male children under 5 years of age numbered 1,694, and the deaths of female children under that age numbered 1,284—the former being in the proportion of 20.99 per cent., and the latter of 20.17 per cent., to the total number of deaths of the respective sexes at [redacted] ages. These proportions are below the

average of the previous eight years. Comparing the averages of the three decades ended with 1900, and the deaths during the nine 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. The following table shows the annual number of such deaths in the State 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
1909	1,302	232	72	46	42	1,694	20·99
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
1909	949	169	76	49	41	1,284	20·17

Proportion of infants surviving their fifth year.

The increasing proportion of infants who survive their fifth year shows that the conditions affecting child life have materially improved in the past twenty-nine 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 nine years 1901-9. 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, and 1891-1900, and the nine years 1901-9.

SURVIVORS AT EACH YEAR OF AGE, 1 TO 5 INCLUSIVE, PER 10,000 MALES AND 10,000 FEMALES BORN 1881-1890, 1891-1900, AND 1901-9.

Age.	Survivors at each year of age 1 to 5 inclusive per 10,000 Births of—					
	Males.			Females.		
	1881-1890.	1891-1900.	1901-1909.	1881-1890.	1891-1900.	1901-1909.
1 year	8,652	8,805	9,031	8,816	8,960	9,189
2 years	8,351	8,540	8,853	8,529	8,713	9,028
3 "	8,252	8,459	8,791	8,430	8,629	8,965
4 "	8,180	8,396	8,747	8,361	8,577	8,926
5 "	8,121	8,349	8,716	8,305	8,534	8,894

According to the experience of the period 1901-9 of every 10,000 boys and 10,000 girls born in Victoria, 9,031 of the former and 9,189 of the latter may be expected to survive the first year of life, 8,853 boys and 9,028 girls will be alive at the end of the second year, 8,791 and 8,965 at the end of the third year, 8,747 and 8,926 at the end of the fourth year, and 8,716 and 8,894 at the end of the fifth year. Combining the two sexes in equal numbers, the average number of survivors ls 8,805 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, 5,122 boys and 4,878 girls—being in the ratio of 105 of the former to every 100 of the latter. According to the mortality experienced in the period 1901-9 these will be reduced at the end of five years to 4,464 boys and 4,338 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, especially in their first year of life.

Ages at Death.

The ages of males and females who died in 1909 and in the two preceding years are shown in the following table:—

AGES AT DEATH IN VICTORIA, 1907-9.

Ages.	1907.			1908.			1909.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Under 1 ..	1,286	990	2,276	1,497	1,180	2,677	1,302	949	2,251
1 to 2	193	167	360	246	200	446	232	169	401
2 „ 3	72	59	131	81	68	149	72	76	148
3 „ 4	53	44	97	58	36	94	46	49	95
4 „ 5	32	21	53	38	28	66	42	41	83
5 „ 10	123	125	248	150	149	299	111	108	219
10 „ 15	98	115	213	125	89	214	108	75	183
15 „ 20	166	149	315	196	208	404	178	173	351
20 „ 25	193	234	427	231	223	454	167	210	377
25 „ 30	195	254	449	223	229	452	201	244	445
30 „ 35	210	274	484	215	253	468	199	216	415
35 „ 40	292	311	603	306	262	568	257	283	540
40 „ 45	372	293	665	414	293	707	326	293	619
45 „ 50	393	293	686	457	361	818	460	319	779
50 „ 55	349	271	620	426	282	708	438	241	679
55 „ 60	342	254	596	349	264	613	385	237	622
60 „ 65	419	341	760	445	339	784	410	313	723
65 „ 70	578	467	1,045	618	499	1,117	588	473	1,061
70 „ 75	806	623	1,429	767	586	1,353	722	573	1,295
75 „ 80	899	612	1,511	913	643	1,556	882	633	1,515
80 „ 85	553	362	915	651	439	1,090	608	385	993
85 „ 90	281	225	506	309	232	541	255	219	474
90 „ 95	50	58	108	73	68	141	66	70	136
95 ..	12	3	15	3	7	10	4	4	8
96 ..	2	2	4	9	9	18	1	2	3
97 ..	2	1	3	4	1	5	5	2	7
98 ..	2	3	5	6	1	7	1	4	5
99 ..	1	2	3	2	2	4	1	1	2
100 ..	..	4	4	3	..	3	1	3	4
101 ..	1	..	1	..	..	..	1	1	2
102 ..	..	..	..	..	1	1	..	..	..
103 ..	..	1	1	..	..	..	..	..	..
104 ..	2	..	2	..	..	..	..	..	..
110 ..	..	..	..	..	..	..	1	..	1
Unstated ..	3	4	7	..	..	..	..	..	..
Total ..	7,980	6,562	14,542	8,815	6,952	15,767	8,070	6,366	14,436

Of the 44,745 persons who died in Victoria during the last three years 5,022 were aged 80 years and upwards, and 19—nine males and ten females—had attained or passed the age of 100 years. The highest age recorded in 1907-9 was that of a man whose years were given as 110. To every 100 female deaths there were 127 male deaths in 1909 and in the preceding year, as against 122 in 1907.

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 arranged for the first time in 1907 according to The International Classification of Causes of Death. 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, 1908, and 1909 with those of 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 1907-9 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 International 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.	1905.	1906.	1907.	1908.	1909.
Typhoid Fever	369	100	132	71	137	103
Scarlet Fever	34	8	3	2	17	33
Measles	2	65	6	33	16	3
Whooping Cough	129	16	201	103	54	132
Diphtheria and Croup	552	73	48	79	88	69
Influenza	381	110	198	221	131	86
Hydatids	51	24	23	34	21	26
Cancer	584	786	755	796	794	802

DEATHS PER MILLION FROM CERTAIN CAUSES—*continued.*

Cause of Death.	Deaths per Million of the Population.					
	1890–2.	1905.	1906.	1907.	1908.	1909.
Phthisis	1,365	1,019	988	958	955	847
Other Tubercular Diseases	379	282	273	209	200	192
Syphilis	39	35	50	63	56	44
Diabetes	38	82	85	110	98	102
Anæmia, Chlorosis, Leucæmia	28	50	60	45	85	90
Meningitis and Encephalitis	113	119	145	161	164	152
Locomotor Ataxia and other diseases of Spinal Cord	43	50	50	65	80	75
Congestion and Hæmorrhage of the Brain	344	401	404	463	467	415
Epilepsy	74	35	43	32	43	39
Convulsions	353	99	90	87	88	63
Heart Disease (including Endocarditis and Pericarditis)	950	1,099	1,177	1,254	1,381	1,491
Acute and Chronic Bronchitis	691	425	477	343	374	321
Pneumonia and Broncho-pneumonia	853	850	884	780	918	768
Pleurisy	96	83	86	46	46	41
Congestion of Lungs and Pulmonary Apoplexy	140	45	50	54	69	66
Asthma and Pulmonary Emphysema	70	70	66	43	56	60
Enteritis, Gastro-enteritis, and Diarrhœal Diseases	1,342	813	943	718	1,061	756
Hernia, Intestinal Obstruction	124	96	131	125	100	122
Diseases of the Stomach (Cancer excepted)	175	100	108	101	113	86
Cirrhosis and other diseases of the Liver (Cancer excepted)	329	182	175	165	163	149
Biliary Calculi	11	33	33	28	22	31
Appendicitis and Abscess of the Iliac Fossa	..	72	96	66	80	74
Simple Peritonitis (non-puerperal)	106	61	61	52	48	41
Acute and Chronic Nephritis, Uræmia, Bright's Disease	294	559	551	596	614	518
Diseases of the Bladder and Prostate	86	103	127	107	88	91
Calculi of the Urinary System	8	9	10	6	8	6
Old Age	631	1,041	928	982	1,111	988
Suicide	109	115	90	95	92	92
Accidental Violence	811	574	535	568	647	498
Homicide	34	33	16	17	15	12

The striking feature of the preventable mortality in 1909, as compared with the previous year, was the great decrease in deaths of infants from diarrhœa and enteritis. The lower general death rate was largely due to the lighter mortality among children in 1909, when 454 fewer deaths under 5 years of age were recorded than in the previous year. Phthisis, other tubercular diseases, typhoid fever, diphtheria, measles, influenza, bronchitis, pneumonia, cirrhosis and other diseases of the liver, kidney diseases, and accidental violence, furnished lower rates, and scarlet fever, whooping cough, cancer, hernia, and diseases of the circulatory system, were responsible for higher rates than in the previous year. These and other comparable causes of death are fully dealt with in subsequent paragraphs.

The efficacy of vaccination in minimizing the risk of infection from small-pox is recognised by Victorian legislation, which requires parents to have their children vaccinated. The proportion of successful vaccinations to every 100 births for the average of the period 1876-1899, and for each year since, is shown in the following table:— Vaccinations.

SUCCESSFUL VACCINATIONS PER 100 BIRTHS.

Period.	Vaccinations per 100 births.	Period.	Vaccinations per 100 births.
1876–1899 ...	72	1905 ...	67
1900 ...	67	1906 ...	67
1901 ...	62	1907 ...	67
1902 ...	53	1908 ...	67
1903 ...	71	1909 ...	68
1904 ...	69		

During the past five years about two-thirds of the children born were vaccinated. This was slightly higher than the proportion in 1900-4, but lower than the ratio—72 per cent.—in the period 1876-1899. Allowing for the deaths of unvaccinated infants in each year since 1875, it is probable that about one in every five of the Victorian born population under 35 years of age has not been vaccinated.

Persons suffering from small-pox have arrived at Victorian Ports on many occasions, but as they were at once quarantined, the disease never spread among the people of the State. Since 1853 only 25 deaths have occurred from this cause, and of that number only 2 have taken place in the twenty-five years ended 1909. Statistics of European countries reveal a very marked decline in the mortality from small-pox in recent years. The deaths per million of the population in various countries are shown in the following table for the average of the latest three years for which these particulars are available:— Small-pox.

DEATHS FROM SMALL-POX PER MILLION OF POPULATION IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per Million of the Population.	Country.	Period.	Deaths per Million of the Population.
Spain	1906–8	176·8	The Netherlands...	1906–8	·8
Belgium ...	1905–7	15·7	England and Wales	1906–8	·4
Italy	1906–8	11·7	Scotland ...	1905–7	·4
Hungary ...	1906–8	8·1	Sweden ...	1905–7	·2
Switzerland ...	1905–7	5·5	Denmark ...	1905–7	·1
United States ...	1905–7	4·3	Roumania ...	1906–8	·1
Japan	1905–7	2·6	Ireland	1906–8	·1
Ontario, Province of	1904–6	1·5	Victoria ...	1907–9	No deaths.
Prussia	1906–8	1·2	New South Wales	1907–9	
Western Australia	1907–9	1·2	Queensland ...	1907–9	
Austria... ...	1904–6	·9	South Australia ...	1907–9	
Norway... ...	1905–7	·9	New Zealand ..	1906–8	
German Empire ...	1905–7	·8			

Typhoid fever.

Typhoid fever, which is really a preventable disease and is most fatal between 15 and 50 years of age, was responsible in 1909 for 132 deaths, which represented a mortality rate of 103 per million of population, as against 137 in 1908, 71 in 1907, 132 in 1906, 100 in 1905, and 369 in 1890-2. The rate for the latest year was 72 per cent. lower than that for the period 1890-2, and slightly below 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 1905-9 having been less than 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 last five years. Comparing the deaths in Greater Melbourne from typhoid fever with the cases reported in the five years 1905-9, the fatality rate was slightly less than 1 in every 10 cases, which was only two-thirds of the fatality experienced in London in the period 1904-8. 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. 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.
Spain	1906-8	36·0	Japan	1905-7	12·8
Western Australia	1907-9	34·2	Belgium ...	1905-7	12·6
United States ...	1905-7	30·2	Victoria ...	1907-9	10·4
Ontario, Province of	1904-6	27·4	South Australia...	1907-9	9·8
Italy	1906-8	26·9	Ireland ...	1906-8	8·3
Hungary ...	1906-8	25·9	Scotland ...	1905-7	8·0
Tasmania ...	1907-9	20·1	England and Wales	1906-8	7·8
Roumania ...	1906-8	17·9	Sweden ...	1905-7	7·5
France	1905-7	17·7	The Netherlands	1906-8	6·9
Austria... ...	1904-6	17·3	New Zealand ...	1906-8	6·9
Queensland ...	1907-9	16·8	German Empire...	1905-7	5·6
New South Wales	1907-9	16·4	Switzerland ...	1905-7	4·9
Servia	1906-8	14·3	Norway ...	1905-7	4·2

Scarlet fever.

The mortality from scarlet fever was comparatively heavy in the last two years. The deaths referred to this cause in 1909 numbered 42, and corresponded to a rate of 33 per million of the population, as compared with 17 in the previous year, 2 in 1907, 3 in 1906, 8 in 1905, and 34 in 1890-2. The ratio of deaths to notified cases in Greater Melbourne during the period 1905-9 was 13 in every 1,000, as compared with a fatality rate of 26 per 1,000 in London for the period 1904-8. Death rates from scarlet fever are considerably lower in Victoria and the other

Australian States 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.
Servia	1906–8	151·8	Scotland ...	1905–7	4·7
Hungary ...	1906–8	55·4	Ontario, Province of	1904–6	4·5
Roumania ...	1906–8	44·6	The Netherlands	1906–8	4·2
Austria... ...	1904–6	34·6	Norway ...	1905–7	3·9
Prussia... ...	1906–8	21·6	France ...	1905–7	3·7
German Empire ..	1905–7	16·6	New Zealand ...	1906–8	3·7
Belgium ...	1905–7	11·8	Ireland ...	1906–8	2·4
Spain	1906–8	10·1	New South Wales	1907–9	2·0
England and Wales	1906–8	9·1	Victoria ...	1907–9	1·7
Italy	1906–8	9·0	Tasmania ...	1907–9	·4
United States ...	1905–7	8·3	South Australia	1907–9	·3
Sweden ...	1905–7	7·7	Western Australia	1907–9	·2
Switzerland ...	1905–7	5·8	Queensland ...	1907–9	·2

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 eighteen years, and these did not extend beyond the years—1893 and 1898—in which they occurred. In 1909 there were only 4 deaths attributed to this cause, representing a rate of 3 per million of the population, as compared with ratios of 16 in the previous year, 33 in 1907, 6 in 1906, and 65 in 1905. 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.
Hungary ...	1906–8	45·0	United States ...	1905–7	10·1
Spain	1906–8	38·5	Japan	1905–7	5·9
Belgium ...	1905–7	31·8	Sweden ...	1905–7	4·9
Scotland ...	1905–7	30·0	New Zealand ...	1906–8	4·8
Austria... ...	1904–6	29·4	Western Australia	1907–9	4·6
Italy	1906–8	29·1	Norway ...	1905–7	3·8
England and Wales	1906–8	28·7	Queensland ...	1907–9	3·5
The Netherlands...	1906–8	26·0	Ontario, Province of	1904–6	3·3
Prussia... ...	1906–8	20·4	New South Wales	1907–9	2·4
German Empire ..	1905–7	18·6	South Australia	1907–9	1·9
Switzerland ...	1905–7	17·5	Victoria ...	1907–9	1·8
Roumania ...	1906–8	16·6	Tasmania ...	1907–9	1·1
Ireland... ...	1906–8	13·9			

The average rate of the last three years in Victoria was greatly below that experienced in European countries, being only one-sixteenth of that in England and one-twenty-fifth of the rate in Hungary in the period 1906-8.

Whooping cough.

There were 169 deaths referred to whooping cough in 1909, which equalled a rate of 132 per million of the population at all ages, as compared with rates of 54 in the previous year, 103 in 1907, 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 102, or over 60 per cent., of the deaths were of infants under 1 year, and 161, or 95 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 23 per cent. higher than among the latter during 1909. 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:—

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.
Servia	1906–8	179·9	Norway ...	1905–7	16·7
Scotland ...	1905–7	43·0	Switzerland ...	1905–7	16·6
Austria... ...	1904–6	39·9	Western Australia	1907–9	15·0
Hungary ...	1906–8	37·7	Sweden ...	1905–7	14·3
Belgium ...	1905–7	34·9	New South Wales	1907–9	14·2
Prussia ..	1906–8	27·3	New Zealand ...	1906–8	13·6
England and Wales	1906–8	27·1	Tasmania ...	1907–9	13·0
German Empire ...	1905–7	27·1	Queensland ...	1907–9	13·0
Roumania ...	1906–8	23·7	United States ...	1905–7	12·5
Spain	1906–8	21·8	Victoria ...	1907–9	9·6
Ireland... ...	1906–8	20·4	South Australia...	1907–9	9·4
The Netherlands	1906–8	19·6	Ontario, Province of	1904–6	8·0
Italy	1906–8	17·6	Japan	1905–7	6·4

On the average of the past three years the mortality rate from whooping cough in Victoria was only about one-third of that in England and Wales, and in the German Empire. It was also below that in any other Australian State except South Australia.

Diphtheria and croup.

On the average of the past five years the mortality rate from diphtheria and croup was considerably less than in earlier years. For 1909 the number of deaths was 89, which equalled a rate of 69 per million of the population, being one-eighth of the proportion —552—for 1890-2. Like measles, scarlet fever, and whooping cough, it is an ailment chiefly affecting children. Of the 89 deaths attributed

to this disease in the latest year, 82 were of children under 10 years of age of whom 58 had not completed their fifth year. The incidence of the malady is light in the first year of life, as compared with 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 58 in every 1,000 ended fatally in 1905-9, as against 90 in every 1,000 in London in the period 1904-8. Prior to the employment of the anti-toxin treatment of diphtheria the fatality rate in Melbourne was nearly five times that experienced in the past five years. The deaths from diphtheria and croup 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:—

DEATH RATES FROM DIPHTHERIA AND CROUP IN VARIOUS COUNTRIES.

Country.	Period.	Deaths per 100,000 of Population.	Country.	Period.	Deaths per 100,000 of Population.
Servia	1906–8	41·6	Switzerland ...	1905–7	16·3
Austria	1904–6	38·9	Italy	1906–8	15·6
Hungary ..	1906–8	38·2	Scotland ...	1905–7	15·0*
Western Australia	1907–9	33·5	New South Wales	1907–9	10·1
Prussia... ...	1906–8	25·4	Japan	1905–7	8·5
German Empire ...	1905–7	24·9	Queensland ...	1907–9	8·2
United States ...	1905–7	24·8	Victoria ..	1907–9	7·9
Ontario, Province of	19 4–6	23·1	Ireland	1906–8	7·6*
Sweden... ...	1905–7	23·1	The Netherlands	1906–8	6·3
Norway ...	1905–7	20·8	Roumania ..	1906–8	5·6
Spain	1906–8	18·6	Tasmania ...	1907–9	5·5
England and Wales	1906–8	16·6*	New Zealand ...	1906–8	4·5
Belgium ...	1905–7	16·5*	South Australia	1907–9	3·5

* Excluding croup.

Hydatids.

The deaths attributed to hydatids in 1909 numbered 33, being equivalent to a rate of 26 per million of the population, as compared with rates of 21 in the preceding year, 34 in 1907, 23 in 1906, 24 in 1905, and 51 in 1890-2. Of the 157 persons who died from this disease in the last five years 83 were males and 74 females; only 1 was under 5 years of age. In 1909, 50 per cent. of the fully defined cases were of the liver and 38 per cent. were of the lungs. Hospital returns for the latest five years show that 576 cases of hydatids were treated therein, and that 1 in every 10 ended fatally.

Anæmia, chlorosis, leucæmia.

Anæmia, chlorosis, and leucæmia were responsible for 116 deaths in 1909, which corresponded to a rate of 90 per million of the population. This was 50 per cent. above the average rate of the preceding four years—60—and nearly 47 per cent. higher than the death rate experienced from these causes in England and Wales in 1908.

Diabetes.

The death rate from diabetes has shown a varying increase in recent periods, and on the average of the past three years it was the heaviest ever experienced in the State. In the year under review—1909—there were attributed to this cause 56 male and 75 female deaths, representing a rate of 102 per million of the population, which was 11 above the average of the previous five years, and the same as the rate for England and Wales in 1908. The deaths from diabetes per 10,000 of each sex in nine age groups for the periods 1890-2, 1900-2, and 1907-9, are shown in the following table:—

DEATHS FROM DIABETES IN VICTORIA PER 10,000 OF EACH SEX LIVING.

Age Groups.	Deaths per 10,000 of each Sex Living.					
	Males.			Females.		
	1890–2.	1900–2.	1907–9.	1890–2.	1900–2.	1907–9.
0–10	·02	·09	·15	·02	·05	·15
10–20	·17	·24	·25	·14	·26	·15
20–30	·29	·17	·19	·14	·36	·46
30–40	·21	·32	·66	·30	·51	·47
40–50	·58	·49	1·40	·49	·42	·53
50–60	1·18	1·38	1·98	1·31	1·42	3·42
60–70	1·49	2·67	4·09	2·49	3·19	8·44
70–80	2·87	4·36	4·67	1·88	5·01	11·33
80 and over	1·65	4·11	4·61	4·44	3·54	5·00
All Ages ...	·40	·56	·88	·36	·60	1·19

Among males under 30 years of age the mortality rate from diabetes was fairly stationary and low at each period, but the rates for succeeding ten-year age groups showed substantial increases between 1890-2 and 1907-9. Between the same periods the rates among females increased at each age group. Omitting the age group 0-10, at which the deaths are few and the rates susceptible to slight influences, the greatest increase occurred at ages 70-80, and the next heaviest increase at ages 60-70.

Influenza.

The deaths from influenza in 1909 numbered 110, corresponding to a rate of 86 per million of the population, which was only half of the average of the previous five years. 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. About one-half of the deaths in 1909 were of persons aged 60 years and upwards. 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 each sex 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 EACH SEX LIVING.

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 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 1909 the deaths from respiratory diseases numbered 1,690, which represented a rate of 1,316 per million of the population, as compared with 1,531 in 1908, 1,343 in 1907, 1,622 in 1906, 1,552 in 1905, and 2,029 in 1890-2. Of the deaths from complaints of this nature in the year under review, 103 were referred to acute bronchitis, 309 to chronic bronchitis, 358 to broncho-pneumonia, 627 to pneumonia, and 52 to pleurisy. These five diseases accounted for nearly 86 per cent. of the total respiratory mortality. The seasonal incidence of these maladies is evidenced by the large proportion of deaths, amounting to 38 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.

DEATHS FROM RESPIRATORY DISEASES PER 10,000 OF EACH SEX LIVING.

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 ...	3·05	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 ...	5·69	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 each sex 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 in the period 1904-7 was continued in the year under review. In 1909 there were 1,661 deaths from digestive ailments (excluding hydatids), representing a proportion of 1,294 per million of the population, which was below the average of the period 1904-8, and slightly more than one-half of the rate—2,331—experienced in 1890-2. The large reduction in the general mortality rate from complaints of this character in 1904-7 was coincident with a comparatively light mortality amongst infants. Victorian experience shows that more than half of the mortality from digestive maladies has been ascribed to diseases of a diarrhœal nature. In 1909 diarrhœal complaints were responsible for 970 deaths, equivalent to 756 per million, which was 44 per cent. below the ratio—1,342—for 1890-2. In 1905, 1906, 1907, and 1908, the rates per million were 813, 943, 718, and 1,061 respectively. The age incidence of this disease is heaviest at the extremes of life. Of the 970 deaths in the year under review, 712, or 73 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 is evidenced by the fact that 54 per cent. of the deaths of children under 2 years 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 in 1909 about 1 in every 18 was due to appendicitis. The experience of the five years 1905-9 showed 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 95 in 1909, 101 in 1908, 82 in 1907, 118 in 1906, and 87 in 1905, and corresponded to rates of 74, 80, 66, 96, and 72 per million of the population respectively, as against 60 in England and Wales in 1908. 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 —229—with the total cases treated therein—3,333—which shows that less than 1 case in every 14 ended fatally.

Diseases of urinary system.

A very marked alteration in the crude mortality rates from diseases of the urinary system has taken place in recent years. Excepting urinary calculi, all the important diseases constituting this group exhibit increasing rates, which are now in excess of the proportions in England and Wales. In the year under review—1909—827 deaths were attributed to these diseases, which corresponded to a ratio of 644 per million of the population, as against 408 in 1890-2, or to an increase of 58 per cent. in the intervening years. Bright's disease, uræmia, and nephritis were responsible for 664 deaths, or 80 per cent., complaints of the bladder for 69 deaths, or over 8 per cent., and ailments of the prostate for 48 deaths, or nearly 6 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. The deaths

per 10,000 of each sex in age groups for the periods 1890-2, 1900-2, and 1907-9 are shown in the following table:—

DEATH RATES FROM DISEASES OF URINARY SYSTEM.

Age Group.	Deaths per 10,000 of each Sex Living.					
	Males.			Females.		
	1890–2.	1900–2.	1907–9.	1890–2.	1900–2.	1907–9.
0–10	1·16	·93	·75	·97	·59	·69
10–20	·43	·45	·62	·58	·82	·57
20–30	1·45	1·83	1·79	1·82	1·59	1·52
30–40	3·05	3·55	2·92	4·72	4·21	3·37
40–50	7·36	8·12	9·66	6·63	7·26	9·37
50–60	11·90	17·43	18·10	5·91	11·36	14·53
60–70	27·42	39·62	39·03	9·62	21·49	21·44
70–80	58·98	80·68	84·50	14·62	27·70	44·67
80 and over	74·07	128·48	165·32	22·21	27·15	46·67
All Ages ..	5·25	8·05	8·97	2·84	4·28	5·29

For each age group over 30-40 the mortality rates for both sexes from diseases of the urinary system were considerably higher in 1907-9 than in 1890-2.

Phthisis.

The deaths from phthisis in 1909 numbered 1,087, and equalled a rate of 847 per million of the population, as compared with rates of 955 in 1908, 958 in 1907, 988 in 1906, 1,019 in 1905, and 1,365 in 1890-2. The improvement in the death rate from this cause since 1890-2 was equivalent to the saving of 650 lives during 1909. 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 each Sex Living.				
	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

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

Ages (Years).	Annual Mortality from Phthisis per 10,000 of each Sex Living.				
	1860–2.	1870–2.	1880–2.	1890–2.	1900–2.
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 be seen that the male death rates 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 rates of males, aged 45 years and upwards, were considerably greater than those of females at all periods except the first. The figures for 1900-2, show that there was a decline in the rates at 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 1909, 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 (1906) ...	31·5	The Netherlands (1908)	12·0
Servia (1908)	31·2	England & Wales (1908)	11·2
Norway (1907) ...	20·2	Belgium (1907) ...	10·1
Ireland (1908) ...	19·5	Victoria	8·5
Switzerland (1907) ...	17·2	South Australia ...	8·3
German Empire (1907) ...	15·7	Western Australia ...	7·2
Japan (1907)	15·4	Tasmania	6·8
Spain (1908)	13·5	New Zealand (1908) ...	6·4
Scotland (1907) ...	13·5	New South Wales ...	6·3
Ontario, Province of (1906)	13·1	Queensland	5·8

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 shows that certain urban centres—particularly that of Bendigo and suburbs—furnish considerably higher death rates than the rural portions of the State. The tubercular death rate amongst miners is very considerably in excess of that among farmers and graziers, and as mining occupations predominate in Bendigo and suburbs, and farming and grazing occupations 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 nine years 9 more persons in every 10,000 of the population died each year from tubercular diseases in Bendigo than in Melbourne and suburbs, or Ballarat. The rates in these localities from phthisis and other tubercular diseases are shown in the following table for the decennium 1891-1900 and for each of the last nine years :—

DEATH RATES FROM TUBERCULAR DISEASES IN MELBOURNE, BALLARAT, AND BENDIGO, 1891-1909.

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
1909 ..	9·9	9·4	22·9	2·6	1·9	3·2	12·5	11·3	26·1
Average of 1901–9 ..	12·7	13·7	21·9	3·7	3·1	3·6	16·4	16·8	25·5

During the period embraced in the above table a steadily diminishing rate from all tuberculous diseases is shown for Greater Melbourne. In the last nine years the Ballarat rate has varied from 22.4 to 11.3, and has shown on the whole a substantial decline, the rate for 1909 having been 4.1 per 10,000 lower than in the previous year, and 9.3 below the average rate of the decade 1891-1900. The tubercular rate for Bendigo in 1909 was 6.4 above that of the preceding year, and was the heaviest since 1904.

Tubercular deaths in districts of Greater Melbourne.

In the next table are given the numbers of deaths from tubercular diseases in the last five years in the principal districts of Greater Melbourne, exclusive of Hospitals; also the numbers 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 1909.

Districts.	Total Deaths in Five Years—1905-1909, from—				Deaths per Thousand of the Population. Average of 1905-9.	
	Phthisis.	Other Tubercular Diseases.	All Tubercular Diseases.	All Causes.	From all Tubercular Diseases.	From all Causes.
Footscray City	87	26	113	857	1·18	8·97
Camberwell Town	53	9	62	408	1·18	7·79
Coburg Borough	34	13	47	381	1·18	9·60
Fitzroy City	135	38	173	1,672	1·05	10·16
Northcote Town	52	13	65	552	1·03	8·74
Collingwood City	151	26	177	1,496	1·02	8·63
Brunswick City	98	31	129	1,287	·96	9·60
Essendon City	76	16	92	817	·95	8·41
South Melbourne City ..	149	43	192	1,858	·93	8·96
Melbourne City	365	84	449	4,822	·91	9·78
Richmond City	138	34	172	1,691	·88	8·69
Hawthorn City	73	23	96	950	·80	7·97
St. Kilda City	70	17	87	1,017	·79	9·26
Malvern Town	42	10	52	543	·79	8·24
Brighton Town	39	5	44	542	·79	9·09
Prahran City	139	27	166	1,992	·78	9·32
Kew Borough	28	7	35	360	·77	7·99
Williamstown Town ..	33	14	47	713	·68	10·31
Caulfield Town	35	4	39	451	·67	7·73
Port Melbourne Town ..	31	11	42	546	·66	8·63

It is probable that the mortality from tuberculosis in each district does not correspond with the ratio of infection in that centre, as many persons do not reside in the district in which they are employed, and the locality or 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 districts 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 five years.

Death rates from phthisis in various occupations in England and Wales.

The occupational incidence of pulmonary tuberculosis in Victoria has not yet been thoroughly investigated, but it is intended to examine the statistical data relating to this important subject after the census of 1911, when the numbers and ages of persons in different occupations will be known. It has long been recognised that the conditions of occupation have a marked effect upon the mortality rate from tuberculosis, and recent research has confirmed the view that in certain trades, particularly those in which industrial dusts are present in a marked degree, the incidence of the disease is very heavy. In Victoria this is clearly shown by the high tubercular death rate among quartz miners in Bendigo, which, on the average of the past four years, was about five times as heavy as that among males aged 21 years and upwards in the whole community. The significance of this high rate will be apparent when it is pointed out that among coal miners in England and Wales the death rate from the disease was at the last census period only about one-half of that among occupied males. English experience shows that the mortality rate from phthisis among tool, file, and saw makers was four times, and that among brush and broom makers, and hair and bristle workers, nearly four times that among farmers and farm labourers. In the United States the death rate from the disease among marble and stone cutters was about four times as heavy as that prevailing in the two agricultural occupations referred to. Interesting data, bearing upon the inter-relation of occupation and mortalities from certain diseases in England and Wales are given in Part II., Supplement to the Sixty-fifth Annual Report of the English Registrar-General. The figures show, for England and Wales, in 1900-2, the numbers and ages of males in over 100 occupations who died from phthisis, and the years lived by males at various age groups in each industry. From those data were computed in this office the death rates from phthisis for all ages—15 and upwards—and for seven sub-divisional

age groups in 78 of the principal occupations. The results are shown in the following table:—

MALE DEATH RATES (PER 10,000) FROM PHTHISIS IN VARIOUS OCCUPATIONS IN ENGLAND AND WALES, 1900-2.

Occupation.	Deaths from Phthisis per 10,000 Males at each Age.							
	15 years and upwards.	15–20.	20–25.	25–35.	35–45.	45–55.	55–65.	65 years and upwards.
Hawker	55·12	8·27	25·36	56·93	87·91	87·76	59·93	14·65
General labourer	50·84	10·59	31·84	49·59	76·23	80·57	46·87	15·49
Hotel servant	44·43	7·96	21·53	54·17	96·07	95·79	55·96	59·52
Tool, scissors, file, saw, needle maker	37·57	1·69	15·68	29·43	59·05	71·27	52·56	19·74
Musician, music teacher	37·20	7·25	26·04	33·84	42·88	54·54	46·78	8·45
Dock, wharf labourer	36·18	3·62	16·38	31·16	48·54	55·73	29·09	16·71
Brush, broom maker, hair, bristle worker	35·79	7·53	25·89	38·82	48·65	62·17	21·95	27·55
Chimney sweep	35·45	8·87	19·34	16·88	53·16	46·32	44·05	8·73
Printer	33·07	10·34	34·07	36·47	48·49	42·74	34·18	15·97
Innkeeper, publican, spirit, wine, beer dealer	32·59	5·09	16·47	38·39	43·54	29·47	19·63	10·41
Hatter	32·42	6·10	34·71	36·98	41·08	47·57	21·71	..
Bookbinder	32·12	4·75	37·94	33·91	47·01	38·10	32·88	20·02
Seaman, &c., merchant service	31·35	8·52	29·72	36·51	35·54	37·99	25·08	11·07
Shoemaker	29·99	10·12	29·04	31·77	42·37	41·83	25·74	15·89
Wood turner, cooper	28·79	6·26	15·38	28·88	37·91	55·15	29·61	13·55
Brewer	28·02	6·07	11·83	21·06	40·60	48·68	37·07	11·83
Hairdresser	27·22	7·29	25·03	29·83	41·19	44·09	26·55	17·99
Potter; earthenware, &c., manufacture	27·18	6·17	13·44	20·03	37·92	71·35	43·70	9·73
Tailor	26·85	7·64	20·78	25·95	39·97	41·55	26·46	11·98
Glass manufacture	26·64	5·65	18·12	28·76	45·57	48·73	29·72	..
Saddler, harness maker	25·23	6·35	28·38	25·75	34·89	35·58	22·36	6·02
Law clerk	25·02	7·47	18·37	28·85	33·27	39·04	36·98	6·57
Coach, cab, omnibus service, groom	24·11	4·68	12·19	22·16	35·83	39·53	27·52	9·81
Stationery manufacture, stationer, news agent	24·09	9·79	23·95	28·21	29·96	32·89	17·69	6·81
Tanner, currier, furrier, skinner	23·97	8·40	19·17	19·94	30·91	35·80	33·65	20·09
Tramway service	23·89	7·34	20·93	28·80	26·67	24·66	20·12	..
Cabinetmaker, &c.	23·75	6·94	16·52	21·80	37·95	38·29	27·14	18·64
Stone, slate quarrier	23·00	5·35	17·15	15·05	21·17	43·02	41·65	32·54
Watch, clock maker	22·76	11·57	18·89	27·24	22·34	35·62	16·96	12·08
Plumber, painter, glazier	22·61	4·72	14·23	21·80	29·83	38·27	29·90	11·33
Lock, key, gasfittings maker; gas fitter	22·46	4·91	10·81	21·57	27·88	46·06	33·46	4·39
Copper, tin, zinc, lead, brass, &c., manufacture	22·46	6·22	18·31	23·78	32·30	36·75	24·13	14·82
Paperhanger, plasterer, white washer	22·27	4·06	10·56	12·21	39·76	36·17	40·05	15·30
Commercial clerk, insurance service	21·56	7·41	23·89	25·47	30·45	28·77	19·85	8·13
Draper, linen draper, mercer	21·45	6·17	21·97	26·55	26·39	26·15	26·58	13·47
Bricklayer, mason, builder	21·25	2·36	8·70	14·45	32·04	39·12	28·50	14·05
Cotton manufacture	21·04	8·20	16·53	20·15	28·86	36·56	27·55	21·34
Textile dyer, bleacher, printer, finisher	21·03	5·71	18·77	19·53	29·77	35·17	21·39	13·18
All textile manufactures	20·85	7·38	18·58	20·08	26·99	33·64	26·22	16·52
Commercial traveller	20·64	..	13·50	17·64	23·93	28·63	24·79	10·19
All building trades	20·31	4·13	11·77	17·08	29·54	34·87	26·51	13·69
Railway official, clerk	20·24	9·10	27·71	23·96	19·22	23·88	21·60	9·13
All metal workers	20·14	5·21	14·90	20·13	27·66	32·72	25·65	15·34
Nail, anchor, chain, other iron and steel manufacture	20·14	5·03	11·83	20·10	27·51	35·19	22·05	19·80
All occupied males	19·80	5·45	15·52	20·32	27·43	30·40	21·60	11·05
Wool, worsted manufacture	19·67	6·88	23·82	18·11	22·48	28·37	22·70	18·58
Watch, clock, scientific instrument maker; jeweller	19·49	6·09	14·74	20·42	25·32	34·59	27·84	14·58

MALE DEATH RATES (PER 10,000) FROM PHTHISIS IN VARIOUS OCCUPATIONS IN ENGLAND AND WALES, 1900-2—*continued.*

Occupation.	Deaths from Phthisis per 10,000 Males at each Age.							
	15 years and upwards.	15–20.	20–25.	25–35.	35–45.	45–55.	55–65	65 years and upwards.
Domestic coachman, groom ..	19·16	4·61	13·25	21·72	24·91	30·22	20·72	10·29
Carman, carrier	18·19	4·87	10·47	17·86	29·09	29·72	19·38	14·73
Artist, engraver, sculptor, architect	18·12	7·92	18·27	21·23	17·40	22·15	14·47	15·25
Engine, machine, boiler maker; fitter	18·08	6·05	17·27	18·16	23·20	26·59	24·00	14·55
All shopkeepers	17·61	5·44	17·02	20·62	22·85	22·75	17·69	8·06
Civil servants (officers and clerks), including retired	17·40	12·93	23·64	19·61	22·80	15·12	9·05	9·95
Domestic, indoor male servant ..	17·20	3·70	15·25	20·84	31·01	32·82	12·55	28·01
Baker	17·04	3·48	14·83	18·25	24·06	27·64	18·83	10·18
Chemist, druggist	16·99	6·72	19·10	22·11	15·28	21·67	13·01	7·72
Blacksmith, striker	16·59	2·63	9·22	17·76	22·75	24·42	24·21	11·80
Butcher	16·55	2·11	6·18	20·01	28·75	29·77	17·53	8·30
Carpenter, joiner	16·25	4·07	12·55	15·87	21·25	25·71	21·93	13·55
Wheelwright	15·64	4·59	11·74	16·48	22·73	18·79	21·26	9·28
Paper manufacture	15·27	5·41	12·89	19·54	21·30	17·75	18·58	10·19
Miller; cereal food manufacturer ..	15·08	1·41	8·24	8·56	24·05	21·57	20·51	21·77
Ironmonger	14·49	4·40	17·09	20·48	17·99	9·59	17·34	3·84
Coach, carriage, railway coach, &c., maker	14·35	5·30	9·06	14·86	19·40	22·35	13·17	18·94
Shipbuilding	14·14	5·06	12·26	14·85	20·06	19·48	12·54	6·88
Schoolmaster, teacher	14·06	9·06	20·22	15·62	12·58	11·30	16·34	14·41
Railway guard, porter, pointsman, &c.	13·98	7·33	12·58	14·25	16·56	16·08	16·72	14·27
Grocer, &c.	13·63	5·01	15·77	17·58	16·89	15·24	12·35	7·74
Platelayer, railway labourer; navvy, &c.	11·82	2·16	10·56	8·82	13·40	17·89	14·80	6·78
Barrister and solicitor	11·43	..	..	11·03	13·21	14·42	10·38	2·33
Coal miner	10·06	4·09	10·08	9·14	10·52	14·73	18·43	16·33
Gardener, nurseryman, seedsman	9·90	3·69	9·08	11·29	10·99	13·15	11·82	5·59
Farmer, grazier, farmer's son ..	9·34	5·97	9·66	10·21	9·80	10·99	8·63	8·37
Farm labourer, farm servant ..	9·20	3·03	10·23	10·81	11·91	13·29	10·43	6·06
Railway engine driver, stoker ..	8·89	7·80	9·74	6·73	10·95	11·32	6·87	15·91
Brick, plain tile, terra cotta maker	8·84	4·89	10·54	9·28	8·93	14·34	8·37	1·86
Physician, surgeon (occupied and retired)	8·75	..	..	6·60	10·75	14·56	4·14	3·73
Clergyman, priest, minister ..	7·23	..	..	7·72	6·77	7·12	8·40	6·86

The death rates for the two age groups 15-20 and 65 years and upwards are in many instances based upon somewhat limited data, and are, consequently, less reliable than those for the other five groups, and for the whole working period of life, which are based upon much larger numbers, and may, therefore, be considered as giving a fair indication of the probable future experience. A general analysis of the table shows that in England and Wales in the three-year period 1900-2 the mortality rates from phthisis among occupied males aged 15 and upwards (column 1) ranged from 55.12 per 10,000 for hawkers, 50.84 for general labourers, 44.43 for hotel servants, 37.57 for tool, scissors, saw, needle-makers, to 9.34 for farmers and graziers, 9.20 for farm labourers, 8.89 for railway engine-drivers and stokers, 8.75 for physicians and surgeons, and 7.23 for clergymen. A striking feature of the figures is the great disparity between the rate—50.84—for general labourers, who chiefly reside

in cities and large towns, and the rate—9.20—for farm labourers, who reside in rural districts. As the latter are almost wholly, and the former are mainly, engaged in outdoor work, it would appear that the city environment is responsible for a large portion of the excess of the mortality from pulmonary tuberculosis. On the other hand, the death rate from phthisis varies so considerably among males who are engaged in skilled occupations of diverse natures but are subject to similar home surroundings, that the differences can only be accounted for by the conditions under which their respective trades are carried on. A close examination of the foregoing table shows that in occupations where trade dusts are very prevalent the tubercular death rate is heavy at all periods of active adult life. Tool, scissors, saw, and needle makers are seriously affected by the prevalence of metallic dusts; wood-turners, coopers, and cabinetmakers are subject to wood fibre dusts; persons engaged in glass manufacture, and stone and slate quarriers, are exposed to mineral dusts; bootmakers, hatters, saddlers, and harness makers are affected by organic and fibre dusts, and cab, coach, omnibus, and tramway men are exposed to road dusts; in each of these occupations the tubercular mortality rate is high. With the view of showing more clearly the differences between the death rates from phthisis in many of the occupations in the foregoing table, the respective rates at each of five age periods have been compared with those for farm labourers, the death rate for the last mentioned class having been taken as 100 at each age group. The resulting figures, which have merely a comparative value, and do not indicate actual death rates, are given below.

COMPARATIVE TUBERCULAR MORTALITY FIGURES FOR CERTAIN OCCUPATIONS (RATES FOR FARM LABOURERS TAKEN AS 100 AT EACH AGE GROUP).

Occupation.	Age Groups.				
	20–25.	25–35.	35–45.	45–55.	55–65.
Farm labourer, farm servant	100	100	100	100	100
General labourer	311	459	640	606	449
Tool, scissors, saw, needle makers	153	272	496	536	504
Brush, broom maker, hair, bristle worker ..	253	359	408	468	210
Printer	333	338	408	322	328
Innkeeper, publican; spirit, wine, beer dealer	161	355	366	222	188
Shoemaker	284	294	356	315	247
Wood turner, cooper	150	267	318	415	284
Tailor	203	240	336	313	254
Glass manufacture	177	266	383	367	285
Saddler, harness maker	277	238	293	268	214
Coach, cab, omnibus service, groom ..	119	205	301	297	264
Tramway service	205	266	224	186	193
Cabinetmaker, &c.	161	202	319	288	260
Stone, slate quarrier	168	139	178	324	399
Draper, linen draper, mercer	215	246	222	197	255
All textile manufactures	182	186	227	253	251
All building trades	115	158	248	262	254
All metal workers	146	186	232	246	246
All shopkeepers	166	191	192	171	170
Coal miner	99	85	88	111	177
Farmer, grazier, &c.	94	95	82	83	83

According to the experience of England and Wales in 1900-2 the relative ratios of deaths in each year from phthisis out of a given number of persons aged 35-45 in each occupation will be as follows:—Farm labourers, 100; general labourers, 640; tool, scissors, and other instrument makers, 496; brush, broom-makers, and hair and bristle workers, and printers, 408; hotelkeepers, 366; shoemakers, 356; wood-turners, coopers, 318; tailors, 336; persons engaged in glass manufacture, 383; textile workers, 227; metal workers, 232; coal-miners, 88; and farmers and graziers, 82. Adopting a similar comparison for the age period 45-55 the following will be the number of deaths:—Farm labourers, 100; tool, scissors, and other instrument makers, 536; stone and slate quarriers, 324; coach, cab, and omnibus drivers, and grooms, 297; all building trades, 262; coal-miners, 111; and farmers and graziers, 83. An examination of the comparative figures in the above table and of the actual mortality rates in the preceding one shows that the occupations in which occur the highest death rates from phthisis are mainly those which are distinguished by the prevalence of dusts—especially metallic and mineral dusts. In some occupations other factors have probably had an important influence. General labourers may, through lack of constant employment, be reduced to straitened circumstances, and so be unable to obtain sufficient nourishment. In this class also are included many persons who were at some period of their lives engaged in unhealthy occupations. In the case of hotelkeepers there may be impairment of constitution due to the risks attaching to the trade. In some of the other occupations there may be contributing causes of a special nature, but allowing for such causes it is evident that the prevalence of dust is highly deleterious, and that any measures which may be taken for the prevention of pulmonary tuberculosis should include provision for reducing, as far as possible, the dusts prevalent in many trades and in the streets.

Tubercular diseases (phthisis excepted).

In 1909 there were in Victoria 246 deaths from tubercular diseases (excluding phthisis), which corresponded to a rate of 192 per million, as compared with rates of 200 in 1908, 209 in 1907, 273 in 1906, 282 in 1905, 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 of each Sex Living.			
	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 of 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 in 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 1909 slightly less than one-half per cent. of the persons who died were born outside and resident less than one year in Australia, and 1.3 per cent. had resided in the continent for a shorter period than five years.

Cancer

Deaths from cancer in 1909 numbered 1,030, and represented a death rate of 802 per million of the whole population as compared with rates of 794 in the previous year, 796 in 1907, 755 in 1906,

and 786 in 1905. 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 with 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 each Sex Living.		
	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 the 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 1909:—

SEAT OF CANCER, 1909.

Seat of Disease.	Males.	Females.	Total.
Cancer of the mouth	95	6	101
,, the stomach and liver	234	157	391
,, the peritoneum, the intestines, and the rectum	79	69	148
,, the female genital organs ...	...	105	105
,, the breast	...	80	80
,, the skin	22	13	35
,, the other organs	100	70	170
Total Deaths	530	500	1,030

Over one-third of the persons who died from cancer were affected in the stomach and liver. Of the total females dying from the disease more than one-third were affected in the genital organs and the breast. Cancer of the mouth accounted for about sixteen times as many deaths among males as among females.

Death Rates from Cancer in various countries.

Deaths from cancer per 10,000 of the population in various countries, for the latest year for which this information is available, are given in the following table:—

DEATH RATES FROM CANCER IN VARIOUS COUNTRIES.

Country.	Year.	Deaths per 10,000 of Population.	Country.	Year.	Deaths per 10,000 of Population.
Switzerland ...	1907	12·5	New Zealand ...	1908	7·0
The Netherlands ...	1908	10·3	New South Wales	1909	7·0
Norway	1907	10·0	Western Australia	1909	6·6
Scotland	1907	9·6	Italy	1908	6·4
England and Wales	1908	9·2	Ontario, Province of	1906	6·4
Victoria	1909	8·0	Tasmania ...	1909	6·2
Austria	1906	7·8	Belgium	1907	6·0
Ireland	1908	7·6	Queensland ...	1909	5·9
South Australia ...	1909	7·5			

Victoria showed a lower death rate from cancer than five 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 elderly people in the community amongst whom the mortality is greatest.

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 1909, 734 male and 533 female deaths were ascribed to this cause. The deaths at these ages from all causes during the year numbered 5,506—3,136 males and 2,370 females. It is thus seen that 23.4 per cent. of the male and 22.5 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 1909 there were 466 male and 173 female deaths attributed to accidents and negligence, which represented a rate of 498 per million of the population. This proportion was the lowest during the past five years and about 40 per cent. below the rate—811—for 1890-2. The greatest reduction occurred in the death rate from drowning, which was 90 per million in 1909, as against 200 in 1890-2. Of the deaths ascribed to drowning, 87 were those of males, and 28 of females. Fractures and other accidental injuries accounted for 287 male and 40 female deaths, and furnished a death rate of 255 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 1909 having been 560 and 416 respectively. In the year under review 3 male and 8 female deaths occurred through the administration of anæsthetics by medical practitioners. Chloroform was used in 9 of these cases, while in the other 2 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 11 persons who died from this cause only one was over 45 years of age.

Suicide.

During the year 1909, 93 males and 25 females took their own lives. The deaths represented a rate of 92 per million of the population as compared with rates of 92 in the previous year, 95 in 1907, 90 in 1906, 115 in 1905, and 109 in 1890-2. The rate in the year under review was below that for Australia—112—and that for England and Wales—107—in 1908. A much lower rate from suicide obtains among females than among males, the rate for the former having been only about one-fourth of that for the latter in 1909.

The deaths ascribed to homicide in 1909 numbered 16, of which 7 were of males and 9 of females. These represented a rate of 12 per million of the population, which was the lowest during the past five years, and only about one-third of the proportion in 1890-2, but was considerably higher than the rate—9 per million—which prevailed in England and Wales in 1908. 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. Homicide.

The experience of the period 1906-9 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 four years 1906-9 in the following table:— Deaths of married women in childbed.

DEATH RATES OF MARRIED MOTHERS IN CHILDBED IN AGE GROUPS, 1906-1909.

Age Group.	Married Mothers.		
	Confinements.	Deaths.	Deaths per 1,000 Confinements.
Under 20 years	3,057	10	3·27
20 to 25 "	23,481	65	2·77
25 " 30 "	32,481	118	3·63
30 " 35 " ...	27,513	144	5·23
35 " 40 "	20,446	130	6·36
40 " 45 "	8,415	65	7.72

A rapidly increasing death rate is shown for each succeeding age group beyond 20-25, the rate for 40-45 being nearly three times that for 20-25. During the last four years the number of deaths per 1,000 married women in first confinements was 5.43, as against an average of 4.36 for subsequent ones.

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 fell decade by decade from 64 per 10,000 in 1871-80 to 56 in 1891-00. In the years 1901 and 1902, Deaths in childbed.

however, the rate was as high as in the decade 1871-80. The proportions which prevailed in the last nine 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	65·39
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
1909 ..	97	36	133	42·16

Deaths in childbed from septic diseases.

The proportion per 1,000 births of deaths in childbirth from septic diseases was 1.14 in 1909, 1.54 in 1908, 1.37 in 1907, 1.65 in 1906, and 1.93 in 1901-5. In England and Wales for 1908 the proportion was 1.45.

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 1905 to 1909, 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.
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
1909	13·33	17·19	17·55	15·19	17·81	19·89	16·07	18·07
Mean	12·88	16·83	16·55	14·12	18·35	18·92	15·55	17·60

The mean natural increase in the Australian States for the period 1905-9, viz., 15.55 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 nearly all periods of life are below those of England and Wales. The Australian annual rate of increase due to excess of births over deaths —15.55—would enable a population to double itself in 45 years, whilst at the Victorian rate of 12.88 per 1,000 of population a period of 54 years would be required.

Natural increase per 1,000 of population in various countries.

The rate of natural increase in Australia for 1905-9 is higher than in Japan and all European countries, except Bulgaria, Russia, and Servia, on the average of the latest five years for which this information is available. The rates for various countries are given below :—

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	20·8	Victoria	12·9
Tasmania	18·9	Norway	12·7
Western Australia ...	18·3	England and Wales ...	11·7
New Zealand ...	17·6	Scotland	11·6
Russia (European) ...	17·6	Austria	11·1
New South Wales ...	16·8	Italy	11·0
Queensland	16·5	Sweden	10·7
Servia	15·8	Hungary	10·7
Australia	15·5	Japan	10·2
The Netherlands ...	15·3	Switzerland	10·0
Prussia	15·1	Belgium	9·8
Roumania	14·7	Spain	9·1
Germany	14·2	Ontario, Province of ...	8·7
Denmark	14·2	Ireland	5·9
South Australia ...	14·1	France	·8

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

Excess of births over deaths in Australasia.

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 1905 to 1909, together with the mean excess for the same period:—

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.
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
1909 ...	119	176	181	166	181	199	158	196
Mean...	108	167	165	144	169	175	145	183

Taking the average of the period 1905-9, it is seen that the least excess in Australasia was in Victoria, and the greatest in New Zealand. To every hundred deaths that occurred there were 208 births in Victoria, 267 in New South Wales, 265 in Queensland, 244 in South Australia, 269 in Western Australia, 275 in Tasmania, 245 in Australia, and 283 in New Zealand.

Excess of 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 436, 358, and 310 births respectively, as against 194 births in the Metropolitan, 213 in the Central, and 195 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 years 1908 and 1909.

EXCESS PER CENT. OF BIRTHS OVER DEATHS IN DISTRICTS.

District.	Excess per cent. of Births over Deaths.		
	1905–7.	1908.	1909.
Metropolitan	81	74	94
Central	121	96	113
North Central	87	87	95
Western	110	101	118
Wimmera	179	175	210
Mallee	305	331	336
Northern	122	113	134
North Eastern	133	114	173
Gippsland	235	205	258
State ...	108	97	119

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	183	Germany	74
Tasmania	175	Sweden	72
Western Australia ...	169	Scotland	71
New South Wales ...	167	Ontario, Province of ...	63
Queensland	165	Belgium	60
Australia	145	Switzerland	57
South Australia ...	144	Russia (European) ...	56
Victoria	108	Italy	51
The Netherlands ...	101	Japan	49
Denmark	100	Austria	47
Bulgaria	94	Hungary	42
Norway	89	Spain	37
Prussia	81	Ireland	34
England and Wales ...	76	France	4

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 compensated by 245 births in Australia, as compared with 201 in The Netherlands, the highest in Europe, 200 in Denmark, 194 in Bulgaria, 189 in Norway, 181 in Prussia, 176 in England and Wales, 174 in Germany, 171 in Scotland, 156 in Russia, 149 in Japan, and only 104 in France, which had the lowest excess rate of all the countries shown.

Annual increase per cent. in population in various countries.

The average annual rate of increase in population in Victoria was lower for the period 1901-9 than in any of the other Australian States except Tasmania. It was also below the rates in New Zealand, Canada, the United States, England and Wales, Scotland, Germany, Austria, Spain, Japan, Switzerland, Belgium, The Netherlands, Prussia, and Denmark. The following statement shows the annual

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

RATES OF INCREASE IN POPULATION IN VARIOUS COUNTRIES.

Country.	Period.	Annual Rate of Increase per cent.	Period required to double Population.
			Years.
Western Australia ...	1901–9	4·84	15
Canada	1901–9	3·63	19
New Zealand	1901–9	2·82	25
New South Wales ...	1901–9	2·17	32
South Australia ...	1901–9	1·75	40
United States	1901–8	1·67	42
Prussia	1901–8	1·55	45
Queensland	1901–9	1·53	46
The Netherlands ...	1901–8	1·48	47
German Empire ...	1901–7	1·45	48
Japan	1901–7	1·30	54
Denmark	1901–8	1·28	54
Belgium	1901–8	1·19	59
England and Wales ...	1901–8	1·15	61
Scotland	1901–8	1·06	66
Austria	1901–7	1·02	68
Hungary	1901–8	1·02	68
Switzerland	1901–7	·96	73
Spain	1901–8	·84	83
Victoria	1901–9	·81	86
Tasmania	1901–9	·74	94
Italy	1901–8	·71	98
Sweden	1901–8	·67	103
Norway	1901–8	·55	127
France	1901–8	·11	634
Ireland	1901–8	−·24	...

The very high rate of increase in population in Western Australia was 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 eight years.