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CHAPTER XVII.

VITAL STATISTICS.

Note.—1. Tables in this chapter cover the year 1954. More detailed figures will be found in *Demography Bulletin* No. 72 unless otherwise specifically indicated.

2. Figures for Australia throughout are exclusive of full-blood aboriginals.

§ 1. Provisions for Registration and Compilation of Statistics.

In Australia vital statistics are compiled from information obtained from the registers of births, deaths and marriages. Each State and Territory has an independent system of registration. Provisions for the civil registration of births, deaths and marriages have been in force in Tasmania from 1839, in Western Australia from 1841, in South Australia from 1842, in Victoria from 1853 and in New South Wales and Queensland (then part of New South Wales) from 1856. Registration in the Territories is administered by the Commonwealth Government, registration in respect of the Northern Territory having been taken over from South Australia in 1911 and in respect of the Australian Capital Territory from New South Wales in 1930. The authority responsible for the registration of births, deaths and marriages occurring within his particular State or Territory is the Registrar-General or the Principal Registrar, or, as in the case of Victoria, the Government Statist.

In the Australian Capital Territory and the Northern Territory, information concerning a birth is required to be supplied within 21 days, in South Australia in 42 days, and in all other States 60 days is allowed. In all States, however, provision has been made for the late registration of births. For the registration of a death, the length of time varies more considerably, being 8 days in Tasmania, 10 days in South Australia, 14 days in Western Australia, the Northern Territory and the Australian Capital Territory, 21 days in Victoria and 30 days in New South Wales and Queensland. In all States and Territories provision is made for the celebration of marriages by ministers of religion registered for that purpose with the Registrar-General or the Principal Registrar of Births, Deaths and Marriages of the State or Territory and also by certain civil officers. In all cases the celebrant, whether minister of religion or civil officer, is required to register particulars of the parties married with the Registrar of the district in which the marriage has taken place. The length of time allowed for registration of marriage also shows considerable variation as between States and Territories. In Victoria, Western Australia, the Northern Territory and the Australian Capital Territory, registration is required immediately following the ceremony, in Tasmania and South Australia within 7 days and in New South Wales and Queensland within 30 days.

For all States except Queensland and Tasmania the registration of stillbirths is compulsory. Western Australia was the first State to introduce compulsory registration in 1908, followed by the Australian Capital Territory in 1930, New South Wales in 1935, South Australia in 1937 and Victoria in 1953. No statutory provision has been made in Queensland or Tasmania for the registration of stillbirths. In these States, however, provision is made for voluntary registration and it appears likely that such births are notified to the Registrar-General. In this chapter stillbirths have been excluded from all tables of births and deaths and shown only in those specially relating to stillbirths.

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While there is every indication that the registration work of the several States and the Territories is very efficiently carried out, it is clear that in those States with a large area and scattered population, failure to register births and deaths may occur in some cases. It is believed, however, that consequent on the abolition, in 1943, of income limits previously restricting eligibility for maternity allowances, claims for which are checked against birth registers before payment, the proportion of births now occurring which is not registered is very small.

The data required for the compilation of vital statistics are copied from the registers of births, deaths and marriages in the Registrar General's Office and forwarded, through the Government Statistician in each State, and direct from the Principal Registrars in the two Territories, to the Commonwealth Statistician. The compilation and publication of vital statistics for Australia is a function of the Commonwealth Statistician. The Statisticians in the various States compile and publish statistics relating to their respective States.

§ 2. Marriages.

1. Number of Marriages.—The number of marriages registered in Australia during the year ended 31st December, 1954 was 71,229, giving a rate of 7.92 per 1,000 of the mean population for the year. A summary of the number of marriages registered in each State and Territory from 1926 to 1954 is given in the following table. Annual averages for each five-year period from 1861 will be found in Official Year Book No. 39, page 575.

MARRIAGES.

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
				<u> </u>	1				

ANNUAL	AVERAGES.
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1926-30		19,253	12,955	6,279	4,036	3,167	1,506	23	30	47,249
1931-35	• •	18,742	12,773	6,950	3,967	. 3,328	1,638	29	53	47,480
1936-40	••	25,295	17,784	8,982	5,726	4,399	2,187	83	85	64,541
1941-45	••	28,506	19,450	10,563	6,517	4,668	2,097	71	109	71,981
1946-50	••	30,162	20,453	10,666	6,581	5,205	2,520	114	181	75,891

ANNUAL TOTALS.

1950 .	•• •	30,036	20,320	10,304	6,585	5,434	2,560	144	216	75,599
1951 .	•• ••	30,341	21,117	10,814	6,646	5,390	2,607	143	240	77,298
1952 .	•• ••	29,351	20,220	10,056	6,241	5,389	2,553	137	225	74,172
1953	•• ••	27,573	19,238	9,859	6,149	5,032	2,424	154	211	70,640
1954	••••	127,503	19,404	10,027	0,190	5,204	2,512	143	240	71,229

2. Crude Marriage Rates.—The crude marriage rates for each State and Territory from 1926 to 1954 are given hereunder :—

CRUDE MARRIAGE RATES.(a)

And a second sec									
Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.

1926-30	1	7.86	7 42	7.10	7.12	7.80	6.97	5.11	3.86	7.52
1931-35		7.20	7.02	7.35	6.83	7.58	7.19	5.92	5.74	7.16
1936-40		9.29	9.52	8.80	9.65	9.49	9.25	13.28	7.22	9.35
1941-45		9.97	9.86	10.04	10.61	9.74	8.61	7.18	7.57	9.94
1946-50(b)		9.90	9.72	9.41	9.87	10.01	9.56	9.39	9.36	9.77

AVERAGE ANNUAL RATES.

(a) Number of marriages per 1,000 of mean population. population estimates shown on p. 577. (b) Rates based on revised meau

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
			ANNUA	L RATE	s.(a)				
1950 1951 1952 1953 1954	 9.41 9.25 8.78 8.14 8.02	9.20 9.28 8.63 8.03 7.91	8.65 8.84 8.01 7.66 7.64	9.28 9.07 8.27 7.92 7.77	9.74 9.29 8.97 8.10 8.13	9.18 9.04 8.56 7.91 8.07	10.06 9.42 9.08 9.91 8.82	9.17 9.73 8.47 7.35 8.10	9.24 9.18 8.59 8.01 7.92

CRUDE MARRIAGE RATES-continued.

(a) Rates based on revised mean population estimates shown on p. 577.

3. Marriage Rates based on Marriageable Population.—As the marriage rates in some international tabulations are based on the unmarried population aged 15 years and over, the corresponding rates have been calculated for Australia for the eight census periods to 1953-55. The period in each case comprises the census year with the year immediately preceding and the year immediately following, and the figures are as follows :—

PERSONS	MARRYING	PER	1.000	OF	UNMARRIED	POPULATION :	AUSTRALIA

	Pei	riod.		Rate.(a)	Per	Rate.(a)		
1880-82	•••	•••	·	48.63	1920-22	•••		55.97
1890-92	• •			44.04	1932-34	••		42.88
1900-02	• •	• •		42.14	1946-48			71.24
1910-12		<u> </u>	[50.12	1953-55	••	<u> </u>	65.32

(a) Average annual number of persons who married per 1,000 unmarried persons, including widowed and divorced, aged 15 years and over.

4. Crude Marriage Rates of Various Countries.—The following table gives the crude marriage rates for Australia in comparison with the rates for various other countries.

Country.	1921- 25.	1926- 30.	1931- 35.	1954.	Country.	1921- 25.	1926- 30.	1931– 35.	1954.
Yugoslavia Union of South Africa(b) United States of America New Zealand(d) Netherlands Canada Denmark Spain Spain Australia(e)	10.6 8.0 10.6 8.2 7.3 7.9 7.3 8.0	9.5 9.3 9.9 7.6 7.7 7.3 7.8 7.8 7.3 7.5	7.8 9.4 9.2 7.3 7.2 6.4 8.7 6.5 7.2	9.9 (c)9.5 9.2 8.6 8.3 8.3 8.3 8.1 8.0 7.9	Japan Norway Austria Finland United Kingdom Belgium IFrance Sweden Italy Ireland, Republic of	8.8 6.3 9.6 7.1 7.7 7.7 10.6 9.5 6.3 9.0 4.9	8.0 6.1 7.5 7.2 7.5 7.5 9.1 8.2 6.7 7.3 4.6	7.6 6.5 6.8 7.2 7.7 7.9 7.8 7.4 7.3 6.8 4.6	7.9 7.8 7.8 7.8 7.8 7.8 7.7 7.2 7.2 7.2 5.4

CRUDE MARRIAGE RATES(a) : VARIOUS COUNTRIES.

(a) Number of marriages per 1,000 of mean population. (b) European population only. (c) 1953. (d) Includes Maoris. (e) Excludes full-blood aboriginals.

5. Age and Conjugal Condition at Marriage.—(i) General. Age at marriage in single years of age and previous conjugal condition of bridegrooms and brides in 1954 will be found in Demography Bulletin No. 72. A summary in age groups is given

hereunder. There were 5,291 males aged less than twenty-one years married during 1954 while the corresponding number of females was 22,967. At the other extreme there were 95 bachelors and 54 spinsters in the age group 65 years and over.

Age at		Brideg	rooms.	Brides.							
(Years).	Bachelors.	Widowers.	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.			
Under 20 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65 and over	2,327 29,489 19,742 6,431 2,157 1,334 766 403 199 113 95	 15 82 184 224 310 380 517 448 462 722	63 519 892 907 837 587 366 171 119 68	2,327 29,567 20,343 7,507 3,588 2,481 1,733 1,286 818 694 885	15,585 3 ¹ ,574 9,302 3,126 1,393 821 463 253 158 76 54	3 85 242 329 453 474 510 448 326 286 300	7 262 1,103 1,148 971 707 418 214 76 32 30	15,595 31,921 10,647 4,603 2,817 2,002 1,391 915 560 394 384			
Total	63,356	3,344	4,529	71,229	62,805	3,456	4,968	71,229			

AGE AND CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES : AUSTRALIA, 1954.

(ii) Proportional Distribution. In the following table the proportional distribution of bridegrooms and brides according to previous conjugal condition is shown in five-year periods from 1926 to 1950 and for each of the years 1952 to 1954 :---

CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES : PROPORTIONAL DISTRIBUTION, AUSTRALIA.

	(P	'er	Cent.	.)
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		Brideg	rooms.		Brides.					
Period.	Bachelors.	Widowers.	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.		
1926-30	92.31	5.93	1.76	100.00	93.46	4.55	1.99	100.00		
1931-35	92.63	5 39	1.98	100.00	94.37	3.53	2.10	100.00		
1936 -40	92 59	4.82	2.59	100.00	93.94	3.38	2.68	100.00		
1941-45	91.44	4.77	3.79	100.00	92.11	3.93	3.96	100.00		
1946-50	88.82	4.74	6.44	100.00	88.71	4.74	6.55	100.00		
1952	88.91	4.65	6.44	100.00	88.14	4.76	7.10	100.00		
1953	88.27	4.68	7.05	100.00	87.65	4.75	7.60	100.00		
1954	88.95	• 4.69	6.36	100.00	88.17	4.85	6.98	100.00		

(iii) Relative Ages of Bridegrooms and Brides. The relative ages of bridegrooms and brides in 1954 are shown in single years in Demography Bulletin No. 72. A summary in age groups of five years is given below.

BIRTHS, DEATHS, AND MARRIAGES: AUSTRALIA, 1860ro1955



627

PER THOUSAND PERSONS 5 80 <u>o</u> 5 າຶ[∞] å 33 ê n RATES OF BIRTHS, DEATHS, AND NATURAL INCREASE: AUSTRALIA, I860 to 1955 1950 DISTANCE BETWEEN TWO CURVES REPRESENTS RATE 1940 0591 1920 BIRTH RATE RAT 0:6 FATH 0061 1890 1880 1870 PER THOUSAND PERSONS 860 \$ 35 ŝ . 3 ถู 2 g

628

INFANT MORTALITY RATES: AUSTRALIA, 1907 TO 1955 (INFANT DEATHS PER 1000 LIVE BIRTHS)





CAUSES OF DEATH: AUSTRALIA, 1945 To 1954

630

A76 0	f	Total	Age of Bride (Years).								
Bridegr (Year	тоош тэ).	Bride- grooms.	Under 15.	15-19.	20-24,	25-29.	3034.	35-39.	40-44.	45 and over.	
Under 2	20	2,327	2	1,843	456	24	2		•••		
20–24		29,567	12	10,123	17,325	1,810	225	47	19	6	
25-29		20,343	2	3,025	11,059	4,922	1,013	240	62	20	
30-34		7,507	I	453	2,312	2,480	1,469	563	165	64	
35-39		3,588		83	534	896	928	702	315	130	
40-44		2,481	I	_ 29	154	335	579	583	515	285	
45-49	••	1,733		12	55	116	239	375	443	493	
50-54		1,286		5	21	41	96	182	271	670	
55-59	••	818		2	5	13	39	79	118	562	
60-64		694		1 I		6	6	31	<u>54</u> -	596	
65 and	over	885		I I		4	7	15	40	818	
Total				1							
Bride	s	71,229	18	15,577	31,921	10,647	4,603	2,817	2,002	3,644	

RELATIVE AGES OF BRIDEGROOMS AND BRIDES : AUSTRALIA, 1954.

(iv) Average Ages of Bridegrooms and Brides. The age at marriage of brides has remained fairly constant during recent years at an average of about $25\frac{1}{2}$ years, although in the period 1937-39 the average rose to almost 26 years. The average ages, in years, of brides for each of the five years to 1954 were :--1950, 25.73; 1951, 25.71; 1952, 25.61; 1953, 25.73; and 1954, 25.59. For the following five-year periods the average ages in years were :--1911-15, 25.76; 1916-20, 26.05; 1921-25, 25.76; 1926-30, 25.57; 1931-35, 25.50; 1936-40, 25.72; 1941-45, 25.68; and 1946-50, 25.61. The average ages, in years, of bridegrooms were 28.99 in 1950, 28.92 in 1951, 28.79 in 1952, 28.96 in 1953, and 28.82 in 1954. It follows, therefore, that brides are, generally speaking, a little more than three years 1940-46 showed the effects of war-time conditions. The proportion of young persons marrying during those years increased, thereby causing decreases in the average ages of both brides and bridegrooms. The difference in age between brides and bridegrooms was 3.26 years in 1950, 3.21 in 1951, 3.18 in 1952 and 3.23 in 1953, and 1954.

6. Previous Conjugal Condition.—The number of bachelors, spinsters and widowed and divorced persons who married during 1954 is shown in the table on page 626. The following table shows the relative conjugal condition of the contracting parties.

Conjugal Condition	n	Total	Conjuț	Conjugal Condition of Brides.						
of Bridegrooms.		Bridegrooms.	Spinsters.	Widows.	1	Divorced.				
Bachelors	 • •	63,356	58,896	1,502	<u> </u>	2,958				
Widowers	••	3,344	1,363	1,338	i	643				
Divorced		4,529	2,546	619	!	1,367				
Total Brides		71,229	62,805	3,456	1	4,968				

CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES: AUSTRALIA, 1954.

7. Birthplaces of Persons Marrying.—A table showing the relative birthplaces of bridegrooms and brides married in each year will be found in the Demography Bulletin.

8. Occupation of Bridegrooms.—The distribution of the 71,229 bridegrooms for 1954 amongst classes of occupations was as follows :—Craftsmen, 18,257; Commercial and Clerical, 12,282; Operatives, 12,108; Rural, Fishing and Hunting, 8,653; Labourers, 6,297; Domestic and Protective Service, 4,828; Professional and Semi-Professional, 3,781; Administrative, 2,913; and Not Gainfully Occupied and Not Stated, 2,110.

9. Celebration of Marriages.—In all the States marriages may be celebrated either by ministers of religion who are registered for that purpose with the Registrar-General, or by certain civil officers—in most cases district registrars—but most of the marriages

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are celebrated by ministers of religion. The registered ministers in 1954 belonged to more than forty different denominations, some of which, however, have only very few adherents. A number of these have been bracketed under the heading "Other Christian". The figures for 1954 are shown in the following table.

								!		Aust	ralia.
Denomination	•	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	No.	Propor- tion of Total.
	·										%
Church of Engla	nd	9,870	5,256	2,561	1,329	1,532	918	31	99	21,596	30.32
Roman Catholic	• •	6,484	4,595	2,583	1,087	1,097	457	36	73	16,412	23.04
Presbyterian		3,264	3,541	1,955	318	440	153	10	21	9,702	13.62
Methodist	••	2,670	2,597	1,586	1,658	713	385	29	' <u>9</u>	9,647	13.54
Baptist	••	355	312	204	165	64	76			1,176	1.65
Congregational	••	328	271	94	241	113	53		I	101,1	1.54
Lutheran	• •	111	209	245	367	28	4		7	971	1.36
Church of Christ		60	337	64	133	68	15		'	677	0.95
Greek Orthodox		200	140	52	43	58	Š			496	0.70
Salvation Army		111	97	93	47	21	12	8	I	390	0.55
Seventh-Day	Ad-										
ventist.	••	68	28	27	3	11	10			147	0.21
Other Christian		161	171	181	65	98	25	2		703	0.99
Hebrew	••	148	165	6		17				336	0.47
Total	•• .	23,830	17,719	9,651	5,456	4,260	2,111	116	211	63,354	88.94
Civil Officers		3,673	1,685	376	734	944	401	27	35	7,875	11.06
Grand Total	۱	27,503	19,404	10,027	6,190	5,204	2,512	143	246	71,229	100.00

MARRIAGES IN EACH DENOMINATION, 1954.

PROPORTION OF TOTAL.

(Per cent.)

Denominational		86.65	91.32	96.25 88	. 14 81 .	86 84.0	4 81.	12 85.77	88.94
Civil	••	13.35	8.68	3.75 11	.86 18.	14 15.9	618.	88 14.23	11.06

10. Divorces.—Chapter XIII.—Public Justice shows details of the number of marriages dissolved annually by divorce, nullity of marriage and judicial separation. The number dissolved by decrees for divorce and nullity of marriage made absolute and by judicial separation in 1954 was 6,528. Detailed tables relating to divorce statistics for 1954 and summary tables for earlier years are shown also in *Demography Bulletin* No. 72.

§ 3. Fertility and Reproduction.

1. Introductory.—Of the two elements of increase in the population, namely, natural increase and net migration, the former has been by far the more important over the past few decades. The level of natural increase depends on the excess of births over deaths and the relation between fertility and mortality determines the rate of reproduction or replacement of the population.

2. Number of Live Births and Confinements.—(i) Year 1954. There are various methods of measuring the fertility of the population by relating the number of births to the numbers in the population. In each the basic data are, of course, the numbers of live births.

The number of live births registered in Australia during 1954 is shown in the table below. The table shows also the number of confinements resulting in one or more live births. The figures exclude cases where the births were of still-born children only.

Particul	ars.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	N.T.	A.C.T.	Australia.
				LIVE	BIRTHS.					
Single t Twins Triplets	oirths 	71,379 1,709 37	53,327 1,315 18	30,583 581 12	17,811 407 9	15,576 346 6	7,559 208 3	501 12	845 12	197,581 4,590 8
Males Females	 	37,453 35,672	28,112 26,548	15,880 15,296	9,347 8,880	8,136 7,792	3,919 3,851	268 245	440 417	103,555 98,701
Total		73,125	54,660	31,176	18,227	15,928	7,770	513	857	202,250
	STILL	BIRTHS ASS	SOCIATED	with A	ÍULTIPLE	BIRTH	s Incl	UDED	Above.	
Twins Triplets		47	15	15	3	01				98
		Conf	INEMENT	s Resur	TING IN	Above	Вівтн	s.		
Nuptial		69,415	52,132	29,311	17,455	15,054	7,380	431	840	192,018

LIVE BIRTHS AND CONFINEMENTS, 1954.

NOTE.—In Queensland and Tasmania the registration of stillbirths is not compulsory and it is possible that in some cases where one child only of a multiple pregnancy is live-born the confinement has been treated as a single birth. This applies particularly to South Australia, where registration practice for twins. when one is live-born and one still-born, is to treat each child as a single birth, and for tripletwith one still-born to treat the two live-born as so on.

564

30,885 18,019 15,756

702

1,574

288

7,668

76

507

11

851

7,930

199,954

Ex-nuptial ...

. .

Total

2,855

72,270

1,866

53,998.

(ii) Live Births, Years 1926 to 1954. The average annual number of live births in each State and Territory for each five-year period from 1926 to 1950 and the total number of live births in each State and Territory for each year from 1950 to 1954 are given in the following table. Corresponding figures for each five-year period from 1861 will be found in Official Year Book No. 39, p. 583.

LIVE BIRTHS.

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
			ANNU	AL AVER	AGES.				
1926-30	53,308	34,333	19,361	11,006	8,748	4,819	70	118	131,763

1920-30		53,300	34,333	19,301	11,000	0,740	4,019	70	110	131,703
1931-35	•••	44,964	28,380	17,480	8,646	8,061	4,547	79	145	112,302
1936-40	•••	47,679	30,282	19,534	9,388	8,877	4,866	125	221	120,972
1941-45	••	56,583	38,002	23,431	12,546	10,409	5,418	113	384	146,886
1946-50		68,856	47,372	28,003	16,270	13,130	7,064	289	734	181,718

1950			71,592	49,830	29,028	17,306	14,228	7,242	411 +	954	190,591
1951	• •		72,069	50,553	29,652	17,463	14,794	7,357	407	1,003	193,298
1952	• •	••	74,196	53,738	30,953	17,884	15,413	7,916	448	1,102	201,650
1953	• •	••	74,890	53,561	30,782	18,156	15,862	7,736	460 '	788	202,235
<u>1954</u>			73,125	54,660	31,176	18,227	15,928	7,770	513	857	202,256

ANNUAL TOTALS.

3. Crude Birth Rates.—The oldest and most popular method of measuring fertility is to relate the number of births to the total population, thus obtaining the crude birth rate. The crude birth rate measures the rate per thousand persons (irrespective of age or sex) at which the population has added to its numbers by way of births during a given period. Crude birth rates for each five-year period from 1926 to 1950 and for each year from 1950 to 1954 for each State and Territory are set out below :---

CRUDE BIRTH RATES.(a)									
Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.

		1	1			1		1	1
192630	21.76	19.65	21.90	19.41	21.54	22.29	15.60	14.96	20.98
1931-35	17.28	15.60	18.48	14.89	18.36	19.95	15.99	15.77	16.94
193640	17.51	16.20	19.48	15.82	19.16	20.58	19.96	18.68	17.52
1941-45	19.79	19.27	22.28	20.43	21.72	22.23	11.40	26.82	20.28
1946-50(b)	22.60	22.51	24.69	24.41	25.24	26.71	23.77	37.92	23.39

A	VERAGE	ANNUAL	RATES.
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ANNITAL.	BATES.	(h)	١
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							1				
1950		•• ,	22.42	22.56	24.37	24.39	25.50	25.98	28.72	40.52	23.31
1951	••	•••	21.98	22.21	24.23	23.84	25.49	25.52	26.81	40.68	22.96
1952	• •	•••	22.20	22.93	24.65	23.69	25.66	26.53	29.69	41.48	23.35
1953		••	22.11	22.36	23.91	23.39	25.54	25.25	29.61	27.43	22.94
1954	••	•• :	21.33	22.28	23.74	22.89	24.88	24.97	31.64	28.21	22.50

(a) Number of births per 1,000 of mean population. (b) Rates based on revised mean population estimates shown on p. 577.

NOTE.—The birth rates in the table above are based on live births registered in the respective States and Territories. Some years ago a large proportion of births in respect of which the mother's usual residence was the Australian Capital Territory took place in Queanbeyan, just over the New South Wales border, but with improved hospital facilities in the Territory the movement to outside hospitals rapidly diminished and was reversed in 1939. The following rates, based on births in respect of which the mother's usual residence is the Australian Capital Territory and on revised population figures, are a truer measure of birth rates in the Australian Capital Territory :—

Annu	al Averag	e.			Year.	
1926-1930	••	22.45	1950	••	••	29.69
1931-1935		19.53	1951			28.51
1936-1940	••	19.29	1952			31.09
1941-1945		23.06	1953			27.61
1946-1950	••	27.13	1954	•	••	28.67

The variations similarly caused in the birth rates for the States and the Northern Territory by referring the birth registrations to the State or Territory in which the mother was usually resident are shown by the following corrected rates for 1954 :---New South Wales, 21, 23; Victoria, 22.25; Queensland, 23.82; South Australia, 22.82; Western Australia, 24.91; Tasmania, 25.03; and Northern Territory, 32.38.

In the earlier years of the present century the crude birth rate fluctuated somewhat but from 1912, when 28.60 was recorded, there was an almost continuous decline to the very low figure of 16.39 in 1934. The decline in the depression years was to some extent occasioned by the postponement of marriages, and with subsequent improvement in economic conditions the rate rose. From 1940 the rate increased quite appreciably owing to a continued improvement in the economic welfare of the community and the war-time boom in marriages. The latter resulted in an abnormal number of first births but investigation indicates that rates for births other than first were generally slightly higher than might have been expected from pre-war experience. The improvement in the birth rate has been maintained since the end of the war despite some falling off in marriage rates. The post-war peak of 24.07 was recorded in 1947.

4. Crude Birth Rates of Various Countries.—The following table gives crude birth rates for Australia in comparison with rates for various other countries.

Country.	1921- 25.	1926- 30.	1931- 35-	1954.	Country.	1921- 25.	1926- 30.	1931- 35.	1954.
Cunada Yugo-Lvi Union of Antrica(b) United Stitus America New Zealund(d) Australia(e) NetherLands Ireland, Republic of	27.4 35.0 27.1 22.5 22.2 23.9 25.7 24.7 20.3	24. I 34. 2 25. 9 19. 7 21. 0 23. 2 22. 5 20. I	21.4 31.8 24.1 (10.9 17.0 16.9 21.2 19.5 19.4	28.5 28.4 25.5 24.9 21.7 22.5 21.6 21.3 21.1	Japan Spain France Norway Italy Denmark Switzerland Belzjum United Kingdom Sweden	34.6 29.8 19.3 22.2 29.8 22.3 19.5 20.4 20.4 22.2 19.1	33.5 28.5 18.2 26.8 19.4 17.6 18.6 17.2 17.6 15.9	31.6 27.1 16.5 15.2 23.8 17.7 16.4 16.8 15.5 14.4 14.1	20.1 20.0 18.7 18.6 17.6 17.4 17.0 16.8 15.6 14.7 14.6

CRUDE BIRTH RATES(a) : VARIOUS COUNTRIES.

(a) Number of births per 1,000 of mean population.
 (b) European population only.
 (c) 1933-35.
 (d) Excludes Maoris.
 (e) Excludes full-blood aboriginals.

5. Fertility Rates.—The principal demographic factors affecting the level of crude birth rates are the proportion of women of child-bearing age in the population and the proportion of such women who are married. These factors may vary considerably at different periods and for different countries, and a population with a high proportion of married women of child-bearing age will have a much higher crude birth rate than one with a low proportion, although the fertilities of the two populations may be identical.

In order to compare fertilities, births are sometimes related to the number of women of child-bearing age or, alternatively, nuptial births are related to the number of married women of child-bearing age. Thus births are related to potential mothers, giving the fertility rate.

The following table sets out for certain periods, commencing with 1880-82, the number of births per thousand of mean population, the number of births per thousand women of child-bearing age and the number of nuptial births per thousand married women of child-bearing age. For purposes of this table the child-bearing age has been taken to be 15-44 years inclusive, but births to mothers who were stated to be under 15 or over 44 years have been included in the compilations.

		Ave	rage Annual R	ates.	Index Nos. (Base : 1880-82 = 100).				
i-			Fertilit	y Rates.		Fertilit	y Rates.		
Period	- 1	Crude Birth Rate.(a)	Births per 1,000 Women aged 15-44 Years.	Nuptial Births per 1,000 Married Women aged 15-44 Years.	Crude Birth Rate.(a)	Births per 1,000 Women aged 15-44 Years.	Nuptial Births per 1,000 Married Women aged 15–44 Years.		
1880-82		35.3	170	321	100	100	100		
1890-92		34.5	159	332	98	94	ʻ 10 3		
1900-02	i	27.2	117	235	77	69	73		
1910-12	4	27.2	117	236	77	69	74		
1920-22	••	25.0	107	197	71	63	61		
1932-34	• • 1	16.7	71	131	47	42	41		
1946-48	••	23.6	104	167	67	61	52		

CRUDE BIRTH RATES AND FERTILITY RATES : AUSTRALIA.

(a) Number of births per 1,000 of mean population.

The table above shows how increasing proportions both of women of child-bearing age and of married women of child-bearing age inflate the crude birth rate. Thus while the nuptial birth rate for married women increased by only 27 per cent. over the period 1932-34 to 1946-48 the crude birth rate rose by 41 per cent., owing principally to the greatly increased number of marriages during that period.

6. Age-specific Fertility Rates for Females.—So long as customary ages at marriage do not change drastically, the main demographic factor affecting the number of births is the age composition of the potential mothers in the population. Within the childbearing group the fertility of women of different ages varies considerably and a clearer view of the fertility of the population can be obtained from an examination of what are known as its age-specific fertility rates, that is, the number of births to women of specified ages per thousand women of those particular ages.

Age-specific fertility rates are more commonly expressed in age groups than single ages. The following table sets out age-specific fertility rates for Australia for the period 1921 to 1954 in five-year age groups.

Age Group (Years).	1921.	1926.	1931.	1936.	1941.	1946.	1951.	1952.	1953.	1954.
15-19 20-24 25-29 30-34 35-39 40-44	12.83 65.45 82.24 68.50 49.48 21.66	14.02 60.23 76.82 61.90 43.55 17.63	13.08 53.08 62.47 51.25 33.23 13.61	12.18 50.33 62.02 46.33 28.89 10.19	11.90 59.42 70.78 49.72 28.69 9.52	12.63 73.52 89.51 65.03 37.43 11.87	18.59 85.84 90.24 59.16 32.29 9.97	19.07 90.93 94.53 61.51 32.61 9.95	18.45 94.53 94.73 61.17 31.87 9.77	19.12 96.24 94.40 59.91 31.17 9.85
45-49	2.10	1.90	I.45	1.11	0.80	1.03	0.80	0.83	0.67	0.71

AGE-SPECIFIC FERTILITY RATES(a) : AUSTRALIA.

(a) Number of female births per 1,000 women in each age group.

The table shows that in 1954 the most fertile age group was 20-24 years. The decline in fertility between 1921 and 1936 was general but was more pronounced in the older age groups. During the period 1936 to 1954 a rise in fertility occurred in all age groups below 40, the most noticeable increase being in the 20 to 24 age group.

7. Gross and Net Reproduction Rates for Females .- A single measure of reproduction known as the gross reproduction rate is obtained by adding together the specific fertility rates for each age in the child-bearing group. This measure indicates the number of female children who would be born on the average to women living right through the child-bearing period, if the conditions on which the rate is based continue. The rate is unaffected by the age composition of the potential mothers, and consequently it shows more clearly than the crude birth rate the reproductive propensity of the population. It is, however, an imperfect measure of reproduction because it does not take into account the females who fail to live from birth to the end of the reproductive period. A more accurate measure of this nature is obtained by multiplying the specific fertility rates by the number of females in the corresponding age group of the stationary or life table population and summing the products. Allowance is thus made for the effect of mortality and the result is known as the net reproduction rate. The net reproduction rate indicates the average number of female children who would be born to women during their lifetime if they were subject at each age to the fertility and mortality rates on which the calculation is based. A constant net reproduction rate of unity indicates that the population will ultimately become stationary. If it continues greater than unity, the population will ultimately increase; if less than unity, it will ultimately decrease. The following table should be read in the light of the comment which follows it and of the index of fertility in paragraph 9 hereof.

7	fea r .		Gross Repro- duction Rate.	Net Repro- duction Rate.		Year.		Gross Repro- duction Rate.	Net Repro- duction Rate.(g)
1881 (a)			2.65	(b) 1.88	1948			I.45I	1.376
1891 (a)			2.30	(b) 1.73	1949	••		1.457	1.382
1901 (a)			1.74	(c) 1.39	1950		•••	1.491	1.415
1911			1.705	(d) 1.421	1951		• • •	1.485	1.409
1921			1.511	(e) 1.313	1952			1.547	1.468
1931			1.141	(f) 1.039	1953		1	1.556	1.477
1941			1.154	(f) 1.053	1954		;	1.558	1.478

GROSS AND NET REPRODUCTION RATES : AUSTRALIA.

(a) Approximate only. (b) 1881-1890 mortality experience used. (c) 1891-1900 mortality experience used. (d) 1901-1910 mortality experience used. (e) 1920-1922 mortality experience used. (f) 1932-1934 mortality experience used. (g) 1946-48 mortality experience used.

NOTE.—It is not strictly correct to assume, as above, that a particular age-specific fortility rate can be applied to a hypothetical group of women reaching that age, without taking account of previous fertility and marriage experiences. Reproduction rates are, therefore, somewhat unreliable when birth and marriage rates have been changing. The indexes of marriage fertility shown on the next page are also of doubtful reliability in similar circumstances. Since 1881 there has been a substantial downward trend in both rates, but the gross rate has fallen considerably more than the net, showing that the decline in fertility has been offset to some extent by a decline in mortality. The net reproduction rate was below unity over the period 1932 to 1939, and if the low level of those years were to continue, ultimate population decline would be certain. The progressive rise in both gross and net reproduction rates from 1939 to 1947 was due largely to higher marriage rates during the war and early post-war years than had been experienced in the immediate pre-war years. Such fluctuations in marriage rates affect both gross and net reproduction rates substantially. When fluctuations in marriage rates are transient, reproduction rates calculated as above are not valid as indicators of relative fertility nor of the extent to which population will replace itself. Owing to various influences the number of marriages in each year since 1948 has remained at a relatively high level and the net reproduction rates have been steady between 1.4 and 1.5. The fertility of marriages is measured in paragraph 9 below.

8. Gross and Net Reproduction Rates of Various Countries.—In the following table a comparison is given of the gross and net reproduction rates recorded for various countries in the period 1951 to 1953. These have been taken mainly from the United Nations *Demographic Year Book*, 1954 and represent the latest available international comparison. More recent Australian rates are shown in the table above.

Country.	Period.	Repro	luction te.	Country		Period.	Reproo Ra	luction ite.
		Gross.	Net.				Gross.	Net.
Canada	1952	1.77	(a)	Norway	·	1952	1.24	1.17
New Zealand (b)	1953	1.70	1.63	Switzerland		1952	1.25	1.15
United States of			-	Denmark		1953	1.25	1.14
America(c)	1 1951	1.59	1.51	Scotland		1952	1.18	1.12
Australia(d)	1953	1.56	1.48	Portugal		1951	1.49	1.09
Finland	1952	1.49	1.39	England	and			-
Netherlands	1953	1.46	1.39	Wales		1953	(a)	1.03
Ireland, Republic			1	Belgium		1952	1.13	£0.1
of	1950-52	1.60	1.38	Sweden		1951	1.07	1.02
France	1952	1.33	1.25					
(a) Not available full-blood aboriginals	e. (b) E	xcludes	Maoris.	(c) White	popula	tion only.	(d)]	Exclude

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In comparing the reproduction rates of the countries shown above allowance should be made for any differences in years as the rates for any one country from year to year are affected by variations in the incidence of marriage.

9. Fertility of Marriages.—In issues of the Official Year Book prior to No. 36 estimates of the fertility of marriages were published. These were calculated by relating the births of one five-year period to the marriages in the preceding five years (see Official Year Book No. 35, p. 329). Since the publication of that issue, an improved method has been formulated for measuring current marriage fertility by relating nuptial confinements in each year to the marriages from which they could have resulted. Confinements of women of a certain number of years duration of marriage are related to the number of marriages taking place that number of years previously. The table below sets out this index of current fertility per marriage in respect of confinements in the individual years shown.

	FERTILITY OF A	ARRIAGES :	AUSTRALIA
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Yea	sr.	Nuptial Confine- ments per Marriage.	Year.		Nuptial Confine- ments per Marriage.	Year.		Nuptial Confine- ments per Marriage.
1940	•••	2.18	1945		2.36	1950.	•••	2.56
1941	••	2.19	1946		2.55	1951		2.55
1942	• •	2.12	1947		2.55	1952		2.63
1943	• •	2.21	1948		2.44	1953		2.66
1944	<u> </u>	2.28	1949	••	2.45	1954	•••	2.66

NOTE .- See Note at foot of p. 636.

The figure for a particular year gives the estimated number of children which a marriage would produce according to the fertility conditions of that year. There was an almost continuous decline for a number of years to 1942, but a pronounced increase from 1943 to 1946. Comparing this index with the net reproduction rate it is evident that the rise in the latter since 1935 has been caused by a rise in the marriage rate, due firstly to the postponed depression marriages, and secondly to war-time marriages, and since 1942 to an increase in the fertility of marriages. The figures for 1949 and subsequent years present a somewhat inflated index as many of the births which have been used to calculate the index relate to marriages of immigrants which took place overseas and are consequently not included in Australian marriage records. Partial investigation suggests that this factor may overstate the index by as much as 6 per cent.

10. Masculinity of Live Births.—The masculinity of live births, i.e., the number of males born for every 100 female births, has remained fairly stable for Australia at about 105. But when the number of births for which masculinity is being calculated is small (for example, State totals), considerable variation is shown. For 1954 the figures ranged from 101.77 in Tasmania to 109.39 in the Northern Territory. The averages for the ten years 1941-50 were as follows:—New South Wales, 105.49; Victoria, 105.47; Queensland, 105.49; South Australia, 105.78; Western Australia, 104.27; Tasmania, 104.45; Australia, 105.38. The following table shows the figures for Australia for each ten-year period from 1901 to 1950 and for each of the years 1951 to 1954:--

Particulars.	1901–10.	1911-20.	1921–30.	1931-40.	1941–50,	1951.	1952.	1953.	1954.
Total Births	105.22	105.27	105.55	105.12	105.38	105.86	105.20	104.82	104.92
Ex-nuptial Births	104.08	105.25	105.16	105.36	105.34	105.30	99.57	105.69	101.58

MASCULINITY(a) OF LIVE BIRTHS REGISTERED : AUSTRALIA.

(a) Number of males born for every 100 female births.

57. Ex-nuptial Live Births.—(i) General. The highest proportion of ex-nuptial births in any one year since 1901 was recorded in 1905 when there were 6,545 ex-nuptial births representing 6.24 per cent. of total births. Since then the proportion has declined steadily. The largest number of ex-nuptial births was recorded in 1953 when 8,032 were registered, but this number represented only 3.97 per cent. of total births. The lowest proportion was 3.78 per cent. in 1940.

The variations in the proportions of ex-nuptial births as between the individual States and Territories for 1954 are shown below.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Number Proportion of	2,889	1,890	1,585	569	711	295	77	11	8,027
Total Births%	3.95	3.46	5.08	3.12	4.46	3.80	15.01	1.28	3.97

EX-NUPTIAL LIVE BIRTHS: NUMBER AND PROPORTION, 1954.

The number and proportion of ex-nuptial births at intervals from 1901 to 1954 are as follows :---

EX-NUPTIAL LIVE BIRTHS: NUMBER AND PROPORTION, AUSTRALIA.

	1 1	Ann	ual Aver	rage.	ļ				
Particulars.	1901- 10.	1911- 20.	1921- 30.	1931- 40.	1941 50.	1951.	1952.	1953.	1951.
Number	6,498	6,836	6,238	5,133	6,780	7,555	7,842	8,032	8,027
Births %	6.05	5.22	4.66	4.40	4.13	3.91	3.89	3.97	3.97

It is, of course, possible that the number of ex-nuptial births is somewhat understated owing to diffidence in proclaiming the fact of ex-nuptiality.

(ii) Rate of Ex-nuptiality. A further comparison is obtained by calculating the number of ex-nuptial births per thousand of the single, widowed and divorced female population between the ages of 15 and 45 years. On this basis the number of ex-nuptial births per 1,000 unmarried women of ages 15 to 45 has been found to be as follows:— 1880-82, 14.49; 1890-92, 15.93; 1900-02, 13.30; 1910-12, 12.53; 1920-22, 10.50: 1932-34, 6.91; and 1946-48, 11.45.

(iii) Comparison of Rates. The following table, showing the relative proportions of ex-nuptial and nuptial births to the total population, discloses a much greater proportional reduction in the ex-nuptial birth rate than in the nuptial rate :--

CRUDE EX-NUPTIAL, NUPTIAL, AND IUTAL BIRTH RATES(a): AUST	KALIA.
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		Anı	ual Avera				I.		
Birth Rate.	1901-10.	1911-20,	1921-30.	1931-40.	1941-50.	1951.	1952.	1953.	1954.
Ex-nuptial Nuptial Total	1.60 24.91 26.51	1.39 25.18 26.57	1.04 21.40 22.44	0.76 16.47 17.23	0.90 20.99 21.89	0.90 22.06 22.96	0.91 22.44 23.35	0.91 22.03 22.94	0.89 21.61 22.50

(a) Number of births per 1,000 of mean population.

12. Legitimations.—In the several States Acts have been passed to legitimize children born before the marriage of their parents, provided that no legal impediment to the marriage existed at the time of birth. On registration in accordance with the provisions of the Legitimation Acts, any child who comes within the scope of their purposes, born before or after the passing thereof, is deemed to be legitimate from birth by the post-natal union of its parents, and entitled to the status of offspring born in wedlock. During 1954 the number of children legitimized in Australia was 1,041.

13. Multiple Births.—Because the current Australian birth statistics are based only on those confinements which resulted in a live-born child the number of confinements for multiple births for Australia is understated—firstly, because in cases where all children of a multiple birth are still-born the confinement is excluded, and secondly, because of differences in registration practice where stillbirths are involved, from which it is evident, in recent years, that in Victoria and Queensland, some, and in South Australia, all, cases of multiple births in which only one child was live-born have been registered as single births. It is estimated that the deficiency due to this second cause is about 50 cases per annum. During 1954 multiple births recorded on the above basis comprised 2,344 cases of twins and 29 cases of triplets, the resultant numbers of live-born and still-born children being respectively 4,590 and 98 for twins and 0.15 recorded cases of triplets per 1,000 confinements or, alternatively, mothers of twins represented one in every 85 mothers and mothers of triplets one in every 7,000. Total cases of multiple births represented 11.87 per 1,000 confinements or one in every 84 mothers.

The proportion of mothers of multiple births to total mothers does not vary greatly from year to year.

14. Ages of Parents.—The relative ages of the parents of children registered in 1954 have been tabulated separately for male and female births, multiple births being distinguished from single births. For total births and for multiple births the relative ages of parents are shown in *Demography Bulletin* No. 72. In the present work the exigencies of space allow only the insertion of a table showing, in respect of confinements resulting in one or more live births, the relative ages of parents in groups of five years.

Age of Father		Age of Mother (Years).									
(Years), and Type of Birth.	Total.	Under 15.	15-19.	20-24.	25-29.	3034.	35-39.	4044.	45 and over.	Not Stated	
Under 20 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 66-64 65 and over	1,206 27.857 61.621 50.643 27.982 14.788 5.656 1.644 395 152 74	3 1 	919 6.023 2.093 358 74 29 9 2 3 	240 18.841 26,258 6.945 1.330 371 93 23 11 4 3	10 2,734 28,770 22,687 6,081 1,664 462 138 28 7 7	4 222 4,120 18,159 11,760 4,394 1,176 314 68 31 13	33 343 2.306 7,861 5,810 2,206 566 149 52 25	3 36 183 867 2,463 1,542 515 114 48 19	1 5 57 168 86 22 10 7	· · · · · · · · · · · · · · · · · · ·	
Mothers of Nuptial Children Single Twins Triplets Total	189.740 2,250 28 192,018	5 5	9,474 64 2 9,540	53,640 469 10 54.119	61.856 723 9 62.588	39,661 595 5 40,261	19,027 322 2 19,351	5,713 77 5,790	364 364	· · · · · · · · · · · · · · · · · · ·	
Mothers Single of Ex- auptial Triplets Children Total	7,841 94 1 7,936	27 27	1,692 15 1,707	2.347 21 2.368	1,702 24 1,726	I,102 18 1,120	685 12 1 698	261 4 265	15 15	01 01	
Total Mothers	197,581 2.344 29	32	11,166 79 2	55.987 490 10	63.558 747 9	40,763 613 5	19.712 334 3	5,974 81	379	10 	
Total	199,954	32	11,247	56.487	64.314	41,381	20.049	6,055	379	10	

CONFINEMENTS : RELATIVE AGES OF PARENTS, AUSTRALIA, 1954.

15. Birthplaces of Parents.—A table showing birthplaces of parents of children whose births were registered during 1954 appears in Demography Bulletin No. 72.

16. Occupation of Fathers.—A table showing occupations of the fathers of all nuptial children registered in 1954 appears in *Demography Bulletin* No. 72.

17. Age, Duration of Marriage and Issue of Mothers.—(i) General. The total number of nuptial confinements resulting in live births in 1954 was 192,018, comprising 189,740 single births, 2,250 cases of twins, and 28 cases of triplets. The tables relating to previous issue exclude the issue of former marriages and still-born children. On the other hand, they include children by the same father who were born to the mother prior to the marriage. Children born at the present confinement are included in the total issue shown.

(ii) Duration of Marriage and Issue of Mothers. The following table shows that in 1954 the duration of marriage of mothers of nuptial children ranged from less than one year to over 25 years, and that the average family increased fairly regularly with the duration of marriage. The average issue of married mothers who bore children in 1954 was 2.48 compared with 2.45 in 1953, 2.42 in 1952, 2.40 in 1951, and 2.39 in 1950.

Durat of Marri (Yea	age rs).	Total Married Mothers.	Total Issue.	Average Issue.	Durati of Marria (Years	on ge 3).	Total Married Mothers.	Total Issue.	Average Issue.
0- I	<u> </u>	24,063	24,452	1.02	14-15	· - <u></u>	2,904	13,532	4.56
1-2		22,109	26,780	1.21	15-16		2,090	10,573	5.06
2-3		21,773	36,699	1.69	16-17		1,573	8,513	5.41
3-4	••	20,448	41,025	2.01	17-18	• •	1,354	7,529	5.56
4- 5	••	17,806	41,031	2.30	18-19		1,023	6,029	5.89
5-6		15,371	39,673	2.58	19-20		753	4,592	6.10
6-7		13,331	38,211	2.87	20-21		532	3,492	6.56
7-8		11,367	35,574	3.13	21-22		414	2,835	6.85
8-9	••	8,877	29,756	3.35	22-23		282	1,987	7.05
9-10	••	6,474	23,010	3.55 1	23-24		189	1,442	7.63
10-11		5,346	19,987	3.74	24-25		149	1,178	7.91
11-12		5,141	20,104	3.91	25 and	over	164	1,405	8.57
12-13		4,810	19,866	4.13	-		I		- · ·-
13-14		3,675	16,096	4.38	Total		192,018	475,371	2.48

NUPTIAL CONFINEMENTS : DURATION OF MARRIAGE AND ISSUE OF MOTHERS. AUSTRALIA. 1954.

(iii) Age and Average Issue of Mothers. The following table shows the average number of children born to mothers of different ages. In the younger ages there is, naturally, little difference in the average number of children to each mother from year to year, but with the increase of the age of the mother the number of issue has fallen in comparison with past years. The average issue of mothers of all ages recorded for 1954 (namely, 2.48) is 24.5 per cent. below the average of 3.25 for the years 1911-20.

AGE AND AVERAGE ISSUE OF MOTHERS : AUSTRALIA.

	1		A	ge of Mothe	er (Years).		,	
Period.	Under 20.	20–24.	25-29.	30-34.	35-39.	40-44.	45 and over.	All Ages.
1911-20	I.2I	1.75	2.61	3.74	5.11	6.69	8.16	3.25
1921-30	I.20	1.71	2.46	3.48	4.80	6.27	7.74	3.04
1931-40	1.20	1.68	2.30	3.19	4.41	5.89	7.40	2.71
1941-50	1.17	1.56	2.15	2.85	3.67	4.79	6.19	2.37
1954	I.22	1.70	2.36	3.05	3.78	4.56	5.60	2.48

(iv) Previous Issue of Mothers, Various Ages. A classification of mothers by age group and previous issue is given for 1954 in the following table.

NUPTIAL CONFINEMENTS :	AGE OF MOTHER AND	PREVIOUS ISSUE,	AUSTRALIA,

1954.

	1		Total					
Previous Issue.	Under 20.	20-24.	25-29.	3034.	35-39.	40-44.	45 and over.	Married Mothers.
0	7,730	27,978	16,799	6,435	2,422	629	36	62,029
t	1,622	17,767	22,083	10,330	3,382	745	49	55,978
2	181	6,180	14,246	10,606	4,290	939	32	36,474
3	12	1,745	6,016	6,779	3,575	986	47	19,160
4		363	2,239	3,160	2,250	805	34	8,851
5		70	793	1,492	1,421	548 ;	31	4,355
6		13	289	757	844	357	32	2,292
7	1	2	89	392	514	252	29	1,278
8	••	I	26	171	270	171	27	666
9		,	5	82	167	139	11	404
10 and over		'	3	57 '	216	219 '	36	531
Total Married								
Mothers	9,545	54,119	62,588	40,261	19,351	5,790	364	192 ,0 18

(v) Previous Issue of Mothers of Twins, Triplets and Quadruplets. Figur:s regarding the previous issue of married mothers of twins in 1954 show that 555 mothers had no previous issue either living or deceased, 614 had one child previously, 487 had two previous issue, 288 three, 137 four, 68 five, 44 six, 29 seven, 14 eight, 7 nine, 2 ten, 2 eleven, 1 twelve, 1 thirteen and 1 fifteen.

Of the 28 cases of nuptial triplets registered during 1954, 8 mothers had no previous issue, 10 had one, 7 had two, 2 had three, and 1 had four.

18. Nuptial First Births.—(i) Duration of Marriage. The following table shows the interval between marriage and first birth for 1911-20, 1921-30, 1931-40, 1941-50, 1952, 1953 and 1954. In cases of multiple births, the first live-born child only is enumerated. Greater detail for each year will be found in the relevant Demography Bulletin.

Duration of			Annual	Average.	1	{		
Marriage.		1911-20.	1921–30.	1931–40.	1941-50.	1952.	1953.	1954.
		N	NUMBER (of First	BIRTHS.			
Under 8 months 8 months 9 ,, 10 ,, 11 ,, Total under 1 y, 1-2 years 2-3 ,, 3-4 ,, 4-5 ,, 5-10 ,, 10-15 ,, 15 years and over	ear 	9,312 1,562 3,517 2,877 2,018 19,286 8,563 2,626 1,230 700 980 168 42	10,351 1,530 3,253 2,907 2,152 20,193 10,133 3,369 1,743 941 1,446 240 55	10,677 1,417 2,668 2,202 1,836 18,800 10,595 4,319 2,214 1,205 1,766 289 55	8,822 2,104 4,298 3,447 2,896 21,567 17,762 8,028 4,361 2,569 3,936 501 94	10,461 2,255 4,784 4,035 3,442 24,977 19,861 8,427 4,503 2,763 3,870 716 121	10,322 1,982 4,537 3,895 3,278 24,014 18,920 8,393 4,637 2,734 4,171 744 113	10,689 1,974 4,360 3,761 3,144 23,934 17,755 8,031 4,430 2,708 4,324 707 134
- Total	••	33,595 Рворо	38,120 DRTION 01	39,243	58,818 First Bir	65,238 THS.	63,726	62,029
Under 8 months		27.72	27.15	Per Cent.)	15.00	16.04	16.20	17.23

FIRST BIRTHS : DURATION OF MARRIAGE, AUSTRALIA.

				·····				
Under 8 months 8 months 9	 	27.72 4.65 10.47	27.15 4.01 8.53	27.21 3.61 6.80	15.00 3.58 7.31	16.04 3.46 7.33	16.20 3.11 7.12	17.23 3.18 7.04
10 ,, 11 ,,	•••	8.56 6.01	7.63 5.65	5.61 4.68	5.86 4.92	6.18 5.28	6.11 5.14	6.06 5.07
Total under 1 1-2 years 2-3,, 3-4,, 4-5,, 5-10,, 10-15,, 15 years and over	year 	57.41 25.49 7.82 3.66 2.08 2.92 0.50 0.12	52.97 26.58 8.84 4.57 2.47 3.79 0.63 0.15	47.91 27.00 11.01 5.64 3.07 4.50 0.73 0.14	36.67 30.20 13.65 7.41 4.37 6.69 0.85 0.16	38.29 30.44 12.92 6.90 4.23 5.93 1.10 0.19	37.68 29.69 13.17 7.28 4.29 6.54 1.17 0.18	38.58 28.62 12.95 7.15 4.37 6.97 1.14 0.22
Total		100.00	100.00	100.00	100.00	100.00	100.00	 100.00

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The masculinity of nuptial first births in 1954 was 105.31 compared with 104.92 for total births.

(ii) Age of Mother and Duration of Marriage. A tabulation showing the individual ages of mothers of nuptial first-born children in conjunction with full detail of duration of marriage is given in Demography Bulletin No. 72. A summary showing grouped ages and grouped durations is given in the following table.

FIRST	BIRTHS :	AGE	0F	MOTHER	AND	DURATION	0F	MARRIAGE,
			A	USTRALIA	, 1954			

						ļ					
Du	ration	of Mai	rriage.	Under 20.	20-2 \$.	25-29.	30-34.	35-39.	40-44.	45 and over.	Total.
Unde	r 8 mor	ths		4.570	4.354	1,049	452	207			10,689
8 m	onths			342	1.058	370	143	51	10		1,971
9		• •	••	537	2.542	923	267	8.4	13		4,366
iò	,,			455	2.684	861	248	93 -	19	I	3,761
11	,,		• • •	338	1,787	675	257	67	19	1	3.144
1	lotal ur	der 1	year	6,248	11,825	3,878	1,367	502	107	7	23,931
1- 2	years			1.294	9.977	4.399	1,430	510	134	11	17,755
2-3	,,	• •		167	3,946	2,739	806	290	SI,	2	8,031
3-4	- ,,		• •	20	1,545	2,061	558	189	60 '	3	4,136
4- 5	,,			. I,	473	1,552	485	158	37	2	2,708
5-10	,,		• •		206	2,109	1,462	446	93	8 1	4.324
10-15	.,		• •	••	6	61	316	260	63 -	1	707
15 ye	ars and	over	•• •	;	• •		11	67	54	2	134
	Total			7.730	27.978	16.799	6,135	2,122	629	36	62,029

(iii) First Births and Subsequent Births. The following table provides a comparison between the numbers of nuptial first births and subsequent births in periods since 1911 and shows also the proportion of first to total nuptial confinements.

					Nupt	Proportion of First to		
		Period.			First Births.	Other Births.	Total.	Total Nuptial Confine- ments (Per Cent.).
	· - <u></u>	•- • •	·	ANNUAL	AVERAGES	· · ·	·	
	-			11 dan	HV BIGGES	·		
1911-20	••	••	••	•• [33,595	88,997	122,592	27.40
1921–30	••	••	••		38,120 !	88,086	126,206	30.20
1931-40	••	••	••	•••	39,243	71,136	110,379	35.55
1941-50	· ·	••	<u> </u>		58,818	96,994	155,812	37.75
				ANNUAL	L TOTALS.			
1950				1	62.081	119,101	181,182	34.26
1951				••	62,078	121,594	183,672	33.80
1952					65.238	126,432	191,670	34.04
1953		• •			63,726	128,187	191,913	33.21
1954	••	•			62,029	129,989	192,018	32.30

NUPTIAL FIRST BIRTHS AND SUBSEQUENT BIRTHS : AUSTRALIA.

19. Stillbirths.—Registration of stillbirths is not compulsory in all Australian States. It has been compulsory in Western Australia since 14th January, 1908; in the Australian Capital Territory since 1st January, 1930; in New South Wales since 1st April, 1935; in South Australia since 1st May, 1937; and in Victoria from 1st January, 1953. In Victoria, independently of compulsory registration, and in Queensland and Tasmania where registration is not enforced, some information is obtained by notification of stillbirths for various purposes. Because registration is not compulsory in all States detailed statistics of stillbirths for Australia as a whole have not been compiled. The number of stillbirths in each State and Territory, as recorded since 1936 by the means outlined above, is shown in the following table :---

Period.		N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
	-	·		Ann	UAL AV	ERAGES.				<u> </u>
1936-40		1,409	854	(a)	(b) 274	234	144	(a)	5	j (a)
1941-45	••	1,478	966	(c) 657	324	248 '	143	(u)	9	de 3,825
1946-50	••	1,405	949	626	368	274	161	(a)	12	(e) 3,795
				AN	INUAL T	OTALS.				
1950		1,406	963	607	325	240	138	6	11	3,696
1951		1,291	929	651	316	297	166	5	15	3,670
1952		1,195	919	596	320	283	154	13	10	3,490
1953	• •	1,256	817	562	287	268	141	8	16	3,355
1954		1,207	794	550	254	270	124	8	19	3,226
(a) N Oueenslar	ot and fo	vailable.	(b) T) (e) Ex	aree years	1938-40. rthern Ter	(c) Fo	our years	1942-45.	(d)	Excludes

STILLBIRTHS.

The incidence of stillbirth in each State and Territory as measured by the rate per 1,000 of all births, both live and still, is as follows :---

PROPORTION OF STILLBIRTHS.(a)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
			Avera	GE ANNU	JAL RAT	ES.			
1936-40	28.71	27.43	(b)	627.49	25.70	28.75	(6)	22.18	(b)
1941-45 1946-50	25.46	24.79 19.64	d26.76 21.87	25.17 22.12	23.29 20.46	25.68 22.26	(b) (b)	22.87	ef 25.25 (f)20.46

ANNUAL RATES.

1950		19.26	18.96	20.48	18.43	16.59	18.70	14.39	11.40	19.02
1951		17.60	18.05	21.48	17.77	19.68	22.07	12.14	14.73	18.63
1952		15.85	16.81	18.89	17.58	18.03	19.08	28.20	8.99	17.01
1953		16.49	15.02	17.93	15.56	16.62	17.90	17.09	19.90	16.32
1954	· · ·	16.24	14.32	17.34	13.74	16.67	15.71	15.36	21.69	15.70

(a) Number of stillbirths per 1,000 of all births (live and still).
 (b) Not available.
 (c) Three years 1938-40.
 (d) Four years 1942-45.
 (e) Excludes Queensland for 1941.
 (f) Excludes Northern Territory.

§ 4. Mortality.

1. Number of Deaths.—(i) Year 1954. The following table shows the number of deaths, male and female, registered in each State and Territory during the year. Stillbirths, although registered as both births and deaths in some States, are excluded from the death statistics published herein.

DEATHS, 1954.

Sex.		N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
Males Females	•••	18,256 14,188	12,162 10,392	6,621 4,723	3,892 3,287	3,203 2,161	1,493 1,203	90 16	70 48	45,787 36,018
Persons		32,444	22,554	11,344	7,179	5,364	2,696	106	118	81,805

(ii) Years 1926 to 1954. A summary of the number of deaths in each State and Territory from 1926 to 1954 is given in the following table. Annual averages for each five-year period from 1861 were published in Official Year Book No. 39, p. 597.

Period.		N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
		·	·	An	NUAL AV	ERAGES.				
192630 193135 193640(a 194145(a	2) 2) 2)	22,677 22,591 25,735 27,807 20,552	16,698 17,680 19,361 20,964 21,827	8,007 8,147 9,107 9,715	5,008 5,063 5,540 6,303 6 507	3,617 3,876 4,270 4,724 4,802	2,040 2,194 2.342 2,488 2,459	71 67 73 64 76	42 35 54 71	58,160 59,653 66,482 72,136 75,683
	-		<u> </u>	A:	NNUAL T	OTALS.			J	
1950 1951 1952 1953 1954	• • • • • •	30,965 31,932 32,038 31,707 3 ² ,444	22,341 23,446 23,322 22,650 22,554	10,399 11,105 11,171 11,006 11,344	6,740 7,184 7,050 6,962 7,179	5,058 5,288 5,209 5,072 5,364	2,466 2,567 2,579 2,551 2,696	96 117 89 116 106	122 149 139 124 118	78,187 81,788 81,597 80,188 81,805

DEATHS.

(a) Excludes deaths of defence personnel and of internees and prisoners of war from overseas for the period September, 1939 to June, 1947.

2. Crude Death Rates .- The commonest method of measuring the mortality rate is to relate the number of deaths for a given period to the mean population for that period, thus obtaining the crude death role. This rate for a given period measures the numbers per thousand of population by which the population is depleted through deaths during that period. Crude death rates for each State and Territory from 1926 to 1954 are shown in the following table.

CRUDE DEATH RATES.(a)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
			Avera	GE ANN	UAL RAT	ES.			_
1926–30 1931–35 1936–40(b) 1941–45(b) 1946–50(b)(c)	9.26 8.68 9.45 9.73 9.70	9.56 9.72 10.36 10.63 10.37	9.06 8.62 9.08 9.24 9.13	8.83 8.72 9.33 10.26 9.76	8.91 8.83 9.22 9.86 9.23	9.44 9.62 9.91 10.21 9.30	15.83 13.46 11.69 6.43 6.27	5.36 3.81 4.54 4.98 5.31	9.26 9.00 9.63 9.96 9.74
		' <u></u>	An	NUAL R.	ATES.(C)	·		' <u> </u>	
1950	9.70	10.11	8.73	9.50	9.07	8.85	6.71	5.18	9.56

ANNUAL RATES.(c)											
1950	9.70	10.11	8.73	9.50	9.07	8.85	6.71	5.18	9.56		
1951	9.74	10.30	9.07	9.81	9.11	8.90	7.71	6.04	9.71		
1952	9.59	9.95	8.89	9.34	8.67	8.64	5.90	5.23	9.45		
1953	9.36	9.45	8.55	8.97	8.17	8.33	7.47	4.32	9.09		
Males	10.60	9.87	9.83	9.65	9.70	9.43	8.88	4.30	10.07		
Females	8.32	8.51	7.38	8.37	6.98	7.88	2.63	3.40	8.11		
Persons	9.46	9.19	8.64	9.01	8.38	8.67	6.54	3.88	9.10		

(a) Number of deaths per 1,000 of mean population. (b) Excludes deaths of defence personnel from September, 1939 to June, 1947. (c) Rates based on revised mean population estimates shown on page 577.

3. Standardized Death Rates.-(i) General. The death rates quoted above are crude rates, i.e., they simply show the number of deaths per thousand of mean population without taking into consideration differences in the sex and age composition of the population. Other conditions being equal, however, the crude death rate of a community will be low if it contains a large proportion of young people (not infants), and conversely it will be relatively high if the population includes a large proportion of elderly people. The foregoing table of crude death rates, therefore, does not indicate comparative incidence of mortality either as between States in the same year or in any one State over a period of years. In order to obtain a comparison of mortality rates on a uniform basis as far as sex and age constitution are concerned, "standardized" death rates may be computed. These are computed by selecting a particular distribution of age and sex as a standard, and then calculating what would have been the general death rate if the death rates for each sex and in each age group were as recorded, but the age and sex distribution were the same as in the standard population. For the standardized rates which follow, the standard population compiled by the International Institute of Statistics has been used. This standard is based upon the age distribution according to sex of nineteen European countries at their censuses nearest to the year 1900. Full details of the "Standard Population" are given in Official Year Book No. 22, p. 962.

(ii) Death Rates in Age Groups. An examination of the age distribution of deaths and the resultant age-specific mortality rates is made in paragraph 9, p. 653.

(iii) Comparison of Crude and Standardized Death Rates. The relative incidence of mortality as between individual States and as between the years 1921, 1933, 1947 and 1954 is illustrated in the following statement of crude and "standardized" death rates. These years have been chosen for comparison because the census data give essential information as to sexes and ages of the State populations. Crude death rates are shown to indicate the degree to which they disguise the true position.

Par	ticulars.		N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Crude Death	Rate(a)-								
1921	••	•••	9.50	10.52	9.37	10.02	10.42	10.30	9.91
1933	• •		8.58	9.59	8.84	8.44	8.64	9.60	8.92
1947	••	••	9.53	10.44	9.15	9.61	9.39	9.17	9.69
1954			9.46	9.19	8.64	9.01	8.38	8.67	9.10
Standardized	Death Rat	e(b)				ļ -			
1921	••	•••	10.35	10.79	10.24	10.38	11.88	10.83	10.58
1933	••	••	8.52	8.74	9.10	7.66	8.74	8.86	8.62
1947	••	••	7.44	7.31	7.47	6.77	7.28	7.21	7.34
1954	••	••	7.24	6.63	6.80	6.52	6.71	7.02	6.90

CRUDE AND STANDARDIZED DEATH RATES.

(a) Total deaths per 1,000 of mean population. (b) See explanation of standardized death rates in para. 3 (i) above.

The comparisons above relate to individual years in which a census of population was taken and should not be used as the basis for general conclusions as to changes in incidence of mortality for other than those years.

4. True Death Rates.—The main objections to standardized death rates are that the choice of a standard population is arbitrary and that the standardized rates have little value except for comparative purposes, and even then variation of the standard population may make appreciable differences. A correct measurement of the mortality of the population can be obtained, however, from life tables. A life table represents the number of survivors at each age from a selected group of newly-born children who are subject to given mortality conditions, and from such a table the complete expectation of life at birth can be calculated. The reciprocal of this figure is known as the true death rate, since, if the complete expectation of life of a person at birth is 50 years, say, then each person will on the average die 50 years after birth, so that in the standard population one person in 5c or 20 per thousand will die each year. The true death rate for a given period is unaffected by the particular age distribution of that period and is determined

MORTALITY.

solely by the mortality experience of the period as manifested in the rate of survivorship from each year of age to the next. The table below sets out complete expectation of life at birth and true death rates for the periods covered by Australian life tables.

COMPLETE	EXPECTATION	0F	LIFE	AT	BIRTH	AND	TRUE	DEATH	RATES	;
			AUS	TRA	ALIA.					

	Period.		!	Complete H Life at B	Expectation of irth (Years).	True Death Rate.		
				Males.	Females.	Males.(a)	Females.(b)	
1881-1890			••	47.20	50.84	21.19	19.67	
1901-1910	••	••	•••	55.20	58.84	18.12	17.00	
1920–1922 1932–1934	•••	••	••• •	59.15 63.48	67.14	15.75	15.80	
1946-1948	••	••	•• }	66.07	70.63	15.14	14.16	

(a) Number of deaths per 1,000 males in life table or stationary population. (b) Number of deaths per 1,000 females in life table or stationary population.

5. Crude Death Rates of Various Countries.---The following table gives crude death rates for Australia in comparison with rates for various other countries.

Country.	1921- 25.	1926- 30.	1931- 35.	1954.	Country.	1921– 25.	1926- 30.	1931- 35.	1954.
Netherlands Canada Japan Union of South Africa(b) New Zealand(c) Penmark Anstralia(d) Finland	10.4 11.2 21.8 11.5 9.7 8.6 11.3 9.5 15.1 20.2	9.9 11.1 19.3 11.0 9.7 8.6 11.1 9.3 14.8 17.9	8.9 9.7 17.9 10.4 9.8 8.2 10.9 9.0 13.3 16.4	7.5 8.2 8.4 8.6 9.0 9.1 9.1 9.1 9.1 9.1	United States of America Italy Sweden Switzerland Yugoslavia United Kingdom Belgium France Ireland, Republic of Austria	11.8 17.4 12.1 12.5 20.2 12.4 13.4 17.2 14.6 15.8	11.8 16.0 12.1 12.1 20.0 12.3 13.7 16.8 14.4 14.4	<i>e</i> 10.9 14.1 11.6 11.8 17.9 12.2 12.9 15.7 14.0 13.5	9.2 9.2 9.6 10.0 10.8 11.4 11.9 12.0 12.1 12.1
(a) Number of de	ths per	1.000 0	f mean	populat	ion. (b) European	oopula	tion or	alv.	(c) Ex-

CRUDE DEATH RATES(a) : VARIOUS COUNTRIES.

(a) Number of deaths per 1,000 of mean population. (b) European population only. (c) Harding (c) Excludes full-blood aboriginals. (c) 1933-35.

6. True Death Rates of Various Countries.—The following table gives true death rates for Australia in comparison with rates for various other countries :—

Counter	Period	Truę De	ath Rate.	1		True Death Rate.		
Country.	Period.	Males. (a)	Females. (b)	Country.	Period.	Males. (a)	Females (b)	
Norway	1946-50	14.4	13.8	Germany,Fede-		1	1	
Netherlands	1947-49	14.4	14.0	ral Republic	1949-51	15.5	14.6	
Sweden	1946-50	14.5	14.0	France	1950-51	15.7	14.4	
New Zealand(c)	1950-52	14.6	13.8	Union of South				
Denmark	1946-50	14.7	14.3	Africa(e)	1945-47	15.7	14.6	
England and			1 1	Switzerland	1939-44	16.0	14.9	
Wales	1952	14.9	13.8	Belgium	1946-49	16.1	14.9	
Canada	1950-52	15.1	14.1	Austria	1949-51	16.2	14.9	
Australia(d)	1946-48	15.1	14.2	Japan	1953	16.2	15.2	
United States			•	Ireland, Re-			-	
of America—		1		public of	1945-47	16.5	16.0	
Whites	1950	15.0	13.8	Finland	1946-50	17.1	15.2	
Others	1950	16.9	15.8	Northern Ire-		•	-	
Scotland	1953	15.2	14.1	land	193638	17.3	16.9	

TRUE DEATH RATES : VARIOUS COUNTRIES.

(a) Number of deaths per 1,000 males in life table or stationary population (see explanation on p. 6:6)
 (b) Number of deaths per 1,000 females in life table or stationary population (see explanation on p. 6:6)
 (c) Excludes Maoris.
 (d) Excludes full-blood aboriginals.
 (e) European population only.

7. Australian Life Tables.—(i) Life Tables prior to 1947. It has been the practice at each census from 1911 onwards to prepare Life Tables representative of the mortality experience of Australia. In 1911 the mortality of the Australian population for the thirty years from 1881 to 1910 inclusive was investigated by the Commonwealth Statistician. Tables were compiled for each State and for Australia as a whole in respect of each sex for each of the decennial periods 1881-1890, 1891-1900 and 1901-1910. These compilations furnished a comprehensive view of Australian mortality in respect of sex, of time, and of geographical distribution, and practically superseded all Life Tables prepared in Australia prior to 1911. In addition, monetary tables based on the experience for the whole of Australia for the ten years 1901-1910 were prepared and published.

At the Census of 1921 Life Tables were prepared by the Commonwealth Statistician from the population recorded and the deaths in the three years 1920-22. Similarly in 1933 the Life Tables, which were prepared by Mr. F. W. Barford, M.A., A.I.A., were based on the census population and the deaths in the calendar years 1932-34.

(ii) Life Tables of Census of 1947. On the occasion of the 1947 Census, Life Tables representing the sixth in the series were compiled by the Commonwealth Actuary, Mr. W. C. Balmford, O.B.E., F.I.A. These were based on the population recorded, in conjunction with the deaths during 1946, 1947 and 1948, as it was considered undesirable to take into account deaths occurring prior to 1946 owing to the possible effects on the civilian population of conditions arising from the 1939-45 War. Full particulars of the data used, the methods of construction and the tabulations of these Life Tables will be found in the report of the Commonwealth Actuary which was published by the Commonwealth Statistician in 1950. This report also appeared in Volume III. of the Census of the Commonwealth of Australia, 1947. Monetary tables for both single and joint lives have also been prepared by the Commonwealth Actuary.

Comparative tables showing the number of survivors (l_x) out of 100,000 births, rates of mortality (q_x) and probability of surviving ten years $({}_{10}p_x)$, at selected ages, in respect of the Australian Life Tables of 1920-22, 1932-34 and 1946-48, together with a summary of the main characteristics of the tables, were published in Official Year Book No. 39, pp. 602-3. The expectation of life at selected ages taken from these three Life Tables is as follows :—

	Are			Males.		Females.					
	(x).		1920-22.	1932-34.	1946-48.	1920-22.	1932-34.	1946-48.			
0	••		59.15	63.48	66.07	63.31	67.14	70.63			
10			56.01	58.02	59.04	59.20	61.02	63.11			
20	••		46.99	48.81	49.64	50.03	51.67	53.47			
30	••		38.44	39.90	40.40	41.48	42.77	44.08			
40	••		30.05	31.11	31.23	33.14	34.04	34.91			
50			22.20	22.83	22.67	24.90	25.58	26.14			
<u>6</u> 0	••		15.08	15.57	15.36	17.17	17.74	18.11			
70]	9.26	9.60	9.55	10.41	10.98	11.14			

AUSTRALIAN LIFE TABLES : COMPLETE EXPECTATION OF LIFE (\hat{e}_x) AT . SELECTED AGES.

8. Infant Deaths and Death Rates.—(i) Australia, 1926 to 1954. The universal experience that during the first few years of life the higher death rate of male infants tends to counteract the excess of male births is confirmed by the fact that out of 507,666 male infants born from 1950 to 1954, 13,453 (26.50 per 1,000) died during the first year of life, while of 482,364 female infants only 10,146 (21.03 per 1,000) died during the first year. Stillbirths are not included in any of the tables relating to deaths.

	Number of	Deaths under	One Year.	Infant Mortality Rate.(a)						
Period.	Males.	Females.	Total.	Males.	Females.	Total.				
	_'	ANNUA	L AVERAGES.	······································						
1926-30	3,909	2,942	6,851	57.66	45.99	51.99				
1931-35	2,649	1,986	4,635	46.00	36.29	41.27				
1936-40	2,679	2,016	4,695	43.23	34.16	38.81				
1941-45	2,921	2,215	5,136	39.11	31.18	35.24				
194650	2,808	2,094	4,902	30.09	23.70	26.98				
		Annu	AL TOTALS.							
1950	1 2,661	2,004	4,665	27.20	21.60	24.47				
1951	2,749	2,129	4,878	27.66	22.67	25.24				
1952	2,774	2,023	4,797	26.83	20.59	23.79				
1953	2,661	2,052	4,713	25.71	20.78	23.30				
1954	2,608	1,938	4,546	25.18	19.64	22.48				

INFANT DEATHS AND DEATH RATES : AUSTRALIA.

(a) Number of deaths of children aged under one year per 1,000 live births registered.

(ii) States, 1926 to 1954. For each State and Territory the rates of infant mortality during the period 1926 to 1954 were as follows :---

INFANT MORTALITY RATES(a) : UNDER ONE YEAR.

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
			Avera	GE ANN	UAL RAT	'ES.			
1926-30 1931-35 1936-40 1941-45 1946-50	54.74 41.92 41.18 36.29 28.91	52.34 42.76 37.63 34.73 23.82	47.41 39.46 36.75 34.55 27.49	46.95 35.12 33.08 33.20 26.50	49.27 40.81 39.70 33.37 28.15	53.37 44.47 41.23 39.54 26.53	66.09 80.60 44.80 55.97 37.37	71.31 34.48 21.78 18.75 19.89	51.99 41.27 38.81 35.24 26.98
			A	NNUAL	KATES.				
1950 1951 1952 1953 1954	27.04 26.29 24.50 24.65 25.30	20.09 22.61 22.29 21.15 19.30	24.77 25.66 24.94 24.98 22.29	24.04 24.51 23.09 20.65 21.29	27.13 28.73 24.91 23.83 22.54	23.75 26.64 21.73 22.88 23.94	36.50 44.23 31.25 39.13 17.54	20.96 11.96 23.59 21.57 4.67	24.47 25.24 23.79 23.30 22.48

(a) Number of deaths of children aged under one year per 1,000 live births registered.

INFANT MORTALITY RATES(a) : UNDER FOUR WEEKS.

Period	i.	N.S.W.	Vic.	Q'land.	S. Aust.	₩. Aust.	Tas.	N.T.	A.C.T.	Aust.
			·	Avera	E ANNC	IAL RAT	ES.	<u>. </u>	I	I
1926-30	• •	29.63	29.75	27.66	26.84	25.10	33.12	14.37	28.86	28.96
1931-35	• •	27.62	27.78	27.91	22.99	25.11	30.09	35.26	23.45	27.27
1936-40	••	27.63	25.94	26.15	21.62	22.62	29.56	28.80	16.33	26.19
1941-45	••	24.52	24.40	24.41	20.86	20.60	27.24	33.57	12.54	23.97
1946-50	••	20.53	17.55	19.95	18.38	19.53	19.34	21.45	15.80	19.34
				A	NNUAL F	LATES.				
1950	• •	18.79	14.71	18.43	17.57	18.41	16.02	19.46	16.77	17.41
1951	• •	18.01	16.04	18.21	16.43	20.08	18.35	14.74	8.97	17.50
1952	••	16.56	16.39	17.96	15.04	18.04	14.65	17.86	17.24	16.64
1953	••	17.17	15.70	17.80	13.99	16.45	15.51	23.91	13.96	16.48
1954	••	17.70	14.42	16.81	15.25	16.07	16.47	7.80	3.50	16.19

(a) Number of deaths of children aged under four weeks per 1,000 live births registered.

Period	•	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
				AVERA	GE ANN	UAL RAT	'ES.	<u> </u>		<u>'</u>
1926-30		25.11	22.59	19.75	20.11	24.17	20.25	51.72	42.45	23.03
1931-35	••	14.30	14.98	11.55	12.13	15.70	14.38	45.34	11.03	14.00
1936-40		13.55	11.69	10.60	11.46	17.08	11.67	16.00	5.45	12.62
1941-45	••	11.77	10.33	10.14	12.34	12.77	12.30	22.40	6.21	11.27
1946-50	••	8.38	6.27	7.54	8.12	8.62	7.19	15.92	4.09	7.64
				A	NNUAL]	RATES.				
1950		8.25	5.38	6.34	6.47	8.72	7.73	17.04	4.19	7.06
1951		8.28	6.57	7.45	8.08	8.65	8.29	29.49	2.99	7.74
1952	• •	7.94	5.90	6.98	8.05	6.87	7.08	13.39	6.35	7.15
1953		7.48	5.45	7.18	6.66	7.38	7.37	15.22	7.61	6.82
1954	••	7.60	4.88	5.48	6.04	6.47	7.47	9.74	1.17	6.29

INFANT MORTALITY RATES(a): FOUR WEEKS AND UNDER ONE YEAR.

(a) Number of deaths of children aged four weeks and under one year per 1,000 live births registered.

These tables indicate the striking decrease in infant mortality in Australia, the mortality rate of children aged under one year per 1,000 live births for 1954 being only 43 per cent. of the average rate for 1926-30. The tables above reveal the fact that this improvement was due largely to the decrease in deaths from preventable causes, the mortality rate for children aged four weeks but under one year declining by 73 per cent. while that for children aged under four weeks declined by only 44 per cent.

A graph showing infant mortality rates for each year from 1907 to 1955 will be found on page 629.

(iii) Statistical Divisions. The total numbers of births and of deaths of children under one year of age for 1954 are shown in *Demography Bulletin* No. 72 for each of the sixty-seven statistical divisions for which vital statistics have been tabulated.

(iv) Various Countries. Compared with other countries Australia occupies a very favourable position in respect of infant mortality. In 1954 only New Zealand, Sweden and the Netherlands recorded a lower rate than Australia.

		Infant Mortality Rate.(a)									
Country.	1921-25.	1926–30.	1931-35.	1936-40.	1953.	1954.	Rate (b) 1954.				
Sweden	. 60	58	50	42	19	- 19	14.6				
New Zealand (c)	• 43	37	32	32	20	20	24.7				
Netherlands	. 64	56	45	37	22	21	21.6				
Australia (d)	. 58	52	41	39	23	22	22.5				
Norway	. 52	· 49	45	(e) 40	22	(h)	18.6				
United Kingdom .	., 78	70	65	59	28 ;	26	15.6				
Denmark	. 82	82	71	60	27	27	17.3				
United States of America .	• ' 74	68	59	51	28	27	24.9				
Switzerland	. : 65	54	48	45	30	27	17.0				
Finland	. 96	88	72	72	34	31	21.3				
Canada	. 98	93	75	64	35	32	28.5				
Union of South Africa (f) .	• 73	67	63	53	34	34	25.5				
France	. 95	89	73	70	42	36	18.8				
Ireland, Republic of	. 69	70	68	69	39 I	38	21.1				
Japan	. 159	137	120	(g) 112	48	45	20.1				
Austria	. 136	117	99	81	50	48	14.9				
Belgium	. 100	95	82	77	42	49	16.7				
Italy	. 127	119	105	103	58	53	17.9				
Spain	143	124	113	121	59	54	20.0				
Yugoslavia	(h)	151	153	(g) 141	116	102	28.4				

INFANT MORTALITY RATES : VARIOUS COUNTRIES.

(a) Number of deaths under one year per 1,000 live births registered.
(b) Number of live births per 1,000 of mean population.
(c) Excludes Maoris.
(d) Excludes full-blood aboriginals.
(e) 1935-39.
(f) European population only.
(g) 1935-38.
(h) Not available.

MORTALITY.

(v) Causes of Death : Children under one Year. Causes of deaths of children under one year of age should be considered in relation to age at death, because the emphasis on various causes changes rapidly as age at death varies. In 1954, 2,819 (97.7 per cent.) of the deaths occurring during the first week of life were caused by congenital malformations (12.2 per cent.) and certain diseases of early infancy (85.5 per cent.). Of the latter, 65.4 per cent. were associated with immaturity (see table below). At ages one week and under four weeks the proportions were 33.0 per cent. and 58.1 per cent. respectively. Of deaths of children over four weeks and under one year of age, 22.7 per cent. were caused by congenital malformations and only 4.8 per cent. by diseases of early infancy, the emphasis having shifted to respiratory and digestive diseases (44.2 per cent.), infective and parasitic diseases (7.9 per cent.), diseases of the nervous system (7.7 per cent.) and accidents and violence (5.5 per cent.). A summary for 1954 of the deaths of children under one year of age, classified according to principal causes of death and age at death, is given in the following table.

Deaths from each cause in the detailed list of titles adopted for publication, classified according to age at death, will be found in *Demography Bulletin* No. 72. Causes of infant deaths in each State and Territory in 1954 will also be found therein.

CAUSES OF	DEATH : CHILDREN	UNDER	ONE	YEAR	0F	AGE,	AUSTRALIA,
		1954.					

		•						A	ge at	Deat	h.						
Cause of Death		; ,	We	eks.						М	onths						Un-
Cause of Death.		Un- der 1.	1.	2.	3.	I. (a)	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	der One Year.
Techonomical			1	1	1	ļ	1	1			•						
Septicaemia and pyaemia		ī	, i	·		3	2	 I	2	ï	I	I	1 1	1			17
Whooping cough	••	••		••			1	1.2	1.1	1		•••					1
Meningococcal infections		, i	111			1 1	6		I Ā	5			6	7		4	1 18
Measles				I				I	1.7		1		I		I	ī	6
Other infective and parasitic di	iseases	3		1	3	2	1	1	I	2	3	I I	·	2		5	24
Neoplasms		2	1			1	I	2	T		Ĩ	2	, 2	r	. т.	2	1 15
Allergic, endocrine system,	etc.,	•	1	i -	1	ļ .	1		1	1				•		1	1
diseases		. 1	١	• •	· • •	1	2	2	I	4	3	1	· • •	5	2		22
Diseases of the blood		4	·	' I	j I	1	1	1	1	: I		, I	• •	••	• • •	1	9
Mental, etc., disorders		6	1	. 1	3	3	2	3	1	I		` 2	; I	••	· • •	1	23
Meningitis	• •	2	2	' 3	I	4	0	4	; I	· 6	5	5	2	I	· 1	1	43
Encephalitis	• •	••	' • •	· ••		1	2		1 1	1	• •	I	. ••	••			į 4
Erythroedema polyneuritica		• •	• •	• •	••			1	1.11		I	• •	; I	1	,	j I	4
Otitis media and mastolditis	S		. ••	• ••			1 **	3	2	2	2	2		1	2	1 2	. 10
Utner diseases of the nervous s	ystem,		•			Ι.		1	! .			-	1		۱.		1
Discourse of the sizewlatery ave	****		. ••	1 H	••	4	3	1 12	. 4		2	3	' 3	•••	. 1	2	27
Proumonie and four weeks on	d ovur	• •	· · ·	• •	••	1 3		1.2	1		3			: 12			10
Propabilia, age tout weeks au	u over			· • •		41	43	44	131	. 30	24	14	: 4	14	: 19	1 2	290
Other diseases of the respi	ratory	•••	••	• •	••	i *	. • •	3	3	4	-	5		-	3	1 3	1 34
system	atory	2				2	6	. 10	8	2	2	3	2		่ว	1	
Hernia and intestinal obstruc	tion	20		•••	2	2	Å		7	3	7	1	. 4		3		57
Gastro-enteritis and colitis, as	re four	20	•	,	-	•		1	1 1	5		-	1	••	1.1		,
weeks and over			,			10	' 19	10	26	5	14	13	11	0	10	1 11	1 138
Other diseases of the digestive	system	4		ī	2	3	2	I	1	3	2	2		ĩ	2		23
Diseases of the genito-urinary s	system	i	÷		r	1 5	1 1	2	` I			I				· I	11
Diseases of the skin and c	ellular					, -											1 5
tissue	••		I	2		• •		1	2	1	I	2			• •		10
Diseases of the bones and org	ans of																
movement		• •		I			•••	۰.	• •	I	• •		• •	I	••	• •	- 3
Congenital malformations		353	6.4	31	34	63	61	35	29	20	20	15	13	6	12	, 🤊	771
Certain diseases of early infanc	y(b)-	•			1		1	1							1		•
Without mention of immatu	rity(0)	454	, 57	32	34	12	9	. 7	5	2	3	2	I	4	1	2	1,025
with immaturity(b)		1,612	70	10	12	. 9	3	• •	1	• •	• •	••	••	•••	• •	• •	1,720
Symptoms and ill-defined cond	litions		1	••	· · :	I	2	2	2	· · ·	3	2	6	2	• •		21
Accidents, poisoning and viole	ence	, 11	2	••	: I	9	13	12	3	3	7	I	0	0	4	0	×4
All Causes		2,884	204	. 93	94	181	189	155	138	111	112	85	79	69	73	79	4,54

(a) Age four weeks and under two months. (b) For further detail of this group of causes see next table.

The individual categories representing the causes of death which come within Class XV.—Certain Diseases of Early Infancy are designed to show the effect of unmaturity in such causes of infant death. In 1954, 65 per cent. of deaths during the first week of life and 46 per cent. of those in the next three weeks of life were due, directly or indirectly, to immaturity. The relationship between immaturity and each of the individual categories of Class XV. is shown for the year 1954 in the following table :—

DEATHS	OF CHILDREN	UNDER	ONE YEA	R OF AGE	FROM	CERTAIN	DISEASES
	0F E	ARLY IN	NFANCY :	AUSTRALIA	A, 195	4.	

Cate-	e- y Cause of Death.	With of I	out Mei mmatui	ntion rity.	With	Immat	urity.	Total.			
gory No.	Cause of Death.	Males.	Fe- males.	Per- sons.	Males.	Fe- males.	Per- sons.	Males.	Fe- males.	Per- sons.	
760	Intracranial and spinal in-										
	jury at birth	181	119	300	58	39	97	239	158	397	
761	Other birth injury	45	37	82	66	48	114	111	85	196	
762	Post-natal asphyxia and		. .							-	
	atelectasis	145	112	257	191	126	317	336	238	574	
763	Pneumonia of the newborn	67	40	107	32	8	40	99	48	147	
764	Diarrhoea of the newborn	7	6	13	2	I	3	9	7	16	
765	Ophthalmia neonatorum										
766	Pemphigus neonatorum	2		2			• • •	2		2	
767	Umbilical sepsis	I	I	2				I	I	2	
768	Other sepsis of newborn	10	2	12				10	2	12	
769	Neonatal disorders arising								i i		
	from maternal toxaemia.	16	13	29	43	29	72	59	42	101	
770	Haemolytic disease of new-		-								
	born (erythroblastosis)	69	44	113	18	7	25	87	51	138	
771	Haemorrhagic disease of			-							
	newborn	31	19	50	8	4	12	39	23	62	
772	Nutritional maladjustment	13	8	21				13	8	21	
773	Ill-defined diseases peculiar	-									
_	to early infancy	20	17	37	19	27	46	39	44	83	
774	Immaturity with mention of										
	any other subsidiary con-										
	dition				16	II	27	16	11	27	
775	Immaturity subsidiary to										
	some other cause									• •	
776	Immaturity unqualified				552	424	976	552	424	976	
	Total, Class XV.	607	418	1,025	1,005	724	1,729	1,612	1,142	2,754	

(vi) Deaths of Ex-nuptial Children under one Year of Age. Distinction between nuptial and ex-nuptial children in death statistics for Australia as a whole has been made only since 1925. Results show that death rates during infancy have generally been much higher for ex-nuptial children than for nuptial children, but the disparity has become smaller in recent years. The following table shows the number of deaths of children under one year of age and the infant mortality rates for nuptial, ex-nuptial and all children in five-year periods since 1926 and for each year from 1950 to 1954.

DEATHS UNDER ONE YEAR OF AGE : NUPTIAL AND EX-NUPTIAL, AUSTRALIA.

		Nuptial (Children.	Ex-	Nuptial Chil	dren.	All Children.		
					Infant Mort	ality Rate.(b)			
Period	l .	Number of Deaths.	Infant Mortality Rate.(a)	Number of Deaths.	Actual.	Ratio to Nuptial Rate. (Per Cent.)	Number of Deaths.	Infant Mortality Rate.(c)	
1926-30		31,367	49.96	2,888	93.38	187	34,255	51.99	
1931-35		21,460	40.09	1,713	65.37	163	23,173	41.27	
1936-40	••	21,792	37.59	1,680	66.87	178	23,472	38.81	
1941-45		24,053	34.20	1,627	52.39	153	25,680	34.97	
1946-50	••	23,139	26.54	1,373	37.37	141	24,512	26.98	
1950		4,444	24.25	221	30.17	124	4,665	24.47	
1951	••	4,687	25.23	191	25.28	100	4,878	25.24	
1952	••	4,609	23.78	188	23.97	101	4,797	23.79	
1953		4,515	23.25	198	24.65	106	4,713	23.30	
1954		4,353	22.41	193	24.04	107	4,546	22.48	

(a) Number of deaths under one year of age per 1,000 nuptial live births registered. (b) Number of deaths under one year of age per 1,000 ex-nuptial live births registered. (c) Number of deaths under one year of age per 1,000 total live births registered.

The ex-nuptial rates are higher at all ages under one year but the difference is greatest several months after birth. For the five years 1950-54 the ratio of the ex-nuptial to the nuptial rate at various ages was as follows :-- Under one month, 102 per cent.; one month, 143 per cent.; 2 months, 119 per cent.; 3 months, 147 per cent.; 4 months, 114 per cent.; 5 months, 145 per cent.; under one year, 107 per cent.

Full particulars of the causes of deaths of ex-nuptial children who died in 1954, aged under four weeks and under one year, are given for each State and Territory in *Demography Bulletin* No. 72. Detailed information for Australia as to the age at which ex-nuptial children died from each cause of death will also be found therein. It is difficult to assess the real significance of the differences between the numbers of nuptial and ex-nuptial deaths from each individual cause because of the small number of ex-nuptial deaths involved in each case.

9. Age Distribution.—(i) Number of Deaths. Age at death is recorded for statistical purposes in days for the first week of life, in weeks for the first four weeks. in months for the first two years and in completed years of life thereafter. Owing to exigencies of space these ages are usually combined in groups for publication, the most common grouping being in weeks for the first four weeks, in months or groups of months for the first year, in single years of age for the first five years and thereafter in the five-year groups 5–9 years, 10–14 years, etc. A summary in this form for Australia is given in the following table for the year 1954.

Age at Death.	Males.	Fe- males.	Per- sons.		Age at Death.		Males.	Fe- males.	Per- sons.
Under i week	1.668	1.216	2.884	Total	5- o vears		300	216	516
1 week and under 2 weeks	116	88	204		10-14		218	135	353
2 weeks and under 3 weeks	63	30	93		15-19		437	162	500
weeks and under 28 days	67	27	94		20-24		572	173	745
· ·····					25-29		628	305	033
			· · · · · · · · · · · · · · · · · · ·		30-34		659	395	1.054
Total under 28 days	1 014	7 261	3.275		35-39		757	591	1,348
rotar ander 20 days, :	*,9*4	1,301	3,-73		40-44		1,200	813	2,013
all dawn and under a manths					45-49		1,695	1,080	2,775
28 days and under 3 months	201	109	3/0		50-54		2,509	1,509	4,018
f months and under 6 ,,	219	105	404	,,	55-59 ,,		3,385	1,949	5,334
b months and under 12 ,,	274	223	497	,,	60-64 ,,		4,740	2,933	7,673
1				,,	65-69 ,,		5,863	3,859	9,722
				,,	70-74 ,,		6,233	4,780	11,013
Total under 1 year	2,608	1,938	4,546	,,	75-79 ,,		5,598	5,119	10,717
				,,	80-84 ,,		4,125	4,774	8,899
			· · · ·	,,	85-89 ,,		2,551	3,190	5,741
ryear	292)	24 I	533		90-94 ,,		843	1,326	2,169
2 years	182	117	299		95-99		138	260	398
3	134	71	205	,,	100 and over		11	15	26
4 ij ·· ·· ··	91	59	150	Age	not stated	••	18	8	26
Total under 5 years	3,307	2,426	5,733		Total, All Ages		45,787	36,018	81,805

AGE AT DEATH : AUSTRALIA, 1954.

There are different mortality rates at various stages of life and the actual number of deaths in any period depends upon the impact of these rates on the numbers living at the respective stages. Changes in the number of deaths from one period to another are caused by changes in the rate of mortality in the various age groups and by the changed proportions of persons living in the different groups.

In Australia during the last fifty years there has been a steady improvement in the rate of mortality at all ages, thus tending to reduce the number of deaths. This has been most pronounced at ages under one year. The increased length of life due to this factor, coupled with the long-term decline in the birth rate and the effects of past and present migration, has been a significant cause in changing the age distribution of the population and consequently the age distribution of deaths, thus obscuring the effects of improved mortality rates. The combined effect of these various influences can be seen from the following table, which shows the proportion of deaths in various age groups in periods of ten years from 1901 to 1950 and for the year 1954.

				Age G	Froup (Ye	ars).			
Period.	Under 1.	1-4.	5-19.	20-39,	40-59.	6064.	65 and over.	Unspeci- fied.	Total.
1901-10 1911-20 1921-30	20.51 16.66 13.10 7.40	6.45 6.09 4.51 2.56	6.37 5.49 4.85 3.83	14.99 14.44 12.12 0.30	17.99 20.32 20.55 20.54	5.31 6.19 8.26 8.36	28.26 30.68 36.53	0.12 0.13 0.08 0.03	100.00 100.00 100.00
1941-50	6.79	1.71	2.26	6.01	19.04	9.33	54.84	0.02	100.00
1954—Males Females Persons	5.70 5.38 5.56	1.53 1.36 1.45	2.09 1.42 1.79	5.71 4.07 4.99	19.19 14.86 17.29	10.35 8.14 9.38	55.39 64.75 59.51	0.04 0.02 0.03	100.00 100.00 100.00

PROPORTION OF DEATHS IN EACH AGE GROUP : AUSTRALIA. (Per Cent.)

A table showing these proportions for males and females separately for the period 1901 to 1950 will be found in Official Year Book No. 39, p. 614.

(ii) Age-specific Death Rates. In earlier issues of the Official Year Book average annual age-specific death rates were given for each State and for Australia for the years 1932-34 and 1946-48 (see No. 37, p. 778 and No. 39, pp. 615-6). A table showing the rates in the age groups used for calculating the standardized death rate for each State for the year 1947 appeared in Official Year Book No. 39, p. 599. Estimates of the age distribution of the population in each State are not available to enable a similar comparison to be made for later years.

Estimates of the age distribution of the population of Australia as a whole have been used to calculate the following age-specific death rates for the years 1952, 1953 and 1954.

Age G	roup (Y	ears).	1952.	1953.	1954.	Age G	roup	(Years).	1952.	1953.	1954.
0- 4 5- 0			6.39 0.64	6.18	5 · 93 0 · 57	50-54			8.91	8.60 13.28	8.38
10-14	••		0.55	0.51	0.51	60-64	••	•••	22.07	21.11	20.32
20~24			1.40	1.33	1.24	70-74			51.45	50.66	32.05 52.35
25-29 30-34	••		1.42	1.29 1.44	1.32 1.49	75-79 80-84			84.93 136.23	83.31 127.56	83.83 130.02
35-39	••	•••	2.28	2.11	2,10	85-89	over	'	232.25	236.98	207.68
45-49			5.62	5.20	5.07				35-143	145.07	5-9.94

AGE-SPECIFIC DEATH RATES(a) : AUSTRALIA.

(a) Average number of deaths per 1,000 of population in each age group.

10. Birthplaces of Persons who Died.—A table showing the birthplaces of persons whose deaths were registered in each year will be found in the *Demography Bulletin*. Tabulations were discontinued for the years 1941 to 1945 inclusive, but were revived for 1946.

11. Occupation of Males who Died.—A table showing occupations of males who died during 1954 appears in *Demography Bulletin* No. 72.

12. Causes of Death.—The classification of causes of death adopted for Australia by the Commonwealth Bureau of Census and Statistics at the inception of its mortality statistics in 1907 was that introduced by the International Institute of Statistics in 1893, reviewed by that Institute in 1899 and revised by an International Commission in 1900. This classification became known as the International List of Causes of Death and further revisions by International Commissions in 1909 (Second), 1920 (Third), 1929 (Fourth) and 1938 (Fifth) were successively adapted for use in Australian statistics.

Proposals for the Fourth and Fifth revisions were drafted by a "Mixed Commission" of representatives of the International Statistical Institute and the Health Organization of the League of Nations and the final revision was carried out by the International Conference for the Revision of the International List of Causes of Death. Preparatory work in connexion with the Sixth Revision was entrusted by the International Health Conference in 1946 to the Interim Commission of the World Health Organization. As a result of this arrangement the World Health Organization compiled the International Statistical Classification of Diseases, Injuries and Causes of Death, which in its final stages was unanimously approved by the International Conference for the Sixth Revision of the International Lists of Diseases and Causes of Death in April, 1948. This classification was adopted by the First World Health Assembly, which also issued regulations to guide member states in its application. Australia adopted the classification, together with the rules for using it, for use commencing with the year 1950.

For the first time in connexion with the International List, international rules for a uniform method of selecting the main cause to be tabulated, if more than one cause is stated on the death certificate, were laid down, as well as the new classifications of causes of death. Prior to 1950 the rules adopted in Australia for the selection of the cause of death to be tabulated were those laid down in the United States Manual of Joint Causes of Death, first published in 1914 and revised to conform with successive revisions of the International List.

The adoption of the new method marked a fundamental change in Australian cause of death statistics, with emphasis now placed on the underlying cause of death as indicated by the certifying practitioner. The introduction of this method required the adoption by all States of a form of medical certificate substantially identical with the International Form of Medical Certificate of Cause of Death as laid down in Article 9 of the World Health Organization Regulations No. 1. By 1950 all States had adopted satisfactory forms of certificate and it was possible to apply the new principles uniformly to all State cause of death records.

This change in principle affects the comparability of the statistics for 1950 and subsequent years with those of earlier years. For convenience in assessing the extent of the change and in accordance with a recommendation of the Sixth Decennial Revision Conference, causes of death for Australia for 1950 were also classified according to the detailed classification of the Fifth Revision, 1938, on the joint cause rules current for that revision. A complete detailed classification according to both the Fifth and Sixth Revisions was shown in *Demography Bulletin* No. 68. Commencing with 1951 the classification is according to the Sixth Revision only.

In order to facilitate the limited presentation of cause of death statistics the present International Classification provides two special lists of causes for tabulation—the Intermediate List of 150 causes and the Abbreviated List of 50 causes. The latter has been used for the cause of death tabulations A to C which follow. Tables A and B show deaths of males and females, respectively, for 1954 and Table C shows the numbers of persons who died and the death rates and proportion per 10,000 deaths for the years 1953 and 1954.

A graph showing the main causes of death for the years 1945 to 1954 appears on page 630.

A .--- CAUSES OF DEATH : MALES, 1954.

ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SIXTH REVISION OF THE INTERNATIONAL LIST).

	Canse of Death.	Dctailed List Numbers.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A. C. T.	Aust.
B 1 2 3 B 3 4 B 5 6 7	Tuberculosis of respiratory system Tuberculosis, other forms Syphilis and its sequelae Typhoid fever Cholera Dysentery, all forms Scarlet fever and streptococcal	001-008 010-019 020-029 040 043 045-048	244 14 48 2 9	165 11 38 1	109 7 24 1	43 4 22 	52 3 6 2	23 4 1 	4 		640 43 140 2
B 8 B 9 B10 B11 B12 B13 B14	sore throat Diphtheria Whooping cough Meningococcal infections Plague Acute poliomyelitis Smallpox Measles	050, 051 055 056 057 058 080 084 085	3 10 1 25 16	1 5 23 25 3	1 3 2 12 4 3	I 5 3 I	I 3 2 1	··· ·· ·· ·· ··	··· ··· ··· ·		6 18 9 71 50 24
B15 B16 B17 B18	Typhus and other rickettstal diseases Malaria All other diseases classified as in- fective and parasitic Malignant neoplasmas, including	100–108 110–117 (a)	 3 57	 39	 1 26	 19	 13	 3	 I	 I	 4 159
B19 B20 B21 B22	neoplasms of lymphatic and haematopoietic tissues Benign and unspecified neoplasms Diabetes mellitus Anaemias	140-205 210-239 260 290-293	2,391 66 127 36	1,692 46 139 39	839 29 47 27	473 8 20 15	438 9 19 6	196 3 19 4	8 1	6 2 	6,043 161 374 127
B23 B24 B25 B26	nervous system Non-meningococcal meningitis Rheumatic fever Chronic rheumatic heart disease Arteriosclerotic and degenerative beert disease	330-334 340 400-402 410-416	1.983 33 20 129	1,220 19 17 106	634 8 3 50	434 5 1 28	265 7 4 29	123 2 1 16	3	9 	4,671 74 40 358
B27 B28 B29	Other diseases of heart. Hypertension with heart disease Hypertension without mention of heart	420-422 430-434 440-443 444-447	5,450 703 457 219	3,000 255 244 160	1,004 229 202 130	1,200 98 92 39	947 43 96 51	440 31 32 15	4 	10 1 3 1	13,349 1,364 1,126 615
B30 B31 B32 B33 B34 B35 B36	Influenza Pneumonia Bronchitis Uleer of stomach and duodenum Appendicitis Intestinal obstruction and hernia Gastritis, duodenitis, enteritis and colitis, except diarrhoea of the	480-483 490-493 500-502 540, 541 550-553 560, 561, 570	76 642 243 209 42 109	46 355 180 143 14 63	46 219 86 73 18 36	13 150 48 50 4 18	19 102 33 38 7 21	17 74 30 15 2 7	2 I I	2 3 2 I	217 1,546 624 530 88 255
B37 B38 B39 B41 B42	newborn Cirrhosis of liver Nephritis and nephrosis Hyperplasia of prostate Congenital malformations Birth injuries post-natal asphyxia	543, 571, 572 581 590-594 610 750-759	99 100 302 183 232	49 85 188 202 150	42 33 145 111 83	18 31 71 49 53	23 9 52 51 54	5 5 16 29 24	 I	I 	237 263 775 625 597
B43 B44	and atelectasis Infections of the newborn Other diseases peculiar to early Infancy, and immaturity un-	760-762 763-768	239 52	203 28	104 14	53 12	66 10	21 4	 I		686 121
B45	gualified . Senility without mention of psychosis, ill-defined and un- known causes	769-776	328	159 141	150	78 47	60 26	30	2	3	622
BEA BEA	48 All other accidents	Residual E810-E835 E800-E802, E840-E962	$\left. \right\} \begin{array}{c} 1,309 \\ 582 \\ 775 \end{array} \right\}$	1,229 482 427	586 223 356	308 136 164	262 149 150	119 58 74	9 14 10	4 6 5	1,650 1,961
BE. BE:	49 Suicide and self-inflicted injury 50 Homicide and operations of war	E903, E970-E979 E964, E965, E980-E999	} 304 } 31	143 21	109 16	67 2	65 7	²⁵	9	2	724 83
	All Causes		18,256	12,162	6,621	3,892	3,203	1,493	90	70	45,787

(a) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138.

Mortality.

B.-CAUSES OF DEATH : FEMALES, 1954.

Abbreviated List of 50 Causes (Based on the Sixth Revision of the International List).

	Cause of Death.	Detailed List Numbers.	' N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	А. С. Т.	Aust.
BI	Tuberculosis of respiratory system	800-100	80	56	23	14	5	5			183
B 2	Tuberculosis, other forms	010-019	9	13	I	4	I	3	· · ·	• • •	31
83	Syphilis and its sequelae	020-029	15	' 9	2	0	· ·· -	2	1		34
D 4	Cholere	040			• • •		I	• • •		• • •	1
53	Dycontery all forms	043		• • •	••	· · · ·	1		1	••	
B 7	Scarlet faver and strentococcal	045-040	. 0	2	• • •	1 1	-			• • •	12
0 /	sore throat	050 051			,	1	{	1	1		3
B 8	Diphtheria	050,051		2	Ť	1		··· ,		•••	' <u>16</u>
Βŏ	Whooping cough	056	2	2	. ī		1	· · ·			, 6
Bio	Meningococcal infections	057	26	81	8	3	Ī	I II			57
Bri	Plague	058				1	1	1			1
B12	Acute poliomyelitis	080	13	11	I	2	2			I	30
B13	Smallpox	084	·	• • •		1					'
B14	Measles	085	12		: 4	1	2			I	19
B15	Typhus and other rickettsial		t	;	•		1				
n /	diseases	100-108	1	,		1			1 •• •		· · ·
BIO	Malaria	110-117	i ••	! ··	•••		1 1			• •	1 1
817	All other diseases classified as in-	1 (-)			- 6	1		6			116
B18	Malignant neoplasms, including neoplasms of lymphatic and	(4)	52	23	10	9					110
	haematopoietic tissues	140-205	2,125	1,679	719	501	343	197		4	5,568
819	Benign and unspecified neoplasms	210-239	90	31	30	21	11	4	•••	••	187
B20	Diabetes mellitus	260	264	241	88	54	30	39		• •	722
B21	Anaemias	290-293	. 08	52	34	10	7	7		••	1/0
022	vascular lesions allecting central	1			-8-	1	1 161	1 100		~	6 202
Baa	Non-maningogogoal maningitig	330-334	2,4/1	1,079	. 707	392	304	192	.; !	1	0,292
R24	Rheumatic favor	340	10	4	14	3	1	5	ľ,	••	30
R25	Chronic rheumatic heart disease	400-402	174	105	56	16	20	10		•••	421
B26	Arteriosclerotic and degenerative heart disease	420-422	3.441	2,514	967	825	599	255	2		8,614
B27	Other diseases of heart	430-434	468	246	151	87	27	21		I	1,001
B28	Hypertension with heart disease	440-443	465	315	188	98	82	41		2	1,191
B29	Hypertension without mention of		i		i		1				1
-	heart	444-447	242	192	109	42	34	18		I	638
B30	Influenza	480-483	54	60	28	10	12	15		• •	179
831	Pneumonia	490-493	513	318	127	139	65	02	2	2	1,220
D32	Bronchus	500-502	70	00	1 31	27	15] 7		• :	230
D33	Appendicitie	540, 541	00	43	29			5	••	1	1 64
D 34	Intestinal obstruction and harmin	550-553	102	- 19 60	. 14		4	3	••• •	••	247
B36	Gastritis, duodenitis, enteritis and colitis. except diarrhoea of the	500, 501, 570	103	, Uğ	. 33		14	10		••	-47
•	newborn	543, 571, 572	113	51	33	28	17	4	•• j	I	247
B37	Cirrhosis of liver	581	, 48	47	9	14	12	7	· · · ,	••	137
838	Nephritis and nephrosis	590-594	208	100	130	40	28	17	2	I	050
640	complications of pregnancy, child-	J 040-052,	<u>49</u>	31	30	9	12	7	1	I	139
But	Congenital malformations			770	70		16			•	467
R44	Right injuries post-natal apply via	750-759	191	110	79	49	10	**	••••	•	4-7
~~~	and atelectasis	760-762	180	120	71	34	35	22		т	<b>4</b> 81
B₄₹	Infections of the newborn	763-768	23	17	10	2 3	3	2			58
B44	Other diseases peculiar to early	,				1					1
	infancy, and immaturity un-					1					
B45	qualified Senility without mention of	769-776	261	122	103	44	46	25	I	I	603 
	known causes	780-705	227	177	108	1 70		_ _{۲4}			718
R/6	All other diseases	Residual	1.126	1.145	452	322	205	121	ī	ŝ	3.378
BEA:	7 Motor vehicle accidents	E810-E835	171	140	56	27	33	13	3 :	ĩ	444
DT .	All other agaidants	E800-E802,	1	107	7.00					-	00-
0E40	S Ruisido and colf inflinted in item	E840–E962 E963,	{	195	129	00	4/	35	•• •	2	001
01249	, service and sen-influence infinite (	E970-E979	f 112	20	41	25	11	2	••	1	245
BE50	Homicide and operations of war $\left\{ \left. \right. \right\}$	E964-E965, E980-E999	} 12	15	5	4	4	r	2		43
	·								!		
	All Causes		14,188	10,392	4,723	3,287	2,161	1,203	16	48	36,018

(a) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138.

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#### C.—CAUSES OF DEATH : PERSONS, AUSTRALIA. Abbreviated List of 50 Causes (Based on the Sixth Revision of the International List).

	Cause of Death.	Detailed List Numbers	Numt Dea	er of ths.	Rate 1,000 of M Popula	per ,000 ean ation.	Proport 10,000 ]	ion per Deaths.
		1	1953.	1954.	1953.	1954.	1953.	1954.
B 1 B 2	Tuberculosis of respiratory system Tuberculosis, other forms	800-100 910-010	879 95	823 74	100	91 8	110 12	101 9
B 4 B 4	Typhoid fever	020-029	201 7	174	23 I I		25 1	
B6 B7	Dysentery, all forms	045-048	24	27	3	3	3	3
B S	sore throat	050, 051	9	9	1	1	I	1
Βğ	Whooping cough	056	26	15	3	2	3	2
Bro	Meningococcal infections	057	112	128	13	14	14	16
BII BI2	Acute poliomyelitis	058		80			•••	
B13	Smallpox	084						
B14	Measles	085	27	43	3 :	5	3	5
B15 B16	diseases	100-108	I	·	· ·· ,	· · · .		··.,
B17	All other diseases classified as in- fective and parasitic	(a)	328	275		31		34
B18	Malignant neoplasms, including neoplasms of lymphatic and		Ju	-75		<u> </u>		51
<b>D</b> • •	haematopoietic tissues	140-205	11,507	11,611	1,305	1,292	1,435	1,419
B20	Diabetes mellitus	210-239	350	340 1.006	125	39 122	45	45
B21	Anaemias	290-293	295	305	33	34	37	37
B22	Vascular lesions affecting central		10.675	10.060		* ***		1 240
B23	Non-meningococcal meningitis	330-334	10,075	10,903	, 1,211   IA	1,220	1,331	1,340
B24	Rhcumatic fever	400-402	100	76	11		12	9
B25 B26	Arteriosclerotic and degenerative	410-416	776	779	88	87	97	95
D20	heart disease	420-422	21,237	21,963	2,408	2,443	2,648	2,685
B27	Other diseases of heart	430-434	2,110	2,365	239	263	263	289
B28 B20	Hypertension with neart disease Hypertension without mention of	440-443	2,317	2,317	263	258	289	283
Dry	heart	444-447	1,316	1,253	149	139	164	153
B30	Influenza	480-483	183	396	21	44	23	49
B31 B32	Pneumonia	490-493	2,626	2,774	298	309	327	339
B32	Ulcer of stomach and duodenum	540.541	658	602	89 75	77	82	84
B34	Appendicitis	550-553	151	152	17	17	19	19
B35 B36	Intestinal obstruction and hernia Gastritis, duodenitis, enteritis and colitis, except diarrhoea of the	560, 561, 570	558	502	63	56	70	61
B37	Cirrhosis of liver	543, 571, 572	407	404	55	54 1 44	46	59 ∡9
<b>B</b> 38	Nephritis and nephrosis	590-594	1,570	1,433	178	159	196	175
B39	Hyperplasia of prostate	610	618	625	70	69	77	76
640	birth and the puerperium	670-680	} 126	139	14	15	16	17
B41 B42	Congenital malformations Birth injuries, post-natal asphyxia	750-759	1,066	1,064	121	118	133	130
R.o	and atelectasis	760-762	1,149	1,167	130	130	143	143
B44 B44	Other diseases peculiar to early infancy, and immaturity un-	703-700	224	1/9			1	
_	qualified	769-776	1,460	1,411	166	157	182	173
B45	Senility without mention of				I I		· .	
	known causes	780-705	1.540	1.340	175	140	102	164
B46	All other diseases	Residual	6,844	7,264	776	808	854	888
BE4	7 Motor vehicle accidents	E810-E835	^{1,948} ا	2,094	221	233	243	256
$BE_4$	8 All other accidents {	E840-E962	2,948	2,842	334	316	368	34 ⁸
BE4	9 Suicide and self-inflicted injury	E963, E970-E979	} 959	969	109	108	120	119
BE5	o Homicide and operations of war $\Big\{$	E964, E965, E980–E999	} 124	126	14	14	15	15
	All Causes		80,188	81,805	9,094	9,100	10,000	10,000

(a) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138.

13. Deaths from Principal Causes.—(i) General. In the preceding tables particulars have been given for each of the causes of death comprising the Abbreviated Classification according to the Sixth Revision of the International List. The more important of these causes are treated in detail hereunder. The Abbreviated Classification number used in tables A to C is indicated in parentheses for each cause or group of causes.

(ii) All Forms of Tuberculosis (B1, B2). (a) General. The total number of deaths classified to all forms of tuberculosis in 1954 was 897, consisting of 683 males and 214 females. In comparing any of the figures for 1950 and subsequent years with those for 1949 and earlier years consideration should be given to the effect of the change in basis from the Fifth to the Sixth Revision of the International List. This was discussed in Official Year Book No. 39, p. 626.

(b) Age at Death. The following table shows the age groups of males, females and persons who were classified as dying from tuberculosis in 1954 together with figures for 1931, 1941 and 1951.

			1931.		[	1941.		] !	1951.			1954.	
Age Grou (Years).	Þ	Males.	Fe- males.	Per- sons.									
Under 5		57	47	104	42	28	70	17	29	46	12	13	25
5-9	••	14	14	28	12	10	22	3	4	2	, I		I
10-14	••	19	20	39	9	16	25	1 3	2	5	' I	•• .	Í I
15-19	••	45	105	150	30	52	82	6 '	4	10	t I	, 6	7
20-24		113	183	296	į 69	91	160	15	28	43	; 4	4	8
25-29		136	199	335	63	132	195	25	36	61	13	13	26
30-34		191	164	355	125	129	254	29	46	75	16	27	43
35-39	••	187	156	343	144	111	255	44	47	91	20	22	42
40-44	• •	207	102	309	159	79	238	62	49	111	37	25	62
45-49		197	83	280	180	76	256	92	31	123	59	15	74
50-54		185	62	247	216	64	280	146	40	186	· 69	21	90
55-59		164	57	221	210	52	262	148	25	173	67	10	77
60-64	••	128	50	178	187	59	246	184	30	214	116	11	127
65-69		110	38	148	137	39	176	130	23	153	110	19	129
70-74		52	31	83	74	41	115	97	29	126	79	20	99
75-79		27	16	43	48	18	66	47	16	63	47	4	51
80 and over Not Stated	••	4	4	8	20	12	32	32	18 1	50	31	4	35
Total		1,836	1,331	3,167	1,725	1,009	2,734	1,080	458	1,538	683	214	897

TUBERCULOSIS (ALL FORMS) : DEATHS IN AGE GROUPS, AUSTRALIA.

(c) Occupation at Death, Males. A summary of the main groups of occupations of males who died from tuberculosis during 1954 is given in Demography Bullelin No. 72.

(d) Period of Residence in Australia. The period of residence in Australia of persons who died from tuberculosis in 1954 is given in relation to age at death in Demography Bulletin No. 72.

(e) Death Rates. The improvement which has taken place in recent years in the incidence of tuberculosis in Australia is shown by the fall in the death rate from tubercular diseases. The death rate represents the number of deaths from tuberculosis per 100,000 of mean population. In 1931 the rate was 49 (males, 55; females, 42). In 1941 it was 38 (males, 48; females, 29) and by 1951 had fallen to 18 (males, 25; females, 11). Figures for 1954 show that the rate has declined still further, to 10 per 100,000 of mean population (males, 15; females, 5).

(f) Proportion of Total Deaths. A table showing the number of deaths from tuberculosis per 10,000 deaths from all causes in each State and Territory during 1911-20, 1921-30, 1931-40 and 1941-50 was given in Official Year Book No. 39, p. 627.

(g) Death Rates, Various Countries. A comparison of the death rates from tuberculosis for Australia with those for various other countries, made on the latest figures available, shows that Australia with a rate of 10 deaths per 100,000 of mean population occupies a favourable position as regards this disease. Whereas the rate for Denmark is only 9, rates range as high as 82 for Japan. For various other countries rates are as follows :—Netherlands, 9; Canada, 12; New Zealand, 15; United States of America, 20; Union of South Africa, 20; United Kingdom, 24; Italy, 27; France, 36; Finland, 58; and Portugal, 63.

(iii) Malignant Neoplasms, including Neoplasms of Lymphatic and Haematopoietic Tissues (B18). (a) General. It was shown in Official Year Book No. 39, p. 628 that deaths classified under this heading according to the Sixth Revision of the International List are not directly comparable in total with those on the Fifth Revision basis and comparability ratios were given to enable comparison to be made on an adjusted basis. This change must be kept in mind in considering the comparisons between 1951, 1941 and 1931 which are shown in the following pages.

(b) Type and Seat of Disease. Tables showing the type and seat of disease in conjunction with age and conjugal condition of the persons dying from malignant neoplasms in 1954 will be found in *Demography Bulletin* No. 72. A summary regarding type and seat of disease for 1954 is given below. It may be pointed out that the significance of the number of deaths shown for the various types of neoplasms enumerated hereunder is doubtful, owing to the fact that, in the absence of a post-mortem, it is impracticable for the certifying doctor in the majority of cases to make an accurate diagnosis as to type in the detail required for the following classification.

DEATHS FROM MALIGNANT NEOPLASMS AND NEOPLASMS OF LYMPHATIC AND HAEMATOPOIETIC TISSUES: TYPE AND SEAT OF DISEASE, AUSTRALIA, 1954.

Type of Disease.	Males.	Fe- males.	Per- sons.	Seat of Disease.	Males.	Fe- males.	Per- sons.
Malignant Neoplasms— Cancer and Carcinoma (other than skin)	5.028	4.755	0.783	Malignant Neoplasms— Buccal Cavity and Pharynx	200		257
Skin Cancer	62	38	100	Digestive Organs and Peritoneum-	200	5,	-57
coma	111	100	211	Oesophagus	167	70	237
Glioma		•••		Stomach	1,089	720	1,009
Endothelioma	02	57	139	Large Intestine	624	787	1.421
Melanoma and Melanotic		••		Other	700	654	1.453
Sarcoma	72	74	146	Respiratory System	1.023	206	1,220
Hypernephroma	33	23	56	Breast	ő	1,089	1,095
Teratoma	8	3	11	Uterus		605	605
Malignant Disease and		-		Other Female Genital			
Malignant Tumor n.o.s.	193	173	366	Organs		355	355
				Male Genital Organs	737		737
Total, Malignant				Urinary Organs	331	170	507
Neoplasms	5,589	5,223	10,812	Skin	157	125	202
				Organa	1 120	268	207
Neoplasms of Lymphatic and				Organs	429		
Haematopoietic Tissues-				Total, Malignant			~
Lymphosarcoma and	1			Neoplasms	5,589	5,223	10,812
_ Reticulosarcoma	123	70	193		I		
Hodgkin's Disease	70	49	119	Neoplasms of Lymphatic			
Other forms of Lym-				and Haematopoietic Tis-			
phoma (Reticulosis).	20	10	36	sues	454	345	799
multiple Myeloma (Plas-			- 0				
Teukaemin and Aleu.	20	30	20		1		
kaemia	212	778	201		i		
Mycosis Fungoides			2	· ·			
		. ~	i		1		
	1						
Total. Neoplasms of				l	1		
Lymphatic, etc.,				1	1		
Tissues	454	345	799	i			
	1	0.0					
			·	Ì			
Grand Total	6,043	5,568	11,611	Grand Total	6,043	5,568	11,611
	1		1 .	1	1		

(c) Age at Death. The ages of persons who died from malignant neoplasms in 1954 are given below, together with figures for 1931, 1941 and 1951. Inferences drawn from the great increase in the number of deaths from malignant neoplasms in 1954 compared with 1931 need qualification in view of the altered age constitution of the population since the earlier year. The number of people over 55 years of age, at which level cancer risks are greatest, nearly doubled between 1931 and 1954, whilst those in the age group

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75 years and over more than doubled. It is only in this extreme old age group from 75 onwards that the rate of mortality, as distinct from the number of deaths, has increased. For groups up to age 75 there has been no increase in mortality rates since 1931; indeed, in some age groups the rates have actually declined. It is also probable that a proportion of the increased number of deaths from cancer recorded in recent years has been due to better diagnosis and certification on the part of medical practitioners rather than to any actual increase in the disease itself.

Are Grou	n		1931.			1941.			1951.			1954.	
(Years).	P	Males.	Fe- males.	Per- sons.	Males	Fe- males	Per- sons.	Males.	Fe- males	Per- sons.	Males.	Fe- males.	Per- sons.
Under 15	••	25	23	48	21	25	46	91	71	162	114	101	215
20-24		12	1 14	26	1 15	12	28	2.0	: 17	50	28	15	43
25-29		10	13	32	24	22	46	42	45	87	30	50	89
10-11		26	55	81	28	45	73	65	43	130	1 60	76	136
35-39		59	98	157	56	106	162	. 06	122	218	1 79	130	209
40-44		III	173	284	92	193	285	114	101	305	179	239	418
45-49		149	261	410	149	282	431	210	274	484	245	315	560
50-54		261	287	548	316	403	1 719	374	418	792	400	415	815
55~59		349	344	693	425	435	860	541	538	1,079	571	520	1,091
60-64	••	519	400	919	558	491	1,049	793	642	1,435	804	682	1,486
65-69		662	478	1,140	670	558	1,228	904	663	1,567	981	743	1,724
70-74	••	609	410	1,019	753	623	1,376	844	741	1,585	951	790	1,741
75-79	••	397	294	691	676	512	1,188	700	604	1,304	786	711	1,497
80-84		187	152	339	331	' 330	661	438	417	855	476	452	928
85 and over	••	87	92	179	131	175	306	242	273	515	298	312	610
Not Stated	••	••	••			• •				•••	I		1
Total	••	3,484	3,105	6,589	4,255	4.223	8,478	5.515	5,104	10,619	6,043	5,568	11,611

MALIGNANT NEOPLASMS : NUMBER OF DEATHS IN AGE GROUPS, AUSTRALIA

(d) Occupation at Death, Males. A table showing main groups of occupations of males who died from malignant neoplasms and neoplasms of lymphatic and haema-topoietic tissues during 1954 appears in Demography Bulletin No. 72.

(e) Death Rates. The death rates from malignant neoplasms have continued to rise over recent years. The rates are crude death rates representing the number of deaths from malignant neoplasms per 100,000 of mean population and do not take account of changes in the age constitution of the population, and to a substantial extent reflect the increasing age of the population rather than the true change in mortality from malignant neoplasms (see para. 13 (iii) (c) p. 660). In 1931 the rate for Australia was 101 (males, 105; females, 97). In 1941 it was 119 (males, 119; females, 120) and in 1951 it had risen to 126 (males, 129; females, 122). Figures for 1954 show that a further rise has taken place, the rate being 129 (males, 133; females, 125).

(f) Proportion of Total Deaths. A table showing the number of deaths from malignant neoplasms per 10,000 deaths from all causes in each State and Territory during 1911-20, 1921-30, 1931-40 and 1941-50 was given in Official Year Book No. 39, p. 631.

(g) Death Rates, Various Countries. Death rates from malignant neoplasms per 100,000 of mean population for Australia and for various other countries are as follows :--Portugal, 71; Spain, 75; Japan, 81; Union of South Africa, 125; Australia, 129; Canada, 130; United States of America, 141; New Zealand, 149; France, 175; Switzerland, 188; and United Kingdom, 200. The rates are for the latest available year in each case.

(iv) Diseases of the Heart (B25 to B28). The number of deaths classified to diseases of the heart in 1954 was 27,424 (16,197 males and 11,227 females). Details for each individual category within the group may be obtained from *Demography Bulletin* No. 72. This class is the largest amongst causes of death, the death rate having increased from 102 per 100,000 of mean population in 1911-15 to 305 in 1954. The increase in the number of deaths recorded from heart diseases has been particularly pronounced during the past twenty years. The rapid increase in mortality is partly a reflection of the ageing of the population, but the figures have been influenced mainly by improved diagnosis and certification by medical practitioners. The death rates for heart diseases for the years 1931, 1941, 1951 and 1954 were as follows: -1931, 159 (males, 178; females, 142); 1941, 269 (males, 306; females, 231); 1951, 314 (males, 367; females, 259); and 1954, 305 (males, 356; females, 252). In 1954 deaths from heart diseases represented 34 per cent. of the total deaths.

(v) Diarrhoea and Enteritis (Children under two years of age). Figures published in Official Year Book No. 39, p. 634, show that deaths in this category declined from a rate of 22.8 per 1,000 children born for the period 1911-15 to 1.5 for the period 1946-50, from which it is evident that this cause of death is no longer the scourge that it was in earlier years.

Owing to changes in classification it is not possible to continue the tables in the same form for 1954.

(vi) Puerperal Causes (B40). It was shown in Official Year Book No. 39, p. 634, that the changes introduced with the Sixth Revision of the International List did not significantly affect the comparability of the total number of deaths from puerperal causes. The death rate from these causes (including criminal abortion) has fallen rapidly during recent years and in 1954 the rate was 0.7 per 1,000 live births, compared with a rate of 6 per 1,000 in 1936. The 139 deaths in 1954 correspond to a death rate of 3.1 per 100,000 females. The death rate may be expressed in other terms by stating that I of every 1,439 women giving birth to a live child in 1954 died from puerperal causes; the corresponding ratios for married women were I in every 1,536, and for single women I in every 567.

The death rate per 1,000 live births from puerperal causes in various countries for the latest available years is as follows:—United Kingdom, 0.6; Australia, 0.7; New Zealand, France and the United States of America, 0.7; Canada and Denmark, 0.8; Union of South Africa, Spain and Switzerland, 1.1; Portugal and Japan, 1.7.

A tabulation of puerperal causes for Australia according to age at death for married and single women separately will be found in *Demography Bulletin* No. 72.

The total number of children left by the 125 married mothers who died from puerperal causes in 1954 was 356, an average of 2.8 children per mother.

Three of the mothers who died had been married less than one year, 9 between one and two years, and 8 between two and three years. The duration of marriage ranged up to 26 years. Tabulations distinguishing the ages at marriage and at death will be found in *Demography Bulletin* No. 72, which also includes a table showing in combination the duration of marriage and previous issue.

(vii) Congenital Malformations and Diseases of Early Infancy  $(B_{41}-B_{44})$ . This combined group embraces two complete classes of the International List of Causes of Death which relate more specifically to infant deaths and they have already been presented in detail in the section devoted to causes of infant death (see pp. 651 and 652).

(viii) Accidents, Poisonings and Violence (BE 47 to BE 50). (a) General. Deaths in this class are classified according to external cause and not according to nature of injury. The classification provides sub-groups for accident, including adverse reactions to prophylactic inoculations, therapeutic misadventures and late effects of accidental injury; suicide; homicide and injuries purposely inflicted by other persons; and injury resulting from operations of war, including late effects.

The following table, showing the death rates in the main sub-groups per 100,000 of mean population and the proportion of deaths caused by violence during the period 1926-54, indicates that the death rate from violence is generally about twice as great for males as for females. It can be seen also that in 1954 the percentage of deaths caused by violence was 7.37.

The low level of the rates and proportions for the years 1941-45 is attributable mainly to the fact that deaths of defence personnel have been excluded but the rates

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have been based on total mean population (including defence personnel). A contributing factor is the decrease during this period in the number of automobile accidents, a consequence of the war-time restrictions on travel. From 1st July, 1947, deaths of defence personnel have again been included and the rates and proportions have since risen fairly steadily.

	`	Death Rate(a) from-												All Violence		
Period.	Ac	cident.	.(b)	5	Suicide		Ho	micide	.(c)	Tota	al Viol	ence.	200 10,0	ortion oo Dea	per aths.	
	М.	F.	Р.	м.	F.	Р.	м.	F.	Р.	м.	F.	Р.	м.	F.	P.	
1926-30 1931-35 1936-40 1941-45 1946-50	84 71 86 67 76	24 22 28 26 27	54 47 58 46 51	20 19 17 11 14	4 5 5 4 5	13 12 11 8 10	2 2 2 1 1	2 I I I I I	2 2 1 1 1 1	106 92 105 79 91	30 28 34 31 33	69 61 70 55 62	1,039 929 979 730 844	365 353 399 348 383	746 676 724 558 640	
1950 1951 1952 1953 1954	80 86 83 79 79	27 31 32 30 <b>30</b>	54 59 57 56 <b>55</b>	14 14 16 16 16	5 5 5 5 5	9 10 11 11 11	I 2 2 2 2	I I I I I	I I 2 I I I	95 102 101 97 97	33 37 38 37 36	64 70 70 68 6 <b>7</b>	893 948 967 969 965	387 429 454 463 448	670 721 742 746 737	

ACCIDENTS, POISONINGS AND VIOLENCE : DEATH RATES.(a)

(a) Number of deaths per 100,000 of mean population. (c) Includes "war wounds".

(b) Accident (BE 47, BE 48). In 1954 the total number of deaths from accidental causes was 4,936 (3,611 males and 1,325 females). Slightly less than half of the accidental deaths were the result of transport accidents. Of these, the numbers attributable to the major causes, and the percentages of the total accidental deaths in each case, were as follows:---Motor vehicle traffic accidents, 2.014 (40 80 per cent.); motor vehicle non-traffic accidents, 80 (1.62 per cent.); other road vehicle accidents, 126 (2.55 per cent.); railway accidents, 143 (2.90 per cent.); water transport accidents, 78 (1.58 per cent.); aircraft accidents, 22 (0.45 per cent.); a total of 2,463 (49.90 per cent.). Other important causes were accidental talls, 990 (20.05 per cent.); accidental drowning 430 (7.46 per cent.); and accidents caused by fire and explosion of combustible material, 173 (3.50 per cent.).

(c) Suicide (BE 49). (i) Modes Adopted. Deaths from suicide in 1954 numbered 969 (males. 724; females, 245). Firearms and explosives were used in 290 cases (29.93 per cent. of total deaths by suicide). Other important modes adopted, together with the numbers and relevant percentages, were as follows:—Poisoning other than gases, 174 (17.96 per cent.); hanging or strangulation, 178 (18.27 per cent.); poisoning by gases, 151 (15.58 per cent.); submersion (drowning), 58 (5.98 per cent.); other modes, 18 (12.18 per cent.).

Of the 724 males who committed suicide, 265 (36.60 per cent.) used firearms and explosives. For females the most common mode was poisoning (other than gases). This was used in 71 cases (28.98 per cent.).

(ii) Age at Death. From the following table which shows the age of persons who committed suicide in 1954 it will be seen that both young and extremely old people took their lives during this year.

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(b) Includes "open verdict".

Age Gr (Year	roup rs).	Males.	Females.	Persons.	Age Group (Years).		Males.	Females.	Persons.
10-14		3	1	3	60-64	• •		28	107
15-19		17	6	23	65-69		59	19	78
20-24		39	3	42	70-74		46	12	58
25-29		61	20	81	75-79		24	6	30
30-34		58	15	73	80-84		13	I	14
35-39		61	25	86	85-89		2		2
40-44		79	23	102	90-94	••	2		2
<b>45-</b> 49		66	36	102	Not stated	•••	I		I
50-54		50	27	77					
55-59		64	24	88	Total Deat	tha	724	245	969

AGE OF PERSONS WHO COMMITTED SUICIDE : AUSTRALIA, 1954.

(iii) Occupation at Death, Males. A table showing main groups of occupations of males who committed suicide during 1954 appears in Demography Bulletin No. 72.

(d) Homicide and Operations of War (BE 50). In 1954 there were 117 deaths from homicide and injury purposely inflicted by other persons (not in war), of which non-accidental poisoning caused 2 deaths, assault by firearms and explosives, 39; assault by cutting and piercing instruments, 15; and assault by other means, 61. Deaths from injury resulting from the operations of war numbered 9, but all were deaths from late effects of such injuries.

14. Age at Death of Deceased Married Males and Females, and Issue.—Demography Bulletin No. 72 contains a number of tables showing, in combination with the issue, the age at marriage, age at death and occupation of married (including widowed or divorced) persons who died in Australia in 1954. Deaths of married males in 1954 numbered 33,797, and of married females, 27,982. The tabulations which follow deal, however, with only 33,362 males and 27,756 females, the information regarding issue in the remaining 661 cases being incomplete. The total number of children in the families of the 33,362 males was 109,739 and of the 27,756 females, 98,944. The average number of children is shown for various age groups in the following table.

		Average Issue.										
Age at Death (Years).				Males.			Females.					
	:	1921.	1931.	1941.	1951,	1954.	1921.	1931.	1941.	1951.	1954.	
Under 20		· · ·	0.75		0.43		0.77	0.66	0.79	0.83	0.36	
20-24		0.84	0.81	0.73	0.96	0.71	I.22	1.13	0.95	0.86	1.17	
25-29		1.29	1.33	I.I2	1.29	1.53	1.86	1.81	1.45	1.61	1.64	
30-34		2.06	1.79	1.76	1.79	1.91	2.45	2.34	1.91	1.98	2.09	
35-39		2.58	2.13	2.11	2.12	2.14	3.29	2.89	2.30	2.49	2.42	
40-44	۰.	3.23	2.77	2.49	2.30	2.39	3.66	3.29	2.77	2.39	2.36	
45-49		3.48	3.10	2.68	2.51	2.55	3.76	3.55	2.93	2.59	2.47	
50-54		3.76	3.46	2.96	2.56	2.56	4.23	3.60	3.29	2.76	2.65	
55-59	•••	4.41	3.69	3.28	2.71	2.64	4.69	4.01	3.55	3.03	2.95	
60-64		4.98	4.02	3.55	3.07	2.90	5.39	4.21	3.79	3.29	3.12	
65-69		5.50	4.4I	3.73	3.25	3.18	5.86	4.82	4.01	3.63	3.43	
70-74		6.06	5.06	4.17	3.58	3.40	6.30	5.41	4.29	3.64	3.51	
75-79	••	6.66	5.65	4.56	3.83	3.72	6.56	6.02	4.85	3.96	3.80	
80-84	••	6.89	6.17	4.93	4.30	4.05	6.76	6.26	5.39	4.19	4.02	
85-89		7.18	6.59	5.70	4.63	4.41	6.93	6.57	5.85	4.68	4.34	
90-94	• •	7.21	6.94	6.57	5.06	4.78	6.53	6.73	6.11	5.08	4.86	
95-99	• •	6.97	6.69	7.04	5.78	5.60	6.05	7.10	6.34	5.76	5.35	
100 and o	ver	9.20	7.00	8.69	5.71	5.13	5.11	8.20	6.73	7.72	6.67	
Age not st	ated	5.36	5.00		8.00	2.00	5.80	5.00		5.50	5.67	
All Agea	<u>.</u> .	4.97	4.44	3.91	3.39	3.29	5.05	4.72	4.22	3.68	3.54	

AGE AT DEATH AND AVERAGE ISSUE OF DECEASED MARRIED (a) MALES AND FEMALES : AUSTRALIA.

(a) Includes widowed or divorced.

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The figures in the preceding table include. The issue both living and dead, the proportion between them, taking the issue of deceased males and females together. being about five to one. The totals for 1954 are shown in the following table:—

	e of Marrie	d Males.		Issue of Married Females.						
Issue.		Males.	Females.	Total.	Issue.		Males.	Females.	Total.	
Living Dead	 	48,248 8,327	47,493 5,671	95,741 13,998	'Living Dead		41,025 9,950	41,112 6,857	82,137 16,807	
Total	••	56,575	53,164	109,739	Total		50,975	47,969	98,944	

ISSUE OF DECEASED MARRIED(a) MALES AND FEMALES : AUSTRALIA, 1954.

(a) Includes widowed or divorced.

15. Age at Marriage of Deceased Males and Females, and Issue.—While the table giving the average issue of married males and females naturally shows an increase in the averages with advancing age at death, the following table which gives the average issue of males and females according to the age at marriage of the deceased parent shows a corresponding decrease in the averages as the age at marriage advances.

			Average Issue.										
Age at Marriage (Years).				Males.	<u>.</u>		Females.						
		1921.	1931.	1941.	1951.	1954.	1921.	1931.	1941.	1951.	1954.		
Under 15 15-19 20-24 25-29 30-34 35-39 40-44 45-49 50-54 55-59 60-64 65 and over	· · · · · · · · · · ·	6.32 6.05 5 17 4.45 3.90 2.67 2.20 1.70 1.30 0.33 0.25	6.15 5.56 4.70 3.96 3.14 2.36 1.96 1.60 0.95 0.63 0.18	 5.40 4.89 4.21 3.41 2.80 2.01 1.52 1.05 0.79 0.29 0.01	4.63 4.23 3.65 3.00 2.45 1.69 1.33 0.80 0.49 0.24 0.29	4.62 4.00 3.51 2.94 2.30 1.67 1.15 0.66 0.45 0.20 0.21	7.60 6.97 5.50 4.09 2.66 1.61 0.62 0.03	6.36 6.79 5.23 3.79 2.42 1.40 0.39 0.12	7.80 6.10 4.80 3.51 2.35 1.26 0.35 0.01	4.88 5.41 4.28 3.14 2.23 1.16 0.36 0.07	5.85 5.22 4.13 3.08 2.08 1.26 0.44 0.14 		
Age not stat	ed 	4.93 4.97	3.64 	2.95 3.91	2.81 3.39	2.65  3.29	5.41  5.05	3.96 4.72	2.45	3.17 3.68	2.93 3·54		

## AGE AT MARRIAGE OF DECEASED MALES AND FEMALES, AND AVERAGE ISSUE : AUSTRALIA.

16. Occupation of Deceased Married Males, and Issue.—A summary of the main groups of occupations of married (including widowed or divorced) males who died during 1954, together with issue, appears in Demography Bulletin No. 72.

## § 5. Vital Statistics of External Territories.

Because of the outbreak of hostilities in the Pacific during the 1939-45 War, civil administration in the external territories was suspended on 11th February, 1942, and registration of births, deaths and marriages was not resumed until 1946. The following table for the year 1954 shows the number of births, deaths and marriages registered in the external territories under the control of Australia, namely:—Norfolk Island; Papua; Trust Territory of New Guinea; and Trust Territory of Nauru. More detailed information will be found in a series of tables in *Demography Bulletin* No. 72.

Territory	Marriages		Births.		Deaths.			
remoty.	Maillages.	Males.	Females.	Persons.	Males.	Females.	Persons.	
Norfolk Island Papua Trust Territory of New	4 55	10 73	11 60	21 133	9 22	4 8	13 30	
Guinea Trust Territory of Nauru		170 6	171 6	341 12	41 2	IO I	51 3	

VITAL STATISTICS : EXTERNAL TERRITORIES, 1954. (Excluding Indigenous Population.)