VITAL STATISTICS.

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 by any duly appointed registrar of marriages. In order to guard against the celebration of marriages by undesirable persons, the present law provides that no person shall be registered as a minister of religion unless he ordinarily officiates as such in one of the officially recognised religious denominations, is supported by the recognised head of the denomination in Victoria, or, if there be no such head, then by at least two registered ministers; and satisfies the Government Statist that he is a fit and proper person to celebrate marriages. The Governor in Council may prohibit from celebrating marriages any minister who is proved guilty of any offence, misconduct, or impropriety unworthy of his calling; and the Government Statist may cancel the registration of any minister who ceases to officiate or otherwise loses his qualifications. Any clergyman or person officiating as such who celebrates a marriage without being duly registered, or any person who obtains registration 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. 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 no such appointment (*c*) of the mother if within Victoria; if there be no such parent or guardian (*d*) of a police magistrate, or a justice appointed for the purpose by the Chief Justice or a Judge of the Supreme Court. If the mother has been deserted by the father, or obtained a protection order against him, or if, through divorce or judicial separation she has become the guardian *de facto*, her consent is sufficient authority for the marriage. If the minor is a ward of the Neglected Children's or Reformatory Schools Department, the Departmental Secretary's consent is the authority. In all cases the consent must be indorsed on the marriage certificate. Marriages of Jews and Quakers are exempted from the above provisions, and are deemed legal and valid if celebrated according to their respective usages. To guard against the abuse of the system of matrimonial agencies, the Governor in Council is empowered, if deemed expedient, to prohibit ministers from celebrating marriages in any undesirable place or building. No marriage shall be invalid by reason of having been celebrated by an unqualified person if either of the parties shall have believed at the time that such person was qualified, nor by reason of any formal defect or irregularity. Marriage with a deceased wife's sister has been legalized in Victoria since 1873; but there is no provision to validate a marriage of a woman with a deceased husband's brother.

3933.   S

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) of the officiating clergymen and lay registrars; and copies of all entries certified by him or by the Assistant Government Statist, are *primâ facie* evidence in the Courts of Australia of the facts to which they relate. At the head office in Melbourne there is kept for reference a complete collection of all registrations effected since 1st July, 1853, as well as certified copies or originals of all existing church records relating to earlier periods, as far back as 1837. For the registration of births and deaths, the State is divided into over 600 registration districts, for each of which a registrar is appointed, who (if not a public servant) is paid by fees at the rate of 2s. 6d. per entry, but is not prevented from following his or her own private business; whilst the marriages are recorded by the clergyman or lay registrar who performs the ceremony. Registrations of marriages are made in triplicate, and of births and deaths in duplicate—each copy bearing the original signatures of the parties married and witnesses (in case of marriage), or of the informant (in case of a birth or death), and of the registrar. One copy is retained by the registrar or clergyman; one 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. The parents of a legitimate child born in Victoria, or the occupier of a house wherein a birth or death occurs, is required under a penalty of £10 to give notice (either personally or by authorized agent) to the registrar of the district within 60 days after the birth, and within 7 days after the death. (As an alternative, the notice may be given by the attending doctor or nurse.) If an illegitimate child is born in any house or place of which the mother of the child is not the occupier, or if an illegitimate child, under five years of age, dies in, or its dead body is brought to, any house or place, the occupier must give notice to the local registrar within three days if within any city, town, or borough, or to either the local registrar or police officer in charge, if elsewhere. In the case of an illegitimate birth, if the mother is the occupier the notice must be given within three weeks. The penalty for breach of this is imprisonment for six months or a penalty of £25. No fee is charged for registration, except in the case of a birth registered after sixty days, when 5s. is charged if within twelve months, and 12s. 6d., if over one year. Applicants for searches or certificates of births, deaths, or marriages should, in applying to the Government Statist, furnish particulars of the date and place of the event; also the names of the parties in the case of a marriage, or the name, age (if a death), and parentage in the case of a birth or death.

MARRIAGES.

Marriages in 1907 numbered 9,575, which was the highest ever recorded, and was 645 more than in the preceding year, 1,970 greater than 1903, and 1,176 above the average of the period 1902-6. The marriages in Victoria in each of the last seventeen years are as follow :—

MARRIAGES IN EACH YEAR, 1891 TO 1907.

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

Between 1891 and 1894, a period of commercial depression, a fall in the number of marriages amounting to 20 per cent. took place, but since 1894 an upward movement is shown in each year, excepting 1897 and 1903. As the tendency to marry is necessarily influenced by the view taken of present and future prospects, the large increase in the number of marriages in the past four years evidences a belief in the present and prospective prosperity in the State.

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

MARRIAGE RATES, 1898 TO 1907.

Year.	Marriage Rate.	Year.	Marriage Rate.
1898	... 6.44	1903	... 6.29
1899	... 6.86	1904	... 6.80
1900	... 6.96	1905	... 7.24
1901	... 6.97	1906	... 7.28
1902	... 7.00	1907	... 7.68

With the exception of 1903 there was a perceptible yearly increase in the marriage rate since 1898, that for 1907 being the highest during the last seventeen years.

Factors in marriage rates.

It has been frequently shown that the marriage rate is not so dependent upon the number of marriageable women as upon the number of marriageable men the community contains, and, to demonstrate this the following table is designed, showing the proportion of marriages to the population, to the number of single men, and of single women in each census year 1854 to 1901 :—

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

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

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

Fluctuations in marriage rate.

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

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

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

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

* In the case of men 20-25.

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

In the last two periods, as compared with the first, there is every Tendency amongst men to defer marriage. 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.

In the case of marriageable women, there was, it will be observed, Fall in marriage rates of women at all ages. a fall between 1881 and 1891, and a still 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. The fall between 1891 and 1901 was almost uniformly distributed over the various age groups, and averaged about 18 per cent. 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 1907 are shown in combination for various groups in the following table:—

AGES OF BRIDEGROOMS AND BRIDES IN COMBINATION IN VICTORIA, 1907.

Ages of Brides.	\(\) Ages of Bridegrooms																	Total Brides.
	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 and upwards.	
14	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
15	...	...	1	1	1	6	7	...	1	...	...	...	...	...	...	...	...	17
16	...	2	1	4	3	23	11	4	...	...	...	...	...	...	...	...	...	48
17	1	1	7	8	8	65	37	11	3	1	...	...	...	...	...	...	...	142
18	...	...	6	24	16	145	68	18	8	2	1	...	...	...	...	...	...	288
19	...	...	5	13	27	209	135	26	16	3	3	1	...	...	...	...	...	438
20	...	...	2	14	23	266	171	57	23	3	1	...	...	...	...	...	...	560
21 to 25 ...	...	...	2	17	31	1,376	1,349	462	189	69	18	3	...	1	...	1	...	3,518
25 to 30 ...	...	...	...	2	6	286	1,088	624	325	111	26	23	8	4	...	...	...	2,503
30 to 35 ...	...	...	...	1	...	46	217	327	254	128	55	20	4	1	1	1		1,056
35 to 40 ...	...	...	...	...	...	8	43	97	132	104	57	24	10	5	4	1	3	488
40 to 45 ...	...	...	...	...	...	2	4	27	53	57	60	28	14	5	1	4	1	256
45 to 50 ...	...	...	...	...	...	1	1	9	14	22	33	16	14	13	5	2	4	134
50 to 55 ...	...	...	...	...	...	...	...	...	3	4	12	17	8	10	2	6	...	62
55 to 60 ...	...	...	...	...	...	...	...	...	...	...	4	2	5	7	6	3	1	28
60 to 65 ...	...	...	...	...	...	...	...	...	...	...	2	2	2	1	4	1	...	12
65 to 70 ...	...	...	...	...	...	...	...	...	...	...	2	1	1	...	4	4	3	15
70 to 75 ...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	2	1	1	7
75 and over	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	2
Total Bridegrooms ..	1	3	24	84	115	2,434	3,131	1,662	1,021	504	274	138	67	48	30	24	15	9,575

Some inequalities of age appear amongst the persons married, as for instance, a man between 35 and 40 was married to a girl of 15 years of age, 4 men between 30 and 35 to girls of 16, and 1 between 70 and 75 years of age to a woman between 21 and 25. About 32 per cent. of the contracting parties were about the same age, whilst 10 per cent. of the brides were older than their bridegrooms. Of the total bridegrooms and brides, 69 of the former and 24 of the latter were over 65 years of age.

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, 1891-5, and for the year 1907 :— *Proportion of marriages at various ages.*

PROPORTION OF MALES AND FEMALES MARRYING AT DIFFERENT AGES, 1881-90, 1891-5, AND 1907.

Ages (Years).			Proportion per 1,000 of total.					
			Bridegrooms.			Brides.		
			1881–90.	1891–5.	1907.	1881–90.	1891–5.	1907.
Under 15	...	...	...	...	...	·15	·13	·10
15 to 16	...	...	...	...	...	1·17	1·31	1·78
16 to 17	...	...	·03	·08	·10	6·53	5·70	5·01
17 to 18	...	...	·29	·16	·31	20·32	17·21	14·83
18 to 19	...	...	1·46	1·30	2·50	42·94	35·27	30·08
19 to 20	...	...	5·62	5·52	8·77	65·03	50·48	45·74
20 to 21	...	...	15·19	11·94	12·01	73·84	62·09	58·49
21 to 25	...	...	321·02	262·69	254·20	432·34	398·04	367·41
25 to 30	...	...	365·48	383·61	327·00	223·83	268·61	261·41
30 to 35	...	...	134·57	182·99	173·58	62·07	87·42	110·29
35 to 40	...	...	58·29	68·17	106·64	29·53	34·68	50·97
40 to 45	...	...	32·54	29·09	52·64	17·10	16·73	26·74
45 to 50	...	...	24·77	17·66	28·62	12·23	8·74	13·99
50 to 55	...	...	18·40	12·57	14·41	6·74	6·15	6.48
55 to 60	...	...	11·49	8·71	7·00	3·40	3·92	2·92
60 and over	...	...	10·85	15·51	12·22	2·78	3·52	3·76
Total	...	...	1,000·00	1,000·00	1,000·00	1,000·00	1,000 00	1,000·00

It will be observed that in later years the proportion of both sexes marrying between 21 and 30 shows a decline. This is more marked amongst the men than the women, the former having fallen from 69 per cent. in 1881-1890 to 58 in 1907—or 16 per cent.—as compared with a decline of only 4 per cent. amongst the women. On the other hand, a large increase occurred in later years in the proportions of biidegrooms and brides between 30 and 40, the former being 19 and the latter 9 per cent. in 1881-1890 as against 28 and 16 per cent. respectively in 1907.

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 1907 the mean age at marriage of bachelors —29.04—with that of divorced men and of widowers—39.94 and 46.35 respectively. The average age of spinsters marrying was 25.54 as against 34.79 for divorced women and 41.47 for widows. Although the ratio of re-marriages declined there was a gradual rise in the marrying ages of bridegrooms marrying brides under 45, and of such brides during the 27 years ended 1906. For 1907, however, the *Increased age at marriage.*

average age at marriage was slightly lower than in the previous year, as will be seen in the following table:—

MEAN AGES AT MARRIAGE.

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

In the two earlier periods shown, the difference between the mean ages of brides under 45 and their bridegrooms was about 5, as compared with 4 years in the five later periods. The mean age of all bridegrooms during 1907 was 30.44, which was nearly 2 years higher than that of England and Wales—28.56—during the year 1906.

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 mean rates for the whole period:—

MARRIAGE RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND:
1903 TO 1907.

Year.	Victoria.	New South Wales.	Queens-land.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand
1903 ..	6·29	6·88	5·72	6·21	9·33	7·53	6·67	8·27
1904 ..	6·80	7·21	5·93	6·85	8·83	7·55	7·00	8·26
1905 ..	7·24	7·42	6·04	6·94	8·48	7·61	7·21	8·28
1906 ..	7·28	7·63	6·73	7·05	8·70	7·74	7·43	8·48
1907 ..	7·68	7·84	7·58	7·94	8·02	7·91	7·78	8·91
Mean	7·06	7·40	6·40	7·00	8·67	7·67	7·22	8·44

It will be observed that, according to the average of the five years, the lowest marriage rates prevailed in Queensland, South Australia, and Victoria, in that order, and the highest in Western Australia, closely followed by New Zealand. In Victoria the rate was somewhat below, and in New South Wales slightly above, the average for Australia. For the year 1907, all the States, except Western Australia, showed an increase in the marriage rate as compared with the

previous year, varying from nearly 13 per cent. in Queensland to 2 per cent. in Tasmania. The rate in Australia increased by 4.7 per cent. in the same year.

The average marriage rate in Australia for the period 1903-7 was lower than in ten of the fifteen European countries shown in the following table during the years 1902-6:—

<div style="margin-left:2em;font-style:italic;">Marriage rates in European countries.</div>

MARRIAGES PER 1,000 OF THE POPULATION IN EUROPEAN COUNTRIES, 1902-6.

Hungary	..	8·6	Italy	..	7·5
Belgium	..	8·0	Holland	..	7·4
German Empire (1901–5)	..	8·0	Denmark	..	7·2
Spain	..	7·8	Scotland	..	6·9
Austria (1901–5)	..	7·8	Norway ..	..	6·0
England and Wales	..	7·8	Sweden ..	..	5·9
France	..	7·6	Ireland ..	..	5·2
Switzerland (1901–5)	..	7·5			

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 male adults per 1,000, aged 21 and upwards, such as is contained in the following statement for the average of the three years, 1900 to 1902:—

<div style="margin-left:2em;font-style:italic;">Marriages in proportion to marriageable males in Australasia.</div>

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

Formerly the marriages which were celebrated in urban and rural districts were compared with the populations of those districts respectively, but as the place where a marriage is solemnized is no guide as to domicile, the method has been abandoned, and the classification according to the usual residence of the parties adopted instead. The

<div style="margin-left:2em;font-style:italic;">Marriage rates in urban and rural districts.</div>

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 1907 :—

USUAL RESIDENCE OF BRIDES AND BRIDEGROOMS DURING 1907.

Usual Residence of Bridegroom.	Usual Residence of Bride.				Total Bride-grooms.	Proportion of Bride-grooms per 1,000 of Population.
	Metro-politan.	Other Urban.	Rural.	Outside Victoria.		
In Victoria—						
Metropolitan Districts	3,811	118	235	46	4,210	7·9
Other Urban Districts	134	1,100	250	15	1,499	7·2
Rural Districts	386	313	2,659	36	3,394	6·7
Outside Victoria ..	172	58	122	120	472	..
Total Brides	4,503	1,589	3,266	217	9,575	7·7
Proportion of Brides per 1,000 of Population ..	8·5	7·6	6·5	..	7·7	..

Of the 352 men residing outside the State who married Victorian women, 152 were residents of New South Wales, 21 of Queensland, 34 of South Australia, 51 of Western Australia, 42 of Tasmania, 19 of New Zealand, 10 of the United Kingdom, and 23 of other countries.

It will be noticed that 5 per cent. of the bridegrooms, and over 2 per cent. of the brides, resided outside the State. Excluding non-residents, these figures show that the marriage rate—for both males and females—was higher in the metropolitan and other urban districts than in rural districts, and such is usually the case.

Compared with the average of the five years, 1900-4, the marriage rate of both sexes in 1907 showed a marked increase in the metropolitan and the rural districts ; but only a small increase in the urban districts. The rates prevailing in each division of the State for the two periods are shown in the following statement :—

Period.			Marriage Rates in Victoria.		
			Metropolitan.	Urban.	Rural.
Males { 1900-4	...	...	6·9	6·8	5·8
1907	...	...	7·9	7·2	6·7
Females { 1900-4	...	...	7·5	7·4	5·5
1907	...	...	8·5	7·6	6·5

In order to obtain some information regarding the influence of occupation upon the marrying age, the following table has been constructed, based upon 8,119 of the marriages which took place in 1907, in which definite occupations were given :—

AGE AT MARRIAGE ACCORDING TO OCCUPATIONS.

Occupation.	Number Married.	Average Age at Marriage.	Percentage Marrying at Age Group.			
			Under 25.	25 to 35.	35 to 45.	45 and over.
Ironworker, Foundry Employé, &c.	141	27·94	41·13	44·68	12·06	2·13
Hairdresser, Tobacconist	70	28·18	45·71	41·43	8·57	4·29
Carter, Driver, Carrier ...	387	28·62	41·35	43·15	9·56	5·94
Coachbuilder	71	28·85	45·07	35·21	14·08	5·64
Labourer	1,431	29·07	36·06	45·63	13·42	4·89
Grocer, Baker, Butcher, Fruiterer	538	29·09	33·27	49·44	13·94	3·35
Mechanical Engineer, Fitter, Engine-driver ...	337	29·34	31·45	51·34	12·46	4·75
Constable, Warder, Soldier	67	29·59	32·84	47·76	14·92	4·48
Salesman, Storeman, &c.	225	29·63	24·89	59·56	12·44	3·11
Clerk	428	29·67	27·81	55·14	14·25	2·80
Bootmaker	160	29·85	36·25	45·00	9·38	9·37
Tailor	141	29·92	26·95	55·32	13·48	4·25
Miner	594	29·95	32·32	47·82	13·97	5·89
Carpenter, Bricklayer, Mason, &c.	529	30·03	32·33	45·37	15·12	7·18
Rail and Tram Employé	230	30·31	27·83	49·56	18·26	4·35
Printer, Stationer, News-agent	145	31·24	24·14	51·03	17·24	7·59
Farmer, Dairy-farmer, Grazier, &c.	1,708	32·13	15·11	57·14	21·43	6·32
Sailor, Mariner ...	88	32·26	20·46	46·59	21·59	11·36
Professional	226	32·41	13·27	60·18	19·47	7·08
Brewer, Cordial-maker, Hotel-keeper ...	94	32·48	25·53	38·30	28·72	7·45
Civil Servant	96	32·69	23·96	39·58	29·17	7·29
Commercial Traveller, Agent, &c.	238	32·92	15·13	53·78	21·01	10·08
School Teacher ...	63	33·01	15·87	61·91	9·52	12·70
Builder, Contractor ...	112	33·52	20·54	46·43	16·96	16·07

An inspection of the table shows that wage-earners marry at an earlier age than persons working on their own account and employers of labour. And further that some wage-earners, such as ironworkers, foundry employés, &c., carters, drivers, carriers, &c., and labourers, who generally receive the highest wage of their occupations in comparatively early manhood, marry at an earlier age than those whose highest wage is reached at a later age, of whom clerks, civil servants, school teachers, carpenters, bricklayers, masons, &c., and railway

employés may be taken as examples. This is emphasised by comparing the proportion of labourers marrying under 25 years of age, which was equal to 36.06 per cent., as against 15.87 of school teachers; 23.96 of civil servants, and 27.81 of the clerks, married during the year. The group comprising farmers, dairy farmers, graziers, &c., shows a late marrying age, and, with one exception (professional), has the lowest proportion marrying at the earliest age division. The average age at marriage of this class is greater than that of ironworkers, foundry employés, &c., by 4.19 years; of hairdressers and tobacconists, by 3.95; of carters, drivers, carriers, &c., by 3.51; of labourers, by 3.06; of grocers, bakers, butchers, &c., by 3.04; of clerks, by 2.46; of miners, by 2.18; and of carpenters, painters, bricklayers, masons, &c., by 2.10 years. The high marrying age of farmers, dairy farmers, graziers, &c., accounts in a large measure for the comparatively low marriage rate of the rural division of the State, as compared with the metropolitan and urban divisions.

Birthplaces of persons married, 1907. The birthplaces of persons married in 1907 show that only a small proportion—equivalent to 21 per 1,000 bridegrooms and 7 per 1,000 brides—was born in foreign countries, of which Germany contributed about one-fourth. Of every 1,000 men married, 857 were born in Australia, 68 in England and Wales, 17 in Scotland, 17 in Ireland, and 20 in other British Possessions. The corresponding proportions for women married were 924, 34, 8, 10, and 17 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 1907, the percentages were 28.47, 24.92, 22.98, and 23.63 respectively.

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

CONJUGAL CONDITIONS OF PERSONS MARRYING, 1871-1907.

Conjugal Conditions.	Percentage of total Marriages.				
	1871–80.	1881–90.	1891–1900.	1901–5.	1907.
Bachelors and Spinsters	80.59	85.84	87.22	88.06	88·59
Bachelors and Widows	7.10	4.72	4.23	3.73	3·76
Widowers and Spinsters	7.75	6.17	6.07	5.94	5·42
Widowers and Widows	4.56	3.27	2.48	2.27	2·23

That these percentages are now approaching somewhat those of a settled community might be inferred from the slight alteration which has taken place between the rates in 1907 and those of the preceding fifteen years. This is corroborated by the similar percentages for England and Wales during the year 1906, which were 88.49 for marriages contracted between bachelors and spinsters, 3.16 between bachelors and widows, 5.32 between widowers and spinsters, and 3.03 between widowers and widows.

The number of divorced persons re-married during 1907 was 109, which was above the average of the preceding four years. Of the 86,188 persons married during the last five years, divorced persons numbered 494, or 1 in every 174 persons, as compared with 1 in every 799 in England and Wales in 1906. The following are the numbers of divorced persons re-marrying in Victoria since 1902 :— *Divorced persons re-marrying.*

DIVORCED PERSONS RE-MARRYING, 1903 TO 1907.

Year.	Males.	Females.	Total.
1903	33	37	70
1904	45	68	113
1905	38	64	102
1906	42	58	100
1907	52	57	109

During the year 1907, the proportion of brides under 21 years of age in Victoria was the lowest of all the Australian States, and the ratio of bridegrooms under 21 was less than in any other State except Western Australia. The precentages for each State were as follow :— *Marriages of minors.*

	Percentage under 21 years of age.	
	Bridegrooms.	Brides.
Victoria	2.37	15.60
New South Wales ...	4.70	24.18
Queensland	3.26	24.19
South Australia ...	3.90	17.77
Western Australia ...	1.47	20.20
Tasmania	4.46	25.02

These ratios show that in Tasmania, Queensland, and New South Wales 1 in every 4 brides was under 21 years of age, in Western Australia 1 in 5, and in Victoria little more than 1 in every 7 was under age. The percentage of minors in Victoria in the year under review was about equal to that of the previous ten years, but below that of the decennium 1881-1890. In England and Wales in 1906 the percentage of bridegrooms under 21 years of age 4.30 is nearly double that in Victoria, whilst that for brides 14.57 is slightly less than in Victoria.

Marriages by principal denominations.   During the five years, 1903 to 1907, an annual average of 8,619 marriages was registered, of which only 101, or 1.2 per cent., were celebrated by lay registrars. This proportion was as high as 7 in the ten years, 1881-90, but dropped to 3.7 in 1894, and has since declined to less than 1 in 1907, probably owing to the competition of matrimonial agencies, which sprang up about 1894. Of the annual average marriages in 1903-7, 1,780 were solemnized according to the rites of the Church of England, 1,428 of the Presbyterians, 1,380 of the Methodists, 349 of the Baptists, 825 of the Independents, 57 of the Lutherans, 1,324 of "other sects"—chiefly Protestants—1,351 of the Roman Catholic Church, and 24 according to those of the Jews.

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

BIRTHS.

Number of births.   The number of births registered in Victoria during the year 1907 was 31,369—15,989 males and 15,380 females. This was 525 above the number recorded for the preceding year, and was the highest recorded since 1896. The figures for each year since 1890 were:—

NUMBER OF BIRTHS IN VICTORIA, 1891 TO 1907.

1891	..	38,505	1897	..	31,310	1903	..	29,569
1892	..	37,831	1898	..	30,172	1904	..	29,763
1893	..	36,552	1899	..	31,008	1905	..	30,107
1894	..	34,258	1900	..	30,779	1906	..	30,844
1895	..	33,706	1901	..	31,008	1907	..	31,369
1896	..	32,178	1902	..	30,461			

During the twenty years ended with 1883, the number of births remained almost stationary; but in 1884 a marked increase took place, which continued during the subsequent seven years; the number in 1891 being the highest. Since 1891, however, a rapid falling off has taken place down to the period embraced in the last ten years, when the number has fluctuated at a lower level than that which had prevailed at any other year since 1886. In connexion with the decline in the number of births between 1891 and 1904 it must be borne in mind that during the intervening period Victoria suffered serious loss of population by emigration, principally to Western Australia. Since 1903, when the fewest births since 1884 were recorded, the numbers have shown a steady increase—the total for 1907 being 1,800 greater than in 1903.

The following table shows the birth rates in Victoria from 1860 Birth rates.
to 1907:—

BIRTH RATES IN VICTORIA PER 1,000 OF POPULATION, 1860 TO 1907.

Year.	Birth Rate.	Year.	Birth Rate.	Year.	Birth Rate.
1860 ..	42·81	1892 ..	32·51	1900 ..	25·79
1865 ..	42·40	1893 ..	31·18	1901 ..	25·78
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

From 1891 to 1903, there was a heavy decline in the crude birth
rate, but, during the last four years a slight continuous improvement
has taken place, that for 1907 being the highest during the last six
years.

In young communities, birth rates calculated per 1,000 of the
population are to some extent unreliable and misleading. In the
earlier years when, owing to immigration, the population consisted
for the most part of men and women at the reproductive period of
life, the rates are obviously high. As time proceeds, however, not-
withstanding that immigration of reproductive adults may be main-
tained, the proportion of such to the total population must con-
tinuously diminish, and with it, of necessity, the birth rate.

A more correct rate is the ratio of the number of legitimate Proportion
births to that of married women under 45, and the following table of births
shows the rate computed in the ordinary manner, also the proportion to popula-
of legitimate births per 1,000 of such women during the last four tion and married
census years:— women.

LEGITIMATE BIRTHS PER 1,000 OF THE POPULATION AND OF MARRIED
WOMEN UNDER 45 YEARS OF AGE.

Year.	Enumerated Population.	Married Women under 45 years of Age.	Legitimate Births.	Proportion of Legitimate Births.	
				Per 1,000 of the Population.	Per 1,000 Married Women under 45 years of Age.
1871 ..	731,528	88,561	26,805	36·64	302·67
1881 ..	862,346	84,831	25,675	29·77	302·66
1891 ..	1,140,405	120,700	35,853	31·44	297·04
1901 ..	1,201,341	127,858	29,279	24·37	229·00

It will be observed that, although the proportion of legitimate births per 1,000 of the population fluctuated considerably during the four census periods, the proportions per 1,000 of married women remained fairly uniform during the first three census years, but showed a decline in 1901 from 297 to 229, being equivalent to nearly 23 per cent.   A noticeable instance of the unreliability of the ordinary birth rate in a new country such as this, appears in the above table on comparing 1881 with 1891, for whereas the birth rate per 1,000 of the population was considerably higher (by nearly $1\frac{3}{4}$) in the later than in the earlier year, yet the proportion of births per 1,000 married women was actually lower.   The fluctuations in the ordinary birth rate from 1871 to 1891 are, therefore, found to have been mainly due to varying proportions of married women in the community at the fruitful period of life.   The exceptional fall since 1891, however, cannot be so explained, as other factors must be involved which require further investigation, and which will be dealt with in the following paragraphs.

Percentage of married women in quinquennial groups under 45 years of age. An analysis of the minor age groups, of which the whole age group, 15 to 45, is composed, will disclose the fact that there has been a considerable falling off in 1901, as compared with previous census periods, in the proportion of married women at the younger, and more fertile ages, but a counter-balancing increase in that at the higher ages—a result chiefly brought about by a decrease in the proportion of young men at marriageable ages, through emigration, and the consequent decline of the female marriage rates at the lower age groups.   Thus, the number of married women under 30 years of age fell from 53,778 in 1891 to 39,230 in 1901, or by 27 per cent., whereas the number over 35, but under 45, increased during the same period from 37,460 to 57,161, or by $52\frac{1}{2}$ per cent.   Relatively to the whole number at child-bearing ages, the married women under 30 years of age fell from $44\frac{1}{2}$ per cent. in 1891 to $30\frac{1}{2}$ in 1901; whilst those at the higher ages, between 35 and 45, rose from 31 to $44\frac{1}{2}$ per cent.   This will be seen in the following statement:—

PERCENTAGE OF MARRIED WOMEN IN AGE GROUPS TO TOTAL UNDER 45 YEARS AT FOUR LAST CENSUS YEARS.

Census Year.	Married Women Under 45 Years of Age—Percentage in each Age Group.					
	15—20.	20—25.	25—30.	30—35.	35—40.	40—45.
1871	2·03	13·04	21·14	23·07	23·32	17·40
1881	1·73	15·95	20·46	20·60	20·97	20·29
1891	1·35	15·69	27·52	24·41	17·21	13·82
1901	·81	9·90	19·83	24·96	24·92	19·58

Of the total married women under 45, the proportion under 25 years of age was slightly higher in Victoria than in England and Wales in 1881 and 1891, but was about 15 per cent. lower in 1901. According to the English Registrar-General's Report for 1905 the

percentage under 25 years of all married women under 45 was 15.2 in 1871, 14.8 in 1881, 13.7 in 1891, and 12.4 in 1901—a fall of 18 per cent. as compared with one of 29 in Victoria in 30 years.

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

Birth rates in Australian States and New Zealand.

BIRTH RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND:
FOR 1891 AND 1903 TO 1907.

Year.	Victoria.	New South Wales.	Queens-land.	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
1903 ..	24·46	25·35	24·62	23·24	30·27	28·47	25·21	26·61
1904 ..	24·65	26·73	27·12	24·70	30·34	29·59	26·30	26·94
1905 ..	24·83	26·72	25·92	23·66	30·30	29·32	26·10	27·21
1906 ..	25·14	27·04	26·31	23·54	30·02	29·52	26·35	27·08
1907 ..	25·16	27·14	26·87	23·82	29·24	29·68	26·44	27·30
Mean of 5 Years	24·85	26·60	26·17	23·79	30·03	29·32	26·08	27·03

Excepting Western Australia all the States show slightly higher birth rates for 1907, than for the previous year. The rate for Australia—26.44—was the highest since 1902, and was slightly greater than for the preceding year. The births in Australia in the year under review numbered 110,344, and the deaths 45,304, thus showing a natural increase of 65,040 persons, which was 6,765 above the average—58,275—of the preceding five years.

According to the average of the last five years, the highest birth rate prevailed in Western Australia and the lowest in South Australia. The comparison of these rates is not a reliable one, but it is useful for certain purposes. As already explained in the case of Victoria, it cannot be relied on as an index of the productiveness of married women, which can be more closely gauged by a comparison of the legitimate births with the number of married women at reproductive ages. Such a comparison is effected in the subjoined return, which shows the results for each Australian State and for New Zealand at the two census years 1891 and 1901:—

Decline in the number of legitimate births.

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

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

It will be seen from these figures that between 1891 and 1901 there was a pronounced decline in the proportion of legitimate births to married women under 45 years of age in the different States, varying from 31 per cent. in Western Australia, 24 in South Australia, 23 in Victoria, to about 20 in Queensland and Tasmania, and to nearly 12 per cent. in New Zealand.

Similar information regarding various European countries, the Australian States and New Zealand is 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	315·3	− 9·3
Norway	314·5	306·8	302·8	− 3·7
Prussia	312·6	307·6	290·4	− 7·1
Ireland	282·9	287·6	289·4	+ 2·3
German Empire	310·2	300·9	284·2	− 8·4
Austria	281·4	292·4	283·7	+ 0·8
Scotland	311·5	296·4	271·8	− 12·7
Italy	276·2	?	269·4	− 2·5
Sweden	293·0	280·0	269·0	− 8·2
Switzerland	284·1	274·0	265·9	− 6·4
Denmark	287·1	278·1	259·1	− 9·8
Spain	257·7	263·9	258·7	+ 0·4
Belgium	312·7	285·1	250·7	− 19·8
England and Wales	286·0	263·8	235·5	− 17·7
France	196·2	173·5	157·5	− 19·7
Tasmania	?	311·0	256·4	?
Queensland	329·0	320·6	252·8	− 23·2
Western Australia	323·9	338·8	246·4	− 23·9
South Australia	326·5	307·5	235·0	− 28·0
New South Wales	337·8	298·5	234·3	− 30·6
Victoria	299·2	297·8	226·8	− 24·2
New Zealand	322·1	277·5	243·2	− 24·5

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

The ordinary birth rate (per 1,000 of the total population) is only of value when comparing results of two or more countries where the proportions and ages of married women between 15 and 45 are alike, but as these conditions vary in each community any comparisons of rates computed on this basis are misleading. In expressing birth rates of different countries in proportion to population it is necessary that factors for correction of such rates should be used based upon the ages and proportion of married women between 15 and 45 by comparison with a standard proportion, in order to make the results comparable. This has been done by Drs. Newsholme and Stevenson in the *Journal of the Royal Statistical Society* for March, 1906, in a paper on the "Decline of Human Fertility in the United Kingdom and other countries as shown by a Corrected Birth Rate," and the results are given in the following table for the periods 1880 or 1881 and 1901-4.

CORRECTED BIRTH RATES IN VARIOUS COUNTRIES AND CITIES.

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

The above method of calculating birth rates allows for the differing ages and proportions of married women at child-bearing

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

Birthplaces of parents of legitimate children. The birth records for 1907 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, this experience may be expected, within small limits, in future years. In the year under review, 80 out of every 100 children were born to Australian parents, and 97 out of every 100 to one or both parents born in Australia. Of the total fathers, 77.52 per cent were born in Victoria; 85.28 in Australia; 1.35 in New Zealand; 6.80 in England and Wales; 1.78 in Scotland; 2.28 in Ireland; .37 in other British Possessions; and 2.14 in foreign countries. The corresponding percentages for mothers were: Victoria, 83.56; Australia, 92.60; New Zealand, 1.32; England and Wales, 3.14; Scotland, .77; Ireland, 1.30; other British Possessions, .20; and in foreign countries, .67.

Chinese and half-caste Chinese births, 1903-7. The births to Chinese parents numbered 57, and the Chinese half-caste births (fathers only Chinese) amounted to 163 during the five years 1903-7.

Ages of parents of legitimate children. The average ages of fathers and mothers of legitimate children whose births were recorded in 1907 were 34.93 and 30.50 years respectively, which were 5.15 and 4.68 years above the average age of bridegrooms marrying brides under 45 years of age, and of such brides for the same period. The proportions of both parents in

various age groups are shown in the following table for the latest year : —

PERCENTAGE OF PARENTS IN AGE GROUPS, 1907.

Father.		Mother.	
Age Group (Years).	Proportion per 100 Births.	Age Group (Years).	Proportion per 100 Births.
Under 20	·20	Under 20	2·55
20 to 25	8·36	20 to 25	20·11
25 to 30	21·27	25 to 30	27·58
30 to 35	23·07	30 to 35	23·67
35 to 40	21·46	35 to 40	18·09
40 to 45	15·41	40 to 45	7·30
45 to 50	7·33	45 and over ...	·70
50 and over	2·90		
Total ...	100·00	Total ...	100·00

It will be seen that on the experience of 1907, 47.69 per cent. of the mothers were between 20 and 30, and 41.76 per cent. between 30 and 40. The proportions of fathers at corresponding ages were 29.63 and 44.53 per cent. Of every 1,000 legitimate births, about 26 were due to mothers under 20 years, and only 7 to mothers aged 45 years and upwards.

The proportion of legitimate births recorded as first births was 21.87 per cent. in 1901 as compared with 24.78 in 1906 and 24.98 in 1907, an increase of nearly 14 per cent. in the intervening period. The numbers and percentages of mothers of first births at various ages are shown in the subsequent table for the latest two years :— *Ages of mothers of first births 1906-7.*

NUMBER AND PERCENTAGE OF MOTHERS OF FIRST-BORN CHILDREN IN AGE GROUPS, 1906 AND 1907.

Ages.				Mothers.			
				1906.		1907.	
				Number.	Per cent.	Number.	Per cent.
Under 20				634	8·8	615	8·3
20 to 25				2,935	40·9	3,064	41·4
25 to 30				2,198	30·6	2,231	30·2
30 to 35				959	13·4	1,003	13·6
35 to 40				376	5·3	398	5·4
40 to 45				70	1·0	78	1.1
45 and over				3	...	3	...
Unstated				...	...	3	...
Total				7,175	100·0	7,395	100·0

The experience of the year 1907 shows that of every 100 mothers of first-born children, 8.3 were under 20 years of age, 49.7 were under 25, 79.9 were under 30, and only 1 aged 40 to 45. These proportions are very similar to the ratios of brides in the same groups during 1907, which showed that 9.8 per cent. of the women marrying were under 20, 52.3 per cent. were under 25, 78.5 per cent. under 30, and only 2.7 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, and the averages of the years 1901-5 and for the years 1906 and 1907.

BIRTH RATES IN METROPOLITAN, OTHER URBAN, AND RURAL DISTRICTS, 1875 TO 1907.

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

It is seen from this table that the urban and rural divisions of the State had a slightly lower, and the metropolitan area a higher, rate than in the preceding year.

Birth rates in seven principal country towns.

The birth rates in the seven principal country towns are shown in the following table for the years 1903-7 :—

BIRTH RATES IN THE SEVEN PRINCIPAL COUNTRY TOWNS, 1903 TO 1907.

Year.	Births, per 1,000 of the Population.						
	Ballarat and Suburbs.	Bendigo and Suburbs.	Geelong and Suburbs.	Castlemaine and Suburbs.	Maryborough.	Warrnambool.	Stawell.
1903 ...	24·12	30·18	28·29	28·62	29·04	25·61	29·04
1904 ...	24·96	31·95	27·12	28·55	29·74	29·02	25·58
1905 ...	24·45	32·52	26·51	28·66	32·50	29·40	31·35
1906 ...	26·25	33·55	25·35	32·52	36·61	34·29	30·96
1907 ...	22·96	36·12	23·69	28·49	32·36	34·39	31·13
Average 5 years	24·55	32·86	26·19	29·37	32·05	30·54	29·61

On the average of the five years 1903-7, the birth rates in all of the above towns exceeded that of Melbourne and suburbs and, with the exception of Ballarat, that of the State. The highest rate prevailed in Bendigo and suburbs, and the lowest in Ballarat and suburbs.

The birth rates in the various sub-districts of Greater Melbourne (exclusive of those in hospitals and public institutions) are shown in the following table for each of the five years, 1903-7 :— *Birth rates in sub-districts of Greater Melbourne.*

BIRTH RATES IN SUB-DISTRICTS OF GREATER MELBOURNE, 1903 TO 1907.

Sub-Districts.	Births per 1,000 of the Population.				
	1903.	1904.	1905.	1906.	1907.
Melbourne City	20·48	20·30	19·45	19·54	20·75
Fitzroy City	20·34	18·97	21·20	19·29	22·25
Collingwood City	23·37	22·82	21·92	23·98	22·58
Richmond City	22·87	23·70	21·80	24·40	23·22
Brunswick City	27·00	26·50	26·55	24·30	29·64
Northcote Town	27·89	27·84	29·73	26·16	26·98
Prahran City	20·55	21·25	21·52	21·85	21·79
South Melbourne City	21·80	21·05	21·38	21·66	22·80
Port Melbourne Town	27·64	24·21	24·48	26·94	23·79
St. Kilda City	17·93	17·61	19·34	18·78	17·53
Brighton Town	20·08	19·36	19·90	17·95	17·68
Essendon Town	22·28	22·29	21·96	20·84	23·19
Hawthorn City	20·22	18·66	18·68	19·67	19·46
Kew Borough	20·60	18·22	19·69	20·39	22·41
Footscray City	26·18	27·99	29·36	29·53	29·12
Williamstown Town	22·09	24·13	21·37	24·96	21·74
Oakleigh Borough	29·23	22·31	36·15	28·37	28·39
Caulfield Town	17·74	19·80	19·54	22·02	17·96
Malvern Town	23·64	19·15	19.09	22·52	19·85
Camberwell Town	17·73	15·77	18·56	17·30	19·47
Preston Shire	19·26	21·82	25·83	25·12	26·48
Coburg Borough	17·84	21·38	15·81	20·13	22·46
Remainder of District	24·32	22·36	19·97	18·01	18·63
Greater Melbourne (including Hospitals, &c.)	23·93	23·54	23·33	23·75	24·16

The births in Greater Melbourne in 1907 numbered 12,860, and corresponded to a rate of 24.16 per thousand of the population, which was higher than the four preceding years, but over 15 per cent. below that for the average of the period 1892-1901. when the proportion was 28.55. The smaller districts—Oakleigh, Preston, and Coburg—being more susceptible to slight influences, showed the greatest variations during the past five years. The highest average rates for this period prevailed in Oakleigh 28.89, followed by Footscray 28.44, Northcote 27.72, Brunswick 26.80, Port Melbourne,

25.41, and the lowest in Camberwell 17.17, St. Kilda 18.24, Brighton 18.99, Hawthorn 19.34, and Caulfield 19.41.

Birth rates in capital cities and suburbs.

The subsequent table shows the mean population, number of births, and birth rates in each Australasian capital city and suburbs during the year 1907, and the birth rates for 1906 :—

BIRTH RATES IN CAPITAL CITIES OF AUSTRALASIA.

Capital Cities and Suburbs.	Year 1907.			Births per 1,000 of the population, 1906.
	Mean Population.	Number of Births.	Births per 1,000 of the population.	
Melbourne	532,200	12,860	24·16	23·75
Sydney	544,700	14,334	26·32	26·18
Brisbane	133,378	3,295	24·70	24·50
Adelaide	176,971	4,045	22·86	21·87
Perth	50,330	2,054	40·81	37·73
Hobart	35,417	981	27·70	31·36
Wellington	69,241	1,893	27·34	27·26

With the exceptions of Perth and Wellington, the Australasian capitals showed a lower birth rate than their respective States in the latest year. ·

Twins and triplet births.

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

CASES OF TWINS AND TRIPLETS, 1903 TO 1907.

Year.	Cases of Twins.	Cases of Triplets.
1903	301	5
1904	299	2
1905	336	4
1906	355	...
1907	330	7

On the average of the five years 1 mother in every 93 gave birth to twins and 1 in every 8,333 was delivered of three children at a birth. These proportions were considerably higher than in the decennium ended 1900, when the ratios were 1 in every 103 and 1 in every 11,893 respectively.

Children legitimized under Legitimation Act.

Under a section of an Act passed in 1903, an illegitimate child, whose parents subsequently marry, may, provided there be no lawful impediment at the time of birth to the marriage of the parents, be legitimized if registered for that purpose within six months after marriage. Advantage was taken of this section to legitimate 168 children, of whom 14 were registered in 1903, 19 in 1904, 34 in

1905, 43 in 1906, and 58 in 1907. 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.

The number of illegitimate births registered in Victoria during the year 1907 was 1,762, which gives a proportion of 5.62 to every 100 births registered, being slightly above the ratio of the previous year. This proportion has been fairly constant during the last twelve years, when it was decidedly higher than at any earlier period within the last 30 years. It was much lower than in New South Wales and Queensland, slightly lower than in Tasmania, but 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 1907, and in the United Kingdom for the latest available years :— *Illegitimate births and rates.*

ILLEGITIMATE BIRTH RATES.

Queensland	7·31	New Zealand	4·61
New South Wales	7·04	South Australia	4·09
Scotland (1905)	6·91	England and Wales (1906)	4·00
Tasmania	5·86	Western Australia	3·89
Victoria	5·62	Ireland (1905)	2·63

It will readily be supposed that a larger proportion of illegitimacy prevails in Melbourne and suburbs than in any other district of Victoria, and that the proportion in country districts is the smallest of all. During the five years 1900-4, in the metropolitan districts, about 1 birth in 11 ; in the other urban districts, about 1 in 18 ; and in the rural districts, only 1 birth in 38 was registered as illegitimate. The proportions in 1907 were 1 in 11.2, 1 in 22.5, and 1 in 37.2 repectively. *Illegitimacy in town and country.*

Although the proportion of illegitimate births to the total births, as already stated, has varied so little for several years past, yet the proportion of such births to the number of unmarried women and widows, between the ages of 15 and 45, shows the same decline between 1891 and 1901 as has already been observed in the proportion of legitimate births to married women at similar ages. With the exception of altered age distribution, which in this instance is estimated to account for less than 1¼ per cent. of the fall, the many causes which have contributed so largely to the decline in the legitimate birth rate, have no doubt operated—but in a major degree—to bring about a reduction in the illegitimate birth rate per 1,000 single *Fall in illegitimate birth rate.*

women, which will be seen on comparing the rate for 1901 with that of the previous census, 1891, as given in the subjoined statement:—

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

The proportion of illegitimate births per 1,000 unmarried and widowed women between the ages of 15 and 45, was 14.49 in 1891, and 10.31 in 1901.   In Scotland it was 13.9 in 1905.   In England and Wales it was 14.1 in 1880-2, 10.5 in 1890-2, and 8.5 in 1900-2. The reduction, during the two latest census periods, was about 29 per cent. in Victoria, and 19 per cent. in England and Wales.

Births and infantile death rates in various countries.

Infantile mortality, which is fully dealt with in subsequent pages, is perhaps one of the most prominent determinants of the birth rate. A cursory glance at the next table, which shows the ordinary birth rate and the infantile mortality on the average of the latest five years for which these data are available, is evidence of the intimate connexion existing between the two events : —

BIRTH AND INFANTILE DEATH RATES IN VARIOUS COUNTRIES.

Country.	Birth Rate per 1,000 of the Population.	Deaths under 1 year per 100 Births.
Russia (European)	48.9	26.1
Hungary	36.8	21.2
Austria	36.7	21.7
Spain	35.2	17.0
German Empire	34.4	19.9
Prussia	34.4	18.5
Italy	32.6	16.8
The Netherlands	31.2	13.2
Western Australia	30.0	11.3
Tasmania	29.3	9.1
Denmark	29.0	11.9
Scotland	28.9	12.0
Norway	28.6	8.1
Switzerland	28.1	13.4
England and Wales	27.8	13.4
Belgium	27.7	14.8
New Zealand	27.0	7.4
New South Wales	26.6	8.8
Sweden	26.4	9.3
Queensland	26.2	8.5
Victoria	24.8	8.7
South Australia	23.8	7.6

France and Ireland have been intentionally omitted from this table—the former because the low birth rate is due to special causes, the latter to the excessive withdrawal of reproductive adults by emigration.

DEATHS.

The following return shows the number of deaths—males and Deaths, females—also the quarters in which they were registered and proportion per 1,000 of the population, during the years 1903-7 :—

DEATHS IN EACH QUARTER, 1903 TO 1907.

Year.	Total Deaths.	Sex.		Quarter of Registration.				Death Rate per 1,000 of the Population.
		Males.	Females.	March.	June.	September	December.	
1903 ..	15,595	8,626	6,969	4,036	3,994	3,810	3,755	12·90
1904 ..	14,393	7,992	6,401	3,439	3,590	3,992	3,372	11·92
1905 ..	14,676	8,273	6,403	3,912	3,540	3,710	3,514	12·10
1906 ..	15,237	8,342	6,895	3,896	3,550	3,875	3,916	12·42
1907 ..	14,542	7,980	6,562	3,285	3,391	4,011	3,855	11·66
Average	14,889	8,243	6,646	3,714	3,613	3,880	3,682	12·20

The number of deaths during the year 1907 was 14,542—7,980 males and 6,562 females—a result below the average of the last five years, which was 14,889—the males 8,243, and the females 6,646. According to the experience of the five years, 1903-7, the quarter of the year ending 30th September is the most fatal, the next in order being the quarter ending 31st March. In the year under review, the greatest number of deaths occurred in the September quarter, and the next occurred in the December quarter.

For purposes of comparison the death rates per 1,000 of the Death rates population for each of the Australian States and New Zealand are in Australian shown in the following statement, for a period of five years from States and New 1903 to 1907 :— Zealand.

DEATH RATES IN THE AUSTRALIAN STATES AND NEW ZEALAND: 1903 TO 1907.

Year.	Victoria.	New South Wales.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1903 ..	12·90	11·63	12·38	10·79	12·60	11·86	12·09	10·40
1904 ..	11·92	10·62	10·11	10·22	11·91	11·01	11·01	9·57
1905 ..	12·10	10·13	10·47	10·15	10·83	10·28	10·82	9·27
1906 ..	12·42	9·89	9·56	10·34	11·87	11·17	10·83	9·31
1907 ..	11·66	10·56	10·35	9·87	11·09	11·22	10·86	10·95
Average	12·20	10·56	10·57	10·27	11·66	11·11	11·12	9·90

Although the death rate of Victoria, according to the average of the five years, 1903-7, was higher than in any other State, this result is 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 or New Zealand, it is therefore necessary to bear in mind the proportion of persons aged (say) 60 years and upwards in each community. This was accurately known at the last census when Victoria had 798 persons aged 60 years and over, per 10,000 of the population, as compared with 558 in New South Wales, 482 in Queensland, 633 in South Australia, 326 in Western Australia, 608 in Tasmania, 623 in Australia, and 676 in New Zealand. Of the total deaths in 1907, 38.2 per cent. were 65 years and over in Victoria, 27.4 in New South Wales, 23.1 in Queensland, 33.6 in South Australia, 13.3 in Western Australia, 31.3 in Tasmania, 30.1 in Australia, and 29.5 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 65 years and upwards, than any other State or New Zealand. Although the death rates of the different States varied somewhat in 1907 by comparison with the previous year, that for Australia remained about the same.

Death rates in various countries. The following were the maximum, minimum, and mean death rates per 1,000 of the population in various countries during the five years ended with 1906, also the average of the 25 years ended 1901. In all, except Japan, where the rate slightly increased, there has been a noticeable decrease, and in Austria, Hungary, Switzerland, Germany, Prussia, Spain, Denmark, Holland, and Italy, 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, 1902–1906.			Average of 25 Years. 1877–1901.
	Max.	Min.	Mean.	
Norway	14·8	13·7	14·3	16·4
Denmark	14·7	13·5	14·4	18·1
Sweden	15·6	14·4	15·2	16·8
Holland	16·3	14·8	15·6	20·1
England and Wales	16·2	15·2	15·7	18·9
United Kingdom	16·5	15·5	16·0	18·8
Scotland	17·2	15·9	16·5	19·1
Belgium	17·3	16·4	16·8	19·9
Ireland	18·1	17·0	17·4	18·2
Switzerland (1901–5)	18·0	17·2	17·7	20·3
Prussia	19·7	17·9	19·1	23·5
France	19·9	19·2	19·5	21·8
Germany (1901–5)	20·7	19·5	19·9	23·9
Japan (1901–5)	22·0	20·0	20·9	20·5*
Italy	22·4	20·8	21·7	26·2
Austria (1901–5)	25·0	23·7	24·2	28·4
Spain	26·2	25·0	25·8	30·2
Hungary	27·8	24·8	26·1	31·8

* 1881–1901.

Comparing this statement with a previous one, it will be noticed that the death rate of 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 old to the newer countries tends to raise the death rate in the former, but 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.

In every country the death rate is higher in towns than it is in the country districts. This circumstance, although no doubt partly attributable to the superior healthfulness and immunity from contagion prevailing in the latter, is also to a great extent due to the fact that hospitals and charitable institutions, which are frequented by patients from the country as well as by town residents, are generally situated in the towns; and further, that outside of charitable institutions many persons die who have come from the country on the approach of a serious illness for the sake of the superior nursing and medical attendance to be obtained in towns. In the ten years ended with 1890, the rate in the metropolitan district was higher than in the other urban districts, but in more recent years was much lower, in consequence of a marked decrease in the rate in the former district; whilst in the rural districts the rate has remained fairly constant, at less than 9 per 1,000, or much less than half the rate in the extra-metropolitan towns. The following are the means for the periods, 1881-90 and 1891-1900, and the years 1901 to 1907 :— *Death rates in town and country.*

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

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

Death rates in principal country towns in Victoria.   The death rates in the principal country towns are shown in the following table for each year, and the average of the period 1903-7 :—

DEATH RATES IN PRINCIPAL COUNTRY TOWNS, 1903 TO 1907.

Year.	Deaths per 1,000 of the Population.						
	Ballarat and Suburbs.	Bendigo and Suburbs.	Geelong and Suburbs.	Castle-maine and Suburbs.	Mary-borough.	Warr-nambool.	Stawell.
1903 ...	17·91	21·23	17·25	19·25	15·13	14·85	19·61
1904 ...	16·34	18·59	15·41	18·45	17·09	14·13	18·27
1905 ...	17·68	18·25	15·41	19·84	20·50	17·42	17·88
1906 ...	17·48	19·46	14·26	19·46	17·61	13·23	16·15
1907 ...	15·65	17·86	13·21	18·99	16·94	15·15	16·23
Average of 5 years ...	17·01	19·08	15·11	19·20	17·45	14·96	17·63

On the average of the five years, 1903-7, 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 that for the State, on account of the hospitals situated in those centres. On the average of the five years under review, the lowest rate obtained in Warrnambool, followed by Geelong, Ballarat, Maryborough, Stawell, Bendigo, and Castlemaine, in that order.

Death rates in Melbourne and suburbs.   The deaths in Greater Melbourne in 1907 numbered 6,823, which was 260 less than the previous year, and represented a death rate of 12.82 per 1,000 of the population. Excluding the deaths in hospitals and other public institutions, which numbered 2,183, the rate was 8.80 for the same period. The rates for each sub-district, exclusive of hospitals, &c., for the latest five years are shown in the following table :—

DEATH RATES IN SUB-DISTRICTS OF MELBOURNE AND SUBURBS, EXCLUSIVE OF HOSPITALS, 1903-7.

Sub-Districts.	Deaths per 1,000 of the Population.				
	1903.	1904.	1905.	1906.	1907.
Melbourne City	12·79	10·43	10·25	10·49	9·54
Fitzroy City	12·45	10·89	9·67	11·02	9·71
Collingwood City	10·82	9·55	9·31	8·72	8·95
Richmond City	11·45	9·40	8·68	8·83	8·88
Brunswick City	11·24	9·96	10·41	10·28	9·73
Northcote Town	10·83	7·84	9·05	9·74	8·32
Prahran City	10·34	9·07	9·71	9·31	9·04
South Melbourne City	10·57	8·95	9·26	9·49	8·31

DEATH RATES IN SUB-DISTRICTS OF MELBOURNE AND SUBURBS, EXCLUSIVE OF HOSPITALS, 1903-7—*continued.*

Sub-Districts.	Deaths per 1,000 of the Population.				
	1903.	1904.	1905.	1906.	1907.
Port Melbourne Town	10·95	8·91	8·35	8·79	7·85
St. Kilda City	9·60	10·00	9·72	9·39	8·27
Brighton Town	10·73	10·21	8·95	10·23	10·09
Essendon Town	9·67	8·07	7·48	8·24	8·01
Hawthorn City	8·13	9·15	7·68	9·19	8·02
Kew Borough	9·40	7·46	8·73	7·49	8·17
Footscray City	11·35	9·71	8·74	11·84	8·21
Williamstown Town	14·68	12·75	10·39	10·41	9·42
Oakleigh Borough	13·84	12·31	9·23	11·35	11·61
Caulfield Town	8·22	7·09	7·18	8·16	7·76
Malvern Town	7·44	6·16	7·38	7·69	7·47
Camberwell Town	9·14	7·94	8·59	7·80	5·73
Preston Shire	14·10	7·79	11·90	10·84	9·69
Coburg Borough	8·11	9·56	8·30	9·28	10·91
Remainder of District	10·83	10·82	9·11	8·79	7·58
Greater Melbourne, excluding Hospitals	11·01	9·54	9·26	9·58	8·80
Greater Melbourne, including Hospitals	14·37	12·99	12·88	13·59	12·82

The death rate of Melbourne and suburbs is gradually decreasing, although a higher proportion of aged people—65 years and upwards—in the community in recent, as compared with earlier, years has an unfavorable effect upon the mortality rate. In 1890-4 the deaths per 1,000 of the population were 17.46 as against 13.33 for 1903-7—a decrease of nearly 24 per cent. in the intervening period. The deaths for the last five years disclose the fact that much lighter mortality rates prevailed in the principal centres of population in Greater Melbourne, indicating that the effects of improved sanitation are being reflected in the general health of the community. This is strikingly evidenced in the reported cases of Typhoid Fever, Diphtheria and Scarlet Fever combined, which averaged 1,367 in 1905-7, as against 2,676 in 1902-3, or a decline of 49 per cent. between these periods. On the average of the five years 1903-7, the highest death rate—11.67—prevailed in Oakleigh, followed by 11.53 in Williamstown, 10.86 in Preston Shire, 10.75 in Fitzroy, and the lowest rates—7.23 in Malvern, 7.68 in Caulfield, 7.84 in Camberwell, and 8.25 in Kew.

Deaths in
hospitals,
&c.

In 1907 the deaths in public institutions in Victoria numbered 3,534, or 1 in every 4.1 of the total deaths. In similar institutions in Greater Melbourne the deaths were 2,183, or 1 in every 3.1 The proportion dying in public institutions in the metropolitan area is nearly twice as great as in the remainder of the State.

Deaths in Public Institutions in Greater Melbourne, 1907.

Institution.	No. of Deaths.	Institution.	No. of Deaths.
Melbourne Hospital ...	737	Benevolent Asylum ...	153
Alfred Hospital	250	Old Colonists' Home ...	5
Homœopathic Hospital ...	64	Convent of the Little Sisters	
St. Vincent's Hospital ...	116	of the Poor	35
Williamstown Hospital ...	9	Girls' Depôt, Royal Park ...	4
Austin Hospital	158	Metropolitan Lunatic Asylum	114
Women's Hospital	107	Yarra Bend Lunatic Asylum	67
Children's Hospital ...	207	Protestant Refuge	6
Infectious Diseases Hospital	18	Melbourne Gaol	5
Foundling Hospital, Broad-		Eye and Ear Hospital ...	3
meadows	7	Queen Victoria Hospital ...	5
Foundling Hospital and In-		Other Institutions	10
fants' Home	10		
Victorian Homes for Aged		Total 2,183	
and Infirm	93		

The deaths in Public Institutions in Greater Melbourne steadily increased during the last five years, the number in 1907 being 43 greater than the preceding year and 367 more than in 1904.

Deaths and
births
in Austral-
asian
capitals.

The subsequent table shows the number of deaths and births, and the death rates in the Australasian Capital Cities; also the numerical and centesimal excess of births over deaths in each during 1907 :—

Deaths and Births in Capital Cities, 1907.

Capital City with Suburbs	Number of Deaths.	Deaths per 1,000 of population.	Number of Births.	Excess of Births over Deaths.	
				Numerical.	Centesimal.
Melbourne ...	6,823	12·82	12,860	6,037	88
Sydney	6,238	11·45	14,334	8,096	130
Brisbane	1,618	12·13	3,295	1,677	104
Adelaide	2,055	11·61	4,045	1,990	97
Perth	862	17·13	2,054	1,192	138
Hobart	538	15·19	981	443	82
Wellington ...	781	11·28	1,893	1,112	142

The deaths in the Capital Cities of the six States numbered 18,134, or 40 per cent. of the deaths in Australia during the year 1907. The centesimal excess of births over deaths for each city shows that for every 100 deaths there were 242 births in Wellington, 238 in Perth, 230 in Sydney, 204 in Brisbane, 197 in Adelaide, 188 in Melbourne, and 182 in Hobart, and an average of 207 for the metro-politan cities of Australia.

The average death rate of the Australasian Capitals, in 1907, was 12.31, which was considerably lower than the rates of the British and foreign cities for 1906 given in the following list, which has been taken from *Whitaker's Almanac :—*

<div style="text-align:right">Death rates in cities.</div>

Death Rates in British and Foreign Cities, 1906.

City or Town.	Deaths per 1,000 of the population.	City or Town.	Deaths per 1,000 of the population
Dublin	22.4	Cairo	35.5
Liverpool	20.6	Calcutta	31.7
Belfast	20.1	St. Petersburg	25.5
Manchester	19.2	Buda Pesth	19.3
Glasgow	17.8	Rome	18.7
Newcastle-on-Tyne	17.1	New York	18.3
Hull	16.9	Paris	17.5
Birmingham	16.8	Vienna	17.5
Sheffield	16.4	Buenos Ayres	17.1
Edinburgh	16.0	Berlin	15.8
London	15.1	Rio de Janeiro	15.2
Bristol	14.5	Brussels	14.6

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 more especially to such a comparison of newly-settled communities—such as the Aus tralian States—with one another, and with the old-established com-munities of (say) Europe. In the former the population is, on the average, younger than in the older countries, and is, moreover, con-stantly 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 rela-tively a much larger proportion of elderly people, amongst whom the death rate is very high, concurrent with a smaller proportion of the younger 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 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 ap-proximate much more closely than the ordinary death rates for the Australian States. The Victorian " index of mortality," computed by applying the ascertained death rates in the age group specified to a population whose age distribution corresponds with that of

<div style="text-align:right">Index of mortality, 1907.</div>

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Sweden in 1890, which was accepted by the Conference of Statisticians as a standard population, is shown in the following table for 1907 :—

INDEX OF MORTALITY FOR VICTORIA IN 1907.

Age.			Standard Population per 1,000. (Sweden, 1890.)	Death rate per 1,000 at each age in Victoria in 1907.	Index of Mortality for Victoria, 1907.
0–1 ...	...	...	25·5	77·23	1·97
1–20 ...	...	...	398·0	2·73	1·08
20–40 ...	...	...	269·6	4·81	1·30
40–60 ...	...	...	192·3	13·46	2·59
60 and over	...	...	114·6	63·56	7·28
Total	...	...	1000·0	11·66	14·22

In 1907 the " index of mortality " for all ages was 14.22 as against 15.63 in 1901. The ratios for the age groups 40 to 60 and 60 and upwards were slightly above, and the proportions for each of the three younger ages were considerably below the proportions in 1901.

Death rates at various ages.

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

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

Age Groups.			Deaths per 1,000 at each age.			
			Victoria.			England and Wales.
			1881–1890.	1891–1900.	1900–1902.	1891–1900.
Males.						
Under 5	...	...	44.79	39·29	34·07	62·71
5 to 10	...	...	4·06	3·36	2·70	4·31
10 to 15	...	...	2·65	2·20	2·10	2·45
15 to 20	...	...	4·03	3·28	3·11	3·79
20 to 25	...	...	6·35	4·79	4·90	5·06
25 to 35	...	...	7.72	6·60	6·25	6·76
35 to 45	...	...	11·23	9·03	8·81	11·50
45 to 55	...	...	19·28	15·32	15·34	18·95
55 to 65	...	...	33·25	32·90	29·86	34·95
65 to 75	...	...	61·13	62·99	61·57	70·39
75 and upwards	...	...	137·18	145·05	141·59	160·09
All ages	...	...	16·55	15·47	14·80	19·32

DEATH RATES AT CERTAIN AGE GROUPS IN VICTORIA, AND ENGLAND AND WALES—*continued.*

				Deaths per 1,000 at each age.			
Age Groups.				Victoria.			England and Wales.
				1881-1890.	1891-1900.	1900-1902.	1891-1900.
Females.							
Under 5	...	...	...	39·46	34·09	29·10	52·80
5 to 10	...	...	...	3·92	3·12	2·63	4·37
10 to 15	...	...	...	2·56	2·06	1·92	2·57
15 to 20	...	...	...	4·17	3·43	2·92	3·67
20 to 25	...	...	...	5·81	4·81	4·10	4·46
25 to 35	...	...	...	7·90	6·89	6·00	6·08
35 to 45	...	...	...	10·93	8·68	8·32	9·59
45 to 55	...	...	...	14·84	12·12	11·48	14·74
55 to 65	...	...	...	23·49	23·64	21·49	28·44
65 to 75	...	...	...	50·32	45·87	45·07	60·72
75 and upwards		...	...	129·00	124·33	122·77	146·46
All ages	..	...	...	13·56	12·36	11·43	17·14

Excepting the male death rate for the age groups, 20-25 and 45-55, a lower mortality was experienced for both sexes at each age during 1900-1902 than in the ten years 1891-1900, and a still more favorable death rate for all age groups up to 65, than in the ten years 1881-1890. These rates are comparable and point to continuously improving hygienic conditions, and consequently to a general improvement in the health of people in later years. A comparison of English and Victorian death rates for the same period in the foregoing table indicates the marked superiority of Victoria over England at almost every age group for both sexes. This is specially evident in the death rates for children under 5 years of age, which was 57 per cent. higher in England and Wales than in Victoria.

The proportion of deaths per 1,000 persons 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, such proportions for the Australian States and New Zealand on the average of the years 1900-2 :—

Death rates of aged people.

DEATH RATES OF PERSONS 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

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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 lower rate than that of Tasmania, Victoria, or of New South Wales, but higher than that of the other States and New Zealand, the proportion of deaths for each State and New Zealand being :—Victoria, 62.2 ; New South Wales, 58.9 ; Queensland, 52.1 ; South Australia, 54.5 ; Western Australia, 56.6 ; Tasmania, 65.1 ; and New Zealand, 49.2. As the average age of persons over 60 years tends to increase in young countries, it may be expected that these rates will become higher, until the normal, or settled conditions of older countries are reached.

Infantile mortality in 1907 and previous years.

The mortality of children under one year in proportion to births was 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 ten years 1891-1900 11.11 died within a year, as against 8.65 in 1903-7. The lower rate for the latter period represented a saving of 3,730 infant lives in the last five years. The deaths of infants in 1907 numbered 2,276, and, as the births were 31,369, it follows that 7.26 of every 100 infants born died within twelve months —the lowest infantile death rate ever recorded for the State.

Infantile mortality in Melbourne and country.

The prejudicial effect of city surroundings on infant life is evidenced by the higher infantile mortality in the Metropolitan Area than in the remainder of the State, amounting to an excess of 35 per cent. in the year under review, which was about the average of the period 1902-6. That the difference in favour of infants in less densely populated centres is not confined to Victoria is indicated by the English Registrar-General's Report for 1905, which shows that the death rate of infants in Urban Areas was 30 per cent. higher than in Rural Counties of England and Wales. The following table shows the infantile mortality rates in Melbourne and suburbs, and the remainder of the State, and the difference in favour of the latter during the years 1873-1907 :—

INFANTILE DEATH RATES IN MELBOURNE AND SUBURBS, AND THE REMAINDER OF THE STATE, 1873-1907.

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

The infantile death rate of Greater Melbourne in 1907 (8.57) was the lowest ever recorded, and considerably below the ratios shown in the English Registrar-General's Annual Summary for 21 European cities for the period 1901-5, and the years 1906 and 1907.

Infantile mortality in European cities.

INFANTILE MORTALITY RATES IN EUROPEAN CITIES.

European Cities.			Deaths under 1 year per 100 Births.		
			1901-5.	1906.	1907.
Moscow	...	...	26·2	27·7	...
Breslau	...	...	24·8	21·3	23·2
St. Petersburg	...	...	24·6	25·6	25·1
Munich	...	...	23·6	19·6	20·4
Berlin	...	...	20·2	17·7	16·3
Dresden	...	...	19·0	16·7	15·2
Vienna	...	...	17·8	17·0	17·0
Hamburg	...	...	17·4	16·6	13·9
Dublin	...	...	15·8	15·0	15·9
Copenhagen	...	...	15·6	14·8	12·1
Buda-Pest	...	...	14·9	14·3	15·5
Milan	...	...	14·6	13·7	13·3
Belfast	...	...	14·6	14·4	13·6
Rotterdam	...	...	14·4	12·4	10·4
Glasgow	...	...	14·0	13·1	13·0
London	...	...	13·9	13·1	11·6
Stockholm	...	...	13·6	9·0	8·9
Edinburgh	...	...	13·1	11·8	12·7
The Hague	...	...	13·0	11·8	9·8
Amsterdam	...	...	12·2	10·6	8·9
Paris	...	...	11·0	10·8	10·5

Excluding the deaths under 1 year, and the births which occurred in hospitals and public institutions in sub-districts of Greater Melbourne during the four years 1904-7, the deaths of infants in proportion to the births in those areas reveal some very remarkable differences in the various metropolitan divisions. The births and deaths under 1 year (excluding those in hospitals, &c.) and the resultant death rates are shown for the principal sub-districts on the average of the four years 1904-7.

Infantile death rates in metropolitan sub-districts.

INFANTILE DEATH RATES IN METROPOLITAN SUB-DISTRICTS, 1904-7-

Sub-Districts.			Total in four Years, 1904–7.		Deaths under 1 year per 100 births, 1904-7.
			Births.	Deaths under 1 year.	
Kew Borough ...	...	...	701	28	3·99
Camberwell Town	...	...	701	30	4·28
Caulfield Town ...	...	...	851	46	5·41
Malvern Town ...	...	...	1,024	66	6·45
Hawthorn City ...	...	...	1,759	115	6·54
Northcote Town	...	...	1,262	83	6·58
Essendon Town ...	...	...	1,655	111	6·71
St. Kilda City ...	...	...	1,543	125	8·10
Prahran City ...	...	...	3,646	303	8·31
Richmond City ...	...	...	3,576	308	8·61
Port Melbourne Town	...	...	1,241	109	8·78
Williamstown Town	...	...	1,270	118	9·29
South Melbourne City	...	...	3,528	328	9·30
Footscray City ..	...	...	2,114	197	9·32
Collingwood City	...	...	3,110	323	10·39
Melbourne City ...	...	...	7,810	846	10·83
Brunswick City ...	...	...	2,733	299	10·94
Fitzroy City ...	...	...	2,652	341	12·86

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 sub-districts of the Metropolitan area, with higher mortality ratios. Kew had less than a third, Camberwell a third, Caulfield about two-fifths, and Malvern, Hawthorn, and Northcote about one-half the mortality rate experienced in Fitzroy, which had the highest infantile death rate, and the largest number of persons to the acre of any sub-district of the Metropolis.

Deaths of infants at different ages.

Of the total mortality of infants under 1 year, over one-third occurred in the first month and more than one-half in the first three months of life. The annual deaths under 1 month, at from 1 to 3 months, at from 3 to 6 months, and at from 6 to 12 months, during the ten years ended with 1900, and the period 1903 to 1907, are shown in the following table, together with the proportion of deaths at each of those periods of age and the number at each such period to every 100 births. It will be noticed that in the last five years the mortality of infants per 100 births at each age period, excepting

under 1 month,, was below the average of the ten years ended with 1900 :—

DEATHS OF INFANTS AT DIFFERENT AGES, 1891-1900 AND 1903-7.

Ages.	Average Annual Deaths at under 1 year of Age.					
	Ten Years—1891–1900.			Five Years—1903–7.		
	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	578	39·7	3·72
1 to 3 months	355	17·3	2·07	253	17·3	1·63
3 to 6 ,,	445	21·7	2·59	278	19·1	1·79
6 to 12 ,,	600	29·3	3·50	348	23·9	2·24
Total ..	2,050	100·0	11·95	1,457	100·0	9·38
Girls.						
Under 1 month	488	28·7	2·98	438	37·6	2·96
1 to 3 months	301	17·7	1·84	197	16·9	1·33
3 to 6 ,,	385	22·6	2·35	234	20·1	1·58
6 to 12 ,,	528	31·0	3·23	296	25·4	2·00
Total ..	1,702	100·0	10·40	1,165	100·0	7·87

In the period 1903-7, the births of boys were in the proportion of 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—that for 6 to 12 months amounting to 37 per cent.—in 1903-7 as compared with 1891-1900, and may be attributed chiefly to the improved milk supply and the consequent lighter mortality from digestive and diarrhœal diseases.

The experience of the years 1903-7 shows that of every 20,000 newly-born boys and girls in equal numbers, 938 boys and 787 girls died within twelve months, and 9,062 of the former and 9,213 of the latter, or 18,275 of mixed sexes were living at the end of the year. The proportions surviving the first year were 17,765 in the ten years 1891-1900 and 17,468 in 1881-1890. It is thus seen that of every 20,000 births of equal numbers of each sex there were 807 more survivors in 1903-7 than in 1881-1890, and 510 more than in 1891-1900.

Probable mortality of infants.

The infantile death rate in Victoria shows on the whole a tendency to decrease much more marked in the last five years than in those immediately preceding. The rate for the year under review—7.26 deaths per 100 births—which was the lowest ever recorded in the State, was 35 per cent. below that for the decennium 1891-1900. Any investigation of this subject would be incomplete unless the diseases which proved fatal to infant life in different years are 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, 1901-5, and for the years 1906 and 1907.

INFANTILE DEATH RATES FROM CERTAIN CAUSES, 1891-3, 1901-5, 1906, AND 1907.

Causes of Death.	Deaths under 1 year per 1,000 births in—			
	1891-3.	1901–5.	1906.	1907.
Diarrhœal Diseases, all forms	29·66	26·68	24·42	18·49
Wasting Diseases (Marasmus, Atrophy, &c.)	22·24	13·75	11·97	9·82
Prematurity	13·13	15·47	15·43	14·47
Bronchitis, Broncho-pneumonia, Pneumonia	11·37	9·08	10·80	5·64
Convulsions	6·83	3·71	2·89	2·55
Congenital Defects and Malformations	3·45	5·30	5·25	4·27
Violence	3·16	2·62	2·82	2·36
Whooping Cough	2·60	2·18	5·35	2·68
Other causes	24·49	17·03	13·99	12·28
Total all causes	116·93	95·82	92·92	72·56

In 1907 much lower rates prevailed from all of the above causes 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 nearly one-fifth of the total infant 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. Although the mortality rate from these diseases decreased by nearly 38 per cent. between 1891-3 and the year under review, it was only about equal to the decline in the general infantile death rate in the same period. On the average of the last seven years of every 1,000 children born, 25 died from diarrhœal diseases within a year, a proportion which shows the necessity for preventive measures in this direction. The rate attributable to diarrhœal complaints in Victoria is equal to that in England and Wales, but the proportion from bronchitis, broncho-pneumonia and pneumonia is three times as high in the latter as in the former.

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 complaints in each of the quarters of the past three years are shown in the following statement :— *Infantile deaths in seasons from certain causes.*

Cause of Death.	Deaths during 1905–7 in the Quarter ended—			
	March.	June.	September.	December.
Diarrhœal Diseases	533	180	69	233
Bronchitis, Broncho-pneumonia, Pneumonia	53	87	190	52

The experience of the three years 1905-7 shows that the first three months furnish a greater infantile mortality from diarrhœal complaints than the remaining nine months, and that the deaths of infants in the September quarter from bronchitis, broncho-pneumonia and pneumonia are as numerous as in the other three quarters combined.

On the average of the past five years, slightly over 1 in every 5 illegitimate infants died within a year, as against 1 in every 13 legitimate children. It is thus seen that the chance of an illegitimate child dying before the age of 1 year is nearly three times that of the legitimate infant. In the year under review the mortality rate for legitimate infants—6.74—was the lowest ever experienced in Victoria. The children born out of wedlock during the same period numbered 1,762, and the deaths 280, which corresponded to a rate of 15.89 per 100 births. To ascertain the chief reasons for the marked disproportion in the mortality rates between the two classes, the subsequent table has been constructed, showing the deaths from certain causes per *Legitimate and illegitimate infantile death rates.*

1,000 legitimate and illegitimate births on the average of the years 1903-7.

LEGITIMATE AND ILLEGITIMATE DEATH RATES FROM CERTAIN CAUSES, 1903-7.

Cause of Death.	Deaths under 1 year per 1,000 Births.	
	Legitimate.	Illegitimate.
Diarrhœal Diseases	21·1	75·2
Prematurity, Congenital Defects, Marasmus, &c. ...	31·1	58·3
Bronchitis, Broncho-pneumonia, Pneumonia ...	7·5	21·4
Other causes	19·0	62·5
Total all causes	78·7	217·4

The rates for 1903-7 show that of every 1,000 children born out of wedlock, 75.2 died from diarrhœal diseases within a year as compared with 21.1 deaths per 1,000 legitimate infants from the same cause. Owing to the larger proportion of the former deprived of breast food a higher mortality might be expected among them than legitimate infants from these diseases, but the striking differences in death rates from this cause and from the chief respiratory diseases would indicate considerable neglect in rearing illegitimate infants.

Infantile mortality in Australian States and New Zealand. 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.

Year.	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
1903	10·64	11·63	11·99	9·71	14·12	11·08	8·11
1904	7·79	8·24	7·61	7·05	11·30	9·07	7·10
1905	8·33	8·06	7·55	7·30	10·42	7·97	6·75
1906	9·29	7·45	7·47	7·59	11·00	9·09	6·21
1907	7·26	8·86	7·76	6·59	9·77	8·28	8·88
Average 1903-7..	8·66	8·85	8·48	7·65	11·32	9·10	7·41

The average rate for the ten years 1891-1900 was far higher in Decrease in infantile mortality in Australasia. Western Australia, and much lower in New Zealand and Tasmania, than in any other Australasian State. On the average of the past five years New Zealand retained its superiority, but Tasmania lost its favorable position, and showed a high rate only exceeded by that of Western Australia. Although the rates varied considerably in the States during the same 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 1907 declined by 34½ per cent. in Victoria, 21 in New South Wales, 25 in Queensland, 37½ in South Australia, 32½ in Western Australia, and 13½ per cent. in Tasmania. This reduction in infantile mortality rates in all the States in 1907 was equivalent to saving 3,400 infant lives, of which 1,207 were in Victoria.

Of all the countries respecting which information is available, Infantile mortality in various countries. infantile mortality is highest in Russia, where one out of every four infants born dies within twelve months. The following table shows the 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 in 1903-7 :—

INFANTILE MORTALITY IN VARIOUS COUNTRIES.

	Deaths under 1 year per 100 births.		Deaths under 1 year per 100 births.
Russia (European) ...	26.1	The Netherlands ...	13.2
Austria ...	21.7	Scotland ...	12.0
Hungary ...	21.2	Denmark ...	11.9
German Empire ...	19.9	Western Australia ...	11·3
Prussia ...	18.5	Ireland ...	9.7
Spain ...	17.0	Sweden ...	9.3
Italy ...	16.8	Tasmania ...	9.1
Japan ...	15.4	New South Wales	8.8
Servia ...	14.9	Victoria ...	8.7
Belgium ...	14.8	Queensland ·	8·5
Bulgaria ...	14.3	Norway ...	8.1
France ...	13.9	South Australia ...	7.6
England and Wales	13.4	New Zealand ...	7.4
Switzerland ...	13.4		

In the year 1907 deaths of male children under 5 years of age Deaths of children under 5. numbered 1,636, and deaths of female children under that age numbered 1,281—the former being in the proportion of 20.50 per cent., and the latter of 19.52 per cent., to the total number of deaths at all ages. These proportions are the lowest ever recorded. Comparing the averages of the last three decades, a marked falling off took place, from period to period, in the mortality of children relatively to that of persons of all ages, and the following table shows the annual number of such deaths at each year of age, and their proportion to the deaths at all ages, in each of the last seven years and

·during the three decennial periods ended with 1880, 1890, and 1900 :—

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
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

Number of children under 5 and their deaths.

The average number of male and female children at each year of age under 5, living during the period of ten years ended with 1900, is compared in the next table with the average number of deaths of children of the same sexes at those ages which occurred annually during that period :—

DEATHS OF CHILDREN UNDER FIVE IN PROPORTION TO POPULATION.

Age last Birth-day in years.	Males.				Females.			
	Mean Number Living, 1891 and 1901.	Annual Deaths, 1891 to 1900.		Deaths per 1,000 Children Living.	Mean Number Living, 1891 and 1901.	Annual Deaths, 1891 to 1900.		Deaths per 1,000 Children Living.
		Number.	Per-centage.			Number.	Per-centage.	
0	15,516	2,050	73·38	132·12	15,089	1,702	71·94	112·80
1	14,124	432	15·46	30·59	13,783	385	16·27	27·94
2	13,981	143	5·11	10·23	13,428	129	5·45	9·61
3	13,780	93	3·33	6·75	13,667	82	3·47	6·00
4	13,698	76	2·72	5·55	13,437	68	2·87	5·06
Total	71,099	2,794	100·00	39·29	69,404	2,366	100·00	34·09

Of every 1,000 boys under 1 year of age, 132, and of every 1,000 girls under 1 year of age, 113, died in the decade under notice; the corresponding proportions for the previous ten years being 152 and 130 respectively. These proportions are naturally higher than those quoted in the table showing the comparison of deaths of children under 1 with the births, the proportions in which were 120 deaths of male infants and 104 deaths of female infants to every 1,000 births of infants of those sexes respectively during the recent decade, and 135 and 118 respectively during the previous one.

In proportion to their respective numbers in the population, more boys than girls died at every year of age, the difference per 1,000 living being as much as 19 at under 1 year, but only about 2 2-3 at from 1 to 2, and less than 1 at subsequent ages.

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

Of the whole number of children who died before they attained the age of 5, nearly three-fourths, viz., 73 per cent. of the boys, and 72 per cent. of the girls, were under 1 year of age; less than a sixth of the boys and about a sixth of the girls were between 1 and 2; about 1 in 19 of the boys and about 1 in 18 of the girls were between 2 and 3; 1 in 33 of the boys and 1 in 28 of the girls were between 3 and 4; 1 in 37 of the boys and 1 in 35 of the girls were between 4 and 5.

It results from actuarial calculations, based upon the figures for the decade 1891-00 in the last table, that of every 20,000 boys and girls in equal numbers born in Victoria, 1,195 boys and 1,040 girls may be expected to die before they complete a year of life, 265 more boys and 247 more girls before they complete 2 years, 81 more boys and 84 more girls before they complete 3 years, 63 more boys and 52 more girls before they complete 4 years, and 47 more boys and 43 more girls before they complete 5 years. At the end of that period it is probable that 1,651 of the boys and 1,466 of the girls will have died; and 8,349 of the boys and 8,534 of the girls will be still living. The average result for both sexes is 8,441 per 10,000, which is more favorable than that deduced from the mortality of either of the two previous decades 1881-90, and 1871-80, which showed the number of survivors at the end of the first five years of life to be 8,211 and 8,103 respectively.

Out of every 10,000 infants born in Victoria, there will on the average be 5,120 boys and 4,880 girls—being in the ratio of 105 of the former to every 100 of the latter. These, according to the

results just arrived at, will be reduced at the end of 5 years to 4,275 boys and 4,165 girls—or in the ratio of 103 of the former to every 100 of the latter. Thus, one-half of the excess of males over females at birth is neutralized in the first five years.

Connexion between infantile mortality and birth rate.

It is notable that those countries (with the exception of France) in which the greatest infantile mortality occurs are those which possess a high birth rate, and on the contrary those countries which have a low birth rate have also the lightest mortality. It is evident, therefore, that there is an intimate association between the birth rate and the infantile mortality. So great indeed is the mortality per 1,000 births in the high birth rate countries that the ultimate gain to the population of those countries at the expiration of five years is in some cases below that of the low birth rate countries, and it is highly probable that could the mortality have been traced for a year or two beyond that period, it would be found that the supremacy rests with the low birth rate countries. The following statement shows for the latest five years the birth rate per 1,000 of the population, and the number surviving their fifth year similarly estimated :—

Birth Rates and Survivors in Various Countries.

Country.	Birth rate.	Surviving age 5.
Hungary	36·8	22·0
Austria ..	36·7	22·5
Spain ..	35·2	20·1
Prussia ..	34·4	23·5
Italy ..	32·5	20·5
Holland	31·2	24·9
Denmark	29·0	21·9
Norway	28·6	24·0
Switzerland	28·1	21·0
England and Wales	27·8	21·2
Belgium	27·7	20·9
New Zealand	27·0	24·0
New South Wales	26·6	22·6
Sweden	25·9	20·3
Victoria	24·8	20·9
Ireland	23·3	19·5
France	21·0	15·8

Thus it will be seen that the superiority of the birth rate of European States, so far as population is concerned, has for the most part disappeared at the end of five years.

Percentage of deaths in age groups.

A very favorable feature of Victorian mortality in recent years is the steadily diminishing number of both sexes dying between 5 and 25 years of age. Although fluctuations occurred in the general death rate, the deaths between these ages fell from 1,474 in 1902, 1,435 in 1903, 1,405 in 1904, 1,279 in 1905, 1,215 in 1906, to 1,203 in 1907.

The following table shows the number of deaths in various age groups in 1907, and the percentage of the total deaths in such groups in 1891-5, 1901, and 1907 :—

PERCENTAGE OF DEATHS IN AGE GROUPS, 1891-5, 1901, AND 1907.

Age Groups. (Years).		Number of Deaths in 1907.	Percentage of Deaths in Age Groups.		
			1891–5.	1901.	1907.
Under 5	... ...	2,917	33·82	26·75	20·06
5 to 10	... ...	248	2·59	2·51	1·70
10 to 15	... ...	213	1·57	1·68	1·46
15 to 20	... ...	315	2·38	2·38·	2·17
20 to 25	... ...	427	3·72	3·00	2·94
25 to 35	... ...	933	8·48	7·46	6·42
35 to 45	... ...	1,268	6·60	8·96	8·72
45 to 55	... ..	1,306	7·39	7·11	8·98
55 to 65	... ...	1,356	12·18	9·11	9·32
65 to 75	... ...	2,474	12·26	17·30	17·01
75 and over ...	...	3,078	9·01	13·74	21·17
Unstated	... ...	7	...	...	·05
Total	... ...	14,542	100·00	100·00	100·00

In proportion to the total deaths, the deaths of persons aged 75 and upwards increased from 9.01 per cent. in 1891-5 to 21.17 in 1907, or by 135 per cent. in the intervening years, and the proportion in the earlier age group—65 to 75—increased by nearly 39 per cent. in the same period. The higher proportion of deaths of elderly people in the latest year accounts for a higher death rate per 1,000 of the population than would be otherwise shown. On the other hand, the proportion of deaths under 5 years diminished by nearly 41 per cent. between 1891-5 and 1907.

In accordance with the decision of the Conference of Statisticians held in Melbourne in 1906, the causes of deaths were classified for the first time in 1907 according to the Bertillon Index of Diseases. This differs so materially in some respects from the mortality lists previously used in Victoria that comparisons of deaths and death rates from certain causes in 1907 and 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 different limitations in 1907 and earlier years. In any comparison of mortalities from detailed causes in different years 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. *Altered classification of causes of deaths.*

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

in Victoria, except in a few minor nervous and respiratory complaints of persons dying in Hospitals for the Insane. Many important causes of deaths are practically unaffected by the new classification referred to in the preceding paragraph, and consequently retain their comparative character. Amongst those are cancer, tubercular diseases, typhoid fever, whooping cough, measles, influenza, scarlet fever, meningitis and encephalitis, diabetes, appendicitis, urinary and 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 rearrangement of these mortalities is made which permits a comparison with different years and enhances 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 subsequent 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.	1903.	1904.	1905.	1906.	1907.
Typhoid Fever ..	369	210	157	100	132	71
Scarlet Fever ..	34	38	19	8	3	2
Measles	2	17	..	65	6	33
Whooping Cough	129	91	38	16	201	103
Diphtheria and Croup ..	552	96	172	73	48	79
Influenza	381	107	213	110	198	221
Hydatids	51	25	33	24	23	34
Cancer	584	761	740	786	755	796
Phthisis	1,365	1,109	1,111	1,019	988	958
Other Tubercular Diseases	379	289	311	282	273	209
Syphilis	39	50	39	35	50	63
Diabetes	38	58	82	82	85	110
Anæmia, Chlorosis, Leucæmia	28	52	57	50	60	45
Meningitis and Encephalitis	113	127	102	119	145	161
Locomotor Ataxia and other diseases of Spinal Cord	43	51	60	50	50	65
Congestion and Hæmorrhage of the Brain	344	360	389	401	404	463
Epilepsy	74	52	47	35	43	32
Convulsions	353	139	94	99	90	87
Heart Disease (including Endocarditis and Pericarditis) ..	950	1,093	1,049	1,099	1,177	1,254
Acute and Chronic Bronchitis	691	412	320	425	477	343
Pneumonia and Broncho Pneumonia	853	784	709	850	884	780
Pleurisy	96	88	78	83	86	46
Congestion of Lungs and Pulmonary Apoplexy	140	66	46	45	50	54
Asthma and Pulmonary Emphysema	70	76	64	70	66	43

Deaths per Million from Certain Causes—*continued.*

Cause of Death.	Deaths per Million of the Population.					
	1890–2.	1903.	1904.	1905.	1906.	1907.
Enteritis, Gastro-enteritis, and Diarrhœal Diseases	1,342	1,266	761	813	943	718
Hernia, Intestinal Obstruction	124	141	93	96	131	125
Diseases of the Stomach (Cancer excepted)	175	97	103	100	108	101
Cirrhosis and other diseases of the Liver (Cancer excepted)	329	202	173	182	175	164
Biliary Calculi ..	11	21	21	33	33	28
Appendicitis and Abscess of the Iliac Fossa	..	..	71	72	96	66
Simple Peritonitis (non-puerperal)..	106	78	56	61	61	52
Acute and Chronic Nephritis, Uræmia, Bright's Disease ..	294	554	540	559	551	596
Diseases of the Bladder and Prostate	86	96	104	103	127	107
Calculi of the Urinary System	8	9	6	9	10	6
Old Age	631	870	991	1,041	928	982
Suicide	109	114	94	115	90	95
Accidental Violence	811	516	526	574	535	568
Homicide	34	12	19	33	16	17

The striking feature of the preventable mortality in 1907, as compared with the previous year, was the great reduction in infantile fatality from diarrhœa and enteritis, bronchitis, broncho-pneumonia, and pneumonia and whooping cough. The low general death rate was almost wholly due to the remarkably light mortality among children in 1907, when 753 fewer deaths under 5 years of age were recorded than in the previous year. Phthisis, other tubercular diseases, typhoid fever, scarlet fever, anæmia, chlorosis, and leucæmia and appendicitis furnish lower rates, and cancer, diphtheria and croup, measles, influenza and diabetes higher rates, than in the preceding year. These and other comparable causes of death are fully dealt with in subsequent paragraphs.

Typhoid fever, which is really a preventable disease that is most Typhoid fatal between 15 and 50 years, showed a mortality rate of 369 per fever. million of the population in 1890-2, as against 210 in 1903, 157 in 1904, 100 in 1905, 132 in 1906, and only 71 in 1907. The rate for the latest year was less than one-fifth of that for the period 1890-2, and considerably below the average of the preceding five years. For Greater Melbourne also a rapidly diminishing death rate from this cause is shown in recent years; the ratio for 1903-7 was only about one-third of that in 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 the remainder of the State on the average of the past five years. Comparing the

deaths from typhoid fever with the cases reported in the five years 1903-7 in Greater Melbourne, the fatality rate was 1 in every 10 cases, which was about equal to the ratio in Sydney in 1898-1905, but only slightly more than two-thirds the fatality experienced in London in the same period.

Scarlet fever.

The mortality from scarlet fever is extremely variable in different years, but exhibits on the whole a diminishing proportion. The , death rate in 1907 was only 2 per million of the population as compared with 38 in 1903 and 34 in 1890-2. By comparison with scarlet fever mortality in England and Wales, which amounted to 130 per million in 1896-1905, the rate for Victoria is remarkably light, and even in epidemic periods it has never reached the usual English rate. The ratio of deaths to the notified cases in Greater Melbourne in the period 1903-7 was 14 in every 1,000, as compared with a fatality rate of 27 per 1,000 in London in the same years.

Measles.

The number of deaths attributed to measles each year varied very considerably in the past 20 years, during which there were two severe epidemic outbreaks in 1893 and 1898, but their durations did not extend beyond these years. In 1903 the death rate was 17 per million, as against no deaths in 1904; 65 per million in 1905, 6 in 1906, and 33 in 1907. The Victorian mortality rate on the average of the past five years was only about one-fourteenth of the rate—325 —experienced in England and Wales in the five years 1902-6.

Whooping cough.

There were 128 deaths referred to whooping cough in 1907, which equalled a rate of 103 per million of the population at all ages, as compared with 201 in the previous year, when it was exceptionally heavy. The infantile death rate is more affected than the general death rate by this ailment, as it is practically confined to children. In the year under review 84, or two-thirds, of the deaths were of infants under 1 year, and 122, or over 95 per cent., were 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 being about 20 per cent. higher than among the latter during 1907.

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 the year under review the rate equalled 79 per million of the population, which was only one-seventh of the proportion—552—for 1890-2, and less than half the ratio usually experienced in England and Wales. It was, however, in excess of the rate in the previous year, when it was exceptionally low, but shows on the whole a decreasing tendency. Like measles, scarlet fever, and whooping cough, it is an ailment chiefly affecting children. Of the 98 deaths attributed to this disease in the latest year 50 were under 5 and 82 were less than 10 years of age. The incidence of this 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 66 in every 1,000 ended fatally in 1903-7, as against 91 in every 1,000 in London in the same period. Prior to the employment of the anti-toxin treatment of diphtheria the fatality rate in Melbourne was over four times that experienced in the past five years.

The deaths attributed to hydatids in 1907 numbered 43, which Hydatids. were equivalent to a rate of 34 per million of the population, as compared with rates of 23 in 1906, 24 in 1905, 33 in 1904, 25 in 1903, and 51 in 1890-2. Of the 167 persons who died from this disease in the last five years 100 were males and 67 were females, and only 2 were under 5 years of age. In 1907, 73 per cent. of the fully defined cases were of the liver and 18 per cent. of the lungs. Hospital returns for the latest five years show that 625 cases of hydatids were treated therein, and that 1 in every 9 ended fatally.

The death rate from diabetes has shown a varying increase in Diabetes. recent periods, and now exceeds the rate—97—in England and Wales in 1906. In the year under review there were attributed to this cause 60 male and 77 female deaths, which equalled a rate of 110 per million of the population. This was the highest recorded and nearly three times the rate in 1890-2. Of the 137 deaths referred to this disease in 1907 all were over 10 years and only 11 were under 30 years of age, the heaviest mortality being experienced at the age group 60 years and upwards. The higher rates in later years cannot be wholly explained by the sex and age constitution of the population, although an increasing proportion of middle-aged and elderly people, among whom the heaviest mortality prevails, would account for a higher rate in later than in earlier years.

Anæmia, chlorosis, and leucæmia were responsible for 56 deaths Anæmia, in 1907, which corresponded to a rate of 45 per million of the chlorosis, population. This was lower than in the preceding four years, but leucæmia. about 61 per cent. above the ratio—28—in 1890-2. The deaths in England and Wales were equivalent to a rate of 59 per million in 1906.

The deaths from influenza in 1907 numbered 276, corresponding Influenza. to a rate of 221 per million of the population, which was above the average of the past five years. Of the deaths from this cause in the year under review about two-thirds occurred in the three months ending in November. Although this disease has varied in form in different periods it has always proved more fatal at the extremes of life than at middle age. In 1907 a relatively heavier mortality occurred amongst persons 55 years and upwards than in previous years. The proportion of the total at this age amounted to 65 per cent. last year, as compared with 50 per cent. in 1890-8. The age incidence of this disease at various periods is shown in the next table, which gives the average yearly proportion of deaths from influenza per 10,000 of the population in age groups during the latest four census periods, and shows that during the latter two the

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

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

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

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

The average yearly proportion of deaths from influenza and respiratory diseases (combined) per 10,000 of the population living at different ages during the latest four census periods, 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 during the last census period, as compared with the two previous ones, such decrease amounting to 26 per cent. in male, and 28 per cent. in female rates.

In 1907 the deaths from respiratory diseases numbered 1,675, Respiratory which represented a rate of 1,343 per million of the population, as diseases. compared with 1,622 in the previous year, 1,552 in 1905, 1,297 in 1904, 1,482 in 1903, and 2,029 in 1890-2. Of the deaths from complaints of the respiratory system in the year under review, 110 were referred to acute bronchitis, 318 to chronic bronchitis, 350 to broncho-pneumonia, 619 to pneumonia, and 57 to pleurisy. These five diseases accounted for seven-eighths of the total respiratory mortality. The season incidence of these maladies is evidenced by the large proportion of deaths, amounting to 37 per cent., resulting from them in the months of July, August, and September in the latest year. Complaints of this nature are much more fatal at the extremes of life than at middle ages, and among males than females. This is shown in the next table, which gives the death rates in age groups for each sex during four census periods, when the age and sex constitution of the population were accurately known.

DEATH RATES IN VICTORIA FROM RESPIRATORY DISEASES.

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

An examination of the above table shows that the proportion of males dying from diseases of the respiratory system exceeded that of females at each census period. The average mortality per 10,000 of the population for the four census years was 21.18 deaths for males, and 15.15 for females. In each age group (except 15.20 in 1890-2), the mortality rate for males was heavier than that for females, and not only was there a considerable decrease in the proportions for both sexes, but, in nearly every age group, a reduction is shown during 1900-2, as compared with 1890-2.

The very satisfactory decrease in the death rates referring to diseases of the digestive system (excluding hydatids) in the period 1904-6 was continued in 1907, when an exceptionally low rate prevailed. In the latest year there were 1,605 deaths from digestive ailments, representing a proportion of 1,287 per million of the population, which was considerably below the average of the past five years, slightly more than half the rate—2,331—experienced in 1890-2, and only three-fourths of the ratio—1,752—in England and Wales in 1906. The large reduction in the general mortality rate from complaints of this character in recent years is coincident with a comparatively lighter mortality among infants. Victorian experience shows that more than half of the mortality from digestive maladies were ascribed to diseases of a diarrhœal nature. In 1907 diarrhœal complaints were responsible for 895 deaths, equivalent to 718 per million, which was the lowest rate ever recorded, and 46 per cent. below the ratio—1,342—for 1890-2. In 1903, 1904, 1905, and 1906 the rates were 1,266, 761, 813, and 943 respectively. The age incidence of this disease is heaviest at the extremes of life. Of the 895 deaths from this cause in the year under review, 690, or 77 per cent., were of children under 2 years of age. The seasonal influence on the mortality from this disease is much more strongly marked among infants than aged people, as was evidenced by the fact that half the deaths under 1 year from diarrhœa and enteritis occurred in the three months ending in March, whilst the proportion was only slightly higher for that quarter as compared with other quarters at other ages.

A very marked alteration in mortality rates from diseases of the urinary system has taken place in recent years. Excepting urinary calculi, all the important diseases (Bright's disease, albuminuria, uræmia, nephritis, &c.), constituting this group exhibit increasing rates, which are now in excess of the proportions in England and Wales. In the year under review, 930 deaths were attributed to these diseases, which corresponded to a ratio of 746 per million of the population, as against 682 in 1902-6, and 408 in 1890-2, or an increase of 83 per cent. in the intervening years. Bright's disease, uræmia, and nephritis were responsible for 743 deaths, or 80 per cent., complaints of the bladder for 68 deaths, or over 7 per cent., and ailments of the prostate for 65 deaths, or 7 per cent., of the total referred to maladies of the urinary system, which furnish a male death rate nearly double that of the female rate. A larger proportion of elderly people in the community, among whom the

heaviest mortality occurs, would account for a portion of the increase
in the death rate from complaints of this class in recent years, but
as the age constitution of the population of Victoria would warrant
a lower rate than in England, the marked disparity between the rates
in the two countries—746 in Victoria and 489 in England—would
indicate a greater prevalence of urinary diseases in this State.

The deaths from phthisis in 1907 numbered 1,195, which were Phthisis.
equal to a rate of 958 per million of the population, as compared
with 988 in 1906, 1,019 in 1905, 1,111 in 1904, 1,109 in 1903,
and 1,365 in 1890-2—a substantial improvement.   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, during the
last five census periods.

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

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

It will thus be seen that the male death rates per 10,000 of the
population from phthisis were greater during 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 during each period, whilst the proportion of males, 45 years and upwards, was considerably greater than that of females in all but the first period. The figures for 1900-2, show that there was a decline in every age group (excepting 65 and upwards amongst males, and 55-65 amongst females) as compared with those for 1890-2.

Pulmonary tuberculosis in various countries.

Death rates from pulmonary tuberculosis per 10,000 of the population, in various countries are shown in the following table, the figures for which have been taken from the English Registrar-General's Report for 1906, for the average of the ten years 1896-1905 :—

DEATH RATES FROM PULMONARY TUBERCULOSIS IN VARIOUS COUNTRIES, 1896-1905.

Country.	Deaths per 10,000 of the Population.	Country.	Deaths per 10,000 of the Population.
Ireland	21·4	England and Wales	12·7
German Empire	19·7	Victoria	11·5
Norway	20·1	South Australia	8·4
Switzerland	18·9	Queensland	8·4
Scotland	15·5	New South Wales	8·0
The Netherlands	14·9	New Zealand	7·4
Japan	14·5	Western Australia	7·0
Spain*	14·4	Tasmania	6·7
Belgium	13·0		

Owing to the different age constitutions, and the possible variations in the classification of tubercular diseases in the various countries, the above figures show only approximately the mortality from pulmonary tuberculosis. It appears that the deaths attributable to this disease are greater, in proportion to population, in Victoria than in the other Australian States and New Zealand, but are less than in the other countries.

Tubercular death rates in Melbourne, Ballarat, and Bendigo,

The local distribution of tuberculous mortality indicates that certain urban centres—particularly that of Bendigo and suburbs—furnish considerably higher death rates from this cause than the rural divisions of the State. The tubercular death rate amongst miners is very considerably more than the ratio among farmers and graziers, and as mining occupations predominate in Bendigo and suburbs, and farming and grazing in the rural districts, this distribution of callings

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* Average for six years, 1900-5.

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 seven years 9 more persons in every 10,000 of the population died each year from tubercular diseases in Bendigo than in Melbourne and suburbs, and 8.5 more per 10,000 than in Ballarat. The rates in the above localities from phthisis and other tubercular diseases are shown in the following statement for the decennium 1891-1900 and for each of the last seven years :—

DEATH RATES FROM TUBERCULAR DISEASES IN MELBOURNE, BALLARAT, AND BENDIGO, 1891-1907.

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
Average of 1901–7 ..	13·2	14·3	22·2	4·0	3·4	4·0	17·2	17·7	26·2

During the period embraced in the above table a considerably diminishing rate from all tuberculous diseases is shown for Greater Melbourne. Rates for Ballarat fluctuated, but they also on the whole decreased considerably, that for the year 1907 being 40 per cent. lower than in the decade 1891-1900. The rates for Bendigo varied in recent years, and, although still high, they, too, exhibit a diminishing proportion.

In the next table are given the actual numbers of deaths from tubercular diseases in the last three years in the principal sub-districts of Greater Melbourne, exclusive of Hospitals; also the number of deaths from all causes (including tubercular diseases) during the same period; and the rates per 1,000 of the population in each case. It will be seen that the two rates do not by any means run together.

DEATHS AND DEATH RATES FROM TUBERCULAR DISEASES IN PRINCIPAL SUB-DISTRICTS OF GREATER MELBOURNE (EXCLUDING HOSPITALS) 1905 TO 1907.

Sub-Districts.	Total Deaths in Three Years— 1905, 1906, and 1907 from—				Deaths per Thousand of the Population. Average of 1905, 1906, and 1907—	
	Phthisis.	Other Tubercular Diseases.	All Tubercular Diseases.	All Causes.	From all Tubercular Diseases.	From all Causes.
Footscray City	63	19	82	532	1.48	9.60
Collingwood City	103	18	121	921	1.18	8.99
Fitzroy City	89	23	112	990	1.15	10.13
Northcote Town	30	10	40	320	1.13	9.04
Brunswick City	63	24	87	786	1.12	10.14
Richmond City	103	23	126	1,016	1.09	8.80
Coburg Borough	20	5	25	220	1.08	9.50
Camberwell Town	28	4	32	220	1.07	7.37
Melbourne City	239	59	298	2,972	1.01	10.09
South Melbourne City	95	27	122	1,104	1.00	9.02
Essendon Town	42	13	55	448	.97	7.91
Kew Borough	19	6	25	213	.95	8.13
Hawthorn City	50	16	66	578	.95	8.30
Prahran City	91	19	110	1,190	.86	9.35
Brighton Town	23	4	27	317	.83	9.76
Malvern Town	25	5	30	290	.78	7.51
St. Kilda City	38	11	49	582	.77	9.13
Williamstown Town	20	10	30	416	.73	10.07
Caulfield Town	17	4	21	253	.64	7.70
Port Melbourne Town	12	9	21	313	.56	8.33

In 1907 there were 261 deaths from tubercular diseases (excluding phthisis), which corresponded to a rate of 209 per million, as compared with 273 in 1906, 282 in 1905, 311 in 1904, 289 in 1903, and 379 in 1890-2. The death rates in various age groups are shown in the subsequent table for the latest four census periods :—

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

Ages (Years).	Deaths per 10,000 persons at each age during—			
	1870-2.	1880-2.	1890-2.	1900-2.
Males.				
0—15	7·53	7·98	10·36	5·64
15—20	·64	·81	1·17	1·12
20—25	1·80	1·23	·89	1·77
25—35	·70	·66	·84	1·91
35—45	·77	·88	·77	1·39
45—55	·95	·85	·67	1·64
55—65	·88	1·07	·78	2·40
65 and over	1·09	2·36	·56	1·17
All ages	3·46	3·55	4·02	2·99

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

Ages (Years).			Deaths per 10,000 persons at each age during—			
			1870–2.	1880–2.	1890–2.	1900–2.
Females.						
0—15	...	...	5·89	7·28	8·43	5·33
15—20	...	...	·82	1·30	1·27	1·95
20—25	...	...	·52	·69	1·23	2·09
25—35	...	...	·54	·41	·88	1·98
35—45	...	...	1·04	·70	·42	1·77
45—55	...	...	·17	·67	·34	1·01
55—65	...	...	·39	·62	·69	·71
65 and over ...	...	1·69	1·19	·64	·71
All ages	...	...	3·10	3·39	3·58	2·91

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

The experience of recent years shows that the tubercular death
rate in Victoria is but slightly affected by the arrival from beyond
Australia of persons suffering from tubercular diseases. In 1907
slightly more than one-half per cent. of the persons who died were
born outside and resident less than one year in Australia, and about
1 per cent. were born outside and resident less than five years in the
Commonwealth.

Deaths from cancer in 1907 numbered 992, and represented a Cancer.
death rate of 796 per million of the whole population as compared
with rates of 755 in 1906, 786 in 1905, 740 in 1904, and 761 in
1903. Cancer rates, computed in proportion to the general popula-
tion in earlier and later periods, are not fairly comparable, owing
to the changed age distribution of the people. A more accurate
mortality rate is obtained by comparing the deaths in proportion to
the persons living in age groups, and this has been done for both
sexes for the census periods 1880-2, 1890-2, and 1900-2, when the
numbers of the people in age groups were accurately known.

Death Rate from Cancer in Age Groups during 1880-2, 1890-2, 1900-2.

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

Deaths from cancer occurred at every age, but the rates in the foregoing table show that it is essentially a disease of later life, increasing rapidly in the groups past middle age, and reaching a maximum mortality rate in the oldest age group. A comparison of the rates for females under 25 years of age at the three census periods shows that there was no increase in mortality in the two later periods, whilst the rates for males and females aged 25 to 45 showed an appreciable decrease in 1900-2 as compared with 1890-2. In the age groups over 55 a marked increase was shown in the later periods, but, probably a superior diagnosis of this disease, and a higher average age of persons within these groups—particularly that of 75 and upwards—would account in a large measure for the higher rates in the years 1890-2 and 1900-2 as compared with 1880-2.

The experience of 1901-5 shows that amongst males deaths from cancer of the stomach were nearly twice as numerous as those from cancer of the liver, whilst for females the deaths resulting from a similar complaint of these organs were almost equal. Of the 2,365 male deaths due to cancer in the same period, 607 were ascribed to cancer of the stomach, 317 of the liver, 144 of the intestines, 142 of the tongue, and 92 of the jaw. Of the total female deaths—2,135—399 were due to cancer of the uterus, 333 of the liver, 326 of the stomach, 275 of the breast, 127 of the intestines, and only 15 to cancer of the tongue. Comparing the deaths from affections of similar organs of each sex it will be noticed that deaths from cancer of the stomach were about twice, and of the tongue 9½ times, as numerous among males as females; and that deaths from cancer of the liver were nearly equal for both sexes.

Deaths from cancer per 10,000 of the population in various countries are shown in the following table, the rates of which have been taken from the English Registrar-General's Report for 1906, for the average of the ten years 1896-1905.

DEATH RATES FROM CANCER IN VARIOUS COUNTRIES, 1896-1905.

Country.	Deaths from Cancer per 10,000 of the Population.	Country.	Deaths from Cancer per 10,000 of the Population.
Switzerland	12·9	Ireland	6·3
The Netherlands	9·5	Prussia	6·1
Norway	9·0	South Australia	6·1
England and Wales	8·3	New South Wales	5·9
Scotland	8·1	Tasmania	5·6
German Empire	7·4	Italy	5·3
Victoria	7·2	Queensland	5·0
Austria (1895–1904)	7·0	Western Australia	3·8
New Zealand	6·3		

Victoria showed a lower death rate from cancer than six of the above European countries, but a higher one than the other Australian States. The higher rate in Victoria, as compared with the other States, is chiefly due to the larger proportion of elderly people in the community, amongst whom the mortality is greatest, whilst the high proportion of persons at less susceptible ages accounts for the very low rate in Western Australia.

Senile
decay.

Deaths are not attributed to senile decay or old age unless the deceased were 65 years of age or over. In the year under review 661 male and 563 female deaths were ascribed to this cause. The deaths at these ages from all causes during the same period numbered 3,189 for males, and 2,363 for females. On the experience of 1907 it is thus seen that 21 per cent. of the male and 24 per cent. of the female deaths 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 groups were accurately known, and they show that of every 100 persons aged 65 to 70, 4.39 died within a year ; of those aged 70 to 75 years, 6.95 ; of those aged 75 to 80 years, 10.45 ; and of every 100 persons aged 80 years and upwards, 18.17, died from all causes within a year.

Accidental
violence.

Death rates from accidental violence were lower in later than in earlier periods, a result that is chiefly due to the rapidly diminishing mortality rate from accidental drowning. In 1907 there were 527 male and 181 female deaths attributed to accidents and negligence, which represented a rate of 568 per million of the population. This proportion was slightly above the average of the past five years, but 30 per cent. below the rate—811—for 1890-2. The greater reduction occurred in the death rate from drowning, which was equivalent to 103 per million in 1907, as against 200 in 1890-2. Of the deaths ascribed to drowning 107 were males and 22 were females. Fractures, dislocations, and other accidental injuries accounted for 357 deaths, of which one-sixth were females, and furnished a death rate of 286, as against 329 per million in 1890-2. Mortality rates from accidental violence are considerably heavier in the country than in Greater Melbourne, the rate for the former in the year 1907 was 648 per million, as against 460 in the latter. In the year under review 4 male and 6 female deaths occurred through the administration of anæsthetics by medical practitioners. Chloroform was used in nine of these cases, and ether in only one case. 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 10 persons who died from this cause 9 were under 35 years of age.

Suicide.

Death rates from suicide remained fairly constant in the periods 1890-2 and 1903-7. In the year under review 99 males and 20 females took their own lives, which corresponded to a rate of 95 per million of the population. This was below the proportion—101—

in England and Wales, and the rate—117—in New South Wales on the average of five years. A lower rate from suicide obtains amongst females than males, the ratio for the former being only one-fifth of the latter in 1907. In the same year hanging was the most frequently selected mode of death by both sexes.

The deaths ascribed to homicide in 1907 numbered 21, of which Homicide. 15 were of males and 6 were of females. These represented a rate of 17 per million of the population, which was below the average of the past five years, and only half the proportion in 1890-2, but nearly twice the rate prevailing in England and Wales. Of the deaths referred to homicide in the past five years more than half were of infants, of whom nearly all were born out of wedlock and were less than one month old.

The experience of the years 1906 and 1907 shows that the death Deaths of rate of women in childbed varies considerably at different ages, and is married women in less between 20 and 25 years than at younger or older age periods. childbed. The number of married mothers, the deaths in childbed, and the death rate for various age groups, are shown for the two years 1906 and 1907 in the following table :—

DEATH RATES OF MARRIED MOTHERS IN CHILDBED IN AGE GROUPS, 1906 AND 1907.

Age Group.			Married Mothers.		
			Confinements.	Deaths.	Deaths per 1,000 Confinements.
Under 20 years	...	...	1,495	8	5·35
20 to 25 //	...	...	11,553	34	2·94
25 // 30 //	...	...	16,014	62	3·87
30 // 35 //	...	...	13,870	84	6·06
35 // 40 //	...	...	10,462	71	6·79
40 // 45 //	..	...	4,258	31	7·28

A rapidly increasing death rate is shown for each succeeding age group beyond 20-25, that for 40-45 being 2½ times as high as for 20-25. During the last two years the deaths per 1,000 married women in first confinements were equal to 6.86, as against an average rate of 4.49 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 has fallen decade by decade from 64 per 10,000 in 1871-80 to 56 in 1891-00. In the years 1901 and 1902, however, the rate was as high as in the decade 1871-80. The proportions which prevailed in the last seven years, and the averages of previous periods back to 1871 are shown in the following table :—

DEATHS OF MOTHERS TO EVERY 10,000 CHILDREN BORN ALIVE.

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

The proportion per 1,000 births of deaths in childbirth from septic diseases was 1.93 in 1901-5, 1.65 in 1906, and 1.37 in 1907. In England and Wales for 1906 the proportion was 1.75. These rates are considerably higher than those obtaining in the out-door departments of the large maternity hospitals in London, where, according

to Dr. H. O. Cowen, in his paper on "Puerperal Sepsis," in the *Intercolonial Medical Journal* for August, 1904, the results of the Queen Charlotte and the British Lying-in Hospitals show that out of 34,628 out-door births attended by trained and skilled midwives attached to these institutions there were only six deaths, or the very small proportion of less than two deaths to every 10,000 births—one-eighth of the Victorian mortality rate from the same cause in 1907.

NATURAL INCREASE.

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 1903 to 1907, 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.	Queens-land.	South Australia.	Western Australia.	Tasmania.	Australia.	New Zealand.
1903	11·56	13·72	12·24	12·45	17·67	16·61	13·12	16·21
1904	12·73	16·11	17·01	14·48	18·43	18·58	15·29	17·37
1905	12.73	16·59	15·45	13·51	19·47	19·04	15·30	17·95
1906	12·72	17·15	16·75	13·20	18·15	18·35	15·52	17·77
1907	13·50	16·58	16·52	13·95	18·15	18·46	15·58	16·35
Mean	12·65	16·03	15·59	13·52	18·37	18·21	14·96	17·13

The mean natural increase of the Australian States for the period 1903-7, viz., 14.96, is probably not far from that which will be attained under ordinary circumstances when the age constitution of the population will have become normal, and when undisturbed by migration. At the present time, the birth rate and death rate are both below normal, owing to factors in operation which have already been discussed in dealing with the birth and death rates. This

annual rate of increase, 14.96 per thousand, will enable a population to double itself in 46.7 years. The rate for the last year was .62 above the average of the five years, and if this increased rate were maintained, the population would take 44.9 years to double itself.

<div style="float:left">Natural increase per 1,000 of population in various countries.</div>

The rate of natural increase in Australia in 1903-7 is higher than in Japan and in all European countries except Russia, Holland, and Prussia, on the average of the latest five years for which this information is available.

Natural Increase per 1,000 of the Population of Various Countries.

Country.	Natural Increase per 1,000 of Population.	Country.	Natural Increase per 1,000 of Population.
Western Australia	...)8.4	Victoria ...	... 12.6
Tasmania ...	... 18.2	England and Wales	... 12.1
New Zealand ...	... 17.1	Scotland ...	... 12.1
Russia (European)	... 17.1	Austria ...	... 11.4
New South Wales	... 16.0	Japan	... 10.9
Queensland ...	... 15.6	Italy	... 10.8
Holland ...	... 15.6	Hungary ...	... 10.7
Prussia	... 15.3	Sweden ...	... 10.7
Australia ...	... 15.0	Switzerland ...	... 10.4
Germany ...	... 14.5	Belgium ...	... 10.2
Denmark ...	... 14.3	Spain	... 9.4
Norway ...	... 13.7	Ireland ...	... 5.9
South Australia ...	... 13.5	France ...	... 1.5

The rate of natural increase in Victoria is higher than in England and Wales, Scotland, Austria, Hungary, Belgium, Italy, Switzerland, and Spain, although higher birth rates obtained in those countries in the periods compared.

<div style="float:left">Excess of births over deaths in Australasia.</div>

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 1903 to 1907, together with the mean of 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.
1903 ...	90	118	99	115	140	140	109	156
1904 ...	107	152	168	142	155	169	139	181
1905 ...	105	164	148	133	180	185	141	194
1906 ...	102	173	175	130	153	164	143	191
1907 ...	116	157	160	141	164	164	144	149
Mean...	104	153	150	132	158	164	135	174

From this it is seen that the least excess in Australasia is in Victoria and the greatest in New Zealand. To every hundred deaths that occur in Victoria there are 204 births, in New South Wales 253, in Queensland 250, in South Australia 232, in Western Australia 258, in Tasmania 264, in Australia 235, whilst in New Zealand there are 274.

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 of births over deaths in various countries.*

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 ...	174	Scotland	73
Tasmania ...	164	Germany	73
Western Australia ...	158	Sweden	71
New South Wales ...	153	Belgium	60
Queensland ...	150	Switzerland	59
Australia ...	135	Russia (European) ...	54
South Australia	132	Japan	52
Victoria	104	Italy	50
Holland	100	Austria	47
Denmark	100	Hungary	41
Norway	96	Spain	36
Prussia	80	Ireland	34
England and Wales ...	77	France	8

The very favorable position of Australasia in respect of the excess of births over deaths is wholly due to its low death rate. Excepting Sweden, Ireland, and France, higher birth rates prevailed in the above European countries and Japan than in Australia, but this advantage was more than counterbalanced by their higher death rates. On the average of five years, the loss caused by every 100 deaths was replaced by 235 births in Australia, as compared with 200 in Holland and Denmark, which were the highest in Europe; 196 in Norway, 180 in Prussia, 177 in England and Wales, 173 in Scotland and Germany, 154 in Russia, 152 in Japan, and only 108 in France, which was the lowest of all the countries shown.

The actual rates of increase in various European countries have been computed and are set forth in the following table, which also shows the periods from which such rates were obtained, and also the *Actual rate of increase of population in European countries.*

periods in which the population would double itself at the computed rate of increase :—

ACTUAL RATE OF INCREASE OF POPULATION IN VARIOUS EUROPEAN COUNTRIES.

Country.	Annual Rate of Increase per cent.	Period of Experience	Period required to double Population.
			Years.
German Empire ...	1·12	1872–1901	62¼
Prussia	1·11	1867–1901	62¾
The Netherlands ...	1·05	1853–1901	66¼
Denmark	1·03	1861–1901	67½
Hungary	·97	1876–1901	71¾
Great Britain ...	·91	1864–1901	76½
Belgium	·84	1853–1901	83
Norway	·81	1871–1901	86
Sweden	·77	1852–1901	90¼
Austria	·77	1853–1901	90¼
Switzerland ...	·72	1868–1901	96½
Italy	·64	1872–1901	108½
Spain	·45	1861–1901	154¼
France	·16	1853–1901	433½

At the rate of natural increase in Australia in 1907 the period required to double its population, viz., 44.9 years—and which is independent of immigration—is considerably less than that required by any of the European countries, based upon actual experience.