

VITAL STATISTICS.

BIRTHS.

THE total number of births in each state, and the rate per thousand of the population during the year 1902 are shown in the following table:—

State.	Births.			Birth-rate.
	Males.	Females.	Total.	
New South Wales.....	19,322	18,513	37,835	27·15
Victoria	15,583	14,878	30,461	25·23
Queensland	7,279	6,937	14,216	27·73
South Australia.....	4,587	4,360	8,947	24·49
Western Australia	3,241	2,991	6,232	30·40
Tasmania	2,604	2,481	5,085	28·94
Commonwealth	52,616	50,160	102,776	26·63
New Zealand	10,653	10,002	20,655	25·89
Australasia.....	63,269	60,162	123,431	26·50

The variation in the birth-rates disclosed in these figures is not very considerable, and may be set down as due for the most part to the larger proportion of married women found in some states than in others. Taking the general average for the last two years (26·72), the birth-rate of Australia will be found lower than that of most European countries, and very much below the former experience of these states, as shown by the following statement, which gives the number of births in each

state and in the whole of Australasia, in quinquennial periods from 1861 to 1900, and for the years 1901-2.

State.	1861-65.	1866-70.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
New South Wales	79,958	92,643	106,543	127,572	158,905	188,300	197,566	183,582	75,710
Victoria.....	123,353	131,052	136,363	132,347	140,258	172,307	180,852	155,437	61,460
Queensland	11,761	22,622	29,279	37,535	48,979	70,150	72,863	70,063	23,519
South Australia ..	30,472	35,067	36,398	46,310	56,618	58,200	53,093	47,179	18,058
Western Australia	3,352	3,724	4,033	4,611	5,446	7,696	10,242	22,399	11,950
Tasmania	15,454	14,679	15,313	17,165	21,425	23,710	24,794	23,404	10,015
Commonwealth	264,350	299,787	327,929	365,540	431,691	515,363	539,410	502,964	205,721
New Zealand	26,611	46,770	59,891	88,205	96,482	94,071	91,410	94,685	41,146
Australasia ..	290,961	346,557	387,820	453,745	528,173	609,434	630,820	597,640	246,807

The average birth-rates per thousand of population for each state during the same periods were as follow :—

State.	1861-65.	1866-70.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
New South Wales	42.71	40.70	39.05	38.53	37.65	36.36	32.93	27.98	27.37
Victoria	43.30	39.27	35.69	31.43	30.76	32.72	30.93	26.22	25.50
Queensland	43.07	43.91	40.81	36.72	36.37	38.81	35.15	30.40	28.04
South Australia ..	44.14	40.60	37.24	38.28	38.52	34.48	31.54	26.50	24.79
Western Australia	39.07	33.86	31.30	32.97	34.57	36.88	30.77	28.73	30.45
Tasmania	33.80	29.65	29.72	31.54	35.02	34.50	32.84	28.28	28.67
Commonwealth	42.29	39.46	36.85	35.09	34.92	35.02	32.32	27.62	26.85
New Zealand	38.22	42.23	40.02	41.32	36.50	31.22	27.66	25.74	26.09
Australasia ..	41.92	39.84	37.34	36.38	35.21	34.43	31.55	27.31	26.72

It is a matter of common knowledge that for some years past the birth-rate in Australasia has been declining, and so important is the subject—not only as regards the growth of the population, but also as affecting general progress—that in 1899 the author made a special investigation into the question of childbirth in Australia, but more particularly with reference to New South Wales. The conclusions arrived at with respect to that state, however, may be held to obtain for all the others, seeing that the conditions of living do not differ

materially in any of them. During the course of the investigation it was found, first, that for all women the proportion of fecund marriages was decreasing; second, that amongst fecund women the birth-rate was much reduced as compared with what it was twenty years ago, and third, that Australian-born women did not bear so many children as the European women who had emigrated to these states. A further and more exhaustive investigation made in 1902 amply bears out the first and second conclusions, but the inferior fecundity amongst Australian women is disproved, and more extended observation supports the opposite view. It was also found that the decline had been persistent and regular since 1881, and this restriction of births in a young country like Australia, where immigration is discouraged, is a matter which must have far-reaching results, although its economic effects are only beginning to be seen, and should claim the serious consideration of all thoughtful people. It would have been interesting to have compared the number of births to married women of specified ages at regular intervals from the date when the birth-rate first showed marked decline. Unfortunately, the information is not available for the different states, but the following figures, relating to New South Wales, possess strong interest. These show the number of legitimate births and the birth-rate per cent. among married women of various ages at each of the four decennial periods 1871, 1881, 1891, and 1901.

Age groups of married women.	Legitimate births.				Birth-rate per 100 married women.			
	1871.	1881.	1891.	1901.	1871.	1881.	1891.	1901.
15 and under 20	741	1,099	1,377	1,443	50·10	51·60	47·91	56·28
20 ,, 25	4,260	6,353	8,344	7,805	44·15	45·79	41·63	39·70
25 ,, 30	5,918	7,553	11,333	9,742	40·75	40·52	35·37	29·87
30 ,, 35	4,340	5,946	8,622	7,848	33·67	33·86	29·22	22·68
35 ,, 40	3,010	4,410	5,336	5,711	27·04	27·36	23·63	17·25
40 ,, 45	1,027	1,645	2,134	2,369	13·41	12·89	11·84	8·81
45 and over	123	200	225	244	·71	·78	·55	·43

The rates in 1871 and 1881 were practically the same, but at all ages there was a large decline between 1881 and 1891, and again between 1891 and 1901. The apparent increase from 1891 to 1901 among women aged 15 and under 20 is due to the increased number of ante-nuptial conceptions in 1901 compared with 1891.

Although like information cannot be given for the other states, the births compared with the total married women of child-bearing ages

have been ascertained for some of the states for the periods 1881, 1891, and 1901, and were as follows:—

State.	1881.	1891.	1901.
New South Wales	33·63	28·87	23·53
Victoria	29·84	29·77	22·86
Queensland	31·62	32·77	25·40
New Zealand	31·22	27·57	24·61

Particulars relating to illegitimate births will be found in the chapter headed "Social Condition."

DEATHS.

The following table shows the total number of deaths and the rate per thousand of the population during the year 1902:—

State.	Deaths.			Death-rate.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	9,535	7,111	16,646	13·04	10·74	11·94
Victoria	9,152	7,025	16,177	15·13	11·66	13·40
Queensland	3,924	2,280	6,204	13·77	10·01	12·10
South Australia	2,389	1,925	4,314	12·88	10·70	11·81
Western Australia	1,832	991	2,823	14·69	12·34	13·77
Tasmania	1,044	870	1,914	11·45	10·30	10·90
Commonwealth	27,876	20,202	48,078	13·78	11·00	12·46
New Zealand	4,890	3,485	8,375	11·64	9·23	10·50
Australasia	32,766	23,687	56,453	13·41	10·70	12·12

The death-rate of Australia is much below that of any of the European states, and is steadily declining. Every year sees an advance in the sanitary condition of the people in the large centres of population, and to this cause may be ascribed the greater part of the improvement in the death-rate shown in the following tables, but there are other causes. The decline in the birth-rate elsewhere alluded to has an immediate effect on the death-rates. In ordinary years about 30 per cent. of the deaths are of children under one year, and the decline in the birth-rate from 35 to 27 per thousand, which has happened during the last twelve years, means a reduction of 1 per thousand in the death-rate.

Comparing the death-rate of males and females separately, Tasmania shows the lowest rates amongst males, and New Zealand amongst females. New Zealand shows the lowest general rate, followed by Tasmania.

The number of deaths in each state and in the whole of Australasia, in quinquennial periods from 1861 to 1900, and during the years 1901-2, is shown in the following table :—

State.	1861-65.	1866-70.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
New South Wales..	36,466	31,561	40,909	53,256	66,103	71,457	76,802	77,783	32,667
Victoria	55,136	49,452	59,759	62,811	66,811	84,648	82,056	81,328	32,081
Queensland	9,312	5,751	12,869	17,284	25,731	23,040	26,581	29,202	12,211
South Australia ..	12,963	10,840	15,475	18,026	21,616	19,361	20,535	21,174	8,379
Western Australia	1,711	1,399	2,068	2,003	2,709	3,332	5,430	11,943	5,342
Tasmania	6,962	6,953	8,060	8,994	9,790	10,389	10,123	10,313	3,728
Commonwealth	122,550	105,956	139,140	162,374	192,760	217,227	221,527	231,743	94,408
New Zealand	13,323	10,001	19,354	25,254	29,074	29,746	33,525	35,151	16,009
Australasia ..	135,873	115,957	158,494	187,628	221,834	246,973	255,052	266,894	110,417

The average death-rates per thousand of the population of each state for the periods shown in the above table are given below, but the statement does not afford a just comparison between them as no account is taken of the ages of the people :—

State.	1861-65.	1866-70.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
New South Wales	16·86	16·05	14·99	16·09	15·66	13·80	12·80	11·85	11·81
Victoria	17·36	16·52	15·64	14·92	14·65	16·07	14·04	13·72	13·31
Queensland	21·06	18·07	17·94	16·90	19·10	15·52	12·82	12·51	12·01
South Australia ..	15·70	15·01	15·83	14·90	14·71	12·55	12·20	11·93	11·50
Western Australia	16·31	15·55	16·03	14·32	17·19	15·97	16·31	15·32	13·61
Tasmania	15·20	14·06	15·64	16·52	16·00	15·16	13·41	12·46	10·67
Commonwealth	16·98	16·01	15·58	15·54	15·36	14·51	13·27	12·73	12·32
New Zealand	14·36	12·05	12·93	11·83	11·00	9·87	10·14	9·56	10·15
Australasia ..	16·75	15·62	15·26	15·04	14·79	13·95	12·76	12·20	11·95

If this table be compared with that showing the birth-rates, it will be observed that the experience of Australasia corresponds with that of other countries, viz., that a low birth-rate and a low death-rate accompany

each other, so that although the birth-rate has been declining it has had an effect in reducing the death-rate, as indicated on the preceding page, and the balance in favour of births has not been reduced so much as it might have been. From the next table, which shows the mean natural increase in various foreign countries during the decennial period 1892-1901, and for Australasia during the period 1893-1902, it will be seen that the case of Australasia is much better than that of any of the countries of the United Kingdom or Europe, for notwithstanding that the birth-rate of these countries in some cases is higher, the death-rate is so much higher as to more than outweigh any advantage in that respect.

Country.	Birth-rate.	Death-rate.	Excess of Births per 1,000 Inhabitants.
New South Wales	29·01	12·04	16·97
Victoria.....	27·07	13·56	13·51
Queensland	30·87	12·45	18·42
South Australia.....	27·44	11·92	15·52
Western Australia.....	29·27	14·95	14·32
Tasmania.....	32·53	12·17	20·36
Commonwealth	28·62	12·70	15·92
New Zealand.....	26·22	9·84	16·38
Australasia	28·22	12·22	16·00
England and Wales	29·39	17·59	11·80
Scotland	29·91	18·06	11·85
Ireland.....	23·17	18·08	5·09
United Kingdom.....	28·75	17·70	11·05
Denmark.....	30·52	17·29	13·23
Norway	30·13	15·96	14·17
Sweden	26·90	16·22	10·68
Austria.....	37·27	26·36	10·91
Hungary	40·30	29·22	11·08
Switzerland	28·03	18·59	9·44
German Empire.....	35·96	21·94	14·02
Prussia.....	36·82	22·08	14·74
The Netherlands	32·20	17·92	14·28
Belgium.....	28·89	18·70	10·19
France	22·07	21·23	0·84
Italy	34·53	23·77	10·76

In regard to the above table it must be stated that, had the figures of any of the last five years been taken as the basis of comparison, the gain by natural increase in Australasia would have been below that of some European countries, where the decline in the birth-rate, although distinctly evident, has not been so great as in Australasia.

INDEX OF MORTALITY

So far consideration has only been given to the actual death-rates as they are obtained by taking the proportion which the number of deaths bears to the number of inhabitants. It is well known, however, that the death-rate of a country is affected by more than the salubrity of its climate, the degree of perfection to which the sanitary condition of its cities and towns and villages has been brought, and the nature of the industrial pursuits of its people. It is known that the ages of the people considerably affect the death-rate of a country; that, for instance, one which has a large proportion of young people will, other things being equal, have a lower death-rate than another which has a comparatively large proportion of old persons; and it is this fact that statistical science now seeks to take into account in establishing the rates of mortality of the various countries of the world. In order to have a comparison of the mortality of the principal countries on a uniform basis, the International Statistical Institute, in its 1895 session, held at Berne, decided to recommend the population of Sweden, in five age-groups, as ascertained at the census of 1890, as the standard population, by which the index of mortality should be calculated. Applying the co-efficient of mortality in each age-group in the Commonwealth and New Zealand to the age constitution of the standard population, the "index of mortality," as distinguished from the actual "death-rate," is found as given below for the year 1902. How greatly the ages of the people of a country affect its mortality will be evident from the fact that whereas in 1902 the death-rates in Australasia ranged from 10·50 in New Zealand to 13·77 in Western Australia, a difference of 3·27 per thousand, the range of the indexes of mortality was 4·66 per thousand, namely, from 13·00 in New Zealand to 17·66 in Western Australia.

State.	1902.
New South Wales	15·45
Victoria	15·89
Queensland	15·85
South Australia	15·12
Western Australia	17·66
Tasmania	14·26
Commonwealth	15·63
New Zealand	13·00
Australasia	15·22

AGES AT DEATH.

A detailed statement of the ages at death of the males who died during the year 1902 in the various states is given below. The

figures for South Australia in this and subsequent detailed tables refer to the province proper exclusive of the Northern Territory.

Ages at Death.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Commonwealth.	New Zealand.	Australasia.
Under 1 year	2,249	1,793	780	465	496	222	6,005	952	6,957
1 and under 2 years..	410	345	119	129	85	28	1,116	155	1,271
2 " 3 " ..	163	106	42	56	19	13	399	55	454
3 " 4 " ..	81	67	30	33	21	10	242	47	280
4 " 5 " ..	52	37	13	16	12	3	133	22	155
5 " 10 " ..	201	179	74	80	22	18	574	121	695
10 " 15 " ..	167	146	61	41	14	27	456	70	532
15 " 20 " ..	241	186	110	53	34	24	653	123	776
20 " 25 " ..	279	245	223	63	98	34	942	172	1,114
25 " 30 " ..	298	259	223	76	140	28	1,024	188	1,212
30 " 35 " ..	348	307	221	77	120	31	1,104	161	1,265
35 " 40 " ..	416	352	233	78	118	44	1,241	173	1,414
40 " 45 " ..	415	384	221	93	116	48	1,277	177	1,454
45 " 50 " ..	461	340	183	96	90	43	1,213	221	1,434
50 " 55 " ..	422	342	213	97	75	35	1,184	246	1,430
55 " 60 " ..	462	393	212	123	72	42	1,304	256	1,560
60 " 65 " ..	508	495	275	127	70	51	1,526	333	1,859
65 " 70 " ..	721	801	253	130	64	52	2,021	441	2,462
70 " 75 " ..	655	987	207	167	66	76	2,158	427	2,585
75 years and upwards	972	1,377	216	310	87	214	3,176	544	3,720
Unspecified	14	11	15	1	13	1	55	....	55
Total	9,535	9,152	3,924	2,316	1,832	1,044	27,803	4,890	32,693

Similar information respecting the deaths of females in 1902 is given in the following table :—

Ages at Death.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Commonwealth.	New Zealand.	Australasia.
Under 1 year	1,903	1,515	644	372	389	180	5,003	760	5,763
1 and under 2 years..	390	285	102	105	79	22	983	152	1,135
2 " 3 " ..	134	110	35	36	19	11	345	63	408
3 " 4 " ..	72	52	33	21	14	5	197	45	242
4 " 5 " ..	47	51	20	18	9	6	149	39	188
5 " 10 " ..	181	171	63	56	25	26	522	87	609
10 " 15 " ..	143	143	59	40	23	25	433	75	508
15 " 20 " ..	203	167	63	68	22	50	573	134	707
20 " 25 " ..	273	237	84	72	51	49	766	153	919
25 " 30 " ..	309	271	111	75	61	33	860	175	1,035
30 " 35 " ..	277	323	101	74	64	34	873	138	1,011
35 " 40 " ..	314	344	117	68	46	31	920	151	1,071
40 " 45 " ..	303	332	103	79	29	45	891	121	1,012
45 " 50 " ..	239	245	85	66	20	20	675	109	784
50 " 55 " ..	245	220	76	59	18	21	639	155	794
55 " 60 " ..	260	257	98	61	25	28	729	173	902
60 " 65 " ..	314	355	105	73	22	38	907	171	1,078
65 " 70 " ..	384	508	116	115	29	52	1,204	221	1,425
70 " 75 " ..	370	541	101	137	15	57	1,221	200	1,421
75 and upwards	743	893	162	327	30	136	2,296	363	2,659
Unspecified	2	5	2	....	1	1	11	....	11
Total	7,111	7,025	2,280	1,920	991	870	20,197	3,485	23,682

The next table shows the ages of all the persons who died during 1902 :—

Ages at Death.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Commonwealth.	New Zealand.	Australasia.
Under 1 year	4,152	3,308	1,424	837	885	402	11,008	1,712	12,720
1 and under 2 years..	800	630	221	234	164	50	2,099	307	2,406
2 " 3 " "	297	216	77	92	38	24	744	118	802
3 " 4 " "	153	119	63	54	35	15	439	92	531
4 " 5 " "	99	88	33	32	21	9	282	61	343
5 " 10 " "	382	350	137	136	47	44	1,096	208	1,304
10 " 15 " "	310	289	120	81	37	52	889	151	1,040
15 " 20 " "	444	353	173	126	56	74	1,226	257	1,483
20 " 25 " "	552	482	307	135	149	83	1,708	325	2,033
25 " 30 " "	607	530	334	151	201	61	1,884	363	2,247
30 " 35 " "	625	630	322	151	184	65	1,977	299	2,276
35 " 40 " "	730	696	350	146	164	75	2,161	324	2,485
40 " 45 " "	718	716	324	172	145	93	2,168	298	2,466
45 " 50 " "	700	685	268	162	110	63	1,888	330	2,218
50 " 55 " "	667	562	289	156	93	56	1,823	401	2,224
55 " 60 " "	722	650	310	184	97	70	2,033	429	2,462
60 " 65 " "	822	850	380	200	92	89	2,433	504	2,937
65 " 70 " "	1,105	1,309	369	245	93	104	3,225	662	3,887
70 " 75 " "	1,025	1,528	308	304	81	133	3,379	627	4,006
75 and upwards.....	1,720	2,270	378	637	117	350	5,472	907	6,379
Unspecified.....	16	16	17	,1	14	2	66	....	66
Total.....	16,646	16,177	6,204	4,236	2,823	1,914	48,000	8,375	56,375

The ages of the people were ascertained at the census of March, 1901, and a comparison of the foregoing figures with the numbers living at each age can now be made. Using the same age groups as for the index of mortality given on page 669, the following rates are obtained. For age 0 (under 1 year) the number of births during the year has been used in place of figures deduced from the census results :—

Age Groups.	Deaths in each Age Group per 1,000 living.								
	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Commonwealth.	New Zealand.	Australasia.
Under 1 year	109.74	108.60	100.17	94.00	142.01	79.06	107.15	82.89	103.09
1 and under 20.....	4.06	4.07	3.67	4.68	5.83	3.38	4.10	3.56	4.02
20 " 40.....	5.63	5.92	7.77	5.44	7.49	5.18	6.12	4.99	5.92
40 " 59.....	12.63	13.61	14.63	11.91	14.20	10.78	13.13	11.46	12.34
60 and over.....	60.03	61.96	68.97	60.19	57.26	63.35	60.56	50.08	58.64

The superiority of Tasmania over the other states of the Commonwealth is very marked, and New Zealand also shows a much lower rate than any of the states excepting Tasmania. For children under 1 year Tasmania shows a far more favourable mortality than any other state, while Western Australia shows an exceptionally high rate. The most favourable rates among old persons occur in New Zealand, Western Australia, and Queensland in that order.

INFANTILE MORTALITY.

The mortality of infants under 1 year of age may be measured accurately by comparing the deaths with the number of births; this is a most sensitive and reliable test of the healthiness and sanitary condition of a country, since at this early age children are most susceptible to the attacks of disease. The following table shows for each state the number of deaths of children under 1 year of age, and the rate per 1,000 births, since 1870, arranged in five-year periods:—

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
DEATHS under 1 Year.							
New South Wales	11,036	14,626	19,709	21,586	21,930	20,819	8,081
Victoria	16,981	15,865	17,043	22,582	20,221	17,299	6,500
Queensland	3,596	5,068	6,732	8,339	7,496	7,337	2,882
South Australia	5,758	6,516	7,594	5,593	5,227	5,266	1,746
Western Australia .....	.....	.....	.....	939	1,332	3,488	1,622
Tasmania	1,560	1,830	2,331	2,437	2,337	2,284	841
Commonwealth ...	38,931	43,905	53,409	61,476	58,543	56,493	21,672
New Zealand	6,390	8,432	8,733	7,924	8,005	7,578	3,175
Australasia	45,321	52,337	62,142	69,400	66,548	64,071	24,847
RATE per 1,000 Births.							
New South Wales	103·58	114·65	123·98	114·64	111·00	113·40	106·74
Victoria	124·53	119·87	121·51	131·06	111·81	111·29	105·74
Queensland	122·82	135·02	137·45	118·87	102·88	103·39	101·06
South Australia	158·20	140·70	134·13	105·13	98·67	111·97	96·97
Western Australia .....	.....	.....	.....	109·15	130·05	155·72	135·73
Tasmania	101·87	106·61	108·75	102·78	94·26	97·59	83·97
Commonwealth ...	119·47	120·55	123·48	117·51	107·96	112·35	105·35
New Zealand	106·69	95·60	90·51	84·23	87·57	80·03	77·16
Australasia	118·09	116·53	118·88	113·71	105·51	107·23	100·65

In spite of all the sanitary improvements that have been effected in recent years, the rate, as judged from the quinquennial period 1896-1900, did not seem to have decreased very appreciably in any of the states except Queensland, South Australia, and New Zealand. But during the last two years there has been a most satisfactory improvement, and the general rate is now only a little over 10 per cent. In Western Australia the mortality among infants increased rapidly from 11 per cent. in 1886-90 to 16 per cent. in 1896-1900, but during 1901-2 it decreased 2 per cent. as compared with the preceding five years. In South Australia the rate appears very high in the earlier years, the reason given being that the deaths of several children 1 year old were wrongly included by the registering officers with those under 1 year.

CAUSES OF DEATH.

The system of classifying the causes of death adopted in Australasia is that arranged by Dr. William Ogle on the basis of the older system of Dr. William Farr, his predecessor as Superintendent of the Statistical Department of the Registrar-General's Office, England. Under this classification deaths are divided into eight classes, namely, deaths from specific febrile or zymotic diseases, from parasitic diseases, from dietetic diseases, from constitutional diseases, from developmental diseases, from local diseases, from violence, and from ill-defined or unspecified causes. The following were the assigned causes of death of the 56,375 persons who died in Australasia during 1902:—

Classification	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	New Zealand.	Australasia.
Specific febrile or zymotic diseases—								
Miasmatic diseases	1,043	872	340	452	262	125	483	3,586
Diarrhoeal diseases	656	429	312	151	147	25	275	1,995
Malarial diseases	3	1	55	2	26	1	2	90
Zoonous diseases	4	.....	.....	.....	.....	.....	.....	4
Veneral diseases	55	63	35	10	7	5	15	190
Septic diseases	201	159	48	28	17	19	64	586
Total	1,982	1,524	799	643	459	175	839	6,401
Parasitic diseases	41	42	24	14	4	5	8	138
Dietetic diseases	200	108	130	19	35	7	68	567
Constitutional diseases	2,570	2,833	1,007	710	314	306	1,540	9,280
Developmental diseases	1,761	1,662	413	520	211	349	840	5,762
Local diseases—								
Diseases of nervous system....	1,418	1,408	606	413	204	220	858	5,217
Diseases of organs of special sense	14	23	11	5	1	2	8	64
Diseases of circulatory system..	1,415	1,726	549	482	234	209	954	5,569
Diseases of respiratory system..	2,297	2,114	746	388	304	192	1,058	7,099
Diseases of digestive system ..	2,158	2,071	825	404	434	153	734	6,779
Diseases of lymphatic system and ductless glands	29	13	5	10	1	3	28	94
Diseases of urinary system	688	729	286	147	82	3	328	2,313
Diseases of organs of generation	59	61	33	9	6	7	27	202
Diseases of parturition	154	131	59	24	1	18	85	472
Diseases of organs of locomotion	34	42	14	19	32	6	30	177
Diseases of integumentary system	43	72	27	13	16	4	11	186
Total	8,309	8,480	3,161	1,914	1,315	872	4,121	23,172
Violence—								
Accident or negligence	1,026	662	481	183	225	76	523	3,176
Homicide	27	27	15	4	9	.....	2	84
Suicide	127	133	97	35	49	10	80	531
Execution	1	2	.....	.....	1	.....	.....	4
Violent deaths not classified ..	58	.....	.....	.....	.....	.....	.....	58
Total	1,230	824	593	222	284	86	605	3,553
Ill-defined and not specified causes..	564	704	77	194	201	114	348	2,202
Grand Total	16,646	16,177	6,204	4,236	2,823	1,914	8,375	56,375

Comparing the figures of the total deaths in each class and order with the population, the following results are obtained. The figures represent the number of deaths per 100,000 living based on the experience of the five years ended with 1902.

Classification.	Number of deaths per 100,000 living.		
	Males.	Females.	Total population.
Specific, febrile, or zymotic diseases—			
Miasmatic diseases.....	96·15	92·04	94·21
Diarrhoeal diseases.....	49·57	43·65	46·77
Venereal diseases.....	5·31	3·25	4·34
Septic diseases.....	6·02	17·42	11·40
Other specific, febrile, or zymotic diseases	2·87	0·41	1·71
Total.....	159·92	156·77	158·43
Parasitic diseases.....	4·16	3·69	3·94
Dietetic diseases.....	17·71	8·17	13·21
Constitutional diseases.....	211·94	184·67	199·07
Developmental diseases.....	130·32	105·99	118·83
Local diseases—			
Diseases of nervous system.....	125·86	103·26	115·19
Diseases of circulatory system.....	130·01	99·79	115·75
Diseases of respiratory system.....	166·06	122·92	145·69
Diseases of digestive system.....	141·82	134·53	138·38
Diseases of urinary system.....	60·84	33·02	47·71
Diseases of organs of generation.....	0·34	7·75	3·84
Diseases of parturition.....		22·94	10·83
Diseases of organs of locomotion.....	3·61	2·66	3·16
Diseases of integumentary system.....	3·91	3·16	3·56
Other local diseases.....	3·22	3·86	3·52
Total.....	635·67	533·89	587·63
Violence—			
Accident or negligence.....	106·21	35·13	72·66
Homicide.....	2·60	1·88	2·26
Suicide.....	18·21	4·11	11·55
Other deaths from violence.....	1·18	0·25	0·74
Total.....	128·20	41·37	87·21
Ill-defined or not specified causes.....	55·06	48·81	52·11
Grand total.....	1,342·98	1,083·36	1,220·43

SPECIFIC FEBRILE OR ZYMOTIC DISEASES.

The deaths from specific febrile or zymotic diseases in 1902 numbered 6,401, representing 13·76 deaths per 10,000 of the population. Under this class are included the highly infectious diseases—measles, scarlet fever, whooping-cough, and diphtheria—which are especially fatal to children; diarrhœal diseases, chiefly fatal to persons at the extremes of life; and typhoid (enteric) fever, the death-rate from which at times is very high.

It would be interesting to compare the fatality of these diseases in the various states in proportion to the number of cases occurring, but unfortunately the necessary information is lacking. In some of the states legal enactments provide for the notification of infectious diseases, but they are not rigidly enforced, and doubtless many cases escape notice.

In New South Wales, since the beginning of 1898, under the provisions of the Public Health Act of 1896, notification of the three diseases scarlet fever, diphtheria, and typhoid has been compulsory, and careful record has been kept of the number of cases and deaths. The following table shows the number of cases notified during the five years 1898 to 1902 in the metropolis, and the fatality per cent. :—

Disease.	Number of cases notified.	Number of Deaths.	Fatality per cent.
Scarlet Fever	5,582	91	1·6
Diphtheria	2,008	212	10·6
Typhoid	4,032	403	10·

The average annual experience of London during the ten years 1891-1900 is also given.

Disease.	Number of cases notified.	Number of Deaths.	Fatality per cent.
Scarlet Fever	21,156	818	3·9
Diphtheria	11,658	2,192	18·8
Typhoid	3,518	616	17·0

MEASLES.

Measles, which is mainly a children's disease, was the cause in 1902 of the deaths of 550 persons, equal to a rate of 1.18 per 10,000 living. The disease was epidemic in South Australia, and to a lesser extent in New South Wales and New Zealand; in the state first mentioned the deaths numbered 235. The following tables show the number of deaths in each state from this disease, and the death-rate per 10,000 living, in five-year periods since 1870, and for the years 1901-2:—

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
NUMBER of Deaths.							
New South Wales	.....	311	200	293	885	734	144
Victoria	1,809	271	386	148	696	827	100
Queensland	179	36	102	4	302	261	5
South Australia ...	356	18	240	8	291	83	240
Western Australia	.....	1	129	nil	27	41	64
Tasmania	132	3	66	1	49	59	1
New Zealand	*359	10	246	85	526	204	140
Australasia ...	.....	650	1,369	539	2,776	2,209	694
DEATH-RATE per 10,000 living.							
New South Wales	.....	0.94	0.47	0.57	1.48	1.12	0.52
Victoria	4.73	0.66	0.81	0.28	1.19	1.39	0.41
Queensland	2.50	0.35	0.76	0.02	1.46	1.12	0.05
South Australia ...	3.64	0.15	1.63	0.05	1.73	0.47	3.34
Western Australia	.....	0.07	8.19	0.00	0.81	0.53	1.63
Tasmania	2.56	0.06	1.08	0.01	0.65	0.71	0.03
New Zealand	*2.90	0.05	0.93	0.28	1.59	0.55	0.89
Australasia ...	.....	0.52	0.91	0.30	1.38	1.01	0.75

* Four years, 1872-75.

With regard to the diseases which are almost solely confined to children, the rates would of course be more accurately stated if the deaths were compared with the children living of like ages. However, taking them as they appear, it will be seen that measles has been more prevalent since 1891 than during the preceding fifteen years, and it seems to have been most common in the first three states shown in the table. In 1901-2 the rate increased largely in South Australia, owing to an epidemic, and in Western Australia and New Zealand. Although the disease is in evidence every year, it usually occurs as an epidemic, and, according to the records, the outbreaks occur with more or less regularity and severity about every five years. Measles was epidemic in nearly all the states in 1875 (when the attack was very severe), in 1880, in 1884 (when Western Australia suffered heavily) in 1889, in 1893, in 1898, and in 1899.

SCARLET FEVER.

The deaths resulting from scarlet fever during 1902 numbered 143 or at the rate of 0·31 per 10,000. In the table below are shown the number of deaths and the death rates in each State arranged quinquennially since 1870:—

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
NUMBER OF DEATHS.							
New South Wales	.....	1,295	476	404	460	244	77
Victoria	1,455	2,646	232	148	172	230	17
Queensland	77	37	19	73	31	157	7
South Australia ...	626	520	141	27	56	47	1
Western Australia	.....	.....	.....	nil.	1	4	3
Tasmania	72	304	49	9	8	38	23
New Zealand	°58	383	312	96	40	18	56
Australasia ...	.....	5,185	1,279	757	768	738	184
DEATH-RATE per 10,000 living.							
New South Wales	.....	3·91	1·13	0·78	0·77	0·37	0·28
Victoria	3·81	6·44	0·59	0·28	0·29	0·39	0·07
Queensland	1·07	0·36	0·14	0·40	0·15	0·67	0·07
South Australia ...	6·40	4·30	0·96	0·17	0·33	0·26	0·01
Western Australia	.....	.....	.....	0·00	0·03	0·05	0·08
Tasmania	1·40	5·59	0·80	0·13	0·11	0·46	0·66
New Zealand	°0·47	1·79	1·18	0·32	0·12	0·05	0·36
Australasia ...	.....	4·20	0·86	0·43	0·38	0·34	0·20

* Four years, 1872-75.

The rate of mortality from scarlet fever for the first ten years shown in the table was much higher than that recorded for measles, but, in spite of the highly infectious nature and difficulty of isolation of the former disease, the death-rate has since been consistently lower than that of the latter. From 1871 to 1880 the rate of mortality from scarlet fever was high, but during the next five years a great decrease was manifested, and later there was a further decline, while during the three quinquennial periods ending 1900 the rate was practically constant, but with a tendency to rise in Victoria, Queensland, and Tasmania. Since 1900, the rate has risen in Tasmania, New Zealand, and Western Australia, and declined in the other states. In 1902 the disease was epidemic in a mild form in Tasmania, New Zealand, and New South Wales. In Victoria the extremely high rate for 1876-80 was caused by a very virulent outbreak of the disease in 1876, and in Tasmania an outbreak in 1877 largely increased the rate;

in fact, during the three years 1875, 1876, and 1877 all the states were more or less affected by an epidemic of scarlet fever. In Queensland the disease has never been very prevalent, and in Western Australia it is virtually unknown.

WHOOPIING-COUGH.

A curious fact in connection with whooping-cough, the third of the diseases of infancy and childhood, is that the mortality resulting from it is higher in the case of girls than of boys. During 1902 whooping-cough was responsible for 634 deaths (292 males and 342 females), equal to 1·36 deaths per 10,000 of the population, the male rate being 1·20 and the female 1·54. The table below shows the number of deaths and the death rates in each state since 1870:—

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
NUMBER of Deaths.							
New South Wales	.....	676	632	979	1,157	947	520
Victoria	1,053	921	701	691	851	498	373
Queensland.....	117	198	184	306	381	454	105
South Australia...	181	211	341	263	279	264	87
Western Australia	.....	nil.	19	65	57	80	36
Tasmania	99	84	59	89	79	88	27
New Zealand.....	*465	589	592	443	752	245	92
Australasia ...	.....	2,679	2,528	2,836	3,556	2,576	1,240
DEATH-RATE per 10,000 living.							
New South Wales	.....	2·04	1·50	1·89	1·93	1·44	1·88
Victoria	2·76	2·24	1·47	1·31	1·46	0·84	1·55
Queensland	1·63	1·94	1·37	1·69	1·84	1·94	1·03
South Australia...	1·85	1·74	2·32	1·70	1·66	1·49	1·21
Western Australia	.....	0·00	1·21	3·12	1·71	1·03	0·92
Tasmania	1·92	1·54	0·96	1·30	1·05	1·06	0·77
New Zealand	*3·75	2·76	2·24	1·47	2·28	0·67	0·58
Australasia ...	.....	2·15	1·69	1·60	1·78	1·18	1·34

* Four years, 1872-75.

The death-rate from whooping-cough, which has never been remarkably high, declined after the second quinquennium (1876-80), and thenceforward remained fairly constant during the next twenty years. The returns show an especially gratifying decrease, as the disease was mildly epidemic during 1896-1900. During 1901 and 1902, in both of which years whooping-cough was more or less epidemic, the rates increased as compared with the preceding quinquennium in two States and decreased in five. The increase in Victoria was so large that it had the effect of raising the average. Generally speaking, whooping-cough seems to have been most prevalent in New South Wales,

South Australia, and New Zealand; but it is gradually decreasing in these States, and, in fact, throughout Australasia, with the single exception of Queensland, where, until 1900, the tendency was towards an increase. On the whole, the rates up to the year 1895 were very even amongst themselves in all the states. In Western Australia the rate rose regularly to a maximum during 1886-90—a very severe epidemic being experienced in 1886—and then declined.

DIPHThERIA.

Diphtheria, the last of the febrile diseases mentioned which mainly affect children, caused, in 1902, a total of 298 deaths, equal to a rate of 0·64 per 10,000 persons living. In the following table are shown the number of deaths, and the death rates in each state since 1870 :—

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
NUMBER of Deaths.							
New South Wales	.....	1,109	1,005	1,325	1,753	584	205
Victoria	1,609	1,431	681	1,885	994	892	251
Queensland.....	246	170	224	530	551	273	69
South Australia...	379	329	387	570	513	153	46
Western Australia	.....	11	28	19	38	79	18
Tasmania.....	124	329	96	182	208	65	19
New Zealand	*535	316	525	542	577	289	98
Australasia...	.....	3,695	2,946	5,053	4,634	2,335	706
DEATH-RATE per 10,000 living.							
New South Wales	.....	3·35	2·39	2·56	2·92	0·89	0·74
Victoria	4·21	3·48	1·43	3·58	1·70	1·50	1·04
Queensland.....	3·43	1·66	1·66	2·93	2·66	1·17	0·68
South Australia...	3·88	2·72	2·63	3·69	3·05	0·86	0·64
Western Australia	.....	0·79	1·78	0·91	1·14	1·01	0·46
Tasmania.....	2·41	6·05	1·57	2·66	2·76	0·79	0·54
New Zealand	*4·32	1·48	1·99	1·80	1·75	0·79	0·62
Australasia...	.....	2·96	1·96	2·85	2·32	1·07	0·76

* Four years, 1872-75.

The present rates for diphtheria, as compared with those of twenty or twenty-five years ago, show a decrease. The decline, however, has been by no means regular, owing to the fact that this disease, in common with the others affecting children, sometimes occurs as an epidemic. Thus the increase in the rates during 1886-90 over those prevailing in the previous five years was due to an epidemic in nearly all the provinces in 1890.

The decreased mortality during the last twenty-five years, from the four diseases just mentioned, together with croup, represents a gain of

about 9 children to the population in every 10,000 persons living. This improvement is very gratifying, since it may be taken that cases of these diseases, which are particularly liable to be attended with dangerous after-effects in the shape of lung and other local troubles, are not so numerous, and that in consequence the general health of the people is better.

CROUP.

Croup, although classed as a disease of the respiratory system, was formerly classified with the zymotic diseases, and is included here on account of its similarity to diphtheria, and the confusion which often arises between them, and of the deaths set down to a combination of both. It is a disease that may be said to affect children only, and in 1902 caused the death of 80, or 0·17 per 10,000 of the population. In the subsequent table are shown the number of deaths and the death-rate in each state since 1870 :—

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2
NUMBER of Deaths.							
New South Wales	.....	968	971	951	683	278	54
Victoria.....	647	1,250	795	1,209	458	199	48
Queensland	273	324	483	382	239	103	15
South Australia ...	258	330	443	192	145	45	11
Western Australia .....	.....	24	31	45	64	26	2
Tasmania	80	76	113	112	101	29	4
New Zealand	*281	277	334	340	304	186	43
Australasia ...	.....	3,249	3,170	3,231	1,994	866	177
DEATH-RATE per 10,000 living.							
New South Wales	.....	2·92	2·31	1·84	1·14	0·42	0·20
Victoria.....	1·69	3·04	1·66	2·30	0·78	0·34	0·20
Queensland	3·81	3·17	3·59	2·11	1·15	0·44	0·15
South Australia ...	2·64	2·74	3·01	1·24	0·86	0·25	0·15
Western Australia	.....	1·72	1·97	2·16	1·92	0·33	0·05
Tasmania	1·55	1·40	1·85	1·63	1·34	0·35	0·11
New Zealand	*2·27	1·30	1·26	1·13	0·92	0·51	0·27
Australasia ...	.....	2·61	2·11	1·83	1·00	0·40	0·19

* Four years, 1872-75.

Generally speaking, deaths from this disease show a steady and consistent fall from the earliest period, although in some of the states, especially Victoria and South Australia, the rates fluctuate slightly. The greatest decline has taken place in New South Wales, Victoria, Queensland, and South Australia, until at the present time croup is about equally prevalent throughout Australasia. The rate is farthest

above the mean in New Zealand, and below it in Western Australia. If croup and diphtheria be taken together, as they usually are, the rates generally have declined to the extent of about $4\frac{1}{2}$ per 10,000 during the last twenty-seven years.

DIARRHOEAL DISEASES.

Diarrhoeal diseases, comprising cholera, diarrhoea, and dysentery, carry off mostly young children and old persons. In 1902 these diseases were fatal to 1,995 persons, equal to a death-rate of 4.29 per 10,000 living. The number of deaths and the death-rates in each state in quinquennial periods since 1870, are shown below.

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2
NUMBER of Deaths.							
New South Wales	.....	3,913	4,775	4,323	3,794	3,622	1,123
Victoria.....	6,030	5,006	4,886	5,489	3,290	2,679	865
Queensland	1,618	2,469	3,833	2,865	2,125	1,779	687
South Australia ...	1,628	1,620	2,105	1,388	1,079	1,205	352
Western Australia .....	.....	140	106	251	323	794	252
Tasmania	437	512	474	605	354	309	98
New Zealand	°1,528	2,375	1,879	1,789	1,280	1,363	414
Australasia ...	.....	16,035	18,058	16,710	12,245	11,751	3,791

DEATH-RATE per 10,000 living.

New South Wales	.....	11.82	11.34	8.34	6.32	5.52	4.06
Victoria.....	15.78	12.18	10.23	10.42	5.63	4.52	3.59
Queensland	22.56	24.15	28.46	15.85	10.25	7.62	6.75
South Australia ...	16.65	13.39	14.32	8.99	6.41	6.79	4.89
Western Australia .....	.....	10.01	6.73	12.03	9.70	10.18	6.42
Tasmania	8.48	9.41	7.75	8.83	4.69	3.73	2.81
New Zealand	°12.33	11.13	7.11	5.94	3.87	3.71	2.63
Australasia ...	.....	12.86	12.04	9.44	6.02	5.37	4.11

* Four years, 1872-75.

The high death-rates of earlier years are not surprising, and may be ascribed to the hard fare and exposure incidental to the development of the pastoral and mining industries. This will be evident from a comparison of the present rates in Queensland, South Australia, and New South Wales with those of former periods. In all the states there has been a marked improvement during the last twenty-two years, the only exception being Western Australia, where the rough conditions of life prevailing on the gold-fields exert an adverse influence on the rates. In 1901-2, however, the rate in Western Australia was lower than in Queensland. The most noticeable improvement has occurred in

Queensland, where the rate has declined from 24·15 to 6·75. That temperature and climate have an effect on the death-rates from these diseases is proved from the fact that they are much more prevalent and more fatal in summer than in any other season of the year, and that in Tasmania and New Zealand, where the climate is mild and genial, the rates are much lower than in Queensland and Western Australia, where the climate is very warm, and in some parts tropical, while the other states, whose climates are fairly temperate, show rates between the two extremes.

The decline in the number of deaths from diarrhœa may be in part due to the fact that of late years more skilful diagnosis in some cases makes possible the ascription of death to ailments of which diarrhœa may be only a symptom.

TYPHOID (ENTERIC) FEVER.

Seeing that typhoid is entirely a filth disease, the poison of which is propagated by sewage, and that it yields readily to sanitary precautions, it is a matter of very great regret that the annual mortality, although steadily declining, should still be so heavy. In 1902 typhoid was responsible for 956 deaths in Australasia, or at the rate of 2·05 per 10,000 living, as against the English rate of 1·73 for 1900. The table below shows the number of deaths from this disease, and the death rate in each state, arranged in five-year periods since 1870 :—

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
NUMBER of Deaths.							
New South Wales .....	.....	1,722	2,132	2,307	1,533	1,968	567
Victoria	1,799	2,174	2,364	3,209	1,571	1,722	383
Queensland	424	525	1,303	990	513	747	281
South Australia	372	446	632	566	369	512	161
Western Australia .....	.....	.....	.....	59	500	1,379	301
Tasmania	156	184	213	401	230	251	49
New Zealand	*632	739	626	674	561	511	148
Australasia .....	.....	5,790	7,270	8,206	5,277	7,090	1,890
DEATH-RATE per 10,000 living.							
New South Wales .....	.....	5·20	5·06	4·46	2·56	3·00	2·05
Victoria	4·71	5·29	5·18	6·09	2·69	2·90	1·59
Queensland	5·91	5·14	9·67	5·48	2·48	2·20	2·76
South Australia	3·80	3·69	4·30	3·67	2·19	2·89	2·24
Western Australia .....	.....	.....	.....	2·83	15·02	17·69	7·67
Tasmania	3·03	3·38	3·48	5·85	3·05	3·03	1·40
New Zealand	*5·10	3·46	2·37	2·24	1·70	1·39	0·94
Australasia .....	.....	4·69	4·90	4·64	2·64	3·24	2·05

* Four years, 1872-75.

It will be observed that the rates over the whole period covered by the table show a decline. The disease is of an epidemic nature, but still the rates do not fluctuate greatly, and during the last two years the rates in all the states, excluding Western Australia, were fairly uniform, ranging from .94 in New Zealand to 2.76 in Queensland. An epidemic occurred in the year 1889 in New South Wales, Victoria, Queensland, and Tasmania, and the disease seems to have since been more prevalent in the last-mentioned state than in any other, with the exception of Western Australia. In that state typhoid was almost unknown prior to the gold rush in 1894, when the disease may be said to have commenced. The maximum was soon reached, for in 1895 the death-rate was 35.46 per 10,000. With improved sanitation the rate is steadily declining, and although the table shows an apparent increase in the quinquennial period, 1896-1900, it must be remembered that, as previously stated, the disease was comparatively unknown prior to 1894, and this accounts for the lower rate of the period 1891-1895. The rapid decline of the death-rate may be seen when it is stated that in 1895 it was 35.46 per 10,000, for the period 1896-8 only 25.38, while in 1901-2 it had fallen to 7.67, less than half the rate for the preceding five years.

In England and Wales since the measures which have been taken to improve the drainage and water supply the rate has steadily fallen from 3.74 in 1871-75 to 1.76 in 1896-1900.

PARASITIC DISEASES.

The deaths from parasitic diseases in Australasia during 1902 numbered 138, equal to a death-rate of 0.29 per 10,000 living. The chief disease of this group is hydatids, which was responsible for 98 deaths, or 0.21 per 10,000 of the population, and was most common in South Australia, where the rate was 0.36.

DIETETIC DISEASES.

Dietetic diseases in 1902 carried off 567 persons, or at the rate of 1.22 per 10,000 living, the chief contributing causes being privation and intemperance.

CONSTITUTIONAL DISEASES.

The next class of diseases is the constitutional, which caused in 1902 9,280 deaths, giving an average of 19.95 per 10,000 living. Of these diseases, phthisis and cancer stand out most prominently, and deserve special consideration.

PHTHISIS.

Phthisis claims more victims in Australasia than any other disease, but notwithstanding this fact the death-rates are lower than in the other countries of the world. This is all the more gratifying when it is considered that many persons afflicted with the disease, or predisposed to it, are attracted to this country in the hope of obtaining relief, as

the Australian climate is undoubtedly favourable to people suffering from pulmonary complaints. It is estimated that of the total persons who die of phthisis in Australasia, 7 per cent. do so after less than five years' residence. In 1902 phthisis caused 4,181 deaths in Australasia, equal to a rate of 8·99 per 10,000 living. The following table shows the number of deaths and the death-rates in each state since 1870, arranged in five-year periods :—

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
NUMBER of Deaths.							
New South Wales	2,532	3,363	4,805	5,127	5,198	5,225	2,325
Victoria	4,594	5,397	6,428	7,662	7,751	7,049	2,828
Queensland	784	1,330	2,332	2,412	2,266	2,117	885
South Australia	872	1,244	1,558	1,640	1,667	1,544	594
Western Australia.....	*89	120	135	194	250	534	297
Tasmania	522	536	658	671	658	578	205
New Zealand	*1,080	1,805	2,418	2,529	2,693	2,886	1,213
Australasia .....	.....	13,795	18,334	20,235	20,483	19,933	8,347
DEATH-RATE per 10,000 living.							
New South Wales	9·28	10·16	11·41	9·90	8·66	7·96	8·41
Victoria	12·02	13·13	14·10	14·55	13·26	11·89	11·73
Queensland	10·93	13·01	17·31	13·35	10·93	9·07	8·70
South Australia	8·92	10·28	10·60	10·63	9·90	8·98	8·26
Western Australia.....	*8·58	8·58	8·57	9·30	7·51	6·85	7·57
Tasmania	10·13	9·85	10·76	9·79	8·72	6·98	5·87
New Zealand	*8·72	8·46	9·15	8·39	8·15	7·85	7·69
Australasia	10·09	11·06	12·22	11·43	·24	9·11	9·03

* Four years, 1872-75.

For the first half of the period covered by the table, phthisis seems to have been on the increase; but since 1885 it has steadily decreased, and the mortality rate is now lower than that of England—where the rate is over 13 per 10,000 living—or of any European country. The decline is general, and is evidence of the more skilful treatment of the disease and the effectiveness of the preventive measures taken against it. Phthisis has always been most prevalent in Victoria, and up to 1900 the rate was fairly uniform throughout the rest of Australasia, the lowest being in Western Australia. During 1901-2, however, the order was changed; the rate increased in New South Wales and Western Australia, and decreased in the other states, so that now Tasmania has the lowest rate. In Queensland the rate is adversely affected by the peculiar liability of the Pacific Island labourers to contract the disease, while the Maori population of New Zealand is also extremely susceptible to its ravages.

CANCER.

Next to phthisis, cancer is the most deadly of the constitutional diseases, and in 1902 was the cause of the death of 3,003 persons, or at the rate of 6·45 per 10,000 living. In the table below are shown the number of deaths and the death-rates in each state since 1870 :—

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
NUMBER of Deaths.							
New South Wales	772	934	1,146	1,876	2,587	3,548	1,716
Victoria	1,245	1,712	2,065	2,799	3,621	4,086	1,734
Queensland.....	125	225	336	508	731	1,071	563
South Australia...	199	352	475	592	803	968	483
Western Australia	°16	23	52	85	102	248	168
Tasmania	249	255	308	341	371	459	204
New Zealand	°262	526	806	1,270	1,725	2,153	1,051
Australasia...	.....	4,027	5,188	7,471	9,940	12,533	5,919
DEATH-RATE per 10,000 living.							
New South Wales	2·83	2·82	2·72	3·62	4·31	5·41	6·20
Victoria	3·26	4·16	4·53	5·32	6·19	6·89	7·19
Queensland.....	1·74	2·20	2·49	2·81	3·53	4·59	5·34
South Australia...	2·04	2·91	3·23	3·84	4·77	5·45	6·71
Western Australia	°1·54	1·64	3·30	4·07	3·06	3·18	4·28
Tasmania	4·83	4·69	5·04	4·98	4·91	5·55	5·84
New Zealand	°2·11	2·46	3·95	4·22	5·22	5·85	6·66
Australasia...	2·76	3·23	3·46	4·22	4·97	5·73	6·41

* Four years, 1872-75.

It will be observed that with some slight irregularity the death-rate from cancer has steadily risen in Australasia over the whole period covered by the table. For the first half of the period Tasmania had the highest rate, but so rapid has been the progress of the disease that the rates in all the states except Queensland and Western Australia are now higher than that of Tasmania. With the exception of the ten years 1881 to 1890, Western Australia has always shown the lowest rates.

Although part of the increase may arise from the fact that more skilful diagnosis in recent years enables cancer to be ascribed as the cause of death in obscure malignant diseases more often than was formerly the case, yet after making due allowance on this score, the conclusion must inevitably be arrived at that the spread of the disease is a dread reality.

DEVELOPMENTAL DISEASES.

The deaths from developmental diseases in 1902 were 5,762, or 12·38 per 10,000 persons living, and of these deaths, 3,325, or 7·15 per 10,000

living, were ascribed to the vague cause, old age. Premature birth was set down as the cause of death of 1,882 infants, a mortality equal to 15·25 per thousand children born alive, or 1 in every 66.

LOCAL DISEASES.

Local diseases in 1902 were the cause of 28,172 deaths, and averaged 60·55 per 10,000 living. This group comprises diseases of the various systems and special organs of the body, the principal being diseases of the nervous system and of the circulatory system, which are further considered below. Under this heading also are classified diseases of the respiratory system, which caused 7,099 deaths, equal to 15·26 per 10,000; of the digestive system, responsible for 6,779 deaths, or 14·57 per 10,000; and of the urinary system, the deaths from which numbered 2,313, equal to a rate of 4·94 per 10,000.

DISEASES OF THE NERVOUS SYSTEM.

It has been asserted that coincident with the advance of civilisation there has been an increase in diseases of the nerves and brain, but from the figures in the following table showing for each state the number of deaths, and the death-rates, since 1870, it will be seen that such has not been the case. Moreover, it has been ascertained that deaths from apoplexy and convulsions in proportion to population are now less frequent than formerly. In 1902 the total deaths from diseases of the nerves and brain numbered 5,217, or at the rate of 11·21 per 10,000 living.

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
NUMBER of Deaths.							
New South Wales	5,881	6,844	8,522	8,432	8,256	7,938	2,888
Victoria	6,503	7,029	7,414	8,585	7,852	7,382	3,009
Queensland	1,656	2,190	2,684	3,005	2,778	2,790	1,173
South Australia ...	2,068	2,249	2,645	2,177	2,127	2,086	827
Western Australia	*230	309	296	379	510	802	385
Tasmania	1,133	1,238	1,577	1,388	1,210	1,142	390
New Zealand	*1,850	2,614	3,244	3,320	3,528	3,842	1,678
Australasia ...	.....	22,473	26,382	27,286	26,261	25,982	10,350
DEATH-RATE per 10,000 living.							
New South Wales	21·56	20·67	20·23	16·28	13·76	12·10	10·44
Victoria	17·02	17·10	16·26	16·30	13·43	12·45	12·48
Queensland	23·09	21·42	19·93	16·63	13·40	11·95	11·53
South Australia ...	21·15	18·59	17·99	14·11	12·64	11·76	11·49
Western Australia	*22·17	22·09	18·79	18·16	15·32	10·29	9·81
Tasmania	21·99	22·75	25·78	20·25	16·03	13·80	11·17
New Zealand	*14·93	12·25	12·27	11·02	10·67	10·45	10·64
Australasia ...	18·61	18·02	17·59	15·42	13·13	11·87	11·21

* Four years, 1872-75.

A study of the table shows that the death-rate for diseases of the nervous system in Australasia has decreased by considerably more than one-third during the last twenty-five years ended with 1900, representing a gain of nearly 7 persons to the population in every 10,000 living. Among the various states the rates for 1901-2 were fairly even, ranging from 9·81 in Western Australia to 12·48 in Victoria. Until the quinquennial period ending 1900 the rate was consistently lower in New Zealand than in any other state, while from 1875 to 1900 Tasmania always had the highest rate. During 1901-2 Victoria showed the highest rate.

DISEASES OF THE CIRCULATORY SYSTEM.

Diseases of the heart, which now command more attention than previously on account of their more frequent occurrence, and also on account of the better knowledge of the organ which now exists, were responsible in 1902 for 5,569 deaths, or 11·97 per 10,000 living. The following table shows the number of deaths and the death-rates in each state since 1870 :—

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
NUMBER of Deaths.							
New South Wales	2,197	2,755	3,262	4,289	4,826	5,724	2,946
Victoria	3,138	3,666	4,453	6,198	7,365	8,056	3,466
Queensland	444	586	991	1,406	1,575	2,353	1,092
South Australia ...	649	934	1,130	1,359	1,605	1,995	956
Western Australia	*102	147	201	239	408	748	418
Tasmania	499	578	700	799	875	1,089	400
New Zealand	*795	1,422	1,762	2,284	2,767	3,824	1,887
Australasia ...	.....	10,088	12,549	16,574	19,421	23,789	11,165
DEATH-RATE per 10,000 living.							
New South Wales	8·05	8·32	7·74	8·28	8·04	8·72	10·65
Victoria	8·21	8·92	9·77	11·77	12·60	13·59	14·38
Queensland	6·19	5·73	7·36	7·78	7·60	10·08	10·74
South Australia ...	6·64	7·72	8·03	8·81	9·53	11·24	13·29
Western Australia	*9·83	10·51	12·76	11·45	12·26	9·59	10·65
Tasmania	9·69	10·62	11·44	11·66	11·60	13·16	11·45
New Zealand	*6·42	6·66	6·67	7·58	8·37	10·40	11·97
Australasia ...	7·53	8·09	8·37	9·36	9·71	10·87	12·09

* Four years, 1872-75.

It will be seen that deaths from the diseases of the organs of circulation have steadily and rapidly increased during the last twenty-five years. It is questionable whether the increase shown is not partly due to more skilful diagnosis, as many deaths formerly attributed to old

age are now assigned to some more definite cause. The highest death-rates prevail in Victoria and South Australia, which contain the largest number of persons of middle and old age who are most prone to this order of diseases. The only state to show a decrease is Tasmania, where the rate is usually high.

DEATHS IN CHILDBIRTH.

Included under the heading of local diseases are diseases of parturition, which, together with puerperal fever, a septic disease of the zymotic group, comprise the causes of death of women in childbed. In 1902, deaths from these diseases averaged 1 in every 167 births, which differs slightly from the ratio to confinements, as some births are multiple. The table below gives the number of deaths from these diseases in each state since 1872, and the deaths per 1,000 births, the usual method of stating the rate:—

State.	1873-77.	1878-82.	1883-87.	1888-92.	1893-97.	1898-1902.
NUMBER of Deaths.						
New South Wales	*448	555	833	824	1,336	1,311
Victoria	997	899	895	916	943	925
Queensland	189	244	311	368	317	319
South Australia	208	255	241	217	263	223
Western Australia	32	27	31	25	58	167
Tasmania	123	74	88	88	106	116
New Zealand	367	435	582	464	459	479
Australasia .....	.....	2,489	2,981	2,902	3,482	3,540

DEATH-RATE per 1,000 Births.

New South Wales	*6.43	3.99	4.79	4.24	6.96	7.07
Victoria	7.42	6.74	5.96	4.96	5.61	6.03
Queensland	5.75	6.07	5.33	5.00	4.43	4.48
South Australia	5.32	5.00	4.22	4.06	5.13	4.90
Western Australia	7.48	5.54	4.86	3.01	4.32	6.06
Tasmania	7.88	3.94	3.85	3.62	4.39	4.81
New Zealand	5.13	4.68	5.99	5.06	4.96	4.86
Australasia .....	.....	5.18	5.27	4.60	5.68	5.84

* 1875-77.

The rate showed a tendency to decline up till 1893, since when it has risen. The statistics presented above, however, are not absolutely to be relied upon, for the reason that medical attendants do not take sufficient care when furnishing the certificate required of them by law to state the real cause of death; for instance, it is believed that the word *puerperal* is omitted in many cases, especially of pyæmia and

septicæmia where death occurred in childbirth. It is absurd to suppose, as the rates indicate, that there is a greater degree of risk attached to childbirth in New South Wales than in the other states, the only assurance that can be given being that since 1890 the figures for New South Wales are absolutely correct.

DEATHS FROM VIOLENCE.

Deaths by violence in 1902 numbered 3,853, or at the rate of 8·28 per 10,000 living. Of these, more than 82 per cent. were the results of accidents or negligence, and more than 11 per cent. were due to suicide, the latter being more fully dealt with in the chapter "Social Condition."

ACCIDENTS.

The total number of persons who died in 1902 from accidents was 3,176, or 6·83 per 10,000 living. The following table shows the number of deaths in each state from this cause, and the death-rates since 1870 :—

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
NUMBER of Deaths.							
New South Wales	2,982	3,569	4,174	4,542	4,520	4,852	1,993
Victoria	3,908	3,539	3,662	4,612	4,262	4,016	1,434
Queensland	1,134	1,389	1,874	2,639	2,349	2,681	926
South Australia	610	877	919	1,038	912	1,141	377
Western Australia	*106	184	184	277	400	1,000	461
Tasmania	492	497	441	551	500	583	162
New Zealand	*1,259	2,200	2,216	2,369	2,494	2,415	1,017
Australasia .....	.....	12,255	13,470	16,028	15,437	16,688	6,370
DEATH-RATE per 10,000 living.							
New South Wales	10·93	10·78	9·91	8·77	7·53	7·39	7·21
Victoria	10·23	8·61	8·03	8·76	7·29	6·77	5·95
Queensland	15·81	13·59	13·91	14·60	11·33	11·49	9·10
South Australia	6·24	7·25	6·25	6·73	5·42	6·43	5·24
Western Australia	*10·22	13·16	11·63	13·28	12·02	12·83	11·74
Tasmania	9·55	9·13	7·21	8·04	6·62	7·04	4·64
New Zealand	*10·16	10·31	8·38	7·86	7·55	6·57	6·45
Australasia	10·10	9·83	8·98	9·06	7·72	7·63	6·90

* Four years, 1872-75.

The death-rates from accidents have fallen considerably, as the table shows, but they are still by no means low, and only Tasmania and South Australia exhibit so small a rate as that of England and Wales, viz., 5·6

per 10,000 living. Western Australia and Queensland, which have the most scattered populations, show the largest rates, while South Australia, where accidents seem always to have been less frequent than in the other states, shows the lowest rate. The most common accidents appear to be fractures, contusions, and drowning, the last mentioned causing a large number of deaths in Queensland every year, the high rate during 1886-90 in that state being due to the great number of people (340) who were drowned in 1890.

MARRIAGES.

The number of marriages and the marriage-rate per thousand of the population for each state during the year 1902 are shown below :—

State.	Marriages.	Marriage-rate.
New South Wales	10,486	7·52
Victoria	8,477	7·02
Queensland	3,243	6·33
South Australia	2,383	6·52
Western Australia	2,024	9·87
Tasmania	1,313	7·47
Commonwealth	27,926	7·24
New Zealand	6,394	8·01
Australasia	34,320	7·37

During 1902 the marriage-rate of Australasia decreased from 7·39 to 7·37 per thousand, but it was higher than the average for the preceding ten years, and this may be looked upon as a sure sign of returning prosperity.

The number of marriages in each state and in the whole of Australasia, in quinquennial periods from 1861 to 1900, and for the years 1901-2 was as follows :—

State.	1861-1865.	1866-1870.	1871-1875.	1876-1880.	1881-1885.	1886-1890.	1891-1895.	1896-1900.	1901-1902.
New South Wales	16,920	18,271	21,210	25,904	35,737	38,671	39,924	45,909	21,024
Victoria	22,237	22,902	24,368	25,416	33,589	42,832	37,717	39,245	16,883
Queensland	3,689	4,648	6,276	7,466	11,632	15,271	13,526	15,479	6,584
South Australia	6,226	6,435	7,472	10,682	12,379	10,334	10,686	10,942	4,692
Western Australia	765	828	835	978	1,112	1,495	2,332	7,902	3,845
Tasmania	3,340	3,143	3,290	4,087	5,005	4,796	4,524	5,598	2,651
Commonwealth	53,177	56,227	63,451	74,533	99,454	113,399	108,709	125,075	55,679
New Zealand	7,240	9,955	12,050	16,220	18,102	18,097	20,210	26,418	12,489
Australasia	60,417	66,182	75,501	90,753	117,556	131,496	128,919	151,493	68,168

The average marriage-rates for each state during the same periods are given below. The table shows the ratio of marriages to population; to ascertain the ratio of persons married it is necessary to double the figures:—

State.	1861- 1865.	1866- 1870.	1871- 1875.	1876- 1880.	1881- 1885.	1886- 1890.	1891- 1895.	1896- 1900.	1901- 1902.
New South Wales	9.04	8.04	7.77	7.82	8.46	7.47	6.64	7.00	7.60
Victoria	7.81	6.86	6.38	6.03	7.37	8.13	6.48	6.62	7.00
Queensland	13.51	9.02	8.75	7.30	8.64	8.45	6.53	6.63	6.47
South Australia	9.02	7.45	7.64	8.83	8.42	6.70	6.29	6.17	6.44
Western Australia.....	8.92	7.53	6.48	6.99	7.06	7.16	7.01	10.13	9.80
Tasmania	7.30	6.35	6.39	7.51	8.18	7.00	5.87	6.76	7.59
Commonwealth ..	8.54	7.36	7.12	7.21	8.02	7.66	6.50	6.87	7.27
New Zealand	10.39	9.00	8.05	7.60	6.85	6.00	6.11	7.18	7.92
Australasia	8.73	7.61	7.27	7.23	7.84	7.43	6.44	6.92	7.38

During the five years ended 1895 the marriage-rate fell considerably in Australasia. With the exception of New Zealand it was lower in every state than during the preceding quinquennial period, and lower everywhere than during the five years 1881-85, while during the last five years the rate rose again in every state except South Australia. This is another proof of the truth of the oft-repeated statement that commercial depression always exerts an adverse influence on the marriage-rate. The abnormal rise in the case of Western Australia is what might be expected from the large number of men whom the industrial activity in that state has placed in a position to take upon their shoulders the responsibility of a household.

As marriage is the great institution by which the birth-rate is controlled, and through which the population is regulated, it will not be out of place to consider the fertility of marriages in Australasia. The two chief elements influencing this are the age at marriage of the parents, especially of the mother, and the duration of married life. The mean age at marriage of bridegrooms in Australasia is a little over 29 years, and of brides about 24.5 years, and it is known that these ages have been increasing for some years past. As regards the duration of married life, it is not possible to speak with certainty; all that is known is that the length of lifetime of married persons surpasses that of the unmarried—both male and female. The fertility of marriages is reckoned by the number of children to each marriage; and as the difference between the mean age of mothers and the mean age of brides in Australia is between 5 and 6 years, the average number of children to a marriage has been computed for the following

table by dividing the number of legitimate births during each quinquennium by the number of marriages during the preceding five years :—

NUMBER of Children to a Marriage.

State.	1871-75.	1876-80.	1881-85.	1886-90.	1891-95.	1896-1900.	1901-2.
New South Wales.....	5.59	5.76	5.87	5.01	4.80	4.28	4.07
Victoria	5.77	5.20	5.26	4.88	3.99	3.89	3.82
Queensland.....	6.12	5.75	6.29	5.76	4.54	4.93	4.69
South Australia.....	5.53	6.06	5.19	4.19	4.97	4.25	4.19
Western Australia	4.72	5.32	5.35	6.62	.....	.....	4.19
Tasmania	4.68	5.01	5.01	4.56	4.93	4.88	4.72
Commonwealth	5.63	5.53	5.55	4.95	4.48	4.25	4.11
New Zealand	5.94	7.15	5.77	5.03	4.86	4.48	4.02
Australasia.....	5.68	5.79	5.59	4.96	4.53	4.29	4.10

Western Australia has been excluded from the table during the period from 1890 to 1900, as the sudden influx of population, consequent on the discovery of the gold-fields, unduly increased the number of births to be divided by the number of marriages of the preceding five years, and would have made the marriages of that state appear more fertile than they really are. Of course, the above means of determining the fecundity of marriages is only to be used in the absence of more direct methods; still the results cannot be very far from the truth, as is proved by the case of New South Wales, where accurate computations have shown the number of children to be expected from the present marriages to be only 3.64. The table shows that, on the whole, the fertility of marriages has been steadily declining since 1885, which bears out what has been before remarked in dealing with this question.

Particulars relative to divorce in Australasia will be found in the chapter headed "Social Condition."