STATISTICS
BACK-UP

SIXTY-EIGHTH

ANNUAL REPORT

OF THE

REGISTRAR-GENERAL

OF

BIRTHS, DEATHS, AND MARRIAGES

IN ENGLAND AND WALES.

(1905.)

Presented to both Houses of Parliament by Command of His Majesty.

LONDON:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE,
BY DARLING & SON, LTD., 34-40, BACON STREET, E.

And to be purchased, either directly or through any Bookseller, from
WYMAN AND SONS LTD., FETTER LANE, E.C.,
and 32, ABINGDON STREET, WESTMINSTER, S.W.; or
OLIVER & BOYD, EDINBURGH; or
E. PONSONBY, 116, GRAFTON STREET, DUBLIN.
EYRE AND SPOTTISWOODE, LTD. EAST HARDING STREET, E.C.
1907.

[Cd. 3279.] *Price* 2*s.* 6*d.*

CONTENTS

OF THE

REGISTRAR-GENERAL'S ANNUAL REPORT FOR 1905.

1250 Wt L1894 2/07 D & S 3 24979

REPORT

TO

THE RIGHT HONOURABLE JOHN BURNS, M.P.,

President of the Local Government Board, &c., &c.

(1905.)

SIR,

I HAVE the honour to submit to you the following Report on the estimated population, and on the marriages, births, and deaths registered during the year 1905.

POPULATION.

The population of England and Wales, enumerated at the end of March, 1901, consisted of 32,527,843 persons. From that date until the middle of 1905 the number of births exceeded the number of deaths by 1,730,576. Had neither emigration nor immigration occurred this surplus would have raised the population in the middle of the year to 34,258,419. In the absence of precise information on this point, the populations in the Annual Reports are provisionally estimated on the assumption that the rate of increase which had prevailed in the last completed intercensal period has since been maintained.

Estimated in this way the population of England and Wales in the middle of the year 1905 amounted to 34,152,977 persons, of whom 16,502,094 were males and 17,650,883 were females. This population has been distributed among the counties after making due allowance for their several rates of increase in the intercensal period. For the purpose of the present calculation the intermediate London Census has been left out of account.

MARRIAGES.

The number of marriages registered in the year 1905 was 260,742, corresponding to a rate of 15·3 persons married per 1,000 of the population at all ages.

This rate was 0·1 per 1,000 above the rate in 1904, but was 0·5 per 1,000 below the average rate in the preceding ten years. The marriage rate in 1893 was 14·7 per 1,000 living; during the next six years, it steadily rose to a maximum of 16·5 in the year 1899, while, from that date it fell continuously to 15·2 in the year 1904, and was as above stated 15·3 in the year under review.

Methods of Measuring the Marriage Rate.—The total population does not, however, afford the msot satisfactory standard by which to measure the marriage rate, because of the variations which occur from time to time in the number of marriageable men and

of marriageable women* in the population, and also in their age constitution. How important these changes have been in recent years, is shown by the following statement, which gives the proportions of bachelors, spinsters, widowers, and widows enumerated at each age group above 15 years at the four past censuses.

IN A MILLION MARRIAGEABLE PERSONS AGED 15 YEARS and UPWARDS, the PROPORTIONS of :—

Census Year.	Total aged 15 years and upwards.	15—	20—	25—	35—	45—	55 and upwards.
			Bachelors.				
1871 ...	399,698	161,519	109,335	75,202	25,248	14,034	14,360
1881 ...	403,036	164,128	112,392	75,068	25,410	12,937	13,101
1891 ...	402,178	161,061	110,885	78,967	26,068	13,136	12,061
1901 ...	403,783	150,477	114,203	83,752	28,724	14,467	12,160
			Spinsters.				
1871 ...	409,030	158,845	102,725	77,245	31,223	18,678	20,314
1881 ...	410,533	162,051	105,188	74,906	30,402	17,693	20,293
1891 ...	420,236	160,743	108,239	82,339	31,168	17,872	19,875
1901 ...	427,559	151,422	112,319	88,345	35,902	19,260	20,311
			Widowers.				
1871 ...	59,626	13	381	3,742	6,851	10,192	38,447
1881 ...	56,533	13	323	3,442	6,721	9,612	36,422
1891 ...	53,519	8	231	2,756	6,133	9,579	34,812
1901 ...	51,659	3	173	2,312	5,475	9,296	34,400
			Widows.				
1871 ...	131,646	46	822	7,790	16,460	25,245	81,283
1881 ...	129,898	28	631	6,764	16,134	25,183	81,158
1891 ...	124,067	19	424	5,393	14,195	24,476	79,560
1901 ...	116,999	9	360	4,478	12,386	22,422	77,344

It is obvious from these figures that, in order to obtain a fairly accurate measure of the changes in the marriage rate for an extended period, account must be taken, not only of the changes in the proportions of marriageable bachelors, widowers, spinsters, and widows in the population, but also of the changes in their ages. A difficulty arises, however, in attempting to make such a calculation owing to the comparatively high proportion of unstated ages in the marriages recorded in earlier years. (See remarks on this subject, page xiii.) On the assumption, however, that the distribution of the unrecorded ages, in the same proportion as the recorded ages, gives a fair approximation to the number of marriages at each age group, a corrected rate has been calculated which shows the marriage rate that would have been recorded had the age constitution and the proportions of marriageable men

* Defined as meaning unmarried and widowed persons at ages above 15 years.

and women been the same as in 1901. This rate is given in Column c of the following Table, while for purposes of comparison the rates based on the total population and on the marriageable section of the population, taken as a whole, are given side by side in Columns *a* and *b*.

MEAN ANNUAL MARRIAGE RATES.

Cols.	a.		b.		c.	
Census Years.	Calculated on the total population at all ages.		Calculated on the total number of Marriageable persons in the population.		Marriage rate that would have been recorded had the age constitution and the proportions of Marriageable Men and of Marriageable Women been the same as in 1901.	
	Rate per 1000.	Compared with rate in 1870–72 taken as 100.	Rate per 1000.	Compared with rate in 1870–72 taken as 100.	Rate per 1000.	Compared with rate in 1870–72 taken as 100.
1870–72	16·7	100·0	57·2	100·0	59·4	100·0
1880–82	15·2	91·0	51·5	90·0	53·5	90·1
1890–92	15·5	92·8	49·8	87·1	51·3	86·4
1900–02	15·9	95·2	48·7	85·2	48·7	82·0
1903	15·6	93·4	47·8	83·6	47·8	80·5
1904	15·2	91·0	46·5	81·3	46·5	78·3
1905	15·3	91·6	46·6	81·5	46·6	78·5

Note.—All estimates of population depend on some assumption, and therefore become less trustworthy as the interval from the nearest census increases. Estimates of sections of the population, such as the numbers of persons of specified ages, depend on a double assumption and therefore become still less trustworthy. For this reason marriage rates based on the estimated numbers of the marriageable section of the population for years comparatively remote from a census date must be used with caution.

The foregoing Table shows that during the past 35 years the marriage-rate based on total population has declined, with fluctuations, by more than 8 per cent.; while based on the total number of marriageable persons in the community it has shown a progressive decrease, equivalent to a fall of nearly 19 per cent. If, however, the rate is corrected so as to eliminate the influence of differences in the proportions of marriageable men and of marriageable women and of variations in their age constitution, the decline is shown as nearly 22 per cent.; this latter figure may be said to represent with approximate accuracy the fall in the marriage rate in the period under review.

Marriages in Counties.—Table A. on page viii. shows for the registration counties of England and Wales the marriage rates for the four past census periods and for the years 1903, 4, and 5.

TABLE A.—MEAN ANNUAL MARRIAGE RATES in each REGISTRATION COUNTY, 1870–1905.

Registration Counties.	Persons married per 1000 of the unmarried and widowed population aged 15 years and upwards.*							Decrease per cent. in each County in 30 Years 1870–72 to 1900–02.
	Three year periods.				Year			
	1870–72.	1880–82.	1890–92.	1900–02.	1903.	1904.	1905.	
England and Wales	57·2	51·5	49·8	48·7	47·8	46·5	46·6	14·9
London	60·9	56·2	52·3	50·3	49·2	47·9	47·8	17·4
Surrey	38·3	39·2	37·0	38·0	39·6	39·1	38·4	0·8
Kent	46·1	46·0	42·4	43·5	42·1	40·8	39·9	5·6
Sussex	44·5	42·3	38·4	39·0	38·9	36·6	36·9	12·4
Hampshire	48·9	48·0	44·7	44·5	45·5	45·8	45·7	9·0
Berkshire	47·0	43·4	43·7	43·2	45·1	43·5	42·4	8·1
Middlesex	34·8	38·0	37·8	42·5	44·3	44·4	44·4	+22·1
Hertfordshire ..	41·0	37·2	38·0	39·3	41·8	40·0	40·5	4·1
Buckinghamshire ..	47·7	45·7	44·5	47·1	48·2	44·9	40·4	1·3
Oxfordshire ..	46·6	41·4	41·7	41·6	44·7	43·6	42·4	10·7
Northamptonshire	58·0	53·0	53·6	49·4	48·4	45·9	46·2	14·8
Huntingdonshire ..	52·1	44·8	44·7	46·0	47·3	43·9	45·3	11·7
Bedfordshire ..	52·3	48·0	43·2	43·8	44·2	41·8	43·5	16·3
Cambridgeshire ..	52·0	41·8	45·3	46·3	45·7	43·0	44·5	11·0
Essex	45·9	46·2	48·4	49·3	48·5	47·2	47·8	+7·4
Suffolk	51·8	50·2	46·9	47·0	46·0	45·0	44·1	9·3
Norfolk	52·3	50·2	45·9	45·5	46·0	43·6	46·1	13·0
Wiltshire	47·4	44·5	44·8	45·0	47·7	46·1	46·3	5·1
Dorsetshire ..	45·6	42·7	43·1	41·5	43·9	42·1	43·4	9·0
Devonshire	50·6	46·7	45·7	43·4	45·4	45·1	43·4	14·2
Cornwall	44·6	38·7	39·8	38·4	38·5	38·9	40·1	13·9
Somersetshire ..	45·6	42·2	43·1	40·7	41·0	40·7	41·0	10·7
Gloucestershire ..	58·1	50·9	49·2	47·2	47·2	46·4	44·0	18·8
Herefordshire ..	38·6	35·4	38·3	38·6	36·8	36·7	37·2	—
Shropshire	44·9	37·9	40·2	42·0	39·6	38·8	41·2	6·5
Staffordshire ..	71·6	60·0	58·7	55·9	54·1	51·6	51·3	21·9
Worcestershire ..	56·2	47·5	47·0	46·1	45·0	41·8	43·1	18·0
Warwickshire ..	62·9	53·2	56·4	54·7	53·4	50·2	51·7	13·0
Leicestershire ..	61·8	55·1	53·4	51·6	50·3	50·4	50·6	16·5
Rutlandshire ..	43·1	37·0	38·3	37·2	38·6	39·2	35·6	13·7
Lincolnshire ..	53·1	47·9	49·9	50·6	50·4	49·9	52·0	4·7
Nottinghamshire ..	68·1	64·8	58·4	58·1	57·4	53·0	52·6	14·7
Derbyshire	60·0	51·2	54·3	53·5	51·7	48·8	50·0	10·8
Cheshire	54·7	46·8	45·5	43·8	44·7	41·6	43·3	19·9
Lancashire	66·1	56·8	52·8	50·3	48·6	47·2	48·4	23·9
West Riding ..	66·1	55·2	54·1	52·0	49·7	49·2	47·8	21·3
East Riding ..	63·8	54·9	53·7	50·4	49·5	46·2	48·3	21·0
North Riding ..	50·7	49·7	45·9	47·4	46·0	47·0	45·8	6·5
Durham	70·9	62·9	57·6	58·9	54·3	55·0	54·6	16·9
Northumberland ..	64·4	54·1	52·9	51·1	48·0	48·3	48·3	20·7
Cumberland ..	47·6	45·7	42·6	43·7	44·0	42·4	42·0	8·2
Westmorland ..	44·7	39·2	37·7	36·4	36·9	36·4	38·1	18·6
Monmouthshire ..	64·4	55·6	57·5	55·6	55·9	54·5	53·6	13·7
Glamorganshire ..	67·6	60·3	63·3	59·2	55·3	54·6	55·0	12·4
Carmarthenshire ..	53·0	45·6	45·4	46·4	48·9	46·2	45·6	12·5
Pembrokeshire ..	47·0	41·6	42·8	42·8	42·3	45·4	44·4	8·9
Cardiganshire ..	38·1	31·7	31·3	30·9	30·1	30·0	31·6	18·9
Brecknockshire ..	50·5	44·1	47·1	52·3	45·3	46·7	49·2	+3·6
Radnorshire ..	43·3	38·1	34·6	40·1	30·4	31·6	27·3	7·4
Montgomeryshire ..	41·6	33·3	37·7	37·2	40·5	39·8	40·4	10·6
Flintshire	38·3	36·0	42·1	37·2	35·4	32·6	36·6	2·9
Denbighshire ..	45·7	42·0	46·8	43·9	44·2	40·2	39·7	3·9
Merionethshire ..	44·8	37·6	36·1	38·6	36·2	35·6	34·5	13·8
Carnarvonshire ..	44·0	41·3	39·5	39·0	39·9	37·6	36·0	11·4
Anglesey	37·9	36·6	36·1	38·5	34·4	37·9	36·0	+1·6

* See note at foot of Table on page vii.

The rates are based on the proportion to the unmarried and widowed population aged 15 years and upwards,* and in the last column the mean rate for each county in the years 1900–2 is compared with that recorded in 1870–72; these periods are used to avoid errors due to estimates of population in intercensal years.

Among registration counties with populations exceeding 100,000 persons the highest and lowest marriage rates in the year 1905, in proportion to the marriageable section of the population, were as follows :—

Counties.	Highest per 1000 of marriageable population.	Counties.	Lowest per 1000 of marriageable population.
Glamorganshire ...	55·0	Hertfordshire	40·5
Durham	54·6	Buckinghamshire ...	40·4
Monmouthshire ...	53·6	Cornwall	40·1
Nottinghamshire ...	52·6	Kent	39·9
Lincolnshire	52·0	Denbighshire	39·7
Warwickshire	51·7	Surrey	38·4
Staffordshire	51·3	Herefordshire	37·2
Leicestershire	50·6	Sussex	36·9
Derbyshire	50·0	Carnarvonshire ...	36·0

It may be noted that in all the counties, except Lincolnshire, in which the highest marriage rates were recorded, a large proportion of the male population, according to the last Census Returns, are engaged in coal mining or in manufacturing industries. On the other hand, the counties in which the lowest marriage rates were recorded are, generally speaking, those in which agriculture is the predominant industry.

Among counties with populations exceeding 100,000 persons it will be observed that the only counties which, during the 30 years from 1870–72 to 1900–02, showed an increase in the marriage rate were Middlesex and Essex; in Herefordshire the rate was stationary, and in London the decrease amounted to 17 per cent. In 14 mainly agricultural counties the decreases ranged from 1 to 9 per cent.; while in the remaining counties the decreases ranged from 10 to 24 per cent.

First Marriages; Re-marriages.—The decrease in the marriage rate in recent years which has already been noted is further analysed in the following Table, which shows the annual marriage rates of both bachelors and widowers, and both spinsters and widows, calculated on those sections of the population aged 15

* These rates have not been corrected on the basis used in Col. c of the table on p. vii.

years and upwards. In the lower half of the Table are given the proportions of first marriages and re-marriages in 1000 marriages.

	Mean Annual Marriage Rate per 1000 living, aged 15 years and upwards.*			
	Bachelors.	Widowers.	Spinsters.	Widows.
1870–72	65·3	59·4	65·5	16·9
1880–82	58·7	52·9	59·0	15·5
1890–92	57·1	50·7	55·7	15·2
1900–02	54·7	44·4	53·0	14·4
1903	54·0	40·6	52·2	13·4
1904	52·8	38·0	50·9	12·5
1905	52·9	38·3	51·0	12·6
	Proportions of first marriages and re-marriages in 1000 marriages.			
1870–72	863	137	903	97
1880–82	872	128	908	92
1890–92	885	115	919	81
1900–02	906	94	931	69
1903	912	88	934	66
1904	916	84	937	63
1905	915	85	937	63

* These rates are based on the age constitution, and proportions of these particular sections of the population prevailing at the Census of 1901 ; they must be used with caution, however, because prior to the year 1890 a comparatively high proportion of the marriage ages were unstated.

According to the figures in the above statement, the decrease in the marriage rate in the past 35 years has been greater among widowers and widows than among the unmarried of either sex. It is evident that the tendency among the widowed to remarry has been decreasing ; but this tendency is not so great as from the above calculation it would appear to be, because the proportions of widowed persons in the population have for some time past been decreasing ; and further, this decrease has been mainly confined to the earlier ages. It may be observed that the changes in the age distribution of widowed persons must have resulted from one or more of the following causes :

(1) Changes in the proportion of persons who have become widowed at the younger ages.

(2) Changes in the longevity of widowers and widows, and

(3) Changes in the rates of re-marriage among the widowed.

The last of these causes has operated during recent years to a small extent among widows and more noticeably among widowers,

as is shown by comparing the marriage rates of these sections of the population at various ages for the years 1890–2 with those for the years 1900–2.

Average Annual Marriage Rates of widowed persons, at several Age Groups.

	Aged 15 years and upwards	15–	25–	35–	45–	55–	65 and upwards.
			Widowers.				
1890–92	53·4	148·7	231·7	151·1	74·7	32·3	6·3
1900–02	44·4	129·8	201·8	134·1	65·3	27·2	5·6
			Widows.				
1890–92	16·3	146·2	114·3	50·3	17·8	5·2	0·6
1900–02	14·4	138·7	115·9	48·9	15·6	4·5	0·5

Divorced Persons who Re-Married.—Of the 521,484 persons who married in the course of the year 1905, there were 551 who were described in the marriage register as having been previously divorced. The corresponding numbers in the three years 1902–04 had been 479, 522, and 578. Of the 551 divorced persons who re-married in 1905, 286 were men, of whom 226 married spinsters and 40 married widows ; and 265 were women, of whom 189 married bachelors and 56 married widowers. In 20 cases divorced men married divorced women.

Ages at Marriage.—In 1905, among the persons who married, 44 per 1000 of the husbands and 147 per 1000 of the wives were minors. These are the lowest proportions of minors that have been recorded since 1848 for men, and the lowest since 1850 for women. The following Table shows the decline in the proportions of marriages under age during recent years :—

	Minors in 1000 Marriages.	
	Husbands.	Wives.
1876–80	77·8	217·0
1881–85	73·0	215·0
1886–90	63·2	200·2
1891–95	56·2	182·6
1896–1900	51·2	168·0
1901	49·6	159·9
1902	47·0	153·7
1903	45·7	152·3
1904	45·6	152·7
1905	43·8	146·9

Among registration counties with populations exceeding 100,000 persons, the highest and lowest proportions per 1000 of husbands and wives under age at marriage were as follows :—

Minors in 1000 Marriages.			
Counties.	Highest per 1000 Marriages.	Counties.	Lowest per 1000 Marriages.
	Husbands.		
Nottinghamshire ...	73	Surrey	29
Staffordshire	65	Sussex	29
Bedfordshire	64	Dorsetshire	29
Warwickshire	64	Denbighshire	29
Leicestershire	63	Hampshire	27
Northamptonshire ...	58	Devonshire	27
Durham	57	Shropshire	26
Derbyshire	56	Berkshire	22
West Riding of Yorkshire.	56	Carnarvonshire ...	8
	Wives.		
Durham	223	Devonshire	107
Nottinghamshire ...	211	Somersetshire	107
Monmouthshire ...	211	Hertfordshire	105
Glamorganshire ...	194	Herefordshire	104
Staffordshire	186	Berkshire	100
Derbyshire	178	Oxfordshire	95
Northumberland ...	176	Denbighshire	90
West Riding of Yorkshire.	176	Carnarvonshire... ...	73
East Riding of Yorkshire.	176		

Unstated Ages.—Among the 521,484 persons who married in 1905, 2,547, or 0·98 per cent. of the husbands, and 2,838, or 1·09 per cent. of the wives, failed to make definite statements of age in the marriage register. The proportions of unstated ages both among husbands and among wives are the lowest on record.

Of the 49,715 minors who married, all but 15, stated their ages. Among adults, 1·02 per cent. of the husbands and 1·27 per cent. of the wives were indefinitely described as of "full age." It has been noted in several previous reports that unstated

ages are more frequent in re-marriages than in first marriages and most frequent of all in re-marriages of widowers. This is again confirmed by the figures for 1905. The proportions of unstated ages in 1905 are lower than those in 1904 for first marriages, and with one exception for re-marriages.

For purposes of comparison the figures for 1904 and 1905 are placed side by side in the following Table :—

———	Proportions per cent. of Ages not stated.			
	Adult Husbands.		Adult Wives.	
	1904.	1905.	1904.	1905.
In Marriages of—				
Bachelors with Spinsters	0·78	0·72	1·02	0·93
Bachelors with Widows	2·12	1·90	2·59	2·39
Widowers with Spinsters	3·51	3·54	3·72	3·71
Widowers with Widows	4·00	3·84	4·35	4·15
In all Marriages of—				
Bachelors	0·83	0·76	1·09	0·99
Widowers	3·69	3·65	3·95	3·87
Spinsters	0·95	0·89	1·20	1·11
Widows	3·03	2·84	3·44	3·25

Mean Age at Marriage.—In the two years ending with June 1841 the ages of both parties were stated in only 6 per cent. of the marriages; in the year 1858 the proportion had risen to about 60 per cent., in 1870 to 70 per cent., and in 1880 to 82 per cent.; in the ten years following the latter year the increase was rapid, the ages of both parties being stated in more than 96 per cent. of the marriages solemnized in 1890. Since that date the increase, although necessarily less marked, has been almost continuous. In the year 1896 the proportion exceeded 98 per cent., and this gradually rose until, in the year under review, precise statements of age were made by 99·0 per cent. of the husbands, and by 98·9 per cent. of the wives.

In view therefore of the great reduction that has taken place in the disturbing factor of unstated ages, it has become possible to measure with approximate accuracy for a series of recent years the mean ages at marriage, based on the recorded ages.

The figures in the following Table show not only the mean ages of husbands and wives in all marriages, but also the mean ages of bachelors, spinsters, widowers and widows. The calculations have been made on the assumption that the recorded ages are a true sample of all the ages.

MEAN AGES at MARRIAGE 1896–1905 (recorded ages).

HUSBANDS.

Year.	All Husbands.	All Bachelors.	All Widowers.	Bachelors with Spinsters.	Bachelors with Widows.	Widowers with Spinsters.	Widowers with Widows.
1896	28·43	26·59	44·49	26·30	33·93	41·38	49·60
1897	28·38	26·63	44·53	26·35	34·10	41·43	49·73
1898	28·34	26·62	44·70	26·34	33·94	41·82	49·69
1899	28·34	26·65	44·90	26·37	34·29	41·87	49·81
1900	28·41	26·68	45·02	26·39	34·35	42·19	49·75
1901	28·55	26·76	45·18	26·48	33·94	42·43	49·69
1902	28·53	26·88	44·96	26·60	33·94	42·11	49·81
1903	28·49	26·91	44·94	26·63	34·24	42·16	49·72
1904	28·46	26.93	45·03	26·66	34·06	42·25	49·98
1905	28·56	27·01	45·27	26·74	34·26	42·47	50·18

WIVES.

Year.	All Wives.	All Spinsters.	All Widows.	Spinsters with Bachelors.	Widows with Bachelors.	Spinsters with Widowers.	Widows with Widowers.
1896	26·21	25·08	40·58	24·54	35·69	32·43	44·81
1897	26·18	25·10	40·74	24·59	35·95	32·31	45·00
1898	26·18	25·14	40·59	24·62	35·85	32·68	45·04
1899	26·21	25·16	40·83	24·65	36·12	32·83	45·16
1900	26·29	25·23	40·74	24·71	36·19	32·97	44·95
1901	26·39	25·31	40·43	24·77	35·65	33·04	44·96
1902	26·37	25·36	40·25	24·86	35·62	32·86	44·95
1903	26·35	25·37	40·27	24·89	35·69	32·93	45·01
1904	26·32	25·37	40·35	24·90	35·82	33·03	45·22
1905	26·38	25·43	40·53	24·96	36·02	33·08	45·29

It will be noted from the figures in the foregoing Table that the mean age at marriage has, during the past ten years, steadily increased both for bachelors and for spinsters, and a similar tendency marked with slight fluctuations is noticeable in the case of widowers. In the case of widows the mean age has shown a progressive increase since 1902, but was below the average recorded in the five years 1896–1900.

The mean age of all husbands and of all wives shows, however, but little change; this apparent contradiction results from the changes in the proportions of first marriages and re-marriages; the changes in the mean age at marriage of bachelors and widowers and of spinsters and widows taken together must therefore not be relied upon as indicating any tendency to earlier or later marriage.

The mean age at marriage is, for many purposes, a convenient summary of the statements as to age; it is nevertheless only a summary and does not necessarily reflect all the changes, nor even the most important changes in the ages at which people marry.

For the assistance of those who desire to investigate further this subject the age constitution of bachelors, widowers, spinsters and widows who married in each of the years 1896–1905 is given in the following Table :—

AGE-CONSTITUTION of MEN who MARRIED reduced to 1000 at ALL AGES, 1896–1905.

Year.	All Ages.	Minors.	Full Age.								
			21—	25—	30—	35—	40—	45—	50—	55 and upwards.	Age not stated.
					Bachelors.						
1896	1000	59	414	342	109	38	14	6	2	2	14
1897	1000	57	412	345	111	39	14	6	2	2	12
1898	1000	57	412	346	110	38	15	6	3	2	11
1899	1000	55	410	350	110	39	14	6	3	2	11
1900	1000	56	413	343	110	40	16	7	3	2	10
1901	1000	55	405	349	114	41	16	7	3	2	8
1902	1000	52	391	358	121	42	16	7	3	2	8
1903	1000	50	389	362	123	40	16	7	3	2	8
1904	1000	50	385	364	124	41	16	7	3	2	8
1905	1000	48	382	366	127	42	16	7	3	2	7
					Widowers.						
1896	1000	0	11	77	134	159	148	130	107	183	51
1897	1000	0	10	74	135	162	148	131	108	184	48
1898	1000	0	11	73	133	152	150	139	109	188	45
1899	1000	0	10	69	128	160	153	137	107	196	40
1900	1000	0	10	70	126	155	150	144	113	195	37
1901	1000	0	10	65	127	157	153	140	116	197	35
1902	1000	0	9	68	132	155	155	136	116	193	36
1903	1000	0	10	72	130	156	153	132	116	196	35
1904	1000	0	9	70	131	157	149	137	113	197	37
1905	1000	0	10	65	128	153	150	137	118	202	37

AGE-CONSTITUTION of WOMEN who MARRIED reduced to 1000 at ALL AGES, 1896–1905.

Year.	All Ages.	Minors.	Full Age.								
			21—	25—	30—	35—	40—	45—	50—	55 and upwards.	Age not stated.
					Spinsters.						
1896	1000	188	431	248	72	26	11	5	2	1	16
1897	1000	183	435	251	73	26	10	5	2	1	14
1898	1000	180	436	253	73	26	11	5	2	1	13
1899	1000	176	436	256	75	26	10	5	2	1	13
1900	1000	174	434	259	75	28	11	5	2	1	11
1901	1000	172	429	264	77	28	12	5	2	1	10
1902	1000	165	427	271	79	28	12	5	2	1	10
1903	1000	163	428	274	79	27	11	5	2	1	10
1904	1000	163	426	274	79	28	12	5	2	1	10
1905	1000	157	430	274	82	28	11	6	2	1	9
					Widows.						
1896	1000	1	26	120	174	182	156	123	82	89	47
1897	1000	1	27	107	179	189	155	125	81	94	42
1898	1000	1	27	116	178	187	153	125	83	91	39
1899	1000	1	26	112	168	190	161	129	81	95	37
1900	1000	1	25	113	174	190	161	130	78	95	33
1901	1000	1	31	119	178	189	158	121	79	93	31
1902	1000	1	28	126	183	192	155	116	77	90	32
1903	1000	1	28	124	185	189	164	113	77	90	29
1904	1000	1	28	123	185	187	155	118	77	92	34
1905	1000	1	26	118	180	192	159	122	79	91	32

Signatures in Marriage Register.—The records of the ability or inability of persons to sign their names in the marriage register afford an indirect means of judging of the progress of elementary education in England and Wales.

In the year 1853 no fewer than 304 out of every 1000 men, and 439 out of every 1000 women, who married signed the marriage register by mark. Since that date the proportions of illiterate persons of both sexes have diminished almost continuously, until in the year 1905 only 17 out of 1000 bridegrooms, and 20 out of 1000 brides, failed to sign their names. The progressive decrease in the proportions of illiterates since the period 1876–80 is shown in the following Table :—

Years.	Signed by Mark in 1000 Marriages.		
	Husbands.	Wives.	Both.
1876–80...	148·0	199·8	74·6
1881–85...	123·4	154·8	54·4
1886–90...	84·0	98·2	30·2
1891–95...	51·2	59·6	16·6
1896–1900	31·6	37·0	9·8
1901	25·1	28·7	7·9
1902	22·7	26·0	7·3
1903	19·3	23·2	6·3
1904	18·0	21·1	5·5
1905	16·6	20·1	4·8

In the year under notice, of the total number of illiterates 55 per cent. were women and 45 per cent. were men. It is of interest to note, as regards the topographical distribution of illiteracy, that, while the number of illiterate females is generally greater than the number of illiterate males in industrial and mining counties, the reverse appears to be the case in the agricultural counties (see Table 10, page 11).

Among Counties with populations exceeding 100,000 persons the highest proportions of illiteracy were :—among men, Cambridgeshire, Cornwall, and Herefordshire; and among women, Monmouthshire, Glamorganshire, Carmarthenshire and Carnarvonshire.

The case of London is exceptional. In the year 1905, the number of husbands who signed the marriage register by mark averaged 18 and the number of wives averaged 25 per 1000 marriages. Illiteracy is not, however, common to all parts of London; it is practically confined to a group of five registration districts—London City, Bethnal Green, Whitechapel, St. George-in-the-East, and Mile End Old Town.

If these five districts be excluded, the proportions of illiteracy in London will be reduced to 8 signatures by mark of husbands and 10 of wives in every 1000 marriages. In the

following Table the five districts are compared with the remainder of London :—

Registration District.	Signatures by mark per 1000 marriages, 1905.		Jewish marriages per 1000 marriages, 1905.	Natives of Russia, Russian Poland, Servia, Roumania, and Bulgaria per 1000 of the population in 1901.
	Husbands.	Wives.		
London City	47	41	359	13·3
Bethnal Green... ...	22	42	—*	27·3
Whitechapel	133	176	530	265·1
St. George-in-the-East	37	103	106	241·0
Mile End Old Town ...	201	313	567	89·4
The above five districts	111	169	351	117·4
The remainder of London.	8	10	5	2·2

* All the marriages of Jews resident in Bethnal Green were solemnised in other districts.

Nearly all the signatures by mark in London City and a large proportion of those in Whitechapel and in Mile End Old Town occurred in marriages of foreign Jews. In Bethnal Green and in Mile End Old Town the proportions of such signatures among persons married according to the rites of the Roman Catholic Church were also excessive ; while in Whitechapel a considerable proportion of the civil marriages were those of illiterates.

Certified Places of Worship.—The number of buildings certified in the course of the year 1905 for religious worship and recorded in the official register under the provisions of the Acts 15 & 16 Vict. c. 36 and 18 & 19 Vict. c. 81 was 677, while 205 buildings were removed from the register on proof of disuse ; the total number on the register at the end of the year was 26,306.

Buildings Registered for the Solemnisation of Marriages.—At the end of the year 1905 there were 15,584 churches or chapels of the Established Church in which marriages may be solemnised, showing an increase of 46 upon the number at the end of the previous year. There were also 14,401 buildings registered for the solemnisation of marriages by rites other than those of the Established Church, showing an increase of 307 upon the number on the register at the end of the previous year. (Table 6, p. 7.)

At the end of the year the governing bodies of 2,157 out of the 14,401 registered buildings had availed themselves of the Marriage Act (1898), which provides that, under specified conditions,

marriages may be solemnised in registered buildings by certain duly authorised persons without the attendance of a Registrar of marriages. The denominations to which these buildings belong are as follows :—

Wesleyan Methodists	1,036
Congregationalists...	370
Baptists	204
Primitive Methodists	187
United Methodist Free Churches	131
Calvinistic Methodists	57
Methodist New Connexion	46
Other Denominations, and Unsectarian ...	126
	2,157

The 2,157 registered buildings which had been supplied with Marriage Register Books before the end of 1905 were distributed among 455 of the registration districts. In the remaining 180 registration districts there was no registered building under the operation of the Act.

Forms of Marriage.—Of the 260,742 marriages in England and Wales during the year 1905, 165,747, or 636 per 1000, were solemnised according to the rites of the Established Church, and 94,995, or 364 per 1000, were contracted otherwise. This proportion of Church marriages is the lowest on record, the decrease of 6 per 1000 since the previous year being balanced by the increased proportions of marriages that took place in Nonconformist places of worship before authorized persons and of civil marriages in Superintendent Registrars' offices. The proportion of Roman Catholic marriages was 41 per 1000, and was equal to the proportion in each of the four preceding years. The proportion of Jewish marriages has, with slight fluctuations, steadily increased for many years, until in the year under notice the proportion reached 7·6 per 1000, as compared with 7·0 per 1000 in the previous year. (Table 7, p. 8.)

Marriages in registered buildings belonging to the various Nonconformist bodies amounted to 132 per 1000 of the total marriages, against 131 per 1000 in the previous year. This proportion was made up of 100 per 1000 that were contracted in the presence of Registrars (against 101 in 1904), and of 32 per 1000 that were solemnised by "Authorised Persons" under the provisions of the Marriage Act of 1898 (against 30 in 1904).

The highest proportions of marriages solemnised according to the rites of the Established Church, in registration counties with populations exceeding 100,000 persons, were 784 per 1000 in Buckinghamshire, 767 in Cambridgeshire, 764 in Hertfordshire, 757 in Oxfordshire, 750 in Worcestershire, 742 in Suffolk, 741 in Norfolk, and 739 in Bedfordshire and in Dorsetshire. The highest proportions of Nonconformist marriages were 369 per 1000 in Carnarvonshire, 344 in Denbighshire, 337 in Carmarthenshire, 334 in

Cornwall, 250 in Monmouthshire, 228 in Glamorganshire, 184 in Somersetshire, and 182 in Cheshire. The highest proportions of Nonconformist marriages before "Authorised Persons" were 70 per 1000 of all the marriages in Lincolnshire, 60 in Cheshire and in the West Riding of Yorkshire, 52 in Lancashire, 51 in Derbyshire and 50 in Northamptonshire. In 21 of the 55 registration counties the proportions of marriages before authorised persons were less than 20 per 1000 of the total marriages.

As in previous years, a large majority of the Jewish marriages took place in London, 67 per cent. of them being registered in a group of three registration districts—London City, Whitechapel, and Mile End Old Town—in the central and eastern parts of the county. The proportion of such marriages to all the marriages in London was 38·4 per 1000, the highest proportions in other counties being 5·7 in Lancashire and 4·6 in the West Riding of Yorkshire. (Table 8, p. 9.)

Births.

The births registered in the year 1905 numbered 929,293, and were in the proportion of 27·2 per 1000 of the total population of both sexes and all ages; this is the lowest rate recorded since civil registration was established. (See Table 3.)

In the year 1876 the birth rate attained in this country the highest point on record, viz., 36·3 per 1000 living; since that date the ratio has, with trifling exceptions, steadily fallen, until in the year 1905 it was, as already stated, no more than 27·2 per 1000 living. The birth rate calculated in this way was 0·7 per 1000 below that recorded in 1904, and was 1·8 per 1000 below the average in the ten years 1895–1904.

Some of the consequences of the decreasing birth rate in this country are modified by a decreasing death rate. Still the fact is significant that if a comparison is made among European countries it is found that in the years 1880–2 there were no fewer than six States in which the fertility of wives was less than that recorded in England and Wales; whereas twenty years later (1900–2) the rate of fertility among married women in England and Wales was, with the exception of France, lower than that recorded in any other European country.* It is also noteworthy that the rate of fertility among wives in this country had, in the year 1905, fallen below the level prevailing in New South Wales; and it may be remarked that the decline in the birth rate in that colony has been viewed with so much apprehension that a Royal Commission was recently appointed which, after diligent and full enquiry, has reported on the causes that have contributed thereto and the effects of the restriction of childbearing on the well-being of the Commonwealth.

Measuring the Birth-Rate.—The usual plan of measuring the birth rate by stating the ratio of births to the total population at all ages is of considerable use in so far that in conjunction with the

* See section of this Report dealing with International Birth Statistics, page lxi.

death rate it affords a ready means of gauging the rate of natural increase in the population. The crude birth rate is not, however, adapted for close inquiry into the significance of the variations which are found to occur from year to year. For this purpose the number of possible mothers is much more useful as a basis of calculation than the total number of persons of both sexes and of all ages in the population.

The birth registers in this country, as arranged in accordance with the schedules contained in the Registration Acts, do not furnish information respecting the ages of the mothers; but, with this exception, there are sufficient statistical data available to show approximately the main factors that influence the birth rate. In the following Table the results are shown of calculating the birth rate in England and Wales based—

(*a.*) On the proportion of total births to the total population of both sexes and all ages.

(*b.*) On the proportion of total births to the female population aged 15–45 years, and

(*c.*) On the proportions of legitimate births to the number of married women aged 15–45 years, and of illegitimate births to the unmarried and widowed female population aged 15–45 years.

Mean Annual Birth-rates in England and Wales.

—	(*a.*)		(*b.*)		(*c.*)			
	Birth-rate calculated on Total Population at All Ages.		Birth-rate calculated on the Female Population aged 15–45 years.		Legitimate Birth-rate calculated on the Married Female Population aged 15–45 years.		Illegitimate Birth-rate calculated on the Unmarried and Widowed Female Population aged 15–45 years.	
	Rate per 1,000.	Compared with rate in 1870–2 taken as 100.	Rate per 1,000.	Compared with rate in 1870–2 taken as 100.	Rate per 1,000.	Compared with rate in 1870–2 taken as 100.	Rate per 1,000.	Compared with rate in 1870–2 taken as 100.
1870–2	**35·3**	**100·0**	**153·7**	**100·0**	**292·5**	**100·0**	**17·0**	**100·0**
1880–2	**34·0**	**96·3**	**147·7**	**96·1**	**286·0**	**97·8**	**14·1**	**82·9**
1890–2	**30·7**	**87·0**	**129·7**	**84·4**	**263·8**	**90·2**	**10·5**	**61·8**
1900–2	**28·6**	**81·0**	**114·8**	**74·7**	**235·5**	**80·5**	**8·5**	**50·0**
1903	**28·4**	**80·5**	**113·8**	**74·0**	**233·3**	**79·8**	**8·4**	**49·4**
1904	**27·9**	**79·0**	**111·8**	**72·7**	**229·1**	**78·3**	**8·4**	**49·4**
1905	**27·2**	**77·1**	**108·9**	**70·9**	**223·2**	**76·3**	**8·2**	**48·2**

Note.—All estimates of population depend on some assumption, and therefore become less trustworthy as the interval from the nearest Census increases. Estimates of sections of the population such as the numbers of persons of specified ages, depend on a double assumption, and therefore become still less trustworthy. For this reason, birth-rates, based upon the estimated number of women of conceptive ages, for years comparatively remote from a Census date must be used with caution.

It will be seen from the above statement that, in the period under review, the fall in the crude birth-rate amounted to nearly 23 per cent.; but the changes in the sex and age constitution of the population have been so great that the comparison of birth-rates calculated by this method cannot be depended upon to give a fair measure of the amount of the decrease that has actually occurred. The method is therefore employed of basing the calculation on the proportion of births to the number of possible mothers, *i.e.*, the total number of women living at child-bearing ages. The fall in the birth-rate during the past 35 years, measured in this way, amounted to 29 per cent.

The fertility rate of married women, based on the ratio of legitimate births to wives of conceptive ages, shows a decrease amounting to about 24 per cent. in the last 35 years. Put in another way, if the fertility of married women in proportion to their numbers had been identical in 1870–2 and in 1905, then the legitimate births would have numbered nearly 1,169,000 instead of the 891,978 actually recorded.

Some of the causes of the decreasing birth-rate are easy to ascertain while others are obscure.

Apart from deliberate restriction of child-bearing, and from any changes that have taken place in the physical, social, and economic conditions of the people, the principal factors that have an influence on the birth-rate are :—

1. Variations in the proportion of women of conceptive ages in the population.
2. Variations in the marriage-rate.
3. Variations in the age constitution of married women of conceptive ages.

In this connection, the marriage rate and the data afforded by the four last censuses may be expressed in the following tabular form :—

Census Years.	Proportion per cent. of Women aged 15–45 years in the Total Population of both sexes and all ages.	Proportion per cent. of Married Women in the Female Population aged 15–45 years.	Annual Marriage-rate Calculated on the Unmarried and Widowed Population aged 15 years and upwards.	Of the Married Women aged 15–45 years, the proportion per cent. at three groups of ages.		
				Aged 15–25 years.	Aged 25–35 years.	Aged 35–45 years.
1871	23·1	49·6	57·2	15·2	45·5	39·3
1881	23·1	49·1	51·5	14·8	45·6	39·6
1891	23·8	47·1	49·8	13·7	46·0	40·3
1901	25·0	46·8	48·7	12·4	46·9	40·7

The characteristics of these figures are, on the one hand, that although the number of women of conceptive ages, in proportion to the total population, has increased in the two last decennia, the proportion of married women in this section of the female population has steadily decreased. The figures also show that the marriage-rate, based on the section of the population in which marriages take place, has fallen continuously, and that the age constitution of married women of child-bearing ages has materially altered.

As already mentioned the Birth Registers in this country do not afford information respecting the ages of the mothers, there are therefore no means of ascertaining the fertility of women at the several ages comprised in the child-bearing period; there are, however, sufficient grounds for stating that during the past 35 years approximately about 17 per cent. of the decline in the birth-rate (based on the proportion of births to the female population aged 15–45 years) is due to the decrease in the proportion of married women in the female population of conceptive ages, and about 10 per cent. is due to the decrease of illegitimacy.

With regard to the remaining 73 per cent. of the decrease, although a proportion of the reduced fertility may be ascribed to the changes in the age constitution of married women, there can be little doubt that the greater part of it is due to deliberate restriction of child-bearing on the part of the people themselves.

Birth-rates in Counties.—Table B, on page xxiv, shows for the registration counties of England and Wales the legitimate birth-rates for the last four census periods, and for the years 1903, 1904, and 1905. The rates are based on the proportion of legitimate births to the estimated number of married women aged 15–45 years.

It will be observed from the subjoined Table that during the year 1905, among registration Counties with populations exceeding 100,000 persons, the highest and lowest proportions of legitimate births to the number of married women of conceptive ages, were as follows :—

a.		*b.*	
Registration Counties.	Highest fertility rates.	Registration Counties.	Lowest fertility rates.
Carmarthenshire	288·7	London	212·0
Monmouthshire	286·0	Leicestershire	211·6
Glamorganshire	265·5	Kent	209·8
Durham	264·8	Hampshire	208·5
Northumberland	259·5	Bedfordshire	204·8
Denbighshire	255·3	West Riding of Yorkshire	204·6
North Riding of Yorkshire	254·2	Devonshire	203·9
Shropshire...	251·8	Cornwall	200·7
Cumberland	248·6	Sussex	190·4
Staffordshire	247·7	Northamptonshire ...	189·8

TABLE B.—MEAN ANNUAL FERTILITY RATES OF MARRIED WOMEN in each REGISTRATION COUNTY, 1870–1905.

Registration Counties.	Legitimate Births per 1000 Married Women aged 15–45 years.*							Decrease per cent in each County in 30 years, 1870-2 to 1900-2.
	Three-year periods.				Years.			
	1870–72.	1880–82.	1890–92.	1900–02.	1903.	1904.	1905.	
England and Wales..	292·5	286·0	263·8	235·5	233·3	229·1	223·2	19·5
London	269·9	272·6	250·4	227·8	223·7	218·9	212·0	15·6
Surrey	285·1	284·3	244·4	208·2	215·7	214·7	215·8	27·0
Kent	288·8	287·6	255·6	221·2	220·9	213·1	209·8	23·4
Sussex	284·6	279·2	235·9	203·3	199·6	193·5	190·4	28·6
Hampshire	272·9	273·9	243·3	211·6	212·0	207·8	208·5	22·5
Berkshire	294·5	290·0	257·6	219·0	219·8	218·8	212·7	25·6
Middlesex	288·0	293·6	252·3	224·1	232·8	233·7	228·5	22·2
Hertfordshire.. ..	300·0	291·7	264·0	224·8	228·2	222·7	223·2	25·1
Buckinghamshire ..	299·5	291·9	270·4	230·4	237·6	232·2	222·5	23·1
Oxfordshire	295·7	294·7	271·1	228·0	220·6	227·6	222·2	22·9
Northamptonshire ..	297·5	290·6	265·8	222·0	208·9	199·0	189·8	25·4
Huntingdonshire ..	302·3	274·9	262·5	236·0	237·5	237·2	225·3	21·9
Bedfordshire	296·0	283·1	256·8	219·1	207·9	207·2	204·8	26·0
Cambridgeshire ..	294·3	276·6	255·0	223·9	225·0	218·8	217·4	23·9
Essex	293·7	300·4	270·0	238·5	237·6	229·1	219·5	18·8
Suffolk	290·2	293·6	269·5	236·5	234·6	231·2	227·5	18·5
Norfolk	273·1	279·3	257·2	229·5	223·2	221·7	218·4	16·0
Wiltshire	297·9	291·6	261·3	225·1	225·3	226·9	224·2	24·4
Dorsetshire	288·8	286·8	254·7	219·2	224·3	218·3	219·9	24·1
Devonshire	284·5	284·5	252·2	208·4	202·0	205·9	203·9	26·7
Cornwall	294·0	287·7	262·0	219·6	207·7	203·0	200·7	25·3
Somersetshire ..	293·0	292·0	267·6	221·0	221·3	221·7	217·1	24·6
Gloucestershire ..	285·7	281·5	259·3	224·6	224·0	216·9	219·1	21·4
Herefordshire ..	285·6	279·2	272·3	235·0	238·7	230·0	224·9	17·7
Shropshire	302·7	286·8	275·3	257·0	258·0	255·6	251·8	15·1
Staffordshire	320·2	311·1	298·7	270·1	261·3	261·1	247·7	15·6
Worcestershire ..	296·6	288·3	268·2	239·0	233·1	226·5	215·4	19·4
Warwickshire ..	291·5	287·3	264·5	243·2	238·6	240·9	224·4	16·6
Leicestershire	300·6	295·0	268·4	232·7	223·1	217·3	211·6	22·6
Rutlandshire	295·9	297·9	258·5	227·5	207·8	219·8	224·7	23·1
Lincolnshire	293·4	284·1	255·3	228·3	222·7	225·7	223·2	22·2
Nottinghamshire ..	285·6	287·8	260·5	242·9	246·9	245·2	230·0	15·0
Derbyshire	296·6	293·2	270·8	243·9	240·7	238·5	226·7	17·8
Cheshire	292·8	286·0	266·9	230·8	229·5	224·5	218·6	21·2
Lancashire	297·1	285·0	264·3	233·7	231·3	224·3	219·4	21·3
West Riding	293·0	272·7	249·3	223·0	220·0	211·4	204·6	23·9
East Riding	281·9	274·9	258·1	238·7	231·8	227·2	222·1	15·3
North Riding.. ..	313·6	304·2	274·5	260·4	259·0	258·3	254·2	17·0
Durham	324·1	307·9	299·7	282·7	278·4	274·4	264·8	12·8
Northumberland ..	313·0	300·1	290·0	266·8	263·4	260·8	259·5	14·8
Cumberland	311·8	309·7	288·6	256·5	261·6	254·3	248 6	17·7
Westmorland.. ..	305·9	300·2	267·4	218·9	216·9	213·1	206·8	28·4
Monmouthshire ..	304·1	298·7	304·6	283·5	289·1	291·1	286·0	6·8
Glamorganshire ..	313·1	303·4	303·5	274·0	272·4	269·0	265·5	12·5
Carmarthenshire ..	344·1	321·7	309·4	274·9	277·6	280·4	288·7	20·1
Pembrokeshire ..	319·6	320·4	291·9	253·8	259·3	259·5	259·5	20·6
Cardiganshire.. ..	315·2	296·4	277·3	245·4	251·3	240·9	236·1	22·1
Brecknockshire ..	310·6	296·4	292·1	272·9	284·4	276·7	268·3	12·1
Radnorshire	308·6	302·5	282·6	264·2	249·9	244·6	235·1	14·4
Montgomeryshire ..	308·7	292·5	273·2	253·0	248·5	246·9	255·0	18·0
Flintshire	310·4	284·0	285·7	246·4	282·7	264·7	276·6	20·6
Denbighshire.. ..	301·2	289·6	282·8	265·3	258·5	264·9	255·3	11·9
Merionethshire ..	311·0	287·2	255·5	247·7	233·5	235·8	230·2	20·4
Carnarvonshire ..	289·9	271·8	237·2	226·7	216·5	216·2	213·2	21·8
Anglesey	277·2	275·1	240·7	224·2	242·8	226·9	217·3	19·1

* *See* footnote to Table on page xxi.

Speaking generally it may be noted that in those counties in which high fertility rates were recorded a large proportion of the male population, according to the last census returns, was engaged in coal mining, and that, on the other hand, the low fertility rates were recorded, mainly in agricultural and manufacturing counties. The disparities between the fertility rates in the two lists of counties (*a.* and *b.*, p. xxiii) are in some cases due to differences in age constitution of the married women in the respective areas. Taking England and Wales as a standard it will be seen that, in the counties given in the subjoined Table, the proportions of married women at the earlier age groups showed a marked excess in the mining counties. In the manufacturing counties the proportions at each age group were about equal to the standard, whereas in the agricultural counties the proportions of married women at the earlier age groups were considerably below it; such conditions, no doubt, being largely due to the continuous migration of young people from the rural areas. The following figures furnish some typical examples of the variations in the age constitution of married women in the three groups of counties.

—	Census of 1901.			
	Of the married women aged 15–45 years, the proportion per cent. at four groups of ages.			
	15–20 years.	20–25 years.	25–35 years.	35–45 years.
England and Wales ...	0·7	11·8	46·8	40·7
Durham	1·2	14·9	46·9	37·0
Northumberland ...	1·0	14·1	47·3	37·6
Glamorganshire ...	1·1	14·0	48·2	36·7
Leicestershire	0·6	12·0	47·2	40·2
Lancashire	0·6	11·9	47·4	40·1
West Riding	0·7	12·1	47·2	40·0
Sussex	0·5	9·5	45·8	44·2
Dorsetshire	0·4	8·6	45·9	45·1
Devonshire	0·5	9·8	45·5	44·2

Although a general decline in fertility has been in progress throughout the whole country, the amount of the decrease varies considerably in the several counties. On comparing the rates at the last census with those prevailing thirty years earlier (these periods are used to avoid errors due to estimates of population in intercensal years) it will be found that the decline was least in the mining counties and greatest in agricultural counties.

From Table B. it might be inferred that the fertility of married women is greater in urban than in rural areas. It is, therefore,

very desirable to institute a more accurate comparison of birth rates in town and country areas than is furnished by groups of so-called urban and rural counties. In order to provide a more satisfactory basis for comparison, *i.e.*, one in which the representative urban area is entirely urban, and the representative rural area entirely rural, calculations have been made for a series of Census years based on :—

(*a*) The births recorded in 20 of the largest towns containing at the date of the last Census an aggregate population of 9,742,404 persons ; and

(*b*) The births recorded in 112 entirely rural unions or registration districts containing at the date of the last Census an aggregate population of 1,330,319 persons.

The results are embodied in the following table :—

MEAN ANNUAL BIRTH-RATES IN URBAN AND RURAL AREAS.

Urban.

20 large towns, with an aggregate population of 9,742,404 persons at the date of the Census of 1901.

Period.	Calculated on the total population.		Calculated on the female population, aged 15–45 years.	
	Rate per 1000.	Compared with rate in 1870–72 taken as 100.	Rate per 1000.	Compared with rate in 1870–72 taken as 100.
1870–72	36·7	100·0	143·1	100·0
1880–82	35·7	97·3	140·6	98·3
1890–92	32·0	87·2	124·6	87·1
1900–02	29·8	81·2	111·4	77·8

Rural.

112 entirely rural registration districts, with an aggregate population of 1,330,319 persons at the date of the Census of 1901.

1870–72	31·6	100·0	158·9	100·0
1880–82	30·3	95·9	153·5	96·6
1890–92	27·8	88·0	135·6	85·3
1900–02	26·0	82·3	120·7	76·0

The figures in the Table show that the birth-rate, based on total population, was from 15 to 18 per cent. greater in the towns than in the country districts ; if, however, the comparison be based on the female population of conceptive ages, it is found that the fertility of women living in the country was from 8 to 11 per cent. greater than that of women residing in towns. That the comparatively greater fertility in the rural districts is not due to differences in the proportion of married women, is shown by the fact that

a similar relation between urban* and rural fertility is found to exist when the calculation is based on the proportion of legitimate births to married women of conceptive ages.

The greater fertility in rural districts would be much further enhanced if the age constitution of the married women in the two areas were nearly alike ; but the continuous migration of young persons from rural to industrial areas has considerably depleted the normal proportion of young married women in the rural districts. This is clearly shown in the following statement based on the census returns.

Urban.

20 large towns with an aggregate population of 9,742,404 persons at the date of the Census of 1901.

Census year.	Proportion per cent. to total population of women aged 15–45 years.	Of the married women aged 15–45 years, the proportion per cent. at three groups of ages.		
		15–25.	25–35.	35–45.
1881 ...	25·4	15·8	46·5	37·7
1891 ...	25·7	14·7	46·7	38·6
1901 ...	26·7	13·5	47·4	39·1

Rural.

112 entirely rural registration districts with an aggregate population of 1,330,319 persons at the date of the Census of 1901.

1881 ...	19·7	13·1	43·6	43·3
1891 ...	20·5	11·5	44·7	43·8
1901 ...	21·5	10·2	44·6	45·2

The interdependence of birth-rates and of infantile mortality rates has often been alluded to in these reports, and much public interest has latterly been manifested concerning both of these matters. It has therefore been deemed desirable to trace as far as possible the numbers of survivors of the children born in different localities.

For this purpose Table C. on page xxviii showing the combined effects of birth-rate and child mortality during the first five years of life has been constructed. The first column shows the average birth-rate per 1000 of population from the middle of the year 1895 to the middle of the year 1900, and the subsequent columns show approximately to the same scale the survivors of these children at 1, 2, 3, 4, and 5 years of age successively.

* There is considerable difficulty in obtaining returns of legitimate births in most of the above selected urban areas ; it has been found possible, however, to institute a comparison between the legitimate birth-rates recorded in the years 1900-2, in 10 of these large Towns and in the 112 entirely rural registration districts, the results show that the fertility of married women in the aggregate rural areas was 8 per cent. greater than in the aggregate of the 10 urban areas.

TABLE C.—MEAN ANNUAL BIRTH-RATES in each REGISTRATION COUNTY, 1895–1900, and PROPORTION of SURVIVORS at AGES 1–5 YEARS.

Registration Counties.	Births to 1000 living at all ages.	Proportion per 1000 of Population at all ages ;— Survivors at					Of 1000 born the number surviving at age 5.
		1 year.	2 years.	3 years.	4 years.	5 years.	
England and Wales..	29·4	24·8	23·7	23·2	23·0	22·8	774
London	29·9	25·1	23·7	23·2	22·9	22·8	761
Surrey	24·2	21·1	20·5	20·2	20·1	20·0	824
Kent	25·7	22·2	21·4	21·1	21·0	20·8	810
Sussex	23·6	20·7	20·1	19·9	19·7	19·6	833
Hampshire	26·1	22·6	21·9	21·6	21·4	21·3	816
Berkshire	25·3	22·3	21·7	21·5	21·4	21·2	840
Middlesex	27·6	23·5	22·6	22·2	21·9	21·7	786
Hertfordshire.. ..	24·7	22·0	21·4	21·2	21·0	20·9	846
Buckinghamshire ..	26·1	23·1	22·5	22·2	22·1	21·9	841
Oxfordshire	25·1	22·3	21·8	21·6	21·4	21·3	847
Northamptonshire ..	29·0	25·2	24·4	24·1	23·9	23·8	821
Huntingdonshire ..	25·4	22·5	22·0	21·8	21·7	21·7	852
Bedfordshire	25·6	22·4	21·7	21·4	21·3	21·2	826
Cambridgeshire ..	25·7	22·6	21·9	21·7	21·5	21·4	833
Essex	29·7	25·2	24·1	23·7	23·4	23·2	780
Suffolk	27·1	23·8	23·2	22·9	22·8	22·7	838
Norfolk	27·4	23·5	22·7	22·5	22·3	22·2	807
Wiltshire	25·7	23·1	22·5	22·3	22·2	22·1	857
Dorsetshire	24·8	22·2	21·7	21·5	21·3	21·2	857
Devonshire	25·0	21·7	20·9	20·6	20·4	20·3	812
Cornwall	25·0	21·7	20·9	20·7	20·5	20·4	815
Somersetshire ..	26·0	23·1	22·5	22·3	22·1	22·0	846
Gloucestershire ..	26·7	23·2	22·3	21·9	21·7	21·5	807
Herefordshire ..	25·6	22·9	22·4	22·2	22·1	22·0	858
Shropshire	26·6	23·6	23·0	22·7	22·6	22·5	843
Staffordshire	34·2	28·2	26·6	26·1	25·7	25·5	745
Worcestershire ..	28·6	24·6	23·7	23·3	23·1	23·0	801
Warwickshire ..	31·7	26·0	24·7	24·2	23·9	23·7	748
Leicestershire.. ..	30·6	25·7	24·7	24·3	24·0	23·8	778
Rutlandshire	23·5	21·0	20·5	20·3	20·2	20·1	858
Lincolnshire	27·5	23·6	22·8	22·5	22·4	22·2	809
Nottinghamshire ..	31·7	26·3	25·1	24·7	24·4	24·3	766
Derbyshire	31·1	26·5	25·4	25·1	24·8	24·7	792
Cheshire	28·9	24·4	23·3	22·9	22·6	22·5	776
Lancashire	31·0	25·4	23·7	23·1	22·8	22·5	726
West Riding	29·8	24·9	23·5	23·0	22·7	22·5	754
East Riding	30·7	25·5	24·4	24·0	23·7	23·5	767
North Riding.. ..	29·6	25·2	23·9	23·5	23·2	23·0	779
Durham	35·2	29·2	27·5	26·9	26·6	26·3	747
Northumberland ..	32·2	26·8	25·4	24·9	24·6	24·4	757
Cumberland	28·6	24·9	23·9	23·6	23·3	23·2	810
Westmorland.. ..	23·9	21·4	20·9	20·8	20·7	20·6	861
Monmouthshire ..	33·8	28·6	27·2	26·7	26·3	26·1	771
Glamorganshire ..	36·0	29·7	28·2	27·6	27·2	26·9	748
Carmarthenshire ..	29·6	25·4	24·6	24·3	24·0	23·8	805
Pembrokeshire ..	26·6	23·4	22·7	22·5	22·3	22·2	833
Cardiganshire ..	22·7	20·0	19·6	19·4	19·2	19·1	841
Brecknockshire ..	28·7	24·9	24·0	23·7	23·5	23·3	809
Radnorshire	29·8	26·4	25·7	25·4	25·3	25·2	845
Montgomeryshire ..	25·2	22·4	22·0	21·8	21·6	21·6	854
Flintshire	28·1	24·6	23·7	23·4	23·2	23·0	818
Denbighshire.. ..	30·0	25·4	24·5	24·2	23·9	23·7	790
Merionethshire ..	27·0	22·9	22·3	22·1	21·9	21·8	808
Carnarvonshire ..	25·5	21·9	21·2	21·0	20·9	20·7	815
Anglesey	25·5	22·3	21·9	21·6	21·5	21·5	841

The figures in Table C show that there are several counties in which exceptionally high birth-rates prevail, coupled unfortunately with high child mortality rates ; nevertheless in spite of this excessive mortality, this rough Life Table shows these counties as still possessing the largest proportional numbers of survivors at the end of five years. On the other hand, there are several counties in which the birth-rates and the child mortality rates are exceptionally low, and these compare not unfavourably in respect of the upkeep of population at five years of age with those counties in which the birth-rate is moderately high and the child mortality excessive. It may, moreover, be observed that in those localities that suffer from heavy mortality among young children, the survivors at five years of age are unlikely to be as strong on the average as those in more healthy localities.

For the purpose of further comparison the figures for England and Wales, London, Lancashire, three typical Mining Counties, and three typical Agricultural Counties are shown below :—

——	England and Wales.	London.	Lancashire.	Three Mining Counties (Glamorganshire, Staffordshire, and Durham).	Three Agricultural Counties (Herefordshire, Cambridgeshire, and Wiltshire).
	Proportion of Children per 1000 *of Population.*				
At Birth	29·42	29·93	30·98	35·04	25·71
Survivors at :—					
1 year of age	24·82	25·07	25·36	28·95	22·88
2 years „	23·65	23·74	23·70	27·36	22·28
3 „ „	23·23	23·23	23·12	26·78	22·08
4 „ „	22·96	22·95	22·75	26·42	21·94
5 „ „	22·77	22·76	22·49	26·15	21·83
	Proportion of Children per 1000 *Females, 15–45 years.*				
At Birth	117·84	109·36	118·50	151·59	116·23
Survivors at :—					
1 year of age	99·43	91·59	96·99	125·26	103·43
2 years „	94·74	86·72	90·64	118·36	100·69
3 „ „	93·03	84·89	88·43	115·86	99·80
4 „ „	91·96	83·83	87·04	114·30	99·15
5 „ „	91·20	83·18	86·02	113·13	98·68
	Of 1000 *Children born the proportion surviving at each age.*				
At Birth	1000	1000	1000	1000	1000
Survivors at :—					
1 year of age	844	838	819	826	890
2 years „	804	793	765	781	866
3 „ „	789	776	746	764	859
4 „ „	780	767	735	754	853
5 „ „	774	761	726	746	849

In considering these figures it will be well to begin by noticing the proportions based on total population; the birth rates in London and in Lancashire exceeded that recorded in the whole of England and Wales by 51 and 156 per 100,000 of total population respectively. This initial advantage was, however, in both cases lost by extra mortality at the end of the third year; thus the birth rate in these two counties, although comparatively high, is much less effective for the upkeep of the population than is the lower birth rate prevailing in the country as a whole. If we bring the agricultural counties into the comparison, the facts are more striking; per 100,000 of total population there were 422 more children born in the metropolis and 527 more in Lancashire than in the selected rural area, nevertheless at the end of five years the proportionate addition to the population in the agricultural counties closely approximated to that in London and Lancashire. In the principal mining counties, however, the birth rates are, comparatively speaking, so high that, notwithstanding the heavy mortality of young children, the proportionate addition of children aged five years is greater than in London, in Lancashire, in the agricultural counties, or in the country as a whole.

The second section of the Table shows the numbers of children in comparison with the numbers of women aged 15 to 45 years. The results may be summarized in an approximate way as follows:—In England and Wales, as a whole, 1000 possible mothers bear 118 children in a year, and of these children 91 survive to the age of 5 years; in London the same number of possible mothers bear 109 children in a year, 83 of whom survive to the age of 5 years; in Lancashire 119 are born and only 86 survive at 5 years of age; in three mining counties 152 are born and 113 survive at 5 years of age; and in three agricultural counties 116 are born, and 99 of these are living at 5 years of age.

The third section of the Table shows the proportion of children who survive out of every 1000 born. The proportion at the end of 5 years averages 774 in England and Wales, and ranges as high as 849 in the agricultural counties, and as low as 746 in the mining counties and 726 in Lancashire.

In view of the interesting comparison that has been made between counties it may be useful to compare the effects of birth rates and child mortality rates in a few selected towns. In the following statement the figures are given for three provincial towns, for a district in the Potteries, comprising the towns of Hanley, Stoke-upon-Trent, Fenton and Longton, for three boroughs in the East End of London, and for three boroughs in the West End of London.

—	Salford.	Union of Stoke-upon-Trent (Potteries).	Leicester.	Barrow-in-Furness.	Boroughs of Bethnal Green, Shoreditch, and Stepney.	Boroughs of Kensington, Chelsea, and Paddington.
	Proportion of Children per 1000 of Population.					
At Birth ...	34·92	36·66	31·07	29·11	37·59	23·43
Survivors at :—						
1 year of age	27·58	28·59	25·13	24·35	31·03	19·44
2 years „	25·25	26·74	23·91	23·12	29·05	18·43
3 „ „	24·41	25·96	23·45	22·67	28·38	18·07
4 „ „	23·91	25·45	23·12	22·38	28·02	17·90
5 „ „	23·50	25·08	22·95	22·20	27·80	17·77
	Proportion of Children per 1000 Females 15–45 Years.					
At Birth ...	134·00	148·36	113·98	133·36	156·31	69·55
Survivors at :—						
1 year of age	105·84	115·72	92·19	111·56	129·04	57·70
2 years „	96·88	108·24	87·69	105·92	120·80	54·71
3 „ „	93·66	105·08	86·00	103·82	118·00	53·64
4 „ „	91·75	102·99	84·80	102·52	116·52	53·12
5 „ „	90·19	101·52	84·18	101·69	115·61	52·74
	Of 1000 Children Born the Proportion Surviving at each Age.					
At Birth ...	1000	1000	1000	1000	1000	1000
Survivors at :—						
1 year of age	790	780	809	836	826	830
2 years „	723	730	769	794	773	787
3 „ „	699	708	755	778	755	771
4 „ „	685	694	744	769	745	764
5 „ „	673	684	739	763	740	758

Without fully discussing the figures in this table it is sufficient to notice some of their chief characteristics; it should first be mentioned that in Salford, in the Potteries, and in Leicester a high proportion of married women is industrially employed; in these areas high birth-rates prevail, but the wastage of child life is excessive, amounting at the end of the fifth year to a loss of

26 per cent. in Leicester and as much as 32 per cent. in the Potteries, and 33 per cent. in Salford.

The figures for Barrow-in-Furness, where only a small proportion of the married women is engaged in occupations, are more favourable than those for the Potteries, Salford, and Leicester; for instance, the crude birth-rate in Barrow is nearly 2 per 1000 below that in Leicester; nevertheless, at the end of five years the upkeep of population nearly approximates in the two towns. Measuring the birth-rate by the proportion of births to females of conceptive ages, Salford and the Potteries had initial rates in excess of Barrow; but in the latter town the proportionate number of survivors was greater, the wastage of child life up to the end of the fifth year being 24 per cent. in Barrow as compared with 32 per cent. in the Potteries, and 33 per cent. in Salford.

The figures for the typical East and West End Metropolitan boroughs are instructive; per 100,000 women aged 15–45 years there were 15,631 children born in the East End boroughs as against only 6955 in the West End boroughs, but of these numbers there died in the first five years of life 4070, or 260 per 1,000 births, in the Eastern area as compared with 1681, or 242 per 1,000 births, in the Western area.

In comparing these figures, however, certain factors must be taken into account; the population of the East End boroughs contains a high proportion of Jews, and the population of the West End boroughs contains an undue proportion of unmarried women; further it has not been possible to correct the figures for deaths of children occurring in institutions.

There is little doubt that if these life tables were carried beyond five years of age, London, Lancashire, and certain other industrial areas with a high rate of child mortality would compare very unfavourably with the rural counties. It would, however, involve much laborious technical work to carry the calculation on to the later ages; the present results, which have been obtained by a comparatively simple arithmetical process, are sufficient to show that while the high birth-rates prevailing in some of the mining counties yield up to the fifth year a proportionately larger supply of children to the population than any other counties, yet many other industrial areas, notably London and Lancashire, yield a proportional supply of children that is little above that furnished by country districts with exceptionally low birth-rates.

It is on these rural areas, with their comparatively low rates of infantile mortality, that we should depend for the best elements in the up-keep of the population, but unfortunately the country districts have very low birth-rates because they are steadily losing the most vigorous units of their population owing to the migration from agricultural to industrial areas; further, it cannot be too strongly emphasized that the high rates of child mortality prevailing in many of the industrial areas denote conditions of life which most certainly have an adverse effect on the physical well-being of the survivors.

Proportion of Males and Females at Birth.—The births of males numbered 472,886 and the births of females 456,407. The male births were therefore to the female births in the proportion of 1036 to 1000, which was equal to the average proportion in the preceding decennium. Among registration counties with populations exceeding 100,000 persons the highest and lowest proportions of male to female births were :—

Counties.	Highest proportion of Males to 1000 Females.	Counties.	Lowest proportion of Males to 1000 Females.
Denbighshire	1116	West Riding of Yorkshire.	1020
Herefordshire	1081	Suffolk	1015
Leicestershire	1068	Devonshire	1015
Monmouthshire ...	1067	Cornwall	1007
Kent	1062	Carnarvonshire ...	991
East Riding of Yorkshire.	1059	Wiltshire	982

Illegitimate Births.—During the year 1905 the births of 929,293 infants were recorded, and of this number 37,315 were registered as having been born out of wedlock. The measure of illegitimacy is usually obtained by taking the proportion of illegitimate births to the total births; this method, though convenient, is defective mainly because it ignores the varying proportion of unmarried and widowed women in the population.

It is undoubtedly a better method to compare the number of illegitimate births with the number of single and widowed women of conceptive ages, from whom illegitimacy proceeds. The ratios based on this method must, however, for intercensal years, be used with caution, because estimates of sections of the population such as the number of unmarried and widowed females depend on a double assumption* and are therefore specially liable to error.

* (1) As to the rate of change of the population as a whole; (2) as to the proportion which the section under notice bears to the whole.

The proportions of illegitimacy in England and Wales at the four past census periods and in the years 1903–4–5 were as follows :—

Year.	Illegitimate Birth-rates.			
	In proportion to total Births.		In proportion to the Unmarried and Widowed Female population aged 15–45 years.	
	Rate per 1000.	Compared with rate in 1870–2 taken as 100.	Rate per 1000.	Compared with rate in 1870–2 taken as 100.
1870–2... ...	55·6	100·0	17·0	100·0
1880–2... ...	48·5	87·2	14·1	82·9
1890–2... ...	42·8	77·0	10·5	61·8
1900–2... ...	39·2	70·5	8·5	50·0
1903	39·3	70·7	8·4	49·4
1904	39·9	71·8	8·4	49·4
1905	40·2	72·3	8·2	48·2

Comparing the proportion of illegitimate births in England and Wales in the year 1905 with that recorded in the years 1870–72, it will be seen that, based on the standard of total births, the illegitimate rate decreased by about 28 per cent., whereas if the rate is based on the unmarried and widowed female population of conceptive ages the decrease during the same period amounted to over 50 per cent., showing that the fall in the rate of illegitimacy is considerably understated by calculations based on the total number of births. It might be inferred from the rates in the first column of the above statement that the ratio of illegitimacy has shown a slight tendency to increase during the past few years; it is clear, however, that a decrease has occurred in proportion to that section of the population among which illegitimacy can take place.

The following table shows for each registration county the proportions of illegitimate births, based on the numbers of unmarried and widowed females aged 15–45 years, for the four past census periods and for the years 1903, 1904, and 1905.

TABLE D.—MEAN ANNUAL ILLEGITIMATE BIRTH-RATES in each REGISTRATION COUNTY, 1870–1905.

Registration Counties.	Illegitimate Births to 1000 Unmarried and Widowed Females, aged 15–45 years.							Decrease per cent. in each County in 30 years, 1870–2 to 1900–2.
	Three-year periods.				Years.			
	1870–72.	1880–82.	1890–92.	1900–02.	1903.	1904.	1905.	
England and Wales..	17·0	14·1	10·5	8·5	8·4	8·4	8·2	50·0
London	10·3	9·8	8·1	6·9	6·8	7·1	6·8	33·0
Surrey	9·5	8·5	6·6	5·9	5·5	5·8	5·8	37·9
Kent	14·7	12·1	9·3	7·5	7·9	7·5	7·4	49·0
Sussex	13·7	11·5	8·7	7·2	6·4	7·5	7·0	47·4
Hampshire	13·6	11·8	8·5	7·3	7·2	7·2	7·1	46·3
Berkshire	16·8	13·4	10·3	8·7	8·7	8·3	8·6	48·2
Middlesex	9·4	9·4	6·5	5·9	6·1	6·0	5·9	37·2
Hertfordshire.. ..	18·4	15·3	10·4	7·0	7·7	6·6	7·3	62·0
Buckinghamshire ..	19·0	16·5	12·6	9·1	9·3	9·0	8·4	52·1
Oxfordshire	19·0	15·4	10·4	9·0	9·0	10·1	8·1	52·6
Northamptonshire ..	18·7	15·9	11·7	9·1	9·4	8·4	8·6	51·3
Huntingdonshire ..	19·8	14·0	12·9	10·9	8·5	9·1	11·4	44·9
Bedfordshire	21·1	18·0	11·2	8·4	7·7	8·3	8·1	60·2
Cambridgeshire ..	19·3	15·6	12·4	9·6	10·0	10·3	10·2	50·3
Essex	16·2	12·7	9·1	7·3	7·2	7·2	7·0	54·9
Suffolk..	22·0	17·8	14·0	12·0	11·8	10·9	12·6	45·5
Norfolk	27·3	22·6	16·7	13·4	13·5	13·1	13·4	50·9
Wiltshire	17·1	14·7	10·3	9·2	8·9	8·7	8·6	46·2
Dorsetshire	14·2	13·1	9·6	7·2	7·0	6·7	7·8	49·3
Devonshire	14·0	10·6	8·1	6·7	7·1	6·3	6·2	52·1
Cornwall	16·5	14·8	11·2	8·6	8·0	8·1	8·2	47·9
Somersetshire.. ..	13·3	11·3	7·4	6·0	5·8	6·3	6·1	54·9
Gloucestershire ..	12·9	11·6	8·2	6·3	6·7	5·9	5·9	51·2
Herefordshire.. ..	21·4	19·0	13·4	11·2	11·8	11·3	11·4	47·7
Shropshire	28·2	21·8	16·6	12·8	13·6	14·3	12·2	54·6
Staffordshire	24·6	19·4	14·5	11·2	11·3	11·4	11·3	54·5
Worcestershire ..	16·3	13·7	9·2	7·2	7·1	6·8	6·5	55·8
Warwickshire ..	14·9	13·2	9·7	7·6	7·4	7·7	7·5	49·0
Leicestershire ..	19·9	16·1	11·4	8·6	8·1	7·6	8·1	56·8
Rutlandshire	18·1	12·7	7·9	7·2	7·3	6·2	7·0	60·2
Lincolnshire	22·3	18·5	14·2	12·2	12·2	11·9	12·2	45·3
Nottinghamshire ..	24·5	21·7	15·4	12·7	12·8	12·3	12·7	48·2
Derbyshire	22·5	17·7	12·8	10·0	9·7	10·6	9·8	55·6
Cheshire	17·5	14·2	10·3	7·7	7·6	7·5	6·9	56·0
Lancashire	16·2	13·6	10·2	7·9	8·0	7·9	7·6	51·2
West Riding	20·4	16·1	11·4	9·4	9·3	9·3	8·9	53·9
East Riding	23·0	18·2	14·3	12·2	11·9	11·2	12·0	47·0
North Riding.. ..	27·7	20·2	15·4	12·1	11·4	11·4	11·9	56·3
Durham	24·0	18·0	13·8	11·1	11·5	10·6	11·1	53·8
Northumberland ..	21·1	17·9	12·4	10·2	9·9	10·3	9·7	51·7
Cumberland	29·2	23·9	18·6	12·3	13·2	12·3	11·4	57·9
Westmorland.. ..	21·9	17·9	13·1	8·6	9·1	9·7	8·6	60·7
Monmouthshire ..	18·6	15·9	11·3	10·2	8·2	9·2	9·9	45·2
South Wales :—								
Glamorganshire ..	17·7	13·5	10·3	8·5	9·0	9·2	9·1	52·0
Carmarthenshire ..	18·2	13·9	9·4	7·7	9·3	8·0	7·5	57·7
Pembrokeshire ..	21·6	15·9	12·4	8·9	10·0	10·5	10·0	58·8
Cardiganshire ..	16·0	14·8	11·8	8·9	7·3	7·6	8·6	44·4
Brecknockshire ..	19·9	18·0	12·5	10·1	9·0	8·7	9·9	49·2
Radnorshire ..	41·8	33·2	20·1	14·4	13·8	11·6	14·7	65·6
North Wales :—								
Montgomeryshire..	29·5	24·3	16·7	13·1	13·7	13·2	13·4	55·6
Flintshire	18·7	18·4	13·1	9·7	11·0	12·0	10·5	48·1
Denbighshire ..	21·1	17·6	13·4	12·3	11·0	11·3	12·5	41·7
Merionethshire ..	24·4	19·5	16·4	13·5	12·4	13·3	14·7	44·7
Carnarvonshire ..	18·3	13·9	12·7	10·3	9·5	9·8	9·5	43·7
Anglesey	19·7	10·7	15·7	16·1	14·0	16·0	14·7	18·3

Among Registration Counties with populations exceeding 100,000 persons, the highest and lowest proportions of illegitimate births to 1000 unmarried and widowed females aged 15–45 years in the year 1905 were as follows :—

Counties.	Highest Proportions per 1000.	Counties.	Lowest Proportions per 1000.
Norfolk	13·4	Lancashire	7·6
Nottinghamshire ...	12·7	Carmarthenshire ...	7·5
Suffolk...	12·6	Warwickshire	7·5
Denbighshire	12·5	Kent	7·4
Shropshire	12·2	Hertfordshire	7·3
Lincolnshire	12·2	Hampshire	7·1
East Riding of Yorkshire.	12·0	Essex	7·0
		Sussex	7·0
North Riding of Yorkshire.	11·9	Cheshire	6·9
Herefordshire	11·4	London	6·8
Cumberland	11·4	Worcestershire... ...	6·5
Staffordshire	11·3	Devonshire	6·2
Durham	11·1	Somersetshire	6·1
Cambridgeshire ...	10·2	Middlesex	5·9
		Gloucestershire ..	5·9
		Surrey	5·8

It is difficult to explain the variations in the rate of illegitimacy in the several counties ; it is worth noting, however, that a high proportion prevails in nearly all the counties on the Eastern seaboard, and that while there are several counties, such as Denbighshire, Shropshire, the North Riding of Yorkshire, Cumberland, Staffordshire, and Durham, which have both a high legitimate and illegitimate birth-rate, there are on the other hand several other counties, for example, Kent, Hampshire, Sussex, and Devonshire, in which both the legitimate and illegitimate birth-rates are comparatively low.

In many respects illegitimacy is a calamity, and especially so to the children concerned ; it may not be out of place therefore to quote again the remarks on this subject by D. Chr. Bernoulli which appeared in the Sixth Report, relating to the year 1842 :—

"The proportion of illegitimate children cannot serve as a standard of morality : nevertheless a remarkable frequency of

such children is without doubt in many respects a great evil. The invariable fact that the mortality among the illegitimate is far greater than among the legitimate, and that many more of them are still-born, shows clearly enough how much more unfavourable their position is from the first. Who can doubt that their bringing-up is much harder and more difficult? That the existence of a class of men, bound to society by few or no family ties, is not a matter of indifference to the State? The great majority of foundlings are illegitimate, which of itself shows how little, as a general rule, the mothers can or will care for these children. It is beyond doubt that fewer illegitimate children grow up to maturity; that they get through the world with more trouble than children born in wedlock ; that more of them are poor ; and that therefore more of them become criminals. Illegitimacy is in itself an evil to a man, and the State should seek to diminish the number of these births, and carefully inquire to what circumstances any increase is to be ascribed."

Natural increase.—The increase or decrease of population is governed by two factors (1) the balance between births and deaths, and (2) the balance between emigration and immigration. As regards this country the balance between births and deaths has invariably, at least in recent times, resulted in an excess of births over deaths ; in reference to migration, emigrants have invariably exceeded immigrants, at all events since 1851.

Dealing with the question of natural increase, *i.e.*, the excess of births over deaths, it will be observed from the following statement that the average annual rate had fallen from 14·56 per 1,000 living in the quinquennium 1876–1880 to 11·58 per 1,000 in the quinquennium 1896–1900 ; this was due to the birth-rate having declined more rapidly than the death-rate ; in the next period, 1901–1905, the reverse was the case, thereby resulting in the rise in the average annual rate of natural increase to 12·10 per 1,000.

—	Average Annual Birth-rate per 1000 living.	Average Annual Death-rate per 1000 living.	Average Annual rate of increase, by excess of Births over Deaths, per 1000 living.
1876–1880	35·35	20·79	14·56
1881–1885	33·51	19·40	14·11
1886–1890	31·44	18·89	12·55
1891–1895	30·48	18·71	11·77
1896–1900	29·27	17·69	11·58
1901–1905	28·10	16·00	12·10

Deaths.

The deaths registered in England and Wales during the year 1905 numbered 520,031, and were in the proportion of 15·2 per 1000 persons living.

The rate in the year under review was the lowest rate recorded since civil registration was established; it was 1·0 below that recorded in 1904 and was 2·0 per 1000 below the mean rate in the ten years 1895–1904.

Correction of Death-rates for differences of Sex and Age Constitution.—It may here again be as well to call attention to the importance of taking into consideration the sex and age constitution of a population before making a comparison of its death-rate with that of another population.

In order to obtain a fair basis of comparison by eliminating the disparities in death-rates due to differences in sex and age constitution, it has for several years been customary in these Reports and in the Decennial Supplements to calculate the death-rates that would have been recorded in each separate area had its population contained the same proportions of males and of females living at the individual age groups as are contained in the population of the country as a whole.

In practice, the death-rates among males and females at each age group are calculated for the particular locality, and the rates so obtained are then multiplied into the populations at the corresponding age groups in England and Wales. The sum of these products gives the number of deaths that would have occurred in the whole country if the death-rates of males and females respectively had been the same as those which prevailed in the locality under review. By calculating the death-rate based on this aggregate number of deaths a corrected death-rate is obtained which may be regarded as the rate which would have prevailed in the whole country had the death-rates at the several age groups been the same as those recorded in the locality; or more conveniently the rate of mortality that would have prevailed in the particular locality if the sex and age constitution of its population had been the same as that prevailing in the country as a whole. The elimination of error by this method is of course limited by the number of age periods into which the populations and deaths are grouped, but the grouping adopted in the Annual Reports probably gives a very close approximation to accuracy.

This direct method of correction cannot be applied to death-rates in towns, because urban areas are not generally co-extensive with registration areas and consequently the deaths at groups of ages are not available. For the "Annual Summary," which deals with mortality statistics in towns, an indirect method is adopted, which although somewhat less accurate yet practically eliminates the error due to varying constitution of the respective populations.

The mean death-rates for England and Wales (1891–1900) at certain age groups for males and females respectively are applied to the census populations at the corresponding age groups in the several towns; the sum of the results for each town gives the number of deaths that would have occurred had the mortality in each sex and age group been the same as that in England and Wales as a whole, and the death-rate based on this aggregate number of deaths is called the "Standard" rate. The difference between this "Standard" death-rate for any town and the mean rate for the whole country is due to differences of sex and age constitution of population; and the quotient obtained by dividing the death-rate in England and Wales by this standard death-rate gives a multiplier (called the "Factor for Correction"), which, when applied to the death-rate recorded in the town in any given year, eliminates a large proportion of the error due to difference in sex and age constitution.

In the subjoined statement a few examples are given which show the effect of correcting the death-rates for variations in the sex and age constitution of the respective populations—(1) by the "direct method" used in the Annual Reports, and (2) by the "indirect method" used in the "Annual Summaries." Except in the case of a population in which either the sex and age constitution or the mortality at particular ages is very abnormal, it may be said that the results of correction by the two methods differ so little that for all practical purposes either may be used with safety.

——	Crude death-rates. 1891–1900.	Death-rates corrected for sex and age constitution	
		(1) by "direct method" used in Annual Reports.	(2) by "indirect method" used in Annual Summaries.
London	19·20	20·10	20·11
West Riding of Yorkshire...	18·87	20·03	19·98
Lancashire	21·12	22·88	22·98
Norfolk	17·41	14·81	14·93
Herefordshire	17·39	14·57	14·98
Huntingdonshire	16·24	13·07	13·55
Portsmouth	18·07	18·28	18·27
Reading	15·70	16·06	15·98
Ipswich	18·80	18·31	18·34
Norwich	18·89	17·88	17·83

TABLE E.—ENGLAND and WALES: COMPARISON of DEATH-RATES in REGISTRATION COUNTIES BEFORE and AFTER CORRECTION for DIFFERENCES of SEX and AGE-CONSTITUTION, 1905.

Registration County.	Before Correction.	After Correction.
England and Wales	15·2	15·2
London	15·1	15·9
Surrey	12·3	12·4
Kent	13·1	12·6
Sussex	12·8	11·6
Hampshire	14·3	13·6
Berkshire	13·4	12·2
Middlesex	12·4	13·0
Hertfordshire	12·9	11·6
Buckinghamshire	13·1	11·5
Oxfordshire	14·5	12·3
Northamptonshire	12·9	12·1
Huntingdonshire	14·5	11·2
Bedfordshire	12·8	11·5
Cambridgeshire	14·0	11·7
Essex	13·1	13·2
Suffolk	14·3	12·0
Norfolk	15·3	12·6
Wiltshire	13·9	12·0
Dorsetshire	14·1	12·1
Devonshire	15·5	13·7
Cornwall	15·9	13·5
Somersetshire	14·0	12·0
Gloucestershire	14·7	13·9
Herefordshire	15·5	12·5
Shropshire	14·7	12·5
Staffordshire	16·0	16·4
Worcestershire	13·3	13·0
Warwickshire	15·5	15·7
Leicestershire	13·8	13·7
Rutlandshire	13·9	11·3
Lincolnshire	15·8	14·0
Nottinghamshire	15·7	15·7
Derbyshire	14·6	14·9
Cheshire	14·9	15·4
Lancashire	16·9	18·6
West Riding of Yorkshire	15·6	16·6
East Riding of Yorkshire	15·7	15·3
North Riding of Yorkshire	17·0	16·4
Durham	17·3	17·8
Northumberland	16·6	17·2
Cumberland	16·2	15·8
Westmorland	12·8	11·5
Monmouthshire	18·0	18·0
South Wales	16·9	17·1
Glamorganshire	17·1	18·0
Carmarthenshire	16·2	15·5
Pembrokeshire	15·5	13·8
Cardiganshire	18·7	14·9
Brecknockshire	16·9	15·2
Radnorshire	11·0	9·4
North Wales	17·0	15·4
Montgomeryshire	15·9	13·1
Flintshire	16·6	15·3
Denbighshire	17·2	16·2
Merionethshire	18·8	17·1
Carnarvonshire	16·7	15·3
Anglesey	16·8	14·4

On reference to pages 13–16 tables will be found showing for the past 50 years the rates of mortality at 12 groups of ages together with the rates at all ages that would have been recorded in England and Wales had the sex and age constitution of the population throughout the whole period been identical with that found to prevail at the last census; while in Tables 16 and 17 the corrected rates in each registration county for the year 1905 are given for males and females respectively.

In Table E the corrected rates for persons are given together with the corresponding crude rates. It will be seen that correction has increased the death-rate by amounts varying from 0·8 to 1·7 per 1000 in London, Lancashire, West Riding of Yorkshire, and Glamorganshire, while it has diminished the death-rate by more than 2·5 per 1000 in Huntingdonshire, Norfolk, Herefordshire, Rutlandshire, Cardiganshire, and Montgomeryshire.

Among counties with populations exceeding 100,000 persons, the lowest death-rates during the year, after making correction for variations in sex and age constitution, were 11·5 per 1000 in Buckinghamshire and in Bedfordshire, 11·6 in Sussex and in Hertfordshire, and 11·7 in Cambridgeshire, while the highest death-rates were 17·2 in Northumberland, 17·8 in Durham, 18·0 in Monmouthshire and in Glamorganshire, and 18·6 in Lancashire.

Sex.—The 520,031 deaths registered in the year under notice included 267,601 of males and 252,430 of females. The death-rate of males was 16·2, and that of females 14·3 per 1000 living of each sex respectively. Compared with the average corrected rates in the ten years 1895–1904 the male rate showed a decrease of 2·1 per 1000 and the female rate a decrease of 1·8 per 1000. Out of equal numbers estimated to be living in the year 1905 there were 1134 deaths of males to 1000 deaths of females—a ratio corresponding very closely to the decennial average (Table 3).

Ages at Death.—In Tables 12 to 15 will be found the death-rates at various ages for males and females separately, as well as for persons without distinction of sex.

The year under review completes a quinquennium, and consequently the figures now given in Table 15 afford the means of comparing the mortality at various ages in this quinquennium with the mortality at corresponding ages in preceding periods. Excluding rates at ages above 75 years on account of their doubtful accuracy, it will be seen that the mortality among males up to the age group 35–45 years and among females at every age group is the lowest in any quinquennium on record, while if the quinquennium 1901–5 is compared with the immediately preceding one a reduction in the mortality is shown at every age group of each sex.

Taking the rates for the year 1905 and comparing them with the average rates in the ten preceding years, it will be found that

the mortality was below the average in every age group except 85 years and upwards. The greatest saving of life appears to have occurred among children under five years of age, this conclusion being supported to a large extent by the figures relating to infantile mortality. (Tables 3, 12, 13, 14.)

Among males aged 0–5 years and 20–45 years, and among females aged 0–10 years and 25–45 years, the rates in 1905 were lower than any hitherto recorded.

Tables 16 and 17 give the death-rates at the several age groups for males and females separately in each of the registration counties. Excluding the mortality at ages above 75 years, and taking the rates in England and Wales as a standard, it appears from the Tables that the rates were above the standard at every age group among males in Lancashire, Northumberland, and Monmouthshire, and among females in Lancashire and Durham. On the other hand, the rates were below the standard at every age group among males in Surrey, Middlesex, Hertfordshire, Buckinghamshire, Cambridgeshire, Essex, Somersetshire, and Worcestershire, and among females in Surrey, Sussex, Middlesex, Essex, Norfolk, Dorsetshire, and Worcestershire.

Incidentally it may be noted, that in those counties where the death-rates at the several age groups are partly above and partly below the standard, the excessive rates occur in the majority of instances among males aged 20-35 years and among females aged 15–35 years. Reference to the rates shown in Tables 16 and 17 will of course enable a more detailed analysis of the mortality in each county to be made.

Further remarks on age mortality will be found in Dr. Tatham's letter, page lxxviii.

Infantile Mortality.—The deaths of infants under 1 year of age were in the proportion of 128 per 1000 births in the year under notice, as compared with 145 in the year immediately preceding, and 150, the mean proportion in the 10 years 1895–1904. The proportion in 1905 is the lowest hitherto recorded. Proportions closely approximating to this have, however, been previously recorded, notably 130 per 1000 in 1881, and 133 and 132 per 1000 in 1902 and 1903 respectively. (Table 25.)

In each quarter of the year 1905, infantile mortality was below the average, especially so during the second and fourth quarters. It is of course well known that the greatest loss of infant life occurs most frequently in the third quarter of the year. The following table not only exemplifies this, but also shows that large variations in the rate of infantile mortality are confined almost exclusively to the third quarter, excessive mortality in this quarter being associated generally with high temperature and deficient rainfall.

ENGLAND AND WALES—AVERAGE INFANTILE MORTALITY, 1870–1905.

Deaths of Children under one year to 1000 Births.					Meteorology at Greenwich.	
Proportions in complete years ranging from	Average proportions in—				Mean Temperature of Earth at depth of 3 ft. 2 ins.—Third Quarter.	Mean Rainfall—Third Quarter.
	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.		
					°	inches.
128 to 138 (10 years).	141	122	136	140	60·6	8·1
141 to 159 (22 years).	147	128	180	147	62·0	6·5
160 to 163 (4 years).	147	126	220	151	62·5	4·7

The above figures show that in ten of the 36 years under review the meteorological conditions in the third quarter of the year, viz., low temperature and excessive rainfall were conducive to low rates of infantile mortality; while the high temperature and deficient rainfall that prevailed in four of the years increased the loss of infant life in the third quarter by more than 60 per cent.

As in previous years the ratio of infantile mortality varied considerably in different counties, being highest as a rule in those which are urban and industrial in character and lowest in those which are rural. Thus, in the representative group of urban counties the proportion was 139 per 1000 births, against 107 in the group of rural counties. Among registration counties with populations exceeding 100,000 persons, the proportions in 1905 ranged from 82 in Buckinghamshire, 84 in Hertfordshire and in Wiltshire, 85 in Herefordshire, and 86 in Cambridgeshire and in Somersetshire, to 142 in the West Riding of Yorkshire, 143 in Monmouthshire, 146 in Staffordshire, 147 in Lancashire, 153 in Durham, and 155 in Glamorganshire. It will be seen from Table 11 that the wide divergence between the rates in these two sets of Counties is not merely accidental and confined to the year under review, for an analysis of the mean mortality in the preceding ten years furnishes a very similar result.

The improvement in the rate of infantile mortality during the year was shared by nearly all parts of the country. With only two exceptions—Merionethshire and Anglesey—the whole of the English and Welsh counties showed a reduction in 1905 upon the average mortality of the preceding 10 years.

That urban life is not *per se* incompatible with a low rate of infantile mortality would appear from the fact that of the 217 chief

towns of England and Wales with populations exceeding 20,000 each at the last Census, 32 were credited during 1905 with proportions of infantile mortality below 100 per 1000 births.

On the other hand there were 34 towns, mostly mining or industrial centres, in which the rate exceeded 160 per 1000. The following table shows the towns with the lowest and highest rates, respectively :—

Towns with Low Rates of Infantile Mortality.	Deaths under 1 year per 1000 Births.	Towns with High Rates of Infantile Mortality.	Deaths under 1 year per 1000 Births.
Guildford	65	Radcliffe	163
Hornsey	66	Wigan	164
Bromley	67	Mansfield	165
Aldershot	71	Dudley	167
Wimbledon	72	Bolton	167
Tunbridge Wells	74	Gorton	167
Reigate	75	Sheffield	167
Winchester	78	Stockport	168
Wood Green	79	Burnley	173
Hereford	79	Middlesbrough	173
Cambridge	80	Norwich...	174
Handsworth (Staffs.) ...	80	Grimsby	174
Finchley	82	Abertillery...	174
Watford	82	Middleton	176
Bournemouth	83	Stalybridge	178
Worthing	83	Ashton-under-Lyne ...	180
Richmond (Surrey) ...	86	Felling	180
Ilford	86	Leigh (Lancs.)	183
Burton-on-Trent	87	Batley	185
Kings Norton	89	Pontypridd	185
Erith	90	Bilston	188
Bath	91	Fenton	188
Kingston-on-Thames ...	93	Dewsbury	188
Ramsgate	93	Mountain Ash	191
Leyton	94	Merthyr Tydfil	193
Croydon	95	Hanley	195
Taunton	95	Longton	198
Swindon	96	Tunstall	198
Colchester	97	Aberdare	199
Wallasey	98	Rhondda	200
Royal Leamington Spa ...	98	Hyde	201
Bedford	99	Ince-in-Makerfield ...	203
		Burslem	205
		Farnworth...	228

It will be observed that the towns in which low rates of infantile mortality were recorded may generally speaking be described as residential towns or suburbs, while those in which high rates prevailed are largely industrial in character. In no fewer than five of the above towns, Rhondda, Hyde, Ince-in-Makerfield, Burslem and Farnworth, one out of every five children born did not survive the first year of life ; in the last named town the average mortality in the three preceding years also had reached the high rate of 228 per 1000 births, which exceeds the total mortality in the first five years of life in England and Wales as a whole (see page xlvii).

Mortality of Young Children.—Table F embodies in the form of a rough life table the results of mortality during the first five years of life in the several registration counties. These figures, based upon the experience of the years 1895–1904, are here stated conversely as the number of survivors of 1000 births in each county.

This method, while subject to a slight degree of error due to the migration of families, is free from the objection that the results depend—as in Tables 16 and 17—upon a population estimated from numbers enumerated more than four years previously ; for such estimates are vitiated to some extent both by mis-statements of age at the date of the Census and by the continued decline in the birth-rate, which has affected the number of children in the population in degrees varying according to locality.

Every county possesses one feature in common, viz., the rapid decline in the rate of mortality after the first year of life. Taking the figures relating to England and Wales as a whole, it will be seen that of the 226 lives lost during the whole five years out of every thousand born, 156 were lost in the first year, and only 6 in the fifth.

The table shows however that, whether the rate of infantile mortality under 1 year of age or the rate of mortality at all ages under 5 be taken as the criterion, the counties fall very largely into the same categories as regards high or low mortality.

Speaking generally the conditions of child life are most favourable in the southern counties (excepting London), and least so in London, Glamorganshire, and the northern part of the country. Of the 55 registration counties there were 18 in which more than 20 per cent. of the children born did not survive their fifth year. These counties together contained no less than 70 per cent. of the total population enumerated at ages 0–5 years at the last census ; most of the industrial counties and several of the mining counties are included in their number. Among them, the greatest proportional loss of life up to the fifth year of age was 252 per 1000 born in Warwickshire and in Glamorganshire, 253 in Durham, 255 in Staffordshire, and 274 in Lancashire.

On the other hand, there were 7 counties, all rural in character, in which fewer than 150 per 1000 of the children born died during the first five years of life. The proportional loss of life in these counties was as follows :—139 per 1000 in Westmorland, 142 in Herefordshire and in Rutlandshire, 143 in Wiltshire and in Dorsetshire, 146 in Montgomeryshire, and 148 in Huntingdonshire.

TABLE F.—CHILD MORTALITY—Of 1000 CHILDREN BORN in each REGISTRATION COUNTY—1895–1900—the NUMBERS SURVIVING at AGES 1–5 YEARS.

Registration Counties.	Of 1000 born the numbers surviving at each year of age.					
	0–	1	2	3	4	5.
England and Wales	1000	844	804	789	780	774
London	1000	838	793	776	767	761
Surrey	1000	872	845	835	829	824
Kent	1000	864	835	823	816	810
Sussex	1000	880	854	844	838	833
Hampshire	1000	869	840	829	821	816
Berkshire	1000	883	859	850	844	840
Middlesex	1000	851	817	803	793	786
Hertfordshire	1000	889	865	857	850	846
Buckinghamshire	1000	886	861	852	846	841
Oxfordshire	1000	888	867	858	853	847
Northamptonshire	1000	868	842	832	825	821
Huntingdonshire	1000	884	866	859	854	852
Bedfordshire	1000	872	846	825	829	826
Cambridgeshire	1000	876	851	842	837	833
Essex	1000	848	810	796	787	780
Suffolk	1000	880	856	848	842	838
Norfolk	1000	858	829	819	812	807
Wiltshire	1000	899	875	868	862	857
Dorsetshire	1000	897	875	867	861	857
Devonshire	1000	867	835	824	817	812
Cornwall	1000	864	835	825	819	815
Somersetshire	1000	888	864	856	851	846
Gloucestershire	1000	868	836	822	813	807
Herefordshire	1000	893	873	867	861	858
Shropshire	1000	887	862	853	847	843
Staffordshire	1000	824	778	762	752	745
Worcestershire	1000	858	826	814	807	801
Warwickshire	1000	821	779	763	754	748
Leicestershire	1000	839	805	792	783	778
Rutlandshire	1000	895	872	866	861	858
Lincolnshire	1000	857	829	820	813	809
Nottinghamshire	1000	830	791	779	771	766
Derbyshire	1000	852	817	805	798	792
Cheshire	1000	843	803	790	782	776
Lancashire	1000	819	765	746	735	726
West Riding	1000	835	788	772	761	754
East Riding	1000	832	796	783	774	767
North Riding	1000	851	809	794	785	779
Durham	1000	830	781	764	754	747
Northumberland	1000	832	789	773	764	757
Cumberland	1000	869	836	823	815	810
Westmorland	1000	897	876	870	865	861
Monmouthshire	1000	845	804	789	778	771
Glamorganshire	1000	825	783	767	756	748
Carmarthenshire	1000	857	832	820	812	805
Pembrokeshire	1000	878	854	844	838	833
Cardiganshire	1000	881	862	853	847	841
Brecknockshire	1000	867	836	825	816	809
Radnorshire	1000	885	864	854	849	845
Montgomeryshire	1000	886	870	863	858	854
Flintshire	1000	874	843	831	824	818
Denbighshire	1000	847	818	805	796	790
Merionethshire	1000	848	826	817	812	808
Carnarvonshire	1000	861	834	825	819	815
Anglesey	1000	873	856	848	844	841

While the comparison between these two lists of counties is considerably in favour of the rural counties during the first year of life, it is still more so during the subsequent four years. In other words, the conditions which tend to a higher mortality during the first year of life operate with increased effect during the succeeding years.

This will appear more clearly by arranging selected counties as in the following table :—

DEATHS during EACH YEAR of LIFE per 1000 CHILDREN BORN.

——	0–5 Years.	1st Year.	2nd Year.	3rd Year.	4th Year.	5th Year.
England and Wales...	226	156	40	15	9	6
Low Mortality.						
Westmorland ...	139	103	21	6	5	4
Herefordshire ...	142	107	20	6	6	3
Rutlandshire ...	142	105	23	6	5	3
Wiltshire	143	101	24	7	6	5
Dorsetshire	143	103	22	8	6	4
Montgomeryshire ...	146	114	16	7	5	4
Huntingdonshire ...	148	116	18	7	5	2
High Mortality.						
Warwickshire ..	252	179	42	16	9	6
Glamorganshire ...	252	175	42	16	11	8
Durham	253	170	49	17	10	7
Staffordshire	255	176	46	16	10	7
Lancashire	274	181	54	19	11	9

During the first year of life, the mortality in the second group of counties exceeded by about 70 per cent. that in the first group, and during the subsequent four years as a whole it was as much as 126 per cent. in excess.

Infantile Mortality in Relation to Employment of Married Women.—There appears to be a general belief that the employment of married women in industrial occupations is a cause of increased infantile mortality. The extent to which such employment is prejudicial to infant life is, however, difficult to determine; for the fatal risks of infancy in different communities are due to a variety of causes, among which certain social and sanitary conditions—such as overcrowded or otherwise unhealthy dwellings, ignorance or neglect on the part of mothers, and deficient nourishment owing to poverty—may tend to obscure the effect of the factor under present consideration.

Among the 100 English towns for which statistics of infantile mortality are available for the past 10 years the lowest proportions of married women engaged in occupations are found in those towns where but little opportunity for the employment of women is afforded by the principal industries, *e.g.*, coal mining, hardware

manufactures, ship-building; on the other hand, high proportions of occupied married women are found in those towns that are the seat of textile industries.

For the purpose of comparison two groups of 15 towns each containing respectively the lowest and highest proportions of occupied married women, have been selected, and the infantile mortality for two quinquennia has been calculated. The results are shown in the following table :—

Towns.	Of 100 Married or Widowed Women the Proportion "Occupied" in 1901.	Birth-rate per 1000 Females aged 15–45.		Deaths of Children under one year to 1000 Births.	
		1896–00.	1901–5.	1896–00.	1901–5.
GROUP A.—TOWNS in which PROPORTIONS ranging from 4 to 8 per cent. of the MARRIED or WIDOWED WOMEN were returned in 1901 as engaged in Occupations.					
Rhondda	4·0	192·2	192·1	204	189
Aberdare	4·7	159·2	161·1	212	202
St. Helens	5·5	177·0	170·7	178	160
West Hartlepool ...	5·5	140·6	138·7	151	133
Merthyr Tydfil ...	5·7	171·2	178·4	213	188
Jarrow	5·7	153·6	150·8	166	152
Barrow-in-Furness ...	5·8	134·2	146·6	161	127
Middlesbrough ...	6·1	148·6	154·2	183	181
Stockton-on-Tees ...	6·2	141·1	136·5	173	154
Gateshead	6·4	155·1	150·0	180	161
West Bromwich ...	6·8	159·1	151·0	181	156
Burton-on-Trent ...	6·9	129·7	116·5	136	104
Newport (Mon.) ...	7·0	135·1	130·5	168	140
South Shields ...	7·4	151·9	146·2	165	147
Sunderland	7·7	145·8	143·3	174	159
Means of 15 Towns	—	154·2	152·4	179	161
GROUP B.—TOWNS in which PROPORTIONS ranging from 20 to 39 per cent. of the MARRIED or WIDOWED WOMEN were returned in 1901 as engaged in Occupations.					
Oldham	20·0	103·6	93·1	183	157
Worcester	22·7	108·9	99·5	152	152
Rochdale	23·0	89·4	83·4	153	140
Accrington	23·5	98·6	82·9	176	142
Stockport	23·7	115·7	102·7	213	185
Nottingham	24·1	106·6	101·2	192	169
Ashton-under-Lyne ...	24·8	102·4	96·3	200	175
Leicester	25·2	113·4	101·2	191	160
Bury	25·6	89·6	79·3	175	154
Longton	30·5	160·5	147·2	255	206
Preston	30·5	118·8	107·4	236	181
Macclesfield	33·2	96·5	82·8	170	146
Burnley	33·8	117·8	99·8	211	204
Blackburn	37·9	102·9	89·6	198	169
Darwen	39·1	104·1	79·8	180	146
Means of 15 Towns	—	108·2	97·1	196	168

These figures afford presumptive evidence that the industrial employment of married women has had with few exceptions an adverse effect on the birth-rate. A comparison of the average rate in the two classes of towns shows that the birth-rate per 1000 females aged 15–45 years in Group B was lower than that prevailing in Group A by 30 per cent. in the period 1896–1900 and by as much as 36 per cent. in the period 1901–5. The connection between infantile mortality and the employment of married women does not, however, appear to be so intimate; it is true that in the first quinquennium the average proportion of deaths of children under one year to 1000 births was considerably greater in Group B than in Group A; in the second quinquennium, however, the average proportions of infantile mortality in the two groups nearly approximated.

It will also be observed that there are several towns in Group B which, in spite of their comparatively high proportion of occupied married women, do not have an unduly high rate of infantile mortality; while, on the other hand, there are three mining towns in Group A that are conspicuous examples of the reverse condition. The high rate of infantile mortality generally prevailing in mining counties has been alluded to already; in the towns of Rhondda, Aberdare and Merthyr Tydfil this feature is emphasised.

Another factor to be taken into account in comparing the mortality of infants in the two groups of towns is the greater prevalence of illegitimacy in places where a large proportion of women are industrially occupied, it being well known that the rate of mortality among illegitimate children is considerably greater than among the legitimate. A high birth-rate is often associated with a high rate of infantile mortality; it is therefore significant that in Group B, with its high proportion of occupied married women, the birth-rate in the first quinquennium was comparatively low, while the infantile death-rate was exceptionally high; as already stated, however, the mortality in the second quinquennium showed a considerable reduction. Nevertheless it may be generally affirmed that towns with a high proportion of the married women industrially occupied, not only produce proportionally fewer children, but also lose a somewhat greater proportion of this smaller number of children.

Centenarians.—Among the deaths registered during the year there were 58 of reputed centenarians, 11 of whom were males and 47 females. In the preceding three years the numbers had been 56, 53, and 59 respectively.

Urban and Rural Mortality.—At page lxxvi will be found a Table showing the variations in the death-rates, both in 1905 and in the quinquennium 1900–04 in the two groups of counties selected to represent severally the urban and rural areas of England and Wales.

After correction for differences of sex and age constitution of the various populations, the death-rate during 1905 in the urban group was equal to 16·6 per 1000, and in the rural group to 13·2

per 1000. Compared with the average rates in 1900–04, the mortality in the urban group showed a decrease of 1·7 per 1000, and that in the rural group a decrease of 0·5 per 1000.

In the year 1905 the ratio of urban to rural mortality was as 1254 is to 1000, against a ratio of 1331 to 1000 in the five years immediately preceding.

Certification of Causes of Death.—Of the 520,031 deaths registered in England and Wales during the year 1905, the causes of 475,918, or 91·52 per cent., were certified by registered medical practitioners; inquests were held respecting 35,667, or 6·86 per cent.; whilst the causes of the remaining 8,446, or 1·62 per cent., were uncertified. This proportion of uncertified deaths was the same as that recorded in 1904, which was the lowest hitherto recorded.

Of the 8,446 uncertified deaths, 1001, or 11·9 per cent., were not reported to coroners, as compared with 1,094, or 12·3 per cent., in the year 1904.

The subjoined table shows the changes in the proportion of certified deaths, inquest cases, and uncertified deaths to total deaths in the course of the five years 1901–1905 :—

Year.	Proportion per 100 Deaths.				
	Certified by Registered Medical Practitioners.	Inquest Cases.	Uncertified Deaths.		
			Total.	Reported to Coroners.	Not reported to Coroners.
1901 ...	91·52	6·67	1·81	1·50	0·31
1902 ...	91·52	6·68	1·80	1·54	0·26
1903 ...	91·40	6·91	1·69	1·47	0·22
1904 ...	91·85	6·53	1·62	1·42	0·20
1905 ...	91·52	6·86	1·62	1·43	0·19

It will be observed that the decline in the proportion of uncertified deaths is shown more especially in those uncertified deaths which were not reported to Coroners.

In six English counties, Huntingdonshire, Berkshire, Derbyshire, Durham, Herefordshire, and Westmorland, and in six Welsh counties, Carnarvonshire, Montgomeryshire, Cardiganshire, Radnorshire, Pembrokeshire, and Anglesey, the proportions of uncertified deaths were unduly high, ranging from 3·03 to 7·60 per cent. of the total deaths, compared with 1·62 per cent. in the whole of England and Wales. In several of the large towns the proportion per cent. of uncertified deaths was also excessive; it reached 4·0 per cent. in Bootle, Blackburn and Barrow-in-Furness, 4·3 in South Shields, 4·4 in St. Helens, 5·0 in Warrington, and 6·4 in Gateshead.

TABLE G.—CERTIFIED DEATHS, INQUEST CASES, and UNCERTIFIED DEATHS IN 1905, PROPORTIONS per 100 DEATHS in each REGISTRATION COUNTY.

County.	Certified by Registered Medical Practitioners.	Inquest Cases.	Uncertified Deaths.		
			Total.	Reported to Coroners.	Not Reported to Coroners.
England and Wales	91·52	6·86	1·62	1·43	0·19
London { North of Thames ..	88·74	11·17	0·09	0·07	0·02
London { South of Thames ..	91·20	8·40	0·40	0·38	0·02
Surrey	92·10	7·07	0·83	0·76	0·07
Kent	90·59	6·47	2·94	2·75	0·19
Sussex	92·15	7·08	0·77	0·67	0·10
Hampshire	90·86	7·93	1·21	1·15	0·06
Berkshire	91·51	5·37	3·12	3·02	0·10
Middlesex	92·25	7·14	0·61	0·52	0·09
Hertfordshire	93·18	5·12	1·70	1·42	0·28
Buckinghamshire	91·75	6·40	1·85	1·76	0·09
Oxfordshire	92·27	6·07	1·66	1·51	0·15
Northamptonshire	91·65	5·92	2·43	2·13	0·30
Huntingdonshire	91·52	5·45	3·03	2·42	0·61
Bedfordshire	92·28	5·03	2·69	1·78	0·91
Cambridgeshire	92·86	4·64	2·50	2·32	0·18
Essex	91·74	6·61	1·65	1·58	0·07
Suffolk	91·94	5·98	2·08	1·64	0·44
Norfolk	92·04	5·62	2·34	2·17	0·17
Wiltshire	92·99	6·24	0·77	0·66	0·11
Dorsetshire	93·27	4·58	2·15	1·87	0·28
Devonshire	91·85	6·87	1·28	1·20	0·08
Cornwall	91·44	7·30	1·26	1·06	0·20
Somersetshire	92·75	6·45	0·80	0·69	0·11
Gloucestershire	91·20	7·97	0·83	0·61	0·22
Herefordshire	91·42	4·78	3·80	3·17	0·63
Shropshire	90·53	6·92	2·55	2·26	0·29
Staffordshire	91·85	6·31	1·84	1·74	0·10
Worcestershire	92·37	5·47	2·16	2·10	0·06
Warwickshire	91·54	5·65	2·81	2·58	0·23
Leicestershire	92·16	6·43	1·41	1·02	0·39
Rutlandshire	93·99	3·89	2·12	1·77	0·35
Lincolnshire	92·40	5·67	1·93	1·84	0·09
Nottinghamshire	92·57	5·39	2·04	1·74	0·30
Derbyshire	90·48	6·36	3·16	2·91	0·25
Cheshire	91·77	7·49	0·74	0·64	0·10
Lancashire	91·73	6·03	2·24	2·12	0·12
West Riding of Yorkshire ..	91·87	6·78	1·35	1·24	0·11
East Riding of Yorkshire ..	91·41	7·87	0·72	0·69	0·03
North Riding of Yorkshire ..	93·05	5·62	1·33	0·57	0·76
Durham	91·68	5·05	3·27	2·73	0·54
Northumberland	91·49	7·23	1·28	1·13	0·15
Cumberland	93·48	3·64	2·88	2·65	0·23
Westmorland	89·98	5·13	4·89	4·65	0·24
Monmouthshire	92·43	6·43	1·14	0·99	0·15
South Wales :					
Glamorganshire	91·08	8·51	0·41	0·20	0·21
Carmarthenshire	92·59	5·12	2·29	1·56	0·73
Pembrokeshire	89·49	4·98	5·53	2·18	3·35
Cardiganshire	91·81	3·80	4·39	1·97	2·42
Brecknockshire	92·56	5·14	2·30	1·21	1·09
Radnorshire	90·34	5·04	4·62	4·20	0·42
North Wales :					
Montgomeryshire	91·46	4·42	4·12	3·62	0·50
Flintshire	91·40	6·35	2·25	2·05	0·20
Denbighshire	94·08	2·96	2·96	2·25	0·71
Merionethshire	95·46	3·47	1·07	0·99	0·08
Carnarvonshire	92·44	3·95	3·61	1·85	1·76
Anglesey	89·53	2·87	7·60	2·53	5·07

TABLE H.—UNCERTIFIED DEATHS REGISTERED in 1905, ARRANGED according to SEX, AGE, and ASSIGNED CAUSE of DEATH.

Assigned Cause of Death.	Total.	Sex.		Whether Reported to Coroners.		Ages.							
								Years.					
		Males.	Females.	Reported.	Not Reported.	Under 3 months	3 months and under 1 year.	1—	5—	15—	25—	45—	65 and upwards.
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles	90	43	47	83	7	1	28	57	4	—	—	—	—
Scarlet Fever	11	6	5	9	2	2	—	6	3	—	—	—	—
Whooping Cough ..	51	24	27	39	12	3	27	19	2	—	—	—	—
Diphtheria	20	8	12	16	4	—	1	7	10	—	1	1	—
Enteric Fever	1	—	1	—	1	—	—	—	—	—	1	—	—
Diarrhœa	115	66	49	99	16	14	50	31	8	—	4	3	5
Pneumonia	134	71	63	112	22	11	39	37	10	3	9	16	9
Tuberculous Diseases ..	166	102	64	135	31	3	12	14	12	35	69	17	4
Alcoholism	7	2	5	6	1	—	—	—	—	—	5	2	—
Cancer	29	10	19	19	10	—	—	—	—	1	3	16	9
Premature Birth and Congenital Defects.	991	569	422	654	337	972	13	2	4	—	—	—	—
Dentition	125	70	55	118	7	1	74	50	—	—	—	—	—
Epilepsy	127	58	69	122	5	1	1	2	15	10	56	31	11
Convulsions	1639	902	737	1493	146	820	588	220	11	—	—	—	—
Other Nervous Diseases	110	58	52	96	14	3	15	9	8	4	7	32	32
Cerebral Hæmorrhage and Apoplexy, Hemiplegia.	307	161	146	292	15	—	—	—	2	7	29	136	133
Other Circulatory Diseases.	1825	926	899	1757	68	1	2	14	25	45	291	878	569
Bronchitis	500	253	247	453	47	44	88	70	11	3	23	119	142
Other Respiratory Diseases.	130	79	51	120	10	7	12	21	6	4	20	31	29
Digestive Diseases ..	166	84	82	145	21	20	23	9	15	10	20	37	32
Childbirth	37	—	37	34	3	—	—	—	—	5	31	1	—
Violence	75	41	34	71	4	18	4	6	4	7	9	10	17
Atrophy, Debility, &c. ..	377	199	178	288	89	309	52	7	1	—	1	6	1
Old Age	821	391	430	740	81	—	—	—	—	—	—	8	813
Other stated Causes ..	455	231	224	411	44	108	42	31	16	15	47	87	109
Causes not stated ..	137	78	59	133	4	37	14	6	5	—	4	33	38
All Causes — Reported to Coroners	**7,445**					**1818**	**986**	**565**	**153**	**137**	**605**	**1396**	**1785**
All Causes — Not Reported to Coroners	**1,001**					**557**	**99**	**53**	**19**	**12**	**25**	**68**	**168**
All Causes — Males	**4,432**					**1337**	**605**	**320**	**78**	**77**	**322**	**749**	**944**
All Causes — Females	**4,014**					**1038**	**480**	**298**	**94**	**72**	**308**	**715**	**1009**
All Causes — Total	**8,446**					**2375**	**1085**	**618**	**172**	**149**	**630**	**1464**	**1953**

An analysis of the uncertified deaths shows that in the English counties the average proportion of such deaths registered without previous reference to Coroners was as low as 10 per cent., whereas in the Welsh counties the average was as high as 42 per cent.

Table H on page lii shows the uncertified deaths registered in the year 1905, arranged according to sex, age, and assigned cause of death ; distinguishing the cases reported from those not reported to coroners.

It will be noted that about one-fourth of the uncertified cases which were referred to coroners and rather more than one-half of those which were not so referred were of infants under three months of age, and that premature birth, "convulsions" or "debility" were the assigned causes of most of these deaths.

Deaths in Public Institutions.—Of the 520,031 deaths registered during the year, no fewer than 91,597 or 17·61 per cent. occurred in Workhouses and Workhouse Infirmaries, in Hospitals, or in Asylums for the Insane, the proportion during the 10 years immediately preceding having averaged 14·59 per cent.

Thus the present figures confirm those of previous reports to the effect that the proportion ot deaths occurring in public Institutions, although fluctuating slightly from time to time, has a distinct tendency to increase. Taking these Institutions separately, the deaths in Workhouses and Workhouse Infirmaries in 1905 were equal to 9·38 per cent. of the total deaths, against an average of 7·98 per cent. in 1895–1904 ; the deaths in Hospitals were 6·33 per cent. against an average of 5·11 per cent. ; and the deaths in Asylums were 1·90 per cent. against an average of 1·50. The 91,597 deaths in public Institutions registered during the year were equal to a rate of 2·68 per 1,000 of the estimated population of England and Wales, against an average rate in the 10 preceding years of 2·50 per 1,000. Detailed tables, showing the names and descriptions of the several institutions and the numbers of deaths occurring therein, are given on pages 201 to 252 of this Report.

OFFENCES AGAINST THE REGISTRATION ACTS.

In 1905, 38 persons, on prosecution by order of the Registrar-General, were convicted of different offences against the Registration Acts. The offences for which convictions were obtained were as under :—

For giving a false place of birth in order to avoid vaccination	27
For falsifying certificate of birth or death and using same as true	8
For giving false information to the registrar when registering a birth	3

In addition to the above, two unregistered Benefit Societies were prosecuted by the Chief Registrar ot Friendly Societies, at the instance of the Registrar General, for paying money on the deaths

of children under 10 years of age without the production of a Registrar's Certificate of Death, convictions being obtained and fines imposed.

Proceedings were also taken by the Public Prosecutor, at the instance of the Registrar General, (1) for making a false Declaration when giving notice for marriage; (2) for forging the consent of the father of one of the parties to the marriage, and the defendant was sentenced to one month's imprisonment.

Progress of Registration.

The names in the alphabetical indexes of births, deaths, and marriages recorded in the national registers of England and Wales were increased during the year 1905 by 1,970,808, this addition raising the total of names in the indexes, which at the end of 1905 embraced a period of 68½ years, to 110,749,779.

Searches and Certificates.

Besides the certified copies of the registered births, deaths, and marriages kept in England and Wales pursuant to the Registration Acts of 1836 and 1874, a large number of other registers and records are deposited in this Office under statutory and other arrangements. A list of these various registers and records will be found on pages xxix.-xxxii. of the Fifty-eighth Report. Searches may be made in any of these registers, and certificates obtained on payment of the prescribed fees.

During the 52 weeks ended 30th December, 1905, the total number of searches was 65,142, and of certificates issued 50,310; the total amount received in fees was 9,611*l.* 9*s.*

The following Table affords an indication of the extent to which the records in this Office have been utilized by the public for legal evidence of births, deaths, and marriages since 1866 :—

Years.	Total Searches.	Certificates Issued.	Amount Received.
			£ s. d.
1866 (52 weeks)	12,135	10,017	1,860 15 6
1875 (52 weeks)	26,356	20,282	3,879 15 6
1885 (52 weeks)	36,450	27,682	5,317 13 6
1895 (52 weeks)	53,289	35,727	7,200 12 6
1896 (53 weeks)	57,444	37,435	7,600 0 6
1897 (52 weeks)	58,664	37,485	7,686 8 6
1898 (52 weeks)	63,825	41,143	8,450 19 6
1899 (52 weeks)	57,670	44,793	8,551 19 6
1900 (52 weeks)	57,895	45,479	8,658 9 6
1901 (52 weeks)	58,445	45,254	8,645 10 0
1902 (53 weeks)	61,437	48,262	9,177 15 0
1903 (52 weeks)	63,519	49,469	9,437 9 6
1904 (52 weeks)	62,270	48,658	9,274 12 0
1905 (52 weeks)	65,142	50,310	9,611 9 0

United Kingdom :—Changes in the Marriage-rate to Total Population, Value of Exports and Imports, and Price of Wheat, 1865–1905.

Years.	Marriage-rate Per 1000 persons living.	Value per Head of Population of United Kingdom.			Average Price of Wheat per Quarter.
		Exports of British Produce.	Imports.	Total Exports and Imports.	
Cols.	1.	2.	3.	4.	5.
		£ s. d.	£ s. d.	£ s. d.	s. d.
1865	16·0	5 10 10	9 1 2	16 7 5	41 10
1866	16·0	6 5 4	9 15 11	17 14 5	49 11
1867	15·2	5 19 0	9 1 0	16 9 6	64 5
1868	14·8	5 17 1	9 12 1	17 0 6	63 9
1869	14·6	6 2 8	9 10 9	17 3 9	48 2
1870	15·0	6 7 8	9 14 1	17 10 3	46 10
1871	15·4	7 1 5	10 9 10	19 9 6	56 8
1872	15·9	8 0 10	11 2 7	21 0 0	57 0
1873	16·0	7 18 7	11 10 10	21 4 2	58 8
1874	15·6	7 7 5	11 7 9	20 11 0	55 8
1875	15·3	6 16 2	11 7 10	19 19 4	45 2
1876	15·3	6 0 11	11 6 1	19 0 10	46 2
1877	14·6	5 18 6	11 15 0	19 5 5	56 9
1878	14·1	5 13 8	10 17 5	18 2 1	46 5
1879	13·3	5 11 9	10 11 9	17 16 10	43 10
1880	13·6	6 8 11	11 17 8	20 3 3	44 4
1881	14·0	6 14 0	11 7 4	19 17 5	45 4
1882	14·4	6 17 2	11 14 7	20 8 10	45 1
1883	14·4	6 15 4	12 0 10	20 13 2	41 7
1884	14·1	6 10 6	10 18 4	19 4 1	35 8
1885	13·6	5 18 4	10 6 0	17 16 9	32 10
1886	13·3	5 17 2	9 12 8	17 0 10	31 0
1887	13·5	6 1 3	9 17 11	17 11 8	32 6
1888	13·5	6 7 2	10 10 3	18 12 2	31 10
1889	14·1	6 13 11	11 10 1	19 19 10	29 9
1890	14·5	7 0 7	11 4 6	19 19 7	31 11
1891	14·6	6 10 10	11 10 5	19 13 11	37 0
1892	14·5	5 19 2	11 2 3	18 15 3	30 3
1893	13·9	5 13 5	10 10 3	17 14 3	26 4
1894	14·2	5 11 2	10 10 2	17 11 1	22 10
1895	14·3	5 15 4	10 12 6	17 18 3	23 1
1896	15·0	6 1 4	11 3 2	18 12 10	26 2
1897	15·2	5 17 2	11 5 7	18 12 9	30 2
1898	15·4	5 15 7	11 13 1	18 18 8	34 0
1899	15·6	6 9 9	11 17 11	19 19 7	25 8
1900	15·1	7 1 6	12 14 3	21 6 5	26 11
1901	15·1	6 14 9	12 11 3	20 18 8	26 9
1902	15·1	6 15 1	12 11 10	20 18 4	28 1
1903	14·9	6 17 3	12 16 1	21 6 3	26 9
1904	14·6	7 0 6	12 17 6	21 10 11	28 4
1905	14·6	7 12 7	13 1 5	22 10 1	29 8

United Kingdom. (*See* Table 45, p. 94.)

The population of the United Kingdom estimated to the middle of the year 1905, amounted to 43,221,145; that of England and Wales to 34,152,977, of Scotland to 4,676,603, and of Ireland to 4,391,565. During the year 1,163,506 births and 669,628 deaths were registered. The natural increase of population was, therefore, 493,878. The number of persons married during the year was 630,126.

The annual birth, death, and marriage rates were 26·9, 15·5, and 14·6 respectively, per 1000 persons living.

The preceding Table (p. lv) shows the changes, during a series of years, in the marriage-rate to total population; and also the changes in the value of exports and imports, and in the price of wheat, as derived from the Board of Trade Statistical Abstracts.

Mortality in the Army.*

The average strength of the Army at home and abroad in 1905 was 274,158, and the deaths during the year numbered 1,526, giving a death-rate of 5·6 per 1000, as compared with 15·1, 10·6, 7·0, and 6·0 per 1000 respectively, in the years 1901–1904. The mortality in the Army abroad was 8·0 per 1000, against 19·1, 13·5, 8·6 and 8·5 respectively in the same four years. The mortality of the Army at home was 2·9 per 1000, against 6·2, 4·9, 5·1 and 3·3. (Table 36.)

Mortality in the Navy.†

The average strength of the service afloat was 111,020. The deaths during the year numbered 433, being in the proportion of 3·9 per 1000 of the strength, against an average of 5·4 per 1000 in the six years immediately preceding. Of the 433 deaths in 1905, 305 were caused by disease and 128 by violence; the death-rate from disease was therefore 2·74 per 1000, and that from violence 1·15 per 1000. Of the deaths from violence, 115 were accidental, and 13 were suicidal; the accidental deaths included 41 cases of suffocation from submersion, 14 from suffocation in Submarine A-8, and 3 from heatstroke. (Table 37.)

Births and Deaths at Sea.

Marine Register Book.—In accordance with the Births and Deaths Registration Act of 1874 and the Merchant Shipping Act of 1894, Commanding Officers of Ships trading to or from British Ports are required, under penalty, to transmit returns of all births and deaths occurring on board their ships to the Registrar-General of Shipping

* Based on War Office Returns.
† Based on Admiralty Returns.

and Seamen, who furnishes certified copies of such returns to the Registrars-General of Births and Deaths for England, Scotland, and Ireland. Similar returns are furnished by persons having charge of His Majesty's Ships directly to the Registrars-General of Births and Deaths. These returns of births and deaths at sea constitute the "Marine Register Book." During the year 1905, this register was increased by the addition of 194 entries of birth and 2684 entries of death.

Mercantile Marine.—A Return received from the Marine Department of the Board of Trade shows the number of, and the mortality among, masters and seamen employed in sea-going vessels (excluding fishing vessels and yachts) registered in the United Kingdom and the Isle of Man under the Merchant Shipping Act in the fifteen years 1891–1905. In the year 1904 the number employed was 234,577, of whom 32,466 were employed in sailing vessels, being 2,282 fewer than in the preceding year, and 202,111 in steam vessels, being 3,377 more than in the preceding year.

The reported deaths from all causes in sailing or steam vessels during the year ended 30th June, 1905, numbered 2,303, of which 1,159 resulted from disease, suicide, &c., 610 from wreck or casualty to ship, and 534 from accident other than wreck or casualty to ship, showing a death-rate from all causes of 9·8 per 1000 of the strength; this rate was 1·5 per 1000 below the mean rate in the previous five years. (Table 38.)

International Vital Statistics.

Since the year 1844 it has been customary to publish in these Reports a number of Tables showing the population, marriages, births, and deaths for a series of years in the principal European countries.

In the two previous Annual Reports the scope of these International Returns was extended to include particulars relating to infantile mortality, and to mortality from the principal epidemic diseases, from pulmonary tuberculosis, and from cancer, see pages 92–126; while those of our Colonies in which records of Vital Statistics had been kept were asked to contribute similar returns. In addition to these valuable Tables, data have now been obtained, for the first time, relating to the fertility of married women in several countries. The following remarks are based upon the information so courteously furnished by the Presidents of the Foreign Statistical Bureaux and by our own Colonial Authorities.

In earlier sections of this Report, dealing with the marriages, births, and deaths recorded in England and Wales, it is stated that, in comparing the marriage, birth, and death rates of one country or community with those of another, the total population is not always the most satisfactory basis for the calculation of rates. Owing, however, to the difficulty of satisfactorily estimating for intercensal years the numbers in particular sections of populations,

and of ascertaining the sex and age constitutions of the populations in the several countries, it has only been found practicable for the purposes of International Statistics to use the total population as the basis for calculating these proportions.

The tables in this part of the Report give, for each of the countries from which returns have been received, the average marriage, birth, and death rates per 1000 of the population living, and the average proportion of deaths of children under one year of age to 1000 births, (1) for the ten years 1895–1904, and (2) for the year 1905 ; while in addition tables are given showing for

MARRIAGES.

Country.	Persons married to 1000 living.		Country.	Persons married to 1000 living.	
	Average Annual rate in 10 years, 1895–1904.	1905.		Average Annual rate in 10 years, 1895–1904.	1905.
Servia	19·6	19·8	The Netherlands...	14·9	14·6
Western Australia	18·8	17·0	New Zealand ...	14·8	16·6
Bulgaria	18·0	?	Denmark	14·6	14·3
Russia (European)	17·9*	?	Italy	14·4	15·2
Japan	17·5†	?	Scotland	14·3	13·4
Hungary	17·2	16·8	Finland	14·1	?
Prussia	16·5	16·2	New South Wales	14·1	14·8
German Empire ...	16·4	?	Tasmania	13·9	15·2
Belgium	16·4	?	Victoria	13·2	14·5
Austria	16·0	?	Norway	13·2	11·6
England & Wales	**15·8**	**15·3**	South Australia ...	12·7	14·0
Spain	15·8	14·4	Queensland ...	12·5	12·1
Ceylon	15·7	11·7	Sweden	12·0	11·7
Roumania... ...	15·7*	15·8	Ireland	10·1	10·5
Switzerland ...	15·2	15·2	Chili	9·7	10·1
France	15·2	15·4	Jamaica	8·7	7·6

* Average for 10 years, 1892-1901.
† Average for 10 years, 1894-1903.

certain countries the legitimate birth-rate in proportion to the number of married women of conceptive ages, and the average ratio of deaths from pulmonary tuberculosis and from cancer. As the number of countries which have as yet furnished statistics for the year 1905 is limited, the several average rates in the previous ten years have been taken as standards for comparison, the countries being arranged in the order of the highest average proportions.

Marriages.—Some of the disparity between the marriage-rates shown in the foregoing table is undoubtedly due to differences in the age-constitution and to variations in the sex proportions of the populations of the several countries. The difficulty of obtaining complete data, before alluded to, makes it necessary to restrict the comparison to the crude rates per 1000 living.

Taking as a standard the average rate in England and Wales in 1895–1904, viz., 15·8 per 1000, it will be seen that 7 European countries were above and 9 were below this standard, while in Spain the rate was equal to that in England and Wales. The extent of the variation throughout the continent was from 3·8 above the English rate in Servia, to 3·8 below it in Sweden ; the rates were 2·2 per 1000 above the standard in Bulgaria, 2·1 in Russia, 1·4 in Hungary, 0·6 in the German Empire and in Belgium, and 0·2 in Austria ; while they were 0·2 below in Roumania, 0·6 in Switzerland and in France, 0·9 in the Netherlands, 1·2 in Denmark, 1·4 in Italy, 1·7 in Finland, and 2·6 in Norway.

In New Zealand and in all the States of the Australian Commonwealth, except Western Australia, the average marriage-rates were considerably below the English rate ; this was also the case in Scotland, while in Ireland the rate did not exceed 10·1 per 1000 of total population as compared with 15·8 per 1000 in England and Wales.

Births.—The decline of the birth-rate in most of the continental countries, which has been noted in our recent reports, at present shows no sign of being arrested ; in all the European States for which returns are available the rates for the year 1905 were, with the exception of that recorded in Spain, below the average for the previous ten years.

In proportion to the total population of both sexes and all ages the average annual birth-rate in England and Wales in the ten years 1895–1904 was 29·0 per 1000 living. It appears from the Table on page lx that this ratio was exceeded in no fewer than 13 European countries, while in only 4 others were the average rates below that recorded in this country.

Legitimate Natality.—While it is recognised that the statistics obtained by calculating the birth-rate in proportion to total population are of considerable value, it is at the same time very desirable to inquire, as far as possible, into the forces that are at work in producing such wide discrepancies between the crude birth-rates in the various countries. These discrepancies are to some extent due to variations in the civil condition and in the sex and age

BIRTHS.

Country.	Births to 1000 living.		Country.	Births to 1000 living.	
	Average Annual rate in 10 years, 1895–1904.	1905.		Average Annual rate in 10 years, 1895–1904.	1905.
Russia (European)	48·7*	?	Denmark	29·7	28·4
Bulgaria	40·8	?	Norway	29·7	27·4
Roumania	40·2	38·6	Scotland	29·7	28·1
Servia	40·1	37·3	**England & Wales**	**29·0**	**27·2**
Hungary	38·9	35·7	Tasmania	28·8	29·3
Jamaica	38·9	38·8	Western Australia	28·7	30·3
Ceylon	37·2	38·7	Queensland ...	28·6	25·9
Austria	36·9	?	Belgium	28·5	?
Prussia	36·0	33·5	Switzerland ...	28·3	27·4
German Empire ...	35·5	?	New South Wales	27·8	26·7
Chili	34·8	35·1	Sweden	26·7	25·7
Spain	34·8	35·3	South Australia ...	26·4	23·8
Italy	33·5	32·3	New Zealand ...	26·1	27·2
Finland	32·2	?	Victoria	26·0	24·8
The Netherlands ...	32·1	30·8	Ireland	23·2	23·4
Japan	31·1†	?	France	21·7	20·6

* Average for 10 years, 1892–1901.
† Average for 10 years, 1894–1903.

constitution of the several populations; with a view, therefore, to eliminate as far as possible these disturbing factors an attempt has been made to obtain from those countries which possess the requisite data, comparative statistics of the fertility of their married women, and although it has not been practicable to correct these statistics for differences in the age constitution of the wives of reproductive ages in each State, they nevertheless form a valuable measure of human fertility in the several countries.

In order to avoid errors which might arise from erroneous estimates for intercensal years of the number of married women of conceptive ages, the calculations have been limited to the three

last census periods; while for the sake of uniformity the child-bearing period has been fixed at 15–45 years. Stated in tabular form the results of the inquiry are as follows:—

LEGITIMATE BIRTH-RATES.

Country. (Arranged in order of rates in 1900–2.)	Proportion of Legitimate Births per 1000 Wives aged 15–45 years.			Increase (+) or Decrease (—) per cent. in Fertility during 20 years.
	Approximate periods.			
	1880–82.	1890–92.	1900–02.	
European Countries.				
The Netherlands	347·5	338·8	315·3	— 9·3
Norway	314·5	306·8	302·8	— 3·7
Prussia	312·6	307·6	290·4	— 7·1
Ireland	282·9	287·6	289·4	+ 2·3
German Empire	310·2	300·9	284·2	— 8·4
Austria	281·4	292·4	283·7	+ 0·8
Scotland	311·5	296·4	271·8	— 12·7
Italy	276·2	?	269·4	— 2·5
Sweden	293·0	280·0	269·0	— 8·2
Switzerland	284·1	274·0	265·9	— 6·4
Denmark	287·1	278·1	259·1	— 9·8
Spain	257·7	263·9	258·7	+ 0·4
Belgium	312·7	285·1	250·7	— 19·8
England and Wales ...	**286·0**	**263·8**	**235·5**	**—17·7**
France	196·2	173·5	157·5	— 19·7
Australian Commonwealth.				
Tasmania	?	311·0	256·4	?
Queensland	329·0	320·6	252·8	— 23·2
Western Australia* ...	323·9	338·8	246·4	— 23·9
South Australia ...	326·5	307·5	235·0	— 28·0
New South Wales ...	337·8	298·5	234·3	— 30·6
Victoria	299·2	297·8	226·8	— 24·2
New Zealand	322·1	277·5	243·2	— 24·5

* The legitimate births in Western Australia are not precisely known, but are estimated to be 95 per cent. of the total births.

In reviewing these important figures it appears that among the European countries from which it has been possible to obtain returns, there were only two—Austria and Spain—in which the fertility of wives during the 20 years (1881–1901) showed a tendency to increase, and this also applied to Ireland. In all of the remaining countries a decrease in human fertility had taken place in the period under review ranging from 2·5 to as much as 19·8 per cent. There were two countries, Italy and Norway, in which the fall was only 2·5 and 3·7 per cent. respectively; in five others, Switzerland, Sweden, the German Empire, the

DEATHS.

Country.	Deaths to 1000 living.		Country.	Deaths to 1000 living.	
	Average annual rate in 10 years, 1895–1904.	1905.		Average annual rate in 10 years, 1895–1904.	1905.
Russia (European)	33·6*	?	Switzerland ..	18·1	17·9
Chili	28·8	32·3	Ireland	18·0	17·1
Spain	27·8	25·9	Belgium	17·8	?
Hungary	27·3	27·8	Scotland	17·8	15·9
Ceylon	26·8	27·7	**England & Wales**	**17·2**	**15·2**
Roumania	26·8	25·0	The Netherlands...	17·0	15·3
Austria	25·2	?	Denmark	15·8	15·0
Servia	23·9	24·4	Sweden	15·8	15·6
Bulgaria	23·9	?	Norway	15·1	14·8
Italy	22·7	21·7	Western Australia	14·6	10·8
Jamaica	22·4	21·9	Victoria	13·3	12·1
German Empire ...	20·8	?	Tasmania	11·8	10·1
Prussia	20·5	19·6	Queensland ...	11·8	10·5
Japan	20·5†	?	New South Wales	11·7	10·1
France	20·4	19·6	South Australia ...	11·5	10·1
Finland	18·7	?	New Zealand ...	9·8	9·3

* Average for 10 years, 1892–1901.
† Average for 10 years, 1894–1903.

Netherlands, and Denmark, the decreases ranged from 6·4 to 9·8 per cent., in Scotland the decrease was 12·7 per cent., in England and Wales 17·7 per cent., in France 19·7 per cent., and in Belgium 19·8 per cent.

In New Zealand and in the States of the Australian Commonwealth, the decrease in legitimate natality in the period 1881–1901 ranged from 23·2 to 30·6 per cent.

It is obvious that there must be some universal cause operating throughout these civilized countries to account for the phenomenon of a general decline in human fertility, and apart from any decrease which may be due to changes in the age constitution of the married women of conceptive ages, there is strong ground for the assumption that in greater or lesser degree the chief cause has been the deliberate restriction of child-bearing on the part of the people themselves.

Deaths.—In all the Countries mentioned in the foregoing Table, the death-rate has, in recent years, shown a general tendency to decline, while the rates for the year 1905 were, with the exception of those recorded in Hungary, Servia and Ceylon, below the average for the previous ten years.

The average annual death-rate in England and Wales in the ten years 1895–1904 was 17·2 per 1000 living, and it appears from the above Table that this ratio was exceeded in all Countries for which returns are available, except in the Netherlands, Denmark, Sweden, Norway and the Australasian States.

Natural Increase.—Assuming the registration of births and deaths in the countries dealt with to be reasonably accurate, the rates of natural increase of population in the several countries can be compared by taking the difference between the birth and death rates. The countries in which the highest birth-rates obtain are not invariably those in which the highest rates of natural increase prevail, the growth of population depending upon the death-rate as well as upon the birth-rate, the two factors being to a considerable extent inter-dependent.

The average rate of natural increase shows wide variations in the several countries.

The average annual rate in England and Wales in the ten years 1895–1904 was 11·8 per 1000 of the total population; taking this figure as a criterion it will be seen that in proportion to total population the natural increment was exceptionally high in the Australasian colonies, in the Balkan States, in the German Empire, and in Russia; while it was about equal to the English average in Scotland and in the Austrian Empire, and below it in Sweden, Italy, Belgium, Japan, Switzerland, and Spain; in Ireland the rate was very low, being only 5·2 per 1000 of population, while in France the natural rate of increase was no more than 1·3 per 1000 of population per annum.

NATURAL INCREASE.

Country.	Average annual increase, by excess of births over deaths, per 1000 of the population, 1895–1904.	Country.	Average annual increase, by excess of births over deaths, per 1000 of the population, 1895–1904.
Tasmania	17·0	Roumania	13·4
Bulgaria...	16·9	Victoria	12·7
Queensland	16·8	Scotland...	11·9
Jamaica	16·5	**England & Wales** ...	**11·8**
New Zealand	16·3	Austria	11·7
Servia	16·2	Hungary	11·6
New South Wales ...	16·1	Sweden	10·9
Prussia	15·5	Italy	10·8
Russia (European) ...	15·1*	Belgium...	10·7
The Netherlands ...	15·1	Japan	10·6†
South Australia... ...	14·9	Ceylon	10·4
German Empire ...	14·7	Switzerland	10·2
Norway	14·6	Spain	7·0
Western Australia ...	14·1	Chili	6·0
Denmark	13·9	Ireland	5·2
Finland	13·5	France	1·3

* Average for 10 years, 1892–1901.
† Average for 10 years, 1894–1903.

Infantile Mortality.—With few exceptions those countries in which a high birth-rate prevails are those in which a high rate of infantile mortality obtains ; nevertheless, as is the case in France, a comparatively high rate of infantile mortality is sometimes coincident with a comparatively low birth-rate.

Measured by the proportion of deaths of children under one year of age to total births, the average annual rate of infantile mortality in England and Wales in the ten years 1895–1904 was 150 per 1000 births. Taking this figure as a standard it appears from the Table that in ten European countries and in Ceylon,

Jamaica, and Chili the rates of infantile mortality were above the English rate. In Japan it was about equal to, while in seven European countries, in Scotland, in Ireland, in New Zealand, and in all the States of the Australian Commonwealth, the rates were below the average recorded in England and Wales.

INFANTILE MORTALITY.

Country.	Deaths of Children under 1 year to 1000 Births.		Country.	Deaths of Children under 1 year to 1000 Births.	
	Average Annual rate in 10 years, 1895–1904.	1905.		Average Annual rate in 10 years, 1895–1904.	1905.
Chili	326*	?	Western Australia	147	104
Russia (European)	268†	?	Bulgaria	144*	?
Austria	224‡	?	Switzerland ...	142	129
Roumania	218§	?	Finland	134	?
Hungary	216	230	Denmark	127	?
Prussia	197	198	Scotland	126	?
Spain	182¶	?	New South Wales	108	81
Jamaica	176	165	Victoria	105	83
Italy	170	?	Ireland	103	95
Ceylon	169	176	South Australia ...	102	73
Belgium	156	?	Queensland ...	101	76
France	153	?	Sweden	98*	?
Servia	154	165	Tasmania	94	80
Japan	151†	?	Norway	90	?
England & Wales	**150**	**128**	New Zealand ...	79	68
The Netherlands...	147	131			

* Average for 10 years, 1894–1903.
‡ „ „ 8 „ 1895–1902.
¶ „ „ 5 „ 1900–1904.
† Average for 10 years, 1892–1901.
§ „ „ 10 „ 1890–1899.

Pulmonary Tuberculosis and Cancer.—Disregarding possible variations in the methods of classification of the deaths, as well as in the sex and age constitution of the populations,

it is possible to make a rough comparison among several Countries, of the relative incidence of mortality from these two important diseases. Several States were unable to furnish complete returns of mortality from phthisis and cancer. For example no comparison can be instituted as regards France, Denmark, Sweden, or Bulgaria, as the statistics of those Countries are limited to towns only; while in the case of Hungary and Prussia the returns comprise deaths from all forms of tuberculosis, and in Italy from general tuberculosis, and do not give separately those from pulmonary tuberculosis; in Hungary and Prussia, however, the average death-rate from all forms of tuberculosis is in excess of that in England and Wales.

Pulmonary Tuberculosis.—It will be seen from the following Table that of the ten European Countries that furnished returns,

PULMONARY TUBERCULOSIS.

Country.	Deaths to 1000 living.		Country.	Deaths to 1000 living.	
	Average annual rate in 10 years, 1895–1904.	1905.		Average annual rate in 10 years, 1895–1904.	1905.
Hungary*	3·73†	4·42	Japan	1·41‡	?
Austria	3·46‡	?	Belgium	1·35	?
Servia	2·45	3·32	**England & Wales**	**1·29**	**1·14**
Ireland	2·15	2·10	Italy*	1·22	1·18
Prussia*	2·04	1·90	Victoria	1·18	1·02
German Empire ...	2·02	?	Ceylon	0·89	0·96
Norway	1·99	?	South Australia ...	0·87	0·75
Switzerland ...	1·91	?	Queensland ...	0·86	0·76
Jamaica	1·60	1·52	New South Wales	0·81	0·70
Scotland	1·59	?	New Zealand ...	0·77	0·57
The Netherlands ...	1·54	1·36	Western Australia	0·70	0·65
Spain	1·44§	?	Tasmania	0·67	0·75

* In Hungary and in Prussia the figures relate to deaths from all forms of tuberculosis, and in Italy the figures include deaths from general tuberculosis.
† Average for 8 years, 1897–1904.
‡ Average for 10 years, 1894–1903.
§ Average for 5 years, 1900–04.

in all except Italy, the average death-rate from pulmonary tuberculosis exceeded that of England and Wales.

The rate of mortality was excessive in Ireland and high in Scotland. In New Zealand and in all the States of the Australian Commonwealth it was well below the English rate.

In England and Wales, in Scotland, and in five European Countries, viz.:—the German Empire, the Netherlands, Belgium, Norway, and Italy, a diminution in the death-rate from this disease has taken place in recent years; on the other hand the death-rate in the Austrian Empire, in Servia, and in Ireland is abnormally high and shows no general tendency to decrease.

CANCER.

Country.	Deaths to 1000 living.		Country.	Deaths to 1000 living.	
	Average annual rate in 10 years, 1895–1904.	1905.		Average annual rate in 10 years, 1895–1904.	1905.
Switzerland ...	1·28	?	New South Wales	0·57	0·65
The Netherlands ...	0·93	1·01	Ceylon	0·56	0·53
Norway	0·87	?	Tasmania	0·55	0·54
England & Wales	**0·82**	**0·89**	Italy	0·52	0·58
Scotland	0·79	?	Japan	0·49†	?
German Empire ...	0·73	?	Queensland ...	0·48	0·67
Victoria	0·70	0·79	Spain	0·43‡	?
Austria	0·69*	?	Western Australia	0·35	0·51
New Zealand ...	0·62	0·65	Hungary	0.34§	0·40
Ireland	0·61	0·75	Jamaica	0·16	0·19
Prussia	0·60	0·69	Servia	0·08	0·10
South Australia ...	0·59	0·67			

* Average for 10 years, 1894–1903.
† Average for 5 years 1899–1903.
‡ Average for 5 years, 1900–04.
§ Average for 8 years, 1897–1904.

Cancer.—Of the limited number of Countries that were able to furnish returns, it will be seen from the above table that the average death-rate from this disease exceeded that recorded

in England and Wales, in three Countries only, viz.:—Switzerland, the Netherlands, and Norway. In the German and Austrian Empires, in Italy, in Spain, and in Servia, the mortality rates were below the English rate. This was also the case in Scotland, in Ireland, in New Zealand, in the States of the Australian Commonwealth, in Ceylon, in Jamaica and in Japan.

In all the Countries, except Ceylon, Tasmania, and Jamaica, from which returns have been received, the proportionate mortality from cancer has shown, in recent years, a general tendency to increase.

In comparing the rates of cancer mortality it is necessary to take into account the fact that deaths due to malignant disease may be more accurately classified in some countries than in others, and also that cancer is a disease mainly confined to adult life. There are no means available for correcting the differences due to imperfect classification, or to variations in the age constitution of the several populations, consequently the death-rates from malignant disease given in the foregoing table must be used with caution.

Final Remarks.

In several of the Annual Reports that I have had the honour of submitting to the notice of your predecessors or yourself the successive steps have been set forth by which improvement has gradually been effected in the Vital Statistics prepared in this Office relating to England and Wales.

I desire to draw attention to the fact that in the year 1905 a considerable amount of the information that in previous years had been reserved for the Annual Report, was published in the "Summary" for that year, which was issued shortly after the close of the first quarter, so that this information was available to the public fully nine months earlier than in any previous year. For example, in the year 1905 provisional data concerning births, deaths, and marriages in the counties of England and Wales found a place in the Annual Summary for the first time as also did the corrected rates of birth and death for the metropolitan boroughs, the former rates being calculated, not as heretofore on the total population, but on that portion of the female population among whom births occur. Lastly, in order to give graphic representation to the death-rates the Summary for last year contained a chart showing, by appropriate tints of colour, the variations of mortality in the several boroughs of the metropolis, and I look forward in the course of another year to issuing some statistical charts in my Annual Reports.

It is again my privilege to announce for the year under notice a favourable condition of the public health in England and

Wales, as far as this is indicated by the rate of mortality prevailing throughout the year. From the present report it will be seen that not only the general death-rate, but, what is more important, the death-rate among infants was lower last year than in any previous year on record. As regards the particular diseases that have shown a diminished fatality and thus contributed to this fortunate result, I must refer you to Dr. Tatham's valuable letter to me, which deals fully with this subject, and which is appended to the present report. From that letter you will see that the only definite diseases which have caused exceptional mortality in the year under notice were cancer and pneumonia. With these exceptions the diseases which contribute most largely to the death roll were in the year 1905 less fatal than the average.

In my Sixty-seventh Annual Report I discussed in some detail the question of the recent falling off in the fertility of English mothers and its relation to infantile mortality and also the relations between birth-rates and death-rates, more particularly those concerning infantile mortality. Since then I have caused special tables to be constructed showing the effect of mortality among young children in modifying the effect of the birth-rates in different parts of the country, the details of which are shown and commented upon in the earlier portion of this report. The subject appears to me to be important enough to justify some further notice in these final remarks. The general lesson to be drawn from the figures is that a high birth-rate does not necessarily involve a larger effective addition to the population than does an average or even a low birth-rate. In too many cases high birth-rates are associated with excessive sickness and mortality during the first few years of life, the result being that not only do fewer than a normal proportion of the children survive at the age of five years, but those who do survive at that age have fallen below the normal standard of physical fitness. In general the localities with lower birth-rates experience lower rates of child mortality. This view is corroborated by the figures furnished by the Statistical Authorities of Foreign Countries and discussed in the foregoing pages, from which it appears that the foreign countries in which a high birth-rate prevails are, with few exceptions, those countries in which a high rate of infantile mortality is found. It is true that the figures worked out for England show that only in a few extreme cases is the numerical advantage of a high over a low birth-rate completely neutralised by excessive mortality during the first five years of life ; but excessive mortality is almost inevitably associated with deteriorated health of the survivors, and similar influences may reasonably be supposed to affect children beyond the age to which the investigation could conveniently be carried. There is, therefore, some ground for the opinion that moderate birth-rates associated with low mortality among children may be more effective towards the upkeep of the population than high birth-rates associated with high mortality among children.

In this connection I would remark that of the mortality in the first fifty years of life about one-half occurs in the first five years.

This proportion is of course not exact, but it represents a rough approximation to the facts both as regards healthy and as regards unhealthy populations, and it has the advantage of being easy to remember. The fact lends support to the opinion that excessive mortality among young children indicates deterioration among the survivors.

It is also a noteworthy fact that excessive infant mortality is confined almost exclusively to the third quarter of the year, and is generally associated with high temperature and deficient rainfall, as shown in the special table on page xliii.

In my last annual report I also pointed out that the existing English registers of births were capable of improvement. The present registers are defective chiefly in this respect, that the official forms contain no column for the entry either of the age of the mother at the birth of her child or of the number of children previously born to her. In these circumstances I am now considering how far it is practicable to extend the registers so as to include these and other details which may in the future facilitate closer investigation into the important question of the fertility of the English population and its relation to infantile mortality.

Ever since the establishment of the General Register Office the only available test by which the state of the public health could be judged has been the mortality prevailing locally from time to time. It is, however, difficult to avoid the conclusion that the data which for more than a half century have been relied on for this purpose—relating as they do solely to sickness of sufficient intensity to destroy life—form no reliable measure of the aggregate loss of health and of "earning power" experienced by the community as the result of sickness. Of the "sickness that is not unto death" the mere statement of the resulting mortality forms but a rough indication, for the fatality of most diseases varies enormously, both in different places and at different times. Not many years ago the truth of this contention was for the first time recognised by Parliament when one of the more enlightened English municipalities obtained legal powers for the notification of certain infectious diseases, the prevalence of which was known to be prejudicial to health and life.

This statutory power to require accurate knowledge of the incidence of these diseases was secured in this and many subsequent instances on the ground that they were communicable from the sick to the healthy. Under the name of "dangerous infectious diseases" they were declared obnoxious to the public health, and, as is well known, the powers first acquired as an experiment by a few local authorities have since been extended by a General Act to every sanitary area in England and Wales. But in this connection it is important to observe that the terms "infectious" and "communicable" are by no means exclusively applicable to the diseases scheduled in the Notification Act. Among other diseases now recognised as communicable

are tuberculosis and pneumonia, which diseases alone destroy more lives annually than do all the common infectious diseases put together. Regarding the quantitative prevalence of tuberculosis or of pneumonia, not to speak of several other prevalent and fatal diseases, we are at present ignorant. A large portion of the sufferers from these diseases come under the treatment of the public hospitals, infirmaries, and dispensaries, and in view of the desirability of obtaining accurate information on this point it is, in my judgment, desirable that an attempt should be made to give effect to the recommendation of the Duke of Devonshire's Committee on Physical Deterioration by collecting periodical returns of sickness from the poor law medical officers, in co-operation with the hospitals and other charitable institutions throughout the country.

This has already been accomplished in respect of the notifiable infectious diseases, a return of which has been published in my successive quarterly returns and in my annual summaries since the year 1901.

An important event of this year is the completion by the Royal College of Physicians of the fourth edition of their "Nomenclature of Diseases," and its publication by H.M. Stationery Office. This work will doubtless prove valuable to medical practitioners in their duties under the Registration Acts. Although the completion of the nomenclature has occupied several committees of the College for the last three years, nevertheless that section of it which treats of the classification of diseases was practically settled at an early stage of the undertaking. In preparing the new list of causes of death for use in this Office at the beginning of the current century, Dr. Tatham availed himself of the information at his disposal as a member of the special committee of the College in order to bring our new list of causes of death into harmony with the classification of that authority. Now that the nomenclature has been completed and published it is satisfactory to find that no modification is required of the official list of causes of deaths in use here since 1900 and adopted by the Registrars-General of Scotland and Ireland.

I take this opportunity of again recording my high appreciation of the continued assistance which medical practitioners have so generously rendered to Dr. Tatham and myself in connection with the certification of causes of death; and there can be no doubt that the willingness they have shown in answering queries for the clearing up of doubtful points of classification has greatly contributed to the improved accuracy of the national records of mortality.

My thanks are also due to Dr. Shaw, F.R.S., for his valuable and instructive report on the weather during 1905, which is appended hereto. Read in conjunction with Dr. Shaw's able exposition of the relation of Climate to Health, in an essay recently contributed by him to the Royal Sanitary Institute, this report will be appreciated by a large section of the population.

In conclusion, I desire to record my obligations to the Presidents of the Foreign Statistical Bureaux and the Colonial Registrars-General for their courtesy in enabling me to publish a table showing for three past census periods the legitimate birth-rate among married women of conceptive ages for several European countries, the Australian Commonwealth, and New Zealand. This important table brings to light the fact that the fertility of married women in England and Wales in 1900–2 was lower than in any other European country except France.

I have the honour to be,

Sir,

Your faithful Servant,

WILLIAM COSPATRICK DUNBAR,

Registrar-General.

General Register Office,
Somerset House.
December, 1906.

ANALYSIS OF THE

CAUSES OF DEATH IN ENGLAND AND WALES.

Letter to the REGISTRAR-GENERAL

By JOHN TATHAM, ESQ., M.A., M.D., Fellow of the Royal College of Physicians.

SIR,

I beg leave to present for your consideration the following remarks respecting English mortality and its causes in the year to which this report has reference.

In commenting on the vital statistics of 1905, it is your privilege to announce for that year the lowest mortality recorded since the establishment of civil registration, the rate being substantially below the average in the previous ten years. In your remarks on pages xxv *et seq.* the inter-dependence of birth-rates and infantile mortality rates is alluded to. Care has also been taken to explain clearly the methods adopted here in the correction of local death-rates for age and sex differences of population. At a later page the mortality of England and Wales in a series of years is compared with that of other divisions of the United Kingdom and also with that of the principal colonies and foreign countries. By this means the way has been prepared for discussing the various causes responsible for the loss of life that still prevails amongst us—a duty which you have entrusted to my care, and which I have endeavoured to discharge in the series of letters of which the first appeared in your Report for the year 1901.

Since the issue of your last Annual Report the Royal College of Physicians have completed their decennial revision of the nomenclature of diseases, a copy of which is now in the hands of every registered medical practitioner. The College have made several important alterations in the course of the work. The new list of General Diseases is arranged thus :—

(*a.*) Infective Diseases.

(*b.*) Intoxications.

(*c.*) Other General Diseases.

As a member of the committee charged with the classification of morbid conditions, I was of course familiar at an early date with the general form in which that classification would eventually appear ; and, consequently, in revising the list of causes of death for our official reports published for the first time in the volume for 1901, I availed myself of the information thus acquired.

Now that the College have completed their labours I am glad to announce that no modification in our official list of diseases, considered as causes of death, is either necessary or expedient.

It is matter for regret that, although a period of two years has elapsed since the issue of their report, the strong recommendation of the Inter-departmental Committee on Physical Deterioration respecting the establishment of a register of sickness not limited to infectious disease still remains in abeyance. In order that effect may be given to this recommendation, the Medical Officer of Health of the Administrative County of London has suggested that a beginning might be made by the weekly collection and tabulation of returns of special kinds of sickness newly coming under treatment in the infirmaries, hospitals and dispensaries of the metropolis. That a limited return of this kind is feasible and that it would prove advantageous to the public health, I have no doubt whatever. And from what we know by experience under the Infectious Diseases (Notification) Act—originally a strictly local and tentative measure, we may entertain the hope that, after sufficient trial in London of the system now proposed, its extension to other parts of the United Kingdom may in like measure eventually be secured.

In view of the steadily growing interest attaching to the question of infantile mortality, a new table was prepared for the sixty-seventh Annual Report showing the loss of life among infants in groups of months within the first year after birth and in each successive year of the first five. For the present report that table has been extended so as still further to sub-divide the first year of life ; the deaths from the principal causes being shown in terms of a thousand births, in each week of the first month, and in each month of the first year. The death-rates are also shown of survivors in each subsequent year of the first quinquennium of life. Although this extension has involved the re-abstraction of the whole of the deaths of infants in 1905, I trust that you will consider the additional labour to have been justified by the results, more especially since the tables on pages cxxii–cxxxi now correspond in all respects to the new tabular form No. V. issued to medical officers of health by the Local Government Board. Moreover, inasmuch as infantile mortality is shown for representative urban and rural areas, medical officers of health will possess in these tables reliable standards with which the infantile mortality of their own districts may be compared.

In his remarks on the conspicuous meteorological occurrences in the year 1905, which will be found at pages cxxxv-cxl, Dr. Shaw describes the conditions as generally favourable. The weather throughout August and the first part of September was cool, unsettled, and rainy, with numerous thunderstorms. The cool and wet weather prevailing at a time which ordinarily corresponds to the period of high diarrhœal fatality in England was unusually favourable to infant life ; whilst, with few local exceptions, the conditions in the earlier and later months of the year were conducive to the health of aged persons as well as to that of sufferers from respiratory affections.

Mortality from all Causes.

The abstracts printed on pages 268 to 285 furnish particulars of the causes of death at various age groups in the year under notice. In Tables 20, 22, and 24 the deaths at all ages from specified causes, reduced to rates per million living, are shown for each of the last 20 years, thus exhibiting the changes that have occurred in the mortality from the several diseases in the course of that period. For purposes of comparison Table 18, on page 19, gives a list of the more important diseases and their average mortality for each of seven quinquennial periods since the year 1871. Table 25, on page 62, deals with earlier periods but with a smaller number of diseases.

From what follows it appears that in the year 1905, 91·5 per cent. of the total deaths were medically certified, exclusive of the deaths occurring under medical care but concerning which the medical certificates were superseded by those of the coroners. In many inquest cases the coroner's certificate leaves it uncertain whether or not medical evidence of cause of death had been given in his court. Of the total deaths registered in 1905, 9 per cent. were referred to indefinite causes which are worthless for purposes of scientific classification ; whilst in 1·6 per cent. of the total deaths the causes were not attested at all, either by medical practitioners or by coroners.

It is well known that the mortality from most diseases is considerably heavier in populous districts than in the country. For this reason, in the year 1901 a selection from among the English and Welsh counties was made to show (*a*) in one list those counties that are chiefly urban in character, containing most of the industrial centres, and (*b*) in a second list those counties that are mainly rural, or that contain only a few towns the inclusion of which hardly modifies the rural character of the group. In the present report, as in four of its predecessors, the same grouping of counties has been retained, the constitution as well as the aggregate population of each group being specified at foot.*

---

* (i) *Urban Registration Counties.*

Glamorgan.
Lancaster.
London.
Middlesex.
Monmouth.
Northumberland.
Nottingham.
Stafford.
Warwick.
East Riding } Yorks.
West Riding }

Estimated population of Urban counties, middle of 1905—18,487,620.

(ii) *Rural Registration Counties.*

Buckingham.
Cambridge.
Cornwall.
Hereford.
Huntingdon.
Lincoln.
Norfolk.
North Wales.
Oxford.
Rutland.
Salop.
Somerset.
South Wales (less Glamorgan).
Suffolk.
Westmorland.
Wilts.

Estimated population of Rural counties, middle of 1905—4,341,921.

The aggregate mortality of England and Wales is set forth in the following Table, in which the death-rates for 1905 are compared with the corresponding average rates in the preceding quinquennium. Although the rates in this Table are shown as per 1000 living, it is obvious that by disregarding decimal points the rates may be read as per million. The rates of mortality, corrected for age differences of population, are set out in columns parallel to the crude rates; and, with a view of avoiding confusion the figures in the several columns are printed in distinctive type. This Table indicates that in the year 1905 the deaths from all causes in England and Wales were equal to a rate of 15·227 per 1000 living at all ages and of both sexes. This is the lowest rate on record, and is 8·2 per cent. below the average rate in the previous quinquennium. Among males the rate was equal to 16·216 per 1000, and among females to 14·301 per 1000—these rates being below the quinquennial averages by 8·6 and 7·8 per cent. respectively.

The Table further shows that both in the year 1905 and in the previous quinquennium the urban rates of mortality were invariably higher than the rural, and that in both areas the rates for males were considerably above those for females. Among both males and females in each county group there was a reduction of mortality in 1905, as compared with the previous quinquennial average, the reduction in the urban group being much greater than in the rural.

All Causes. Mortality at All Ages.		Crude Rates. — Average, 1900–04.	Corrected Rates.* Average, 1900–04.	Corrected Rates.* Year 1905.
Both Sexes	England & Wales ...	16·592	**16·588**	15·227
	Urban Counties	17·576	**18·304**	16·562
	Rural Counties	15·609	**13·749**	13·204
Males ...	England & Wales ...	17·743	**17·739**	16·216
	Urban Counties	18·853	**19·618**	17·708
	Rural Counties	16·415	**14·529**	13·916
Females ...	England & Wales ...	15·515	**15·511**	14·301
	Urban Counties	16·379	**17·074**	15·490
	Rural Counties	14·859	**13·018**	12·537

* These are the death rates *at all ages* that would have resulted from the rates prevailing at the *several ages* if the sex and age constitution of the populations in these areas, severally, had been identical with that of the population of England & Wales, as enumerated at the Census of 1901.

In further support of the contention in a recent Annual Report* regarding the necessity of correcting local death-rates for sex and age differences of the living, it may be mentioned that correction has increased the average death-rate for 1900–1904 in the urban group by 4·1 per cent. whilst it has decreased the average rate in the rural group by 11·9 per cent. The method of correcting

All Causes. Mortality at Age Groups.		Average 1900–1904. England and Wales.	Average 1900–1904. Urban Counties.	Average 1900–1904. Rural Counties.	Year 1905. England and Wales.	Year 1905. Urban Counties.	Year 1905. Rural Counties.
Both Sexes	0—	51·721	59·220	37·332	44·655	50·264	33·640
	5—	3·850	4·326	3·012	3·395	3·674	2·842
	10—	2·224	2·369	2·023	2·059	2·199	1·863
	15—	3·176	3·240	3·168	2·876	2·877	3·059
	20—	4·093	4·048	4·436	3·699	3·612	4·219
	25—	5·656	5·816	5·510	5·180	5·242	5·353
	35—	9·414	10·405	7·573	8·551	9·269	7·283
	45—	15·775	17·915	11·950	14·771	16·556	11·717
	55—	29·954	34·040	23·883	28·648	32·165	23·768
	65—	87·011	91·398	83·491	85·503	89·516	84·186
Males ...	0—	56·346	64·298	41·266	48·757	54·656	37·208
	5—	3·804	4·255	2·967	3·363	3·654	2·891
	10—	2·166	2·350	1·893	2·023	2·197	1·952
	15—	3·292	3·426	3·084	2·970	3·021	2·979
	20—	4·507	4·410	4·846	4·021	3·939	4·459
	25—	6·139	6·274	5·891	5·620	5·645	5·694
	35—	10·385	11·444	8·160	9·367	10·136	7·868
	45—	17·951	20·415	13·391	16·685	18·769	13·104
	55—	33·847	38·569	26·653	32·446	36·604	26·555
	65—	92·543	97·880	88·090	90·534	95·868	88·409
Females ...	0—	47·114	54·176	33·400	40·572	45·905	30·075
	5—	3·895	4·396	3·058	3·427	3·693	2·793
	10—	2·281	2·389	2·155	2·095	2·200	1·773
	15—	3·062	3·062	3·255	2·784	2·739	3·142
	20—	3·723	3·725	4·075	3·412	3·321	4·008
	25—	5·223	5·399	5·179	4·786	4·876	5·056
	35—	8·506	9·418	7·037	7·788	8·445	6·749
	45—	13·759	15·558	10·661	12·999	14·472	10·476
	55—	26·541	30·078	21·467	25·322	28·284	21·337
	65—	82·742	86·601	79·805	81·627	84·815	80·804

* *See* 66th Annual Report, page xlv.

mortality rates for variations in sex and age constitution is described in detail on page xxxviii, and it is certainly desirable that, if practicable, this correction should be applied wherever comparison of local death-rates is attempted.

The Table on page lxxvii gives, for the same areas as those of the Table preceding it, the death-rates from all causes, per thousand living at several groups of ages (*a*) in the quinquennium 1900–1904, and (*b*) in the year 1905.

Mortality at Ages.—In England and Wales the rates in 1905 both for males and females were below the quinquennial averages at every age group. The reduction in the first five years of life amounted to nearly 14 per cent. ; in the next age group, 5–10 years, it was about 12 per cent. ; and in the succeeding age group, 10–15 years, it was 7 per cent. ; while the reduction in the 30 years of life from 15–45 years amounted to 9 per cent., the proportion gradually diminishing with advancing age. Taking account of the sexes, it appears that up to the fifteenth year of life the diminution in the rate of mortality was proportionally greater among females than among males, but that from 15–45 years the reverse was the case, the fall in the death-rate at each age group having been greater among males than among females. As regards the selected groups of counties, the table shows that, compared with the averages for the preceding 5 years, the fall in the death-rate was much greater in the urban than in the rural group, at every age period except that from 10–15 years ; in the first five years of life the reduction was 15 per cent. in the urban, as compared with 10 per cent. in the rural group, and in the period 5–10 years the fall in the rate of mortality was no less than 15 per cent. in the urban area, as against only 6 per cent. in the rural area.

In the report for the year 1904, attention was drawn to the striking differences between urban and rural mortality at the several ages. The figures now published confirm the remarks then made. On examining the rates in 1900–1904 it will be seen that in the first five years of life the death-rate in the rural group was only about two-thirds of that in the urban group, the difference thereafter diminishing, whilst at ages 20–25 among men and 15–25 among women the mortality in the rural area exceeded that in the urban area. Reference to the table on page xcvi will show that the excessive mortality in rural areas at these ages is still more strongly marked in the case of young adults dying from phthisis. The nature and duration of this disease affords support to the suggestion hazarded in the preceding report, that the exceptional mortality in the rural counties at these ages is due to the return to their homes of young adults who had migrated to the towns and there contracted the disease. The figures for the year 1905 show a slight prolongation of the age during which rural mortality is in excess. Probably this is only accidental. At later ages rural mortality falls below urban, especially between the 45th and 65th year.

MORTALITY FROM SPECIFIED CAUSES.

I.—General Diseases.

As has been the practice in these Reports for several years past, the chief diseases at present included under the term "General" are enumerated in the Abstracts on pages 270–275 ; the facts of death, but not the rates of mortality, being shown for each sex at several groups of ages. In the numbered tables* the deaths from the several causes are given without discrimination of age, and the corresponding rates of mortality are shown for a series of years.

It is necessary again to draw attention to the circumstance that the group of "General Diseases" is provisional only—certain morbid conditions formerly regarded as merely local being now authoritatively declared to be either "infections" or "intoxications." They have accordingly been transferred from the local to the general group of diseases.

Small-pox.—The deaths at all ages from small-pox numbered 116, corresponding to a rate of 4 per million living, the rates in the previous five years having been 3, 10, 75, 23, and 15 per million respectively. In addition to the 116 deaths expressly referred to this disease, chicken-pox is said to have claimed 93 victims, but it is at least probable that some of the latter were unrecognised cases of the graver malady. Further, there were 26 deaths included in the tables under the heading cow-pox or other effects of vaccination. *It should be very clearly understood that the 26 deaths thus referred to cow-pox and other effects of vaccination include not only the deaths which were stated by medical practitioners or by coroners to be due to vaccination, but also those in which vaccination appeared from the medical certificate to be in any way connected with the cause of death.* Therefore, in the year 1905, the sum of the deaths either certainly or probably due to small-pox, and of the deaths alleged to have been caused by measures designed for its prevention, was 235, corresponding to a rate of 8 per million of the population.

Of the 116 persons stated to have died of small-pox 23 were returned as vaccinated and 20 as unvaccinated, whilst concerning the vaccinal condition of the remaining 73 patients (considerably more than half of the total) no statement, or a very doubtful statement, appeared in the certificates. The mortality from the effects of vaccination, in proportion to children vaccinated, cannot yet be given for the year 1905 ; but it appears from the Thirty-fifth Annual Report of the Local Government Board that the operation of vaccination was successfully performed on 714,637, or 75·3 per cent. of the 948,271 children whose births were returned by the vaccination officers in 1903, the latest year for which particulars are available. Deducting from the total number of births the children returned as having died unvaccinated, the report states that of the remaining 856,629 children, 83·4 per cent. were registered as successfully vaccinated, showing the slight

* These Tables, numbered from 1 to 77, will be found at pages 2–126.

improvement of 0·6 per cent. upon the proportion in the preceding year. The deaths of children in the same year from cow-pox and other effects of vaccination numbered 26, or one in every 27,486 vaccinated. In the interest of vital statistics, it is much to be desired that when certifying deaths from small-pox, medical practitioners should specify the patient's condition with respect to vaccination, say, by one or other of the following phrases, according to circumstances :—

(1) No evidence of vaccination ;

(2) Vaccinated in infancy only—number of scars ;

(3) Vaccinated only after infection by small-pox ;

(4) Stated to have been vaccinated, but no scars visible.

If the patient has been re-vaccinated, the date of re-vaccination should be given where possible.

As had been the case in the immediately preceding year, the mortality from small-pox in 1905 was largely confined to the northern part of England. In the year under notice, 91 of the 116 deaths occurred in one or other of the following counties :—Nottingham, Derby, Chester, Lancaster, Yorks (East and West Ridings), Durham, and Northumberland. Of the remaining 25 deaths 10 belonged to London.

Measles.—To this disease the deaths of 11,076 persons at all ages and of both sexes were attributed in the registers, being fewer by 1,814 than the decennial average number corrected for increase of population. Unfortunately the use in medical certificates of the term "Rubeola" to denote this familiar disease still continues to cause uncertainty in classifying the deaths. This custom persists in some parts of the country, but not in others. The only synonym that is recognised by the Royal College of Physicians being "Morbilli," it would conduce to accuracy of tabulation if that term alone were employed as a Latin equivalent for measles. In any event the use of the name "Rubeola" should be discontinued. Of the 11,076 deaths from measles, 10,383 were those of children under five years, of which number as many as 2,474 had not reached the first anniversary of their birth. The mortality of infants in the several divisions of the first year of life and in each year of the first quinquennium is shown in Table N.

It will be noted that measles is most destructive to infants between the ages of one and two years. The table on page cxxi shows that if the deaths under five be compared with those living at that age, measles was, in 1905, somewhat less fatal than usual, the rate being equal to 2·66 per 1,000, as against 2·68 per 1,000, the average rate in the preceding four years.* As had been the case for many previous years measles was more fatal at this age in the town than in the country ; the measles death-rate being equal to 3·12 per thousand living in the urban

* This subject is furth r referred to at page cxx.

group of counties, against 1·31 only in the rural group. Both these rates were below the average. Boys succumbed to measles at the rate of 2·74 per 1,000, and girls at the rate of 2·59 per 1,000. The male rate exceeded the female rate in both the county groups. Disregarding counties containing fewer than 100,000 persons at all ages, the counties with measles death-rates at ages 0–5 years above the mean for England and Wales were Berks, where the rate was 2·67 per 1,000 living, Lancaster 2·90, North Riding of York 2·93, London and Warwick 3·20, Durham 3·23, Carnarvon 3·49, Gloucester 3·61, Stafford 4·17, Hants 4·95, Monmouth 4·96, Glamorgan 5·63, Nottingham 5·68, Cumberland 6·11, and Denbigh 6·95. Among these counties Durham, London and Lancaster had been among the counties with highest rates in the previous year likewise. The distribution, by counties, of infantile mortality from this disease is shown in Table 30, where the deaths under one year are shown in proportion to total births.

Scarlet Fever.—To this disease the deaths of 3,834 persons were referred, a number corresponding to a rate of 112 per million of the aggregate population, or 22 per million less than the average rate in the ten preceding years. Among the counties of England and Wales containing more than 100,000 inhabitants scarlet fever was fatal in the proportion of 142 per million in Glamorgan, 180 in Northampton, 187 in the West Riding of York, 192 in Derby, and 208 in Lancaster. With the exception of the West Riding of York all these counties had been among the counties with highest rates in the year 1904 likewise. Either in London or in metropolitan hospitals outside the county 546 deaths of Londoners were registered, corresponding to a rate of 117 per million at all ages. Of these deaths 93 per cent. occurred in public institutions. Of the 3,834 scarlet fever deaths at all ages registered in England and Wales, 2,302 or 60 per cent. occurred at ages under five years. Table M on page cxxi shows that the scarlet fever death-rate was equal to 59 per hundred thousand living at that age, or slightly below the average rate in the preceding four years.

The figures for 1905 confirm those of previous years in showing that in common with many other infectious diseases scarlet fever is very much more destructive in the town than in the country. It is also somewhat more fatal to boys than to girls. The incidence of fatal scarlet fever among children under five in the counties of England and Wales is shown in Table 31, page 71. Of the 3,834 scarlet fever deaths at all ages only 178 occurred within the first year of life. Table N on pages cxxii–cxxiii shows that in the recent year, as in its predecessor, this disease was much less fatal in the first than in any subsequent year of the first quinquennium ; it was also less fatal in the first half than in the second half of the first year of age.

Influenza.—The 6,953 deaths definitely assigned to influenza were equal to a rate of 204 per million of the population. In the period elapsed since the invasion of this country by influenza in 1889–1890, the average mortality has been equal to 296 per

million. As had been the case in the two previous years likewise the mortality in 1905 was almost the same in both sexes. It was higher by 68 per million in extra-metropolitan England than in London, where the rate was 145 per million. After correction for age and sex constitution of population, influenza has been much more fatal in the country than in the town, the rate being 272 in the selected rural group of counties and 189 in the urban group. Among counties with populations exceeding 100,000 the uncorrected rates in the following were the highest —Monmouth 381 per million, Cambridge 408, Salop 432, Denbigh 516, Hereford 517, and Carnarvon 526. The three counties last mentioned had shown excessive rates in 1904 also.

Whooping-cough.—The deaths at all ages that were attributed to this disease numbered 8,709, or 2,729 fewer than the corrected average in the preceding decennium. Of these deaths 8,482 were those of children under five years old, of which number 4,218 had not completed their first year of life.

Table M. on page cxxi shows that the deaths from whooping-cough among children under five years were equal to a rate of 2·17 per 1,000 living at that age, which is lower by 0·48 per 1000 than the average rate in the preceding four years. It may be noted that in the year 1905, the urban rate approximated much more closely than usual to the rural rate; in recent previous years the former rate had been markedly in excess. Moreover, we find that the remark made in previous years respecting the exceptional fatality of this disease in female children applies to 1905 also: for the death-rate among girls in that year was equal to 2·36 per 1,000, whilst that of boys was 1·99.

For children of this age the county distribution of whooping-cough fatality is shown in Table 31 on page 71, from which it appears that among counties with populations above 100,000 there were 16 in which the rates exceeded the average in England and Wales. The counties with highest mortality were Essex, where the rate was 2·79 per 1,000, London 2·87, Middlesex 2·94, East Riding of York 2·98, Durham 3·06, and Cornwall 4·60. The counties with the lowest rates were Salop 0·96 per 1,000, Cambridge 1·00, Bedford 1·11, Devon 1·25, and Buckingham 1·31. For further remarks on whooping-cough mortality, see page cxix.

Diphtheria.—In the year under notice there were referred to this disease (exclusive of croup not definitely membranous) 5456 deaths, or 2990 fewer than the average annual number in the previous decennium corrected for increase of population. The 5456 deaths include 35 that were originally certified as from "membranous laryngitis," but the diphtheritic nature of these has been since ascertained by correspondence with the medical attendants. Of the 41 deaths from membranous laryngitis still remaining in the abstracts for 1905, it is probable that some were diphtheritic in character.

Diphtheria and Croup.—In order to obtain an approximate measure of the loss of life caused by diphtheria, it has been found

TABLE I.—ENGLAND & WALES.—DIPHTHERIA and CROUP. DEATH-RATES per MILLION LIVING among CHILDREN under 10 YEARS OF AGE.

Registration Counties.	Average, 1900–04.	Year, 1905.
Merionethshire	930	1402
Brecknockshire	1575	1228
Lincolnshire	685	1138
Carmarthenshire	1289	1132
North Riding	994	1099
Anglesey	622	1074
Hampshire	1009	1005
Durham	855	1004
Glamorganshire	1995	974
Somersetshire	836	957
East Riding	879	944
Monmouthshire	1533	887
Lancashire	1232	878
Denbighshire	916	870
Derbyshire	648	825
Northumberland	713	804
Middlesex	1077	796
Herefordshire	502	784
Staffordshire	1367	779
West Riding	1213	771
Cheshire	825	766
Westmorland	514	760
Flintshire	1081	754
England & Wales, less London	*1022*	*747*
Essex	1231	742
Warwickshire	922	732
Buckinghamshire	1083	730
Nottinghamshire	747	717
Cardiganshire	1119	684
Radnorshire	1338	661
Cambridgeshire	484	639
Norfolk	781	587
Berkshire	674	580
Carnarvonshire	534	562
Kent	965	548
Devonshire	626	547
London	1111	537
Surrey	740	537
Shropshire	496	535
Gloucestershire	1097	522
Leicestershire	1506	517
Dorsetshire	612	494
Oxfordshire	458	475
Northamptonshire	623	417
Suffolk	617	411
Huntingdonshire	539	407
Wiltshire	626	403
Bedfordshire	790	393
Cornwall	506	393
Cumberland	772	372
Hertfordshire	677	353
Sussex	1004	345
Pembrokeshire	1087	328
Montgomeryshire	305	295
Worcestershire	537	244
Rutlandshire	470	239

necessary to class the deaths definitely referred to that disease with those referred to "croup." The deaths of 5456 persons from diphtheria and those of 465 persons from "croup" neither spasmodic nor definitely membranous were registered in England and Wales in the course of last year. These deaths were equal to a rate of 174 per million of the population, without distinction of sex or age, against an average rate of 278 per million in the preceding ten years. The male rate was 175 per million and the female rate 172 per million.

Table I shows the local distribution of diphtheria and croup. In previous years this table, in a slightly altered form, related to the mortality at all ages; but inasmuch as about nine-tenths of the deaths from this affection occur in children under the age of ten years, the mortality in Table I is now limited to that age-group. From this table it will be seen that in the year specified there were 18 registration counties, with populations at all ages exceeding 100,000 persons, in which the mortality from this disease was higher than the average in Extra-Metropolitan England. The counties with the highest rates were Lincolnshire 1138 per million living under 10 years, Carmarthenshire 1132 per million, the North Riding of Yorkshire 1099, Hampshire 1005, and Durham 1004. Among these 18 counties there are 7 in which diphtheria mortality had been above the average in the five years 1900–04 likewise.

It will be instructive to scrutinize more closely the mortality in the counties already specified as suffering exceptionally from diphtheria in the year under notice. In the county of Lincoln the average diphtheria mortality at all ages in the ten years 1895–1904 was considerably below the rate in England and Wales. But in the last year of the ten the rate rose slightly above the average for England and Wales, while in 1905 it was more than 50 per cent. higher. The excessive mortality in 1905 was confined to four registration districts, viz. :—Bourne, Sleaford, Lincoln, and Glanford Brigg. The deaths in these districts were equal to a mean rate of nearly 600 per million living at all ages, while the mean rate in the remainder of the county was considerably below the rate in Extra-Metropolitan England and Wales. The mortality in the registration district of Lincoln mainly belonged to the city of that name, in which area the death-rate had been excessive in 1904 also.

In the year 1899 the mortality from diphtheria in the county of Carmarthen was equal to 499 per million living at all ages. In subsequent years the rate fell, at first slowly, and afterwards more rapidly, until in 1904 it was only 159 per million. In 1905, however, the rate rose to 269 per million, excessive mortality occurring in the contiguous districts of Llanelly and Llandilofawr.

In the North Riding of Yorkshire diphtheria mortality at all ages in 1902 had been equal to 401 per million, being more than 50 per cent. in excess of the rate in Extra-Metropolitan England. In 1903 the rate fell to 295 per million, and in 1904 further fell to 211. In 1905, however, it again rose to 265. The excessive mortality in that year was confined to the two contiguous

districts of Guisborough and Middlesbrough, the rate in this combined area being equal to 409 per million, while in the remainder of the county it was only 120. Both in 1902 and in 1903 exceptionally high diphtheria mortality had occurred in Middlesbrough, and in Guisborough alone in 1903. It may be noted that both these districts are largely urban, 95 per cent. of their populations dwelling in urban areas, as compared with an average of 40 per cent. in the remainder of the county.

In each of the three years 1903–5 diphtheria mortality in Hampshire exceeded the corresponding rate in Extra-Metropolitan England and Wales, the excess being least in 1904. The high rate in 1905 was mainly due to excessive mortality in the following districts :—Portsmouth, Isle of Wight, Christchurch, and South Stoneham, the mean rate in these four districts being nearly twice that in the remainder of the county. The mortality in Portsmouth belonged to the borough of the same name, and that in Christchurch to the borough of Bournemouth, while the mortality in South Stoneham belonged mainly to the borough of Southampton. Since the year 1899 the borough of Portsmouth has experienced excessive mortality from diphtheria. The mortality was highest, however, in the beginning of this period, and year by year it has steadily and almost continuously declined.

In the preceding report it was mentioned that in the county of Durham diphtheria mortality had risen rapidly throughout the five years ended 1903; in 1904 the rate stood at 285 per million living at all ages; in the year following the rate fell slightly, *viz.*, to 271 per million; nevertheless, of the 15 registration districts constituting this county there are only two that experienced in 1905 a lower diphtheria mortality than the average in Extra-Metropolitan England.

In several recent reports there has been indicated a considerable area of high diphtheria mortality in Monmouthshire and South Wales. This area changes somewhat in constitution from year to year, and, speaking generally, it contracts. In the area specified in the report for 1904, when the rate was 309, the rate last year was 266 per million, several of the districts of this area showing a mortality not much in excess of the rate in Extra-Metropolitan England and Wales. On the other hand, certain districts adjacent to this area experienced high diphtheria mortality in 1905. Instead of this single area there were two smaller areas, in one of which, consisting of the districts of Crickhowell, Bedwellty, and Merthyr Tydfil, the rate was 453 per million, and in the other, consisting of the districts of Llandilofawr, Pontardawe, and Llanelly, it was 371 per million.

In Table 31 the mortality from diphtheria and croup among children under five years is given for each registration county. Of the 5921 deaths at all ages 3658, or 62 per cent., occurred within the first five years of life. These deaths corresponded to a rate of 0·94 per 1000 living at this age, and were below the average in the previous four years by 0·33 per 1000 (see Table M.)

In the towns this affection is more fatal than in the country, the death-rate last year being 1·04 in the urban county group and only 0·78 in the rural.

Table N, on pages cxxii–cxxiii, indicates that diphtheria is much less destructive to infants under one year than in any subsequent year of the first quinquennium : the mortality increases from the age of 0–3 months until the close of the age-group 1–2 years, and afterwards remains fairly constant up to the fifth year.

Cerebro-Spinal Fever.—Only 71 deaths of males and 56 of females were referred to this disease in the year under notice, notwithstanding that special inquiries have been made as to the actual nature of the malady in cases where deaths had been certified as from cerebro-spinal meningitis. In the four years ended 1904 the deaths from cerebro-spinal fever have averaged not more than 67 annually.

Enteric (Typhoid) Fever.—To this disease the deaths of 3052 persons were ascribed in the year under notice. The mortality was therefore equal to a rate of 89 per million living, without distinction of sex or of age. This is the lowest rate on record. Among males at all ages the rate was equal to 106 per million and among females to 74 per million.

In the following table, which in its present form appeared for the first time in the 65th Annual Report, the incidence of enteric fever mortality is shown in two groups of registration counties—the one urban, the other rural.* The death-rates are given at all ages, and for males and females separately, the mortality in 1905 being collated with the average in the quinquennial period 1900–04.

If, with the help of this table, comparison be made between the rates for the year under present notice and the average rates in the previous five years, it will be found that taking England and Wales as a whole there has been a reduction in enteric fever mortality equal to 31·0 per cent. But whilst on the one hand the urban county group experienced last year, a considerable decrease on the average rate, on the other hand the rural group experienced an increase ; this abnormal increase is due to a severe outburst of the disease in Lincolnshire in the early part of the year. If Lincolnshire be excluded, the death-rate in the remainder of the rural county group will be reduced from 98 per million to 60. Although the enteric fever rates of last year are exceptional in this respect, reference to the average rates in the previous column will show that enteric fever is ordinarily much more destructive to life in the town than in the country, the average urban rates in 1900–04 exceeding the rural by not less than 84·0 per cent.

Among registration counties whose populations exceed 100,000 persons the highest uncorrected rates in 1905 were 372 in Lincoln-

* For composition of these areas see page lxxv of the present report.

shire, 179 in Durham, 177 in Cambridgeshire, 128 in Lancashire, 124 in the West Riding of Yorkshire, and 119 in the North Riding. Compared with their average rates in the previous ten years most of these counties showed a diminished mortality in 1905, the only exceptions being Lincolnshire, Cambridgeshire and Herefordshire ; the rate in Dorsetshire was equal to that in the preceding decennium.

Enteric Fever. Mortality at all Ages.		Crude Rates. — Average 1900–04.	Corrected Rates.* Average, 1900–04.	Corrected Rates.* Year 1905.
Both Sexes...	England & Wales ...	129	129	89
	Urban Counties	151	149	94
	Rural Counties	77	81	98
Males ...	England & Wales ...	155	155	106
	Urban Counties	183	180	110
	Rural Counties	84	88	113
Females ...	England & Wales ...	105	105	74
	Urban Counties	122	120	78
	Rural Counties	72	74	85

* See note to table on page lxxvi.

The *Lincolnshire* outbreak has already been mentioned. In *Cambridgeshire* the excessive enteric fever mortality of 1905 appears to have been exceptional, since in each of the years 1895–1904 the rate in this county had been below the average in England and Wales. The excessive mortality of last year was due to an outbreak of this fever in the County Lunatic Asylum at Fulbourn.

In the *County of Durham* high enteric fever mortality prevailed generally in the year under notice, the rates in 12 out of its 15 constituent districts being higher than the average rate in England and Wales. In six of these districts, viz., Sedgefield, Auckland, Easington, Houghton-le-Spring, Chester-le-Street, and South Shields the rates were above 200 per million. This county contains most of the 14 registration districts forming the northern area of high enteric fever mortality now to be referred to.† In

† The registration districts now comprising this area are as follows :—Middlesbrough, Stockton, Sedgefield, Auckland, Lanchester, Durham, Easington, Houghton-le-Spring, Chester-le-Street, Sunderland, South Shields, Tynemouth, Castle Ward, and Morpeth.

this area which has formed the subject of comment in several previous reports, the rate of enteric fever mortality in 1905 averaged 185 per million, being more than double the average rate in England and Wales as a whole. In three of these districts, however, the rate was below that standard, whilst seven of them, although still in excess of the standard, showed a decline in mortality as compared with their several averages in the ten previous years. Among

Enteric Fever. Mortality at Age-Groups.		Average 1900-1904.			Year 1905.		
		England and Wales.	Urban Counties.	Rural Counties.	England and Wales.	Urban Counties.	Rural Counties.
Both Sexes	0—	47	54	23	29	34	15
	5—	82	98	61	50	58	30
	10—	108	125	69	73	74	88
	15—	173	201	112	113	118	127
	20—	199	220	130	124	121	184
	25—	191	219	110	129	136	128
	35—	157	184	97	121	132	119
	45—	117	139	74	97	97	123
	55—	87	105	53	64	64	93
	65—	37	44	22	37	40	40
Males	0—	47	57	21	29	31	21
	5—	77	93	49	48	56	25
	10—	99	115	57	75	67	116
	15—	200	238	115	139	144	162
	20—	268	298	149	160	156	208
	25—	255	289	142	160	173	122
	35—	194	230	107	152	165	155
	45—	141	166	90	117	116	151
	55—	109	134	57	75	75	96
	65—	44	52	26	35	43	37
Females	0—	47	52	26	28	38	8
	5—	87	103	72	52	60	34
	10—	116	134	81	72	82	61
	15—	147	165	109	88	93	91
	20—	137	150	113	92	90	163
	25—	134	155	82	102	102	134
	35—	122	140	88	92	100	86
	45—	95	114	59	78	80	98
	55—	67	79	50	55	55	90
	65—	31	38	19	39	37	42

these 14 districts the rate rose to 276 per million in Morpeth, 284 in Houghton-le-Spring, 302 in Easington, and 356 in Sedgefield.

In *Lancashire* several registration districts suffered excessive mortality from this disease; the highest rates were 268 per million in Leigh and 287 in Wigan.

In the *West Riding of Yorkshire* excessive mortality was confined with one slight exception to districts in the urban portion of the county.

In the *North Riding of Yorkshire* excessive mortality occurred in the registration district of Middlesbrough, the rate in this district being 189 per million, while that in the remainder of the county did not exceed 76 per million. About 80 per cent. of the mortality of the registration district of Middlesbrough belonged to the county borough of that name.

In the foregoing table the age incidence of fatal enteric fever is shown in each of the selected county groups specified at page lxxv and referred to in several tables in this report. The rates are given for males and females separately as well as for both sexes together.

Judging by the mortality in the country as a whole the foregoing table shows that, except among children and old persons, the male rates considerably exceed the female. In the urban counties the rates at the several age groups in each sex show a reduction as compared with the several quinquennial averages, but in the rural counties the mortality in most of the adult age groups has substantially increased. This table, in common with the table on page lxxxvii and with the corresponding table in previous reports, emphasizes the fact that enteric fever is normally more destructive to life in the town than in the country, and this not only at all ages but also at each of the ages there specified. The exceptional mortality in the rural counties in 1905 has been explained in an earlier paragraph. In proportion to numbers living enteric fever attains its highest mortality somewhere between the ages of 15 and 35.

Diarrhœa, Infective Enteritis (Epidemic Diarrhœa).—In the year under notice the deaths at all ages referred to diarrhœal diseases numbered 20,534, or nearly 6,000 fewer than the corrected annual number in the previous ten years. Of these deaths 8,534 were returned as from "diarrhœa" simply, 11,573 as from infective enteritis or epidemic diarrhœa, 216 as from dysentery, and 211 as from diarrhœa due to food.

In the revised list of diseases based on the nomenclature of the Royal College of Physicians and adopted for these reports in the year 1901, a line was introduced for the purpose of distinguishing diarrhœa deaths due to food infection from deaths in which this relation had not been established. In this connection I desire again to remark that if medical practitioners would state the fact on their certificates in all cases where either food infection or improper food is believed to have caused the fatal result, it would greatly improve the accuracy of the national records.

Of the 20,534 deaths at all ages not fewer than 18,769 were those of children under five years old. In the year 1905, as in previous years, diarrhœal diseases were the most destructive of all the ailments that beset child life. They are ordinarily more fatal to boys than to girls, and considerably more fatal in the urban areas than in the rural. For example, in the mainly rural counties with populations exceeding 100,000 persons of Hereford, Wilts, Buckingham, and Dorset diarrhœa mortality in children under five years ranged between 1·34 and 2·26 per 1000 living at that age, whilst in the mainly urban counties of London, Durham, the East Riding of York, and Lancaster the rates were 8·19, 8·21, 8·68, and 9·99 respectively. This testimony is further confirmed by Table 30 on page 70 which gives the infantile mortality of the several counties in terms of registered births. Again, Table M on page cxxi shows that on the average three-sixteenths of the mortality under one year of age is due to diarrhœal diseases. For further remarks on diarrhœa mortality see page cxix.

Rabies.—(*Hydrophobia.*)—In the course of the last seven years only two deaths from this disease have been registered, both of which occurred in the year 1902. In the decennium ended 1890 the deaths from hydrophobia had averaged 29 annually.

Pyæmia, Septicæmia, Septic Intoxication.—The attempt made for the first time in the year 1901 to discriminate among the several kinds of septic infection is continued in the present Report—pyæmia being distinguished from septicæmia, and separate provision being made for other infective processes. In the supplementary tables on pages 284 and 285 the parts of the body reported to have been invaded by infective processes are specified. In the year 1905 the deaths of 221 males and 182 females were referred to septicæmia, and the deaths of 135 males and 75 females to pyæmia; the female deaths being in both cases exclusive of those occurring in connection with childbirth. In proportion to population these deaths are about equal to the averages respectively in the preceding four years, before which date the deaths from pyæmia were classed together with those from septicæmia.

Puerperal Pyæmia, Septicæmia, Septic Intoxication.—The deaths certified to be due either to one or other of the conditions included in this group, or else to the indefinite affection styled, in lieu of a better name, "puerperal fever," numbered 1,734, the number so certified in the previous year having been 1,654. The Royal College of Physicians having removed from their Nomenclature of Diseases the term "puerperal fever," it is hoped that pyæmia, septicæmia, or septic intoxication occurring in puerperal women will in future be described as puerperal pyæmia, puerperal septicæmia, or puerperal septic intoxication, respectively. The number of deaths certified as due to "puerperal fever" during the year under notice still amounted to 273. Of the deaths referred to puerperal septic affections, 169 were further complicated. The complicating cause was stated to be scarlet fever in 4 cases, influenza in 15, pneumonia in 89, phthisis in 5, disease of heart or blood vessels in 8, bronchitis in 7, pleurisy in 4, and kidney

TABLE J.—DEATHS OF WOMEN IN ENGLAND & WALES DURING 1905 DEFINITELY RETURNED AS EITHER CAUSED BY OR ASSOCIATED WITH PREGNANCY OR CHILDBEARING.*

Cause of Death.	All Ages.	Ages. 15—	20—	25—	35—	45 and upwards.
Total	5,164	157	820	2,477	1,656	54
Small-pox	1	—	—	1	—	—
Measles	3	—	—	2	1	—
Scarlet Fever	27	—	7	15	5	—
Influenza	61	1	9	30	19	2
Diphtheria	2	1	—	1	—	—
Enteric Fever	21	—	4	14	2	1
Diarrhœa	9	—	1	3	5	—
Syphilis	6	2	2	1	1	—
Gonorrhœa	2	—	—	2	—	—
Puerperal Septicæmia†	1,307	39	261	646	354	7
Puerperal Pyæmia†	51	3	10	26	12	—
Phlegmasia Alba Dolens†	103	2	9	50	36	6
Puerperal Fever†	273	15	55	146	56	1
Infective Endocarditis	1	—	—	1	—	—
Lobar Pneumonia	72	2	5	35	29	1
Broncho-Pneumonia	25	1	3	9	11	1
Pneumonia (not defined)	242	2	36	118	84	2
Tuberculous Phthisis	45	1	6	24	14	—
Phthisis (not otherwise defined)	87	—	11	48	28	—
Tuberculous Meningitis	4	1	3	—	—	—
Tuberculous Peritonitis	4	—	1	3	—	—
Other Tuberculous Diseases	16	—	2	11	3	—
Alcoholism	1	—	—	—	1	—
Rheumatic Fever	18	—	3	9	6	—
Malignant Disease	12	—	—	2	10	—
Purpura	2	—	—	1	1	—
Anæmia	24	—	3	11	10	—
Diabetes Mellitus	4	—	—	3	1	—
Meningitis, Inflammation of Brain	6	—	—	4	1	1
Chorea	3	2	1	—	—	—
Epilepsy	22	4	3	8	7	—
Other Diseases of Nervous System	4	—	—	3	1	—
Valvular Disease, Endocarditis	89	1	11	38	37	2
Pericarditis	2	—	—	2	—	—
Dilatation of Heart	8	—	—	5	3	—
Fatty Degeneration of Heart	10	—	—	4	6	—
Syncope, Heart Disease	94	2	11	34	47	—
Cerebral Hæmorrhage	4	—	2	1	1	—
Apoplexy, Hemiplegia	3	—	—	1	2	—
Laryngitis	1	—	—	1	—	—
Bronchitis	32	—	2	10	20	—
Emphysema, Asthma	3	—	—	1	2	—
Pleurisy	8	1	—	4	3	—
Other Diseases of Respiratory System	2	—	—	2	—	—
Gastric Ulcer	14	—	2	7	5	—
Other Diseases of Stomach	9	—	1	5	3	—
Enteritis, Gastro-Enteritis, Ulcer Intest.	9	—	2	5	2	—
Appendicitis	7	—	2	4	1	—
Intestinal Obstruction	6	—	1	2	3	—
Diseases of Liver	15	1	4	6	4	—
Diseases of Thyroid Body	5	—	1	3	1	—
Acute Nephritis	79	1	12	46	20	—
Chronic Bright's Disease	106	4	15	48	37	2
Uterine Tumour and other Diseases of Uterus.	14	2	1	4	7	—
Abortion, Miscarriage‡	151	3	14	71	63	—
Puerperal Mania‡	66	1	15	42	7	1
Puerperal Convulsions‡	467	46	131	195	93	2
Placenta Prævia, Flooding‡	619	6	47	265	291	10
Other Accidents of Pregnancy and Childbirth.‡	868	13	109	436	295	15
Violence	4	—	1	3	—	—
Other Causes	11	—	1	5	5	—

* These deaths are included in the general abstracts and tables of causes of death.

† Of the 1734 deaths attributed to puerperal septic diseases, 169 were further complicated with other diseases.

‡ Of the 2171 deaths classed to accidents of pregnancy or of childbirth, a secondary cause was mentioned in 158 cases.

disease in 4 cases. In addition to the above there occurred in connection with pregnancy or childbirth, 2,171 deaths, particulars of which will be found in the Abstracts on page 281 and also in Table J on page xci. For further remarks on diseases of whatever kind occurring in connection with the puerperal state, see page cxvii.

Pneumonia.—In the year under notice various forms of pneumonia were the registered cause of 44,367 deaths, equal to a rate of 1,299 per million living at all ages and of both sexes. Of these deaths 4887 were attributed to lobar pneumonia, 18,805 to broncho-pneumonia, and 4 to epidemic pneumonia, whilst 20,671 were referred to "pneumonia" without further qualification.

In several years since 1889 the excessive prevalence of epidemic influenza has been accompanied by an increase in the mortality of respiratory diseases; but apart from this the mortality from pneumonia has in recent years shown a tendency to increase. I have previously ventured to attribute this increase to the circumstance that some of the deaths which in former years would have been ascribed to capillary bronchitis are now returned as from broncho-pneumonia, so that the increase in pneumonia fatality may be, in part, apparent only. In this connection it may be well to intimate that whenever capillary bronchitis is regarded as synonymous* with broncho-pneumonia the use of the latter term instead of the former is very desirable in the interests of vital statistics.

Unfortunately the term typhoid pneumonia still occasionally appears in medical certificates. As this term may mean either enteric fever with pulmonary complications on the one hand, or pneumonia with so-called typhoid symptoms on the other, its use in medical certificates should be discontinued.

In Tables 18–24 the deaths from "septic pneumonia" are included under the head of "pneumonia"; they also appear among the infective diseases of the lung in the supplementary Tables on pages 284 and 285.

Table 20 indicates that the mortality from pneumonia does not vary greatly from year to year. In the year 1905, and in the previous quinquennium likewise, the urban rates very considerably exceeded the rural, but whilst the former rates are falling the latter are rising. In both periods the death-rates from pneumonia were nearly half as high again among males as among females.

The age incidence of the several types of pneumonia continues to vary considerably: lobar or croupous pneumonia appears to be more especially fatal at ages after the 45th year of life, whereas catarrhal or broncho-pneumonia whilst also very fatal after the 55th year is enormously more so among young children, to whom it is by far the most fatal form of the malady.

* In the latest revision of the Nomenclature of Diseases, the Royal College of Physicians recognize only one synonym for broncho-pneumonia, namely—catarrhal pneumonia.

Pneumonia. Mortality at all ages.		Crude Rates. — Average 1900–04.	Corrected Rates.* Average,† 1900–04.	Corrected Rates.* Year 1905.
Both Sexes	England & Wales ...	1,286	1,285	1,299
	Urban Counties ...	1,511	1,538	1,509
	Rural Counties ...	898	846	926
Males ...	England & Wales ...	1,522	1,522	1,519
	Urban Counties ...	1,789	1,820	1,764
	Rural Counties ...	1,058	999	1,087
Females ...	England & Wales ...	1,064	1,063	1,093
	Urban Counties ...	1,251	1,274	1,269
	Rural Counties ...	748	703	776

* See note to table on page lxxvi.
† This average includes one year of excessive influenza prevalence.

Tuberculosis.

The Table on page 22 shows that the deaths caused by the several forms of tuberculous disease in 1905 numbered 55,759, or fewer by 7,870 than the average annual number in the previous decennium, corrected for increase of population. In the year under notice, English mortality was caused, to the extent of 10·7 per cent., by tuberculosis in one or other of its forms, and these forms in the aggregate accounted for a death-rate equal to 1,632 per million of the population of both sexes and at all ages.

Of the 55,759 deaths at all ages 10,950, or 19·6 per cent., occurred in children under five years of age. These deaths were equal to a rate of 2·81 per 1000 living of both sexes at that age, tuberculosis being somewhat more destructive to boys than to girls. The mortality in the selected urban group of counties was 3·23 per 1000, as compared with 1·86 in the rural group (Tables O and P). Among counties with total populations exceeding 100,000 the highest death-rates from tuberculosis in children were—3·44 per 1000 in Lancashire, 3·54 in Durham, 3·56 in London, 3·70 in Cheshire, 3·71 in the North Riding of Yorkshire, and 4·21 in Northumberland. The lowest county rates were 1·34 in Herefordshire, 1·32 in Bedfordshire, 1·30 in Shropshire, 1·21 in Wiltshire, 1·11 in Somersetshire, and 0·91 in Buckinghamshire. (See Table 31).

Tuberculous phthisis (pulmonary tuberculosis) was returned as the cause of 16,942 deaths and "phthisis," not otherwise defined, of 22,008. On the assumption that all deaths returned under the latter heading are due to this form of infection, these deaths taken together are in the proportion of 70 per cent. of the total mortality from tuberculosis, and correspond to a death-rate of 1,140 per million of the population, without distinction of age or of sex. As compared with the average in the quinquennium ended 1904, this rate is lower by 114 per million, and is the lowest on record.

The urban and rural distribution of phthisis mortality in both sexes separately is shown in the following table—the counties being grouped in the manner specified on page lxxv. The rates in the last two columns of this table are corrected for differences in age and sex constitution of the respective populations. They show that the mortality from phthisis in 1905 was equal to 1,347 per million living among males, and to 947 per million among females. As compared with the corresponding data in the previous quinquennium, the male rate was lower by 133 per million and the female rate lower by 95 per million—the proportional reduction in both sexes being equal to 9 per cent.

Phthisis. Mortality at all Ages.		Crude Rates, Average, 1900–1904.	Corrected Rates.* Average, 1900–1904.	Corrected Rates.* Year 1905.
Both Sexes	England & Wales ...	1,253	1,254	1,140
	Urban Counties	1,357	1,349	1,208
	Rural Counties	1,128	1,162	1,107
Males ...	England & Wales ...	1,479	1,480	1,347
	Urban Counties	1,644	1,636	1,467
	Rural Counties	1,236	1,275	1,230
Females ...	England & Wales ...	1,042	1,042	947
	Urban Counties	1,088	1,081	965
	Rural Counties	1,027	1,057	991

* See note to table on page lxxvi.

In the year under notice male mortality from phthisis was higher in the urban group of counties than in the rural by 19·3 per cent. Female mortality was somewhat lower in the former than in the latter group. Compared with the respective quinquennial averages both county groups show a reduction.

The relative mortality of phthisis in the registration counties of England and Wales is indicated approximately in Tables 27 and 28, although in order to economise clerical labour no attempt has been made to correct the rates in either of these tables for differences of age constitution. By reference, however, to the table on page xciv, it will be seen that in the case of phthisis correction for age differences of population is practically without effect in the selected urban areas, whilst it only slightly raises the rates in the rural. Disregarding counties of fewer than 100,000 inhabitants, Tables 27 and 28 show that among males phthisis was least fatal in Northamptonshire where the rate was 851 per million, in Herefordshire 904, in Derbyshire 941, and in Lincolnshire 955. Among other counties the rate rose to 1,546 in Warwickshire, 1,556 in Lancashire, 1,813 in Cornwall, 1,831 in London, and 1,926 in Carnarvonshire. Among females, whilst the rate did not exceed 681 in Worcestershire, 709 in Wiltshire, 711 in Oxfordshire, and 736 in Shropshire, it rose to 1,079 in Devonshire, 1,144 in Glamorganshire, 1,215 in Northumberland, 1,325 in Carnarvonshire, and 1,369 in Carmarthenshire.

With reference to the inordinate mortality of phthisis in some parts of Wales, it may be mentioned that of the twelve registration counties constituting the principality there were in the year under notice seven in which the male death-rate from this disease exceeded that of England and Wales, and ten in which the female death-rate was in excess. Among these counties the highest phthisis death-rates were as follows :—

Males.	Rate per million.	Females.	Rate per million.
Carnarvonshire ...	1,926	Pembrokeshire ...	1,530
Cardiganshire ...	2,075	Anglesey	1,659
Merionethshire ...	2,158	Cardiganshire ...	2,141

In the Table on page xcvi the mortality from phthisis is shown at specified ages in both sexes, the urban rates being distinguished from the rural by the use of special type.

As regards the distribution of phthisis mortality by age, sex, and locality, it may be noted that compared with the preceding quinquennium it was below the average (1) in the urban county group at all ages except among females below five years and among both sexes above 65 ; (2) in the rural county group, at most of the ages in both sexes, the only exceptions being among males at ages under 5, 15–20, 35–45, and 55–65 years, and among females at ages below ten years. The mortality at the various ages was higher in the urban than in the rural county group, except among males from 15 to 35 years of age, and among females from 10 to 35.

Phthisis. Mortality at Age-groups.		Average 1900–1904. England and Wales.	Urban Counties.	Rural Counties.	Year 1905. England and Wales.	Urban Counties	Rural Counties.
Both Sexes	0—	341	404	238	334	395	271
	5—	176	194	144	162	180	127
	10—	299	296	335	261	266	237
	15—	902	875	1,045	830	784	972
	20—	1,448	1,358	1,815	1,300	1,193	1,682
	25—	1,855	1,848	2,019	1,695	1,651	1,919
	35—	2,293	2,582	1,777	2,007	2,184	1,716
	45—	2,274	2,701	1,577	2,064	2,412	1,503
	55—	1,802	2,111	1,385	1,689	2,001	1,448
	65—	949	1,130	785	966	1,170	759
Males ..	0—	366	443	248	355	416	296
	5—	149	165	131	141	156	93
	10—	182	193	165	151	167	112
	15—	799	795	838	722	685	851
	20—	1,643	1,532	2,016	1,458	1,350	1,811
	25—	2,147	2,131	2,320	1,992	1,962	2,124
	35—	2,811	3,218	2,061	2,449	2,697	2,091
	45—	3,130	3,808	2,001	2,851	3,431	1,947
	55—	2,562	3,116	1,758	2,420	2,941	1,929
	65—	1,309	1,661	968	1,300	1,683	932
Females ..	0—	316	364	228	312	375	245
	5—	203	222	156	183	205	161
	10—	417	397	507	371	363	365
	15—	1,002	951	1,258	937	879	1,097
	20—	1,274	1,203	1,637	1,158	1,053	1,568
	25—	1,593	1,590	1,758	1,430	1,367	1,740
	35—	1,807	1,978	1,517	1,593	1,698	1,374
	45—	1,481	1,657	1,197	1,335	1,453	1,106
	55—	1,136	1,231	1,059	1,049	1,179	1,029
	65—	670	736	639	708	790	621

The age of maximum phthisis mortality varied, as in previous years, according to locality. In the urban group of counties the disease showed greatest fatality at the age group 45–55 in men, and at 35–45 in women. In the rural group the maximum age was 25–35 in both sexes.

Tuberculous Meningitis.—In the year under notice 6,083 deaths were referred either to tuberculous meningitis or to acute hydrocephalus,* the corrected average number in the previous decennium having been 6,823. On reference to Table 20 it will appear that this disease is decreasing steadily, and there is ground for the belief that the decrease is real, for the same table shows that the mortality from so-called simple meningitis is also becoming less as years go on. In the same year there were referred to "congenital hydrocephalus" 364 deaths, some of which were probably due to tuberculosis, although for obvious reasons they do not appear as such in the tables. Of 237 deaths referred in the medical certificates to "hydrocephalus," without further specification, 63 were classed after medical inquiry to tuberculous meningitis and 138 to congenital hydrocephalus. Of the total deaths from tuberculous meningitis, 4,087, or 67 per cent., were those of children under the age of five years. This disease was responsible for a mortality of 1·12 per 1000 living among boys of this age and of 0·97 per 1000 among girls. (Table N.)

The table on page cxxii) shows that in 1905, as in the preceding year, tuberculous meningitis was very fatal at the earliest ages. Thus, to every 100,000 births 149 deaths were referred to tuberculous meningitis in the first year of life, of which deaths 49 occurred in the first six months and 100 in the last six months of that period.

Tuberculous Peritonitis.—The abstracts on pages 272 and 273 show that 5,000 deaths were referred either to this disease or to tabes mesenterica,† being fewer by 1,505 than the average annual number in the preceding decennium corrected for increase of population. Of the 5,000 deaths at all ages 3,439, or 69 per cent. occurred in children under the age of five years. Among boys at this age the death-rate was equal to 0·97 per 1000 living, and among girls to 0·80 per 1000. Table N shows that this disease is more destructive than is tuberculous meningitis in early infancy; out of every 100,000 infants born alive in the year under notice 121 deaths were referred to it within the first six months of life, and 96 more within the second six months.

Other Tuberculous Diseases.‡—To general tuberculosis there were referred 3,921 deaths, more than half of the victims being children under 10 years of age. The deaths referred to lupus, to scrofula, or to tuberculosis of the bones, joints, and specified parts other than those already mentioned numbered 1,805. Together, the deaths from other tuberculous diseases corresponded to a rate of 167 per million of the population at all ages and of both sexes. (See Table 20).

---

* Out of these 6,083 deaths 54 were referred to "acute hydrocephalus."

† Of these deaths 28 per cent. were returned as from "tabes mesenterica." In the year 1901 more than half of the corresponding deaths were similarly returned. "Tabes mesenterica" has been expunged from the revised list of diseases in the recently issued Nomenclature of the Royal College of Physicians; the use of the term has long since been discontinued by the medical staffs of the principal metropolitan hospitals.

‡ Under the head of "tuberculosis" in the revised Nomenclature of Diseases of the Royal College of Physicians there is an instruction that the terms "strumous" and "scrofulous" should no longer be used.

Alcoholism.—Under the head of alcoholism the deaths of 2,211 persons were returned, viz., 1,297 men and 914 women. Of these deaths 56 had been referred in the original certificates, not to alcoholism but to such conditions as hæmatemesis, paralysis, dropsy, &c., the true cause of death having been ascertained by subsequent correspondence with the medical attendants. The deaths actually attributed to alcoholism in the year under notice corresponded to a rate of 79 per million in men and 52 per million in women. Since the year 1900 the recorded mortality from alcoholism has declined in both sexes, a fact which is of good omen since the mortality ascribed to cirrhosis of the liver has declined likewise.

On referring to the abstracts on pages 272 and 273 it appears that, as had been the case in 1904 also, 91 per cent. of the total deaths from alcoholism occurred within the chief working period of life, viz., from the age 25 to 65 years, although the proportion of deaths from other causes within the same limits of age did not exceed 32 per cent. of the total at all ages.

Rheumatic Fever.* (Acute and sub-acute rheumatism.)—To this disease there were referred the deaths of 1,016 males and 1,105 females at all ages corresponding to rates of 62 and 63 per million for the sexes respectively.

According to the experience of the last five years the highest mortality from this disease occurred between the ages of 10 and 20 years. Up to the age of five years boys are more liable than girls to die of rheumatic fever, in the next ten years of life the reverse is the case, whilst at ages from 25 to 75 the disease is more fatal to men than to women.

Gout.—In the last Annual Report a doubt was expressed whether the national mortality records afford a trustworthy indication of the actual incidence of gout among the English population. It is familiar medical knowledge that some patients who for many years have been the subjects of gout, eventually succumb to some other affection having no obvious connection with that malady. In such cases "Gout" seldom appears as a cause of death in the medical certificate, or consequently in the death register, which contains a transcript of the certified cause of death.

For the purposes of the present report, the mortality actually attributed to gout has been calculated for two quinquennial periods twenty-five years apart; the results are shown in the subjoined table. As gout is seldom fatal in early life, the rates in this table are limited to ages above 35 years. The numbers for 1871–5, but not those for 1901–5, include the very few deaths from "rheumatic gout" that have been so returned.

* Previous to the beginning of the current century rheumatic fever had been classed together with rheumatism of the heart, consequently it is impossible to compare the present mortality from rheumatic fever with that prevailing at periods earlier than 1901.

Gout. Mortality at Age Groups.	Males.		Females.	
	1871–5.	1901–5.	1871–5	1901–5.
All ages above 35 years	114	75	29	17
35—	20	6	3	2
45—	78	39	15	5
55—	176	120	44	23
65—	333	263	91	55
75 and upwards ...	362	370	104	109

From this table it appears that, if the returns may be trusted, gout is now becoming less fatal than formerly at most ages above 35 years, among women as well as among men. It may here be noted that the decrease in fatality becomes less marked at each successive group of ages, until at last there is an actual increase.

Malignant Disease.

To cancer or malignant disease there were referred in the year under notice 30,221 deaths, or more by 2,209 than the average number in the previous ten years, after due allowance for increase of population. The deaths of males exceeded the decennial average by 13 per cent., and those of females exceeded it by 5 per cent. If the deaths from malignant disease in the year 1905 be calculated on the aggregate population of the respective sexes without reference to age, the disease will be found to have destroyed 756 per million males living in that year, which is the highest rate hitherto recorded, and to have destroyed 1,005 females per million living—a rate which is only a trifle below the rate of 1904 which, at the time had been the highest on record.

As has been explained in other recent reports, the use for comparative purposes of crude rates of cancer mortality is misleading, because of changes in the age constitution of the living. But if, instead of computing the mortality at all ages, we apply the deaths at ages above 35 years to the number then living, we obtain the ratio at that stage of life when cancer is most destructive; and the result, after correction for age and sex differences of the population, may fairly be employed for comparative purposes. The following table has been prepared in this manner: it shows the rates of mortality from malignant disease in that portion of the population above the age of 35 years (*a*) in England and

Wales as a whole, (*b*) in an urban group of counties containing 18 million inhabitants, and (*c*) in a rural group of counties with a population exceeding four millions.* In this table the rates for 1905 and the average rates in the quinquennium 1900–04 are arranged in adjacent columns.

Cancer. Mortality at ages above 35 years.		Crude Rates. — Average, 1900–04.	Corrected Rates.† Average, 1900–04.	Corrected Rates.† Year 1905.
Both Sexes...	England & Wales ...	2,566	2,565	2,661
	Urban Counties	2,525	2,673	2,768
	Rural Counties	2,736	2,382	2,479
Males ...	England & Wales ...	2,170	2,169	2,318
	Urban Counties	2,108	2,268	2,434
	Rural Counties	2,380	2,010	2,189
Females ...	England & Wales ...	2,921	2,920	2,968
	Urban Counties	2,902	3,036	3,068
	Rural Counties	3,047	2,716	2,739

† See footnote to page lxxvi.

A glance at this Table suffices to establish the necessity for the adjustment before referred to, in the case of a disease like cancer, which mainly affects persons beyond mid-life. The Table shows that if crude rates be adopted as the measure of the incidence of cancer mortality, the rural area appears to suffer more severely than the urban ; whereas, if the corrected rates be compared, the rural area is found to suffer less severely.

In previous reports, attention has been directed to a serious difficulty arising from the fact that many cancer patients whose homes are in the country repair for treatment to the hospitals and other institutions in the great towns. As many of these patients die in hospital their deaths are attributed, not to their ordinary place of residence, but to the districts in which these institutions are situated. In present circumstances, however, a complete distribution of hospital deaths is impracticable.

* For the composition of these county groups, see page lxxv.

The following Table shows the rates of cancer mortality per million living of each sex at five groups of ages above the 35th year. The rates are calculated for England and Wales as a whole, as well as for the selected urban and rural groups of counties separately, the rates for the year 1905 being compared throughout with the average rates in the five years 1900–04.

Cancer. Mortality at Age-Groups.		Average 1900-04. England and Wales.	Average 1900-04. Urban Counties.	Average 1900-04. Rural Counties.	Year 1905. England and Wales.	Year 1905. Urban Counties.	Year 1905. Rural Counties.
Both Sexes	35—	657	715	565	651	695	588
	45—	1,975	2,136	1,714	1,981	2,118	1,734
	55—	4,091	4,306	3,772	4,254	4,538	3,903
	65—	6,508	6,577	6,378	6,943	7,127	6,777
	75—	7,387	7,192	7,421	7,869	7,326	7,859
Males ..	35—	408	450	340	408	439	376
	45—	1,506	1,653	1,287	1,556	1,724	1,263
	55—	3,735	3,979	3,420	3,940	4,265	3,576
	65—	6,341	6,409	6,148	6,991	7,093	7,300
	75—	7,146	6,839	7,346	8,033	7,644	8,176
Females ..	35—	890	967	771	878	939	782
	45—	2,410	2,591	2,097	2,374	2,490	2,156
	55—	4,402	4,591	4,078	4,528	4,778	4,188
	65—	6,641	6,706	6,569	6,904	7,152	6,345
	75—	7,558	7,423	7,477	7,753	7,117	7,620

It may be gathered from the Abstracts on pages 274 and 275, as well as from several tables in previous reports, that the mortality from malignant disease is not alarming until after the 35th year of life, but with advancing age the disease rapidly becomes more fatal. In England and Wales during the quinquennium 1900–04, at ages above 75, men died of malignant disease at the rate of 7,146 per million, and women at the rate of 7,558 per million.

Table K shows for males and Table L for females the relative frequency with which, in the course of the last quinquennium, cancer has fatally attacked different parts of the body. The statistics of 1905 confirm those of previous years in showing that malignant disease in the aggregate is more fatal to women than to men ; but it will be found that this difference may be accounted for by the tendency of the disease to select for exceptional attack the generative organs of females. In the quinquennium under present notice, the male deaths from malignant disease, less those in which the generative and mammary systems were involved, corresponded to a rate of 712 per million living, whilst the female rate with the same limitation did not exceed 584 per million.

TABLE K.—ENGLAND and WALES.—DEATHS from MALIGNANT DISEASE, 1901–1905, CLASSIFIED according to AGE, and PART AFFECTED.

MALES.

Part of the Body Affected.*	All Ages.	Ages											Part of the Body Affected.*
		Under 1 Year.	1—	2—	3—	4—	Total under 5 Years.	5—	10—	15—	20—	25—	
TOTAL ..	58,344	66	57	70	77	68	338	155	139	215	361	1,334	TOTAL.
Skin of—													Skin of—
Face	1,165	1	1	—	—	2	4	—	—	5	3	15	Face.
Lip	930	—	—	—	—	—	—	—	—	—	—	2	Lip.
Nose	105	—	—	—	—	—	—	—	2	2	1	3	Nose.
Scalp	55	—	2	—	—	—	2	1	—	—	2	4	Scalp.
Ear	107	1	—	—	1	—	2	1	1	—	—	3	Ear.
Stomach	12,710	—	—	—	—	—	—	—	—	2	16	198	Stomach.
Intestines	4,293	3	1	1	2	2	9	5	2	7	21	118	Intestines.
Rectum	5,924	—	1	—	—	—	1	—	4	7	35	143	Rectum.
Breast	107	—	—	—	—	—	—	—	—	—	—	1	Breast.
Œsophagus	3,665	—	—	—	—	—	—	—	1	—	—	19	Œsophagus.
Liver and Gall Bladder ..	7,705	6	2	5	8	3	24	10	8	10	19	114	Liver and Gall Bladder.
Pancreas	996	—	—	—	—	—	—	—	—	3	7	34	Pancreas.
Bladder and Urethra ..	1,891	—	—	—	6	1	7	4	1	2	1	17	Bladder and Urethra.
Pharynx, Throat	1,244	2	—	—	—	1	3	2	7	7	6	24	Pharynx, Throat.
Larynx and Trachea	1,073	1	—	—	1	—	2	—	1	—	2	5	Larynx and Trachea.
Thyroid	95	—	—	—	—	1	1	1	1	1	—	—	Thyroid.
Tongue	3,188	—	—	—	—	—	—	—	—	1	1	18	Tongue.
Mouth	1,114	—	1	1	2	1	5	—	1	2	4	8	Mouth.
Prostate..	530	—	—	—	—	—	—	1	—	2	1	2	Prostate.
Peritoneum	521	2	2	1	3	3	11	3	1	4	8	36	Peritoneum.
Pleura	39	—	—	—	—	—	—	—	1	—	1	4	Pleura.
Brain	545	2	3	5	8	12	30	28	22	27	30	84	Brain.
Spinal Cord	31	—	—	1	—	—	1	—	—	1	2	3	Spinal Cord.
Heart and Pericardium ..	6	—	—	—	—	—	—	—	—	—	—	2	Heart and Pericardium.
Globe of Eye, Orbit	187	2	3	16	13	7	41	14	6	2	2	5	Globe of Eye, Orbit.
Axilla	79	—	—	—	—	1	1	3	—	—	—	7	Axilla.
Groin	105	—	—	—	—	—	—	—	—	1	1	9	Groin.
Lymphatic Glands	146	2	—	1	—	1	4	3	4	2	7	11	Lymphatic Glands.
Shoulder	105	—	—	—	1	1	2	2	2	6	6	10	Shoulder.
Arm, Leg	797	4	3	1	2	1	11	5	16	39	43	56	Arm, Leg.
Hip	56	—	—	—	—	—	—	—	1	3	3	5	Hip.
Skull	80	—	2	3	4	1	10	7	2	1	8	5	Skull.
Rib, Sternum	96	—	—	—	—	—	—	4	2	2	3	6	Rib, Sternum.
Spinal Column..	128	—	1	—	1	—	2	—	1	4	1	11	Spinal Column.
Jaw	1,743	3	4	1	2	2	12	9	6	8	8	16	Jaw.
Buttock	14	1	—	—	—	—	1	—	—	—	—	2	Buttock.
Pelvic Bones	281	1	2	—	1	1	5	6	3	10	11	21	Pelvic Bones.
Kidney and Supra-Renals ..	633	13	19	21	9	16	78	16	5	4	11	25	Kidney and Supra-Renals.
Testes and Penis	841	1	—	1	1	—	3	1	2	4	18	85	Testes and Penis.
Parotid Gland	181	—	—	—	1	1	2	2	1	—	2	5	Parotid Gland.
Lung	716	1	—	2	2	1	6	4	5	8	23	50	Lung.
Mediastinum	515	—	—	1	1	1	3	5	4	14	11	32	Mediastinum.
Mesentery	142	2	—	—	—	—	2	3	1	1	3	6	Mesentery.
Lymphatic Glands of Neck..	1,714	5	1	—	1	3	10	4	9	5	19	31	Lymphatic Glands of Neck.
Spleen	137	1	3	1	—	—	5	2	—	2	—	7	Spleen.
Abdomen	778	2	3	2	5	2	14	3	4	5	9	35	Abdomen.
Thorax	166	1	1	—	—	3	5	2	1	5	2	10	Thorax.
Part not stated	665	9	2	6	2	—	19	4	11	6	10	27	Part not stated.

* The arrangement of this column has been fixed in consultation with Dr. Bashford, Director of the Imperial Cancer Research Fund.

MALES.

at Death.											Part of the Body Affected.*
35—	45—	55—	65—	75—	85 and upwards.	
4,078	10,980	17,704	16,059	6,355	626	TOTAL.
						Skin of—
61	146	240	315	300	76	Face.
29	83	184	292	268	72	Lip.
4	17	22	28	20	6	Nose.
2	7	17	12	7	1	Scalp.
5	11	10	29	37	8	Ear.
895	2,340	4,078	3,827	1,282	72	Stomach.
308	720	1,259	1,295	521	28	Intestines.
344	1,000	1,833	1,788	708	61	Rectum.
4	27	29	34	11	1	Breast.
195	871	1,331	931	300	17	Œsophagus.
476	1,326	2,459	2,304	875	80	Liver and Gall Bladder.
117	213	298	251	70	3	Pancreas.
79	285	507	675	278	35	Bladder and Urethra.
72	283	440	298	97	5	Pharynx, Throat.
65	292	358	269	74	5	Larynx and Trachea.
8	21	33	21	8	—	Thyroid.
232	821	1,103	735	258	19	Tongue.
65	219	357	323	114	16	Mouth.
7	38	158	214	100	7	Prostate.
49	101	132	124	49	3	Peritoneum.
4	6	11	7	5	—	Pleura.
101	104	83	32	3	1	Brain.
7	6	3	7	1	—	Spinal Cord.
—	3	1	—	—	—	Heart and Pericardium.
9	18	24	35	24	7	Globe of Eye, Orbit.
5	8	16	24	12	3	Axilla.
12	26	30	19	6	1	Groin.
18	21	37	29	10	—	Lymphatic Glands.
21	15	21	19	11	3	Shoulder.
60	96	158	162	129	22	Arm, Leg.
7	10	8	9	9	1	Hip.
6	11	13	12	4	1	Skull.
9	19	22	20	8	1	Rib, Sternum.
12	32	34	26	5	—	Spinal Column.
118	365	547	454	187	13	Jaw.
1	1	2	4	3	—	Buttock.
39	44	64	56	21	1	Pelvic Bones.
54	115	161	118	44	2	Kidney and Supra-Renals.
129	162	161	170	90	16	Testes and Penis.
12	39	46	45	25	2	Parotid Gland.
99	181	185	127	25	3	Lung.
65	126	137	90	26	2	Mediastinum.
17	30	35	29	14	1	Mesentery.
132	403	549	377	159	16	Lymphatic Glands of Neck.
13	21	44	32	11	—	Spleen.
59	139	212	218	76	4	Abdomen.
12	36	58	27	6	2	Thorax.
53	122	194	146	64	9	Part not stated.

TABLE L.—ENGLAND and WALES.—DEATHS from MALIGNANT DISEASE in 1901-1905, CLASSIFIED according to AGE, and PART AFFECTED.

FEMALES.

Part of the Body Affected.*	All Ages.	Ages at Death.											Part of the Body Affected.*
		Under 1 Year.	1—	2—	3—	4—	Total under 5 Years.	5—	10—	15—	20—	25—	
TOTAL ..	86,007	52	50	59	58	36	255	113	129	230	288	2,505	TOTAL.
Skin of—													Skin of—
Face	783	—	—	—	2	—	2	1	1	1	—	8	Face.
Lip	73	—	1	—	—	—	1	—	—	—	—	—	Lip.
Nose	93	—	—	—	—	—	—	1	—	—	3	1	Nose.
Scalp	84	—	—	1	—	—	1	—	—	—	—	3	Scalp.
Ear	42	—	—	—	—	—	—	—	—	—	—	2	Ear.
Stomach	12,048	—	—	—	—	1	1	—	1	1	9	171	Stomach.
Intestines	5,870	—	—	—	—	—	—	1	3	8	20	129	Intestines.
Rectum	5,086	—	—	—	—	—	—	—	—	12	20	171	Rectum.
Uterus	19,645	—	2	—	—	—	2	—	—	5	23	862	Uterus.
Breast	14,308	—	—	—	—	—	—	—	1	2	6	293	Breast.
Œsophagus	1,278	—	—	—	—	—	—	—	—	—	1	70	Œsophagus.
Liver and Gall Bladder ..	11,681	5	4	6	3	4	22	7	3	9	11	128	Liver and Gall Bladder.
Pancreas	928	—	—	1	—	—	1	1	1	—	2	24	Pancreas.
Bladder and Urethra	789	—	—	—	1	—	1	—	—	—	—	12	Bladder and Urethra.
Pharynx, Throat	363	—	—	—	—	—	—	3	4	5	4	17	Pharynx, Throat.
Larynx and Trachea	373	—	—	—	—	—	—	1	—	1	—	28	Larynx and Trachea.
Thyroid	287	1	—	1	—	—	2	—	—	2	3	11	Thyroid.
Tongue	418	1	—	—	—	—	1	—	—	—	1	31	Tongue.
Mouth	212	—	—	—	1	1	2	1	1	4	1	10	Mouth.
Peritoneum	1,401	2	2	1	2	1	8	—	2	4	4	45	Peritoneum.
Pleura	50		—	1	—	—	1	—	—	1	1	2	Pleura.
Brain	422	1	2	2	2	6	13	18	13	17	25	58	Brain.
Spinal Cord	24	—	1	—	—	—	1	1	—	1	1	1	Spinal Cord.
Pericardium	1	—	—	—	—	—	—	—	—	—	—	—	Pericardium.
Globe of Eye, Orbit	177	5	3	8	15	5	36	7	2	2	—	3	Globe of Eye, Orbit.
Axilla	116	—	—	—	—	—	—	—	—	—	—	3	Axilla.
Groin	110	—	—	—	—	—	—	1	—	—	2	5	Groin.
Lymphatic Glands	114	—	1	—	—	1	2	1	4	—	3	7	Lymphatic Glands.
Shoulder	88	—	—	—	1	—	1	2	3	3	3	9	Shoulder.
Arm, Leg	811	6	1	2	—	4	13	13	28	38	20	37	Arm, Leg.
Hip	41	—	—	—	—	—	—	—	2	1	5	3	Hip.
Skull	48	1	1	1	2	—	5	1	2	3	2	2	Skull.
Rib, Sternum	68	—	—	—	1	—	1	1	2	—	5	7	Rib, Sternum.
Spinal Column	121	3	—	1	1	—	5	—	2	5	2	5	Spinal Column.
Jaw	639	—	—	1	1	—	2	2	7	5	9	21	Jaw.
Buttock	22	—	—	—	—	—	—	—	—	1	1	2	Buttock.
Pelvic Bones	577	3	3	1	1	—	8	2	8	12	13	23	Pelvic Bones.
Ovary	1,626	—	1	1	—	—	2	5	5	22	23	113	Ovary.
Kidney and upra-Renals ..	650	12	25	19	13	10	79	14	6	4	4	19	Kidney and Supra-Renals.
Parotid Gland	95	1	—	—	—	—	1	1	1	3	1	7	Parotid Gland.
Lung	593	—	—	—	3	—	3	7	7	10	12	32	Lung.
Mediastinum	345	—	—	—	—	—	—	2	1	4	12	20	Mediastinum.
Mesentery	214	—	—	1	—	—	1	—	1	3	3	8	Mesentery.
Lymphatic Glands of Neck ..	546		1	1	2	—	9	6	7	19	8	31	Lymphatic Glands of Neck.
Spleen	141	—	—	1	2	—	3	2	—	2	2	2	Spleen.
Abdomen	1,523	1	—	4	3	2	10	3	4	9	9	26	Abdomen.
Thorax	164	—	1	1	—	—	2	1	2	—	3	8	Thorax.
Part not Stated	919	5	1	4	2	1	13	7	5	11	11	35	Part not Stated.

* The arrangement of this column has been fixed in consultation with Dr. Bashford, Director of the Imperial Cancer Research Fund.

FEMALES.

25—	35—	45—	55—	65—	75—	85 and upwards.	Part of the Body Affected.*
2,505	9,417	18,634	23,542	20,713	9,002	1,179	TOTAL.
							Skin of—
8	33	80	117	223	247	70	Face.
—	2	6	9	24	26	5	Lip.
1	1	7	15	32	26	7	Nose.
3	5	10	19	20	20	6	Scalp.
2	4	12	7	8	8	1	Ear.
171	828	2,157	3,609	3,677	1,465	129	Stomach.
129	369	962	1,676	1,821	796	85	Intestines.
171	393	935	1,458	1,398	640	59	Rectum.
862	3,531	5,743	5,165	3,146	1,050	118	Uterus.
293	1,786	3,530	3,727	2,994	1,645	324	Breast.
70	146	246	296	349	154	16	Œsophagus.
128	689	1,992	3,665	3,573	1,450	132	Liver and Gall Bladder.
24	73	171	302	253	90	10	Pancreas.
12	54	108	209	254	132	19	Bladder and Urethra.
17	52	65	103	73	36	1	Pharynx, Throat.
28	64	91	96	72	16	4	Larynx and Trachea.
11	27	46	89	76	25	6	Thyroid.
31	40	67	96	120	58	4	Tongue.
10	18	31	51	65	23	5	Mouth.
45	121	264	428	377	133	15	Peritoneum.
2	4	14	17	8	2	—	Pleura.
58	96	81	64	29	8	—	Brain.
1	3	7	3	6	—	—	Spinal Cord.
—	—	—	—	1	—	—	Pericardium.
3	7	20	29	35	27	9	Globe of Eye, Orbit.
3	7	13	28	30	30	5	Axilla.
5	12	20	23	23	19	5	Groin.
7	11	27	24	28	6	1	Lymphatic Glands.
9	9	12	21	16	8	1	Shoulder.
37	55	94	156	177	134	46	Arm, Leg.
3	5	8	7	8	2	—	Hip.
2	4	5	9	8	6	1	Skull.
5	7	9	12	13	6	1	Rib, Sternum.
5	20	25	28	19	9	1	Spinal Column.
21	53	110	165	152	99	14	Jaw.
2	2	1	4	6	5	—	Buttock.
23	84	131	136	118	38	4	Pelvic Bones.
113	300	466	410	221	55	4	Ovary.
19	59	123	152	130	55	5	Kidney and Supra-Renals.
7	9	13	19	22	15	3	Parotid Gland.
32	92	158	143	109	19	1	Lung.
20	46	69	102	59	28	2	Mediastinum.
8	18	37	50	66	23	4	Mesentery.
31	37	93	122	128	75	11	Lymphatic Glands of Neck.
2	21	24	45	35	5	—	Spleen.
26	90	299	402	456	192	23	Abdomen.
8	14	36	43	39	11	5	Thorax.
35	114	213	190	218	85	17	Part not Stated.

Diabetes Mellitus was the certified cause of death in 3,174 instances in the course of the year under notice, being in excess of the corrected average number in the previous ten years by 327. Of the total deaths from this disease last year not less than 71 per cent. occurred at ages 45 and upwards. In view of the continued increase in the fatality of diabetes, it may be useful to compare the rates in the quinquennium last completed with those for the immediately preceding decennium. This has been done in the following Table which gives the annual mortality per million of those living at the several ages.

Diabetes Mellitus. Mortality at Age Groups.	Males.			Females.		
	1891–1900.	1901–1905.	Ratio.*	1891–1900.	1901–1905.	Ratio.*
All ages ...	87†	96	110	67†	83	124
Under 5 years	5	3	60	3	3	100
5–10 ...	7	8	114	8	9	113
10–15 ...	16	18	113	17	19	112
15–20 ...	32	32	100	25	26	104
20–25 ...	43	45	105	31	34	110
25–35 ...	57	58	102	42	51	121
35–45 ...	87	79	91	56	63	113
45–55 ...	161	164	102	112	128	114
55–65 ...	347	401	116	258	335	130
65–75 ...	559	706	126	380	529	139
75 and upwards	474	632	133	312	426	137

* *i.e.*, the ratio of the mortality in 1901–1905 to that in 1891–1900, the latter taken as 100.

† Calculated on age constitution in 1901.

From this Table we see that the increase in mortality from diabetes has been greatest among females, and that in both sexes it is greatest after the 55th year.

II.—Diseases of Particular Organs.

Slightly more than two-fifths of the total deaths registered in the year under notice were assigned to diseases of particular organs or parts of the body, formerly called "local diseases." Many of these diseases, however, can be regarded as local only in the sense

that hitherto they have not been expressly classed either as "general" or as "infective" in the nomenclature of the Royal College of Physicians. Modern pathologists are of opinion that nearly all, if not all, the inflammatory local diseases are really infective in nature, and in many cases these diseases are certified so to be. The terms "septic laryngitis," "septic peritonitis," and less frequently "septic bronchitis" already appear in medical certificates, and in all probability the infective nature of these and other inflammatory affections will in future be more generally recognised. Reference to the supplementary tables (pp. 284–5) will support this view; for it there appears that in regard to the diseases of certain parts of the body the infective nature was stated in 2843 instances in 1905 as compared with 1878 instances in 1904.

The figures in Table 20 show a remarkable fall in the course of 20 years in the mortality from acute inflammatory affections of the brain, lung,* and peritoneum, and an increase in the mortality from inflammatory disorders of the ear and kidney, as well as of the intestines, and of the valves of the heart. Thus, comparing the quinquennium 1886–90 with 1901–5, the mortality from meningitis, bronchitis, laryngitis, pleurisy, and peritonitis collectively appears to have decreased by 42 per cent., while the aggregate mortality from otitis, acute and chronic nephritis, enteritis (including ulceration of intestines, gastro-enteritis, and appendicitis) and valvular disease of the heart appears to have increased by 43 per cent. It would be unsafe, however, to assume that the whole of the fall on the one hand or the whole of the rise on the other is due to a change in the prevalence of these diseases, some part of the difference in the mortality being doubtless due to improved diagnosis and to more detailed statement of causes of death in the medical certificates.

The practice adopted in this office for many years past of addressing letters of inquiry to medical practitioners respecting deaths returned under more or less indefinite headings has also contributed directly and indirectly to the above mentioned results. For instance, during the quinquennium 1901–5 inquiry was made respecting 3997 deaths which had been certified as due to peritonitis, with the result that 2435 of these deaths were transferred to other headings; while as a result of inquiry respecting other causes 763 deaths were added to enteritis, gastro-enteritis, and appendicitis.

Meningitis.—Although the deaths referred to inflammation of the brain or its membranes are decreasing steadily year after year, the registers contain entries of 6034 deaths in the year under notice, against a corrected annual average of 7587 in the preceding decennium. The deaths registered in 1905 include 112 that were certified as from infective disease of the brain (*see* supplementary tables, pages 284–5). Of the deaths at all ages from this disease 66 per cent. were those of children under the age of five years. Among boys of this age the death-rate from meningitis was equal to a rate of 1·12 per 1000, and among girls to a rate of 0·93 per 1000.

* Pneumonia being an infective disease is not included here. See note to page cxii.

Softening of the Brain.—According to the returns, the mortality from this disease also is steadily decreasing, the deaths in the year under notice being equal to a rate of 64 per million without reference to age or sex, which is less by 11 per million than the decennial average rate. Men succumb to this disease somewhat more frequently than do women, and, as has been the case in previous years, the mortality to which it gives rise is mainly limited to ages beyond mid-life. Among males at all ages, softening of the brain was fatal last year to 66 per million living of that sex, or 16 per million below the decennial average, and among females to a rate of 62 per million, or 6 below the average.

General Paralysis of the Insane.—In the course of the year 1905 the deaths of 2287 persons, namely, 1738 males and 549 females, were attributed to this disease, which therefore caused a mortality of 105 per million in the former sex and 31 per million in the latter.* As compared with the last four years, the mortality, from general paralysis in the year under notice scarcely differed from the average.

According to the experience of 1901–5, the mortality from this condition is inconsiderable under the age of 25 years ; but among men at the age-group 35–45 years the disease is fatal in the proportion of 309 per million ; at ages 45–55 the proportion is 319, and at the three subsequent age-groups the proportion is slightly lower. Among women the disease is generally less fatal, but at ages 35–45 they succumb to it at the rate of 67 per million, whilst at advanced ages their mortality is still higher.

Epilepsy.—From Table 18, on page 19, we learn that, as compared with the decennium 1871–80, the mortality from epilepsy in the decennium ended 1905 showed a considerable decrease, nevertheless there has been a tendency to an increase of mortality from this affection in the course of the last few years, the rates in the five years 1901–5 having exceeded the rate in the immediately preceding five years by nearly three per million. The abstracts on pages 276–7 show that epilepsy is fatal at all stages of life, and more fatal to males than to females. The mortality of both sexes increases steadily from the age of five years onwards.

Convulsions.—Among disorders that still have to be grouped with diseases of the nervous system *Convulsions* is still the form most frequently recorded. Although at the present day this term is far less frequently used than formerly, it nevertheless appears in the registers of 1905 as the cause of 12,933 deaths. Although in existing conditions of life, especially among the poor, cases will at times occur in which it is impossible to state the cause of convulsions, nevertheless in the interest of medical science it is desirable that the instruction of the Royal College of Physicians

* For many years previous to the commencement of the present century "General Paralysis of the Insane" had been grouped with "Insanity" in the official tables, so that with respect to either of these conditions it is impossible to compare the mortality of recent with that of earlier periods. The same limitation applies to locomotor ataxy, neuritis, cerebral hæmorrhage, and some other diseases in this section.

should be followed and that the use of the term convulsions—being the name of a mere symptom—should be restricted to those cases in which precise information is wanting.

Of the registered deaths from convulsions 99 per cent. were those of children under five years, relatively few of whom had completed their first year of life. Table M on page cxxi shows that during the period 1901–04 meningitis and convulsions contributed in the aggregate more than one-tenth part to the mortality from all causes at ages under five years.

Locomotor Ataxy.—In the year under notice 550 deaths were attributed to this disease, as compared with 514 in the previous year. This disease was separately abstracted for the first time in 1901, and within the five years 1901–05 it has caused an aggregate of 2458 deaths. These deaths hardly justify the publication of rates of mortality in groups of ages, nevertheless it deserves mention that the disease shows a general tendency to increased fatality from the 25th to the 65th year. It has previously been mentioned that locomotor ataxy (like general paralysis) is enormously more fatal to men than to women, the rates in the quinquennium just ended having been 25 per million and 5 per million for the respective sexes.

Neuritis, Peripheral, Poly-neuritis.—Although only 387 deaths appear from the tables of last year to have been caused by neuritis which number slightly exceeds the average, nevertheless a cursory examination of the death certificates shows this affection to be very common, especially in persons of intemperate habits. The term frequently occurs, in conjunction with cirrhosis of the liver, as a contributory cause of the death of chronic alcoholics ; but in such cases "alcoholism" and not "neuritis" is selected as the cause of death. As in previous years, the present returns appear to indicate that the several forms of neuritis are much more fatal to females than to males. Special attention has recently been directed to this affection in consequence of the occurrence in the year 1900, of an epidemic of poisoning by arsenical beer in Lancashire.

Tumour of the Brain, not otherwise described, was returned as the cause of 698 deaths in the year under notice. It should be generally known that when fatal tumour of the brain is stated in the medical certificate to be due to a specific cause, the death is referred to that specific cause and not to the local disease.*

Inquiries were made of the certifying practitioners in 196 cases of brain tumour occurring in public institutions or where post-mortem examinations had been held : of these deaths 76 were found to be due to malignant disease, 27 to tuberculosis, and 17 to syphilis.

* In Tables K and L, on pages cii–cv, the deaths from malignant disease of the brain are specified at the various ages for the years 1901–5.

Diseases of the Heart.—As in past years "diseases of the heart" indefinitely so returned without further description, still contribute the largest share to the death-toll from diseases of the circulatory organs, although the aggregate cardiac mortality is now made up in much greater proportion than formerly of definite forms of disease, and especially of valvular lesions.

In the year 1901 the list of diseases of the circulatory organs was modified, and considerably extended, for the purpose of showing the principal forms that are ordinarily encountered in medical practice. As the records for the five years 1901–5 dealing with 241,330 fatal cases of heart disease are now available, I have thought it desirable to indicate in the present section the stages of life at which the several affections of the heart have been returned as causes of death.

ENGLAND and WALES, 1901–5.—MORTALITY from HEART DISEASES. AVERAGE ANNUAL RATE per MILLION LIVING.

Age Groups.		Valvular Disease, Endo-carditis (not Infective).	Peri-carditis.	Hyper-trophy of Heart.	Angina Pectoris.	Dilatation of Heart.	Fatty Degener-ation of Heart.	Syncope, Heart Disease (not specified).
All Ages	Males ..	389	15	9	30	81	60	828
	Females	427	13	6	15	81	67	867
0— ..	Males ..	19	10	1	—	1	0	64
	Females	19	9	—	—	2	1	47
5— ..	Males ..	57	14	0	—	2	0	59
	Females	72	16	0	0	2	0	66
10— ..	Males ..	97	14	0	—	2	0	83
	Females	137	18	0	1	2	0	117
15— ..	Males ..	119	12	0	0	4	1	133
	Females	140	9	0	1	4	1	139
20— ..	Males ..	114	10	1	1	5	1	123
	Females	120	8	1	1	4	2	137
25— ..	Males ..	169	11	2	4	13	7	215
	Females	177	7	1	2	11	8	227
35— ..	Males ..	334	15	6	17	45	29	521
	Females	361	12	3	8	33	42	556
45— ..	Males ..	678	24	16	53	126	111	1,322
	Females	687	14	7	20	108	116	1,274
55— ..	Males ..	1,462	31	47	159	381	294	3,600
	Females	1,398	23	21	59	315	306	3,204
65 years and upwards	Males ..	3,224	36	83	318	912	663	8,499
	Females	3,089	32	56	148	874	611	7,819

On examining this table it will be found that in the quinquennium 1901–5, the mortality from all forms of heart disease increased in fatality from childhood to old age, the highest rates from heart disease in the aggregate being at the most advanced ages. Among definite forms of cardiac diseases, valvular lesions appear to be more fatal to the female sex than to the male up to the age of 55, after which age males are subject to the higher fatality. Practically the same statement is true concerning fatty degeneration of the heart; whilst on the contrary, dilatation and hypertrophy of the heart, pericarditis, and angina pectoris follow the rule obtaining in many other diseases, namely that, among adults at any rate, the male rates at the several ages are generally higher than the female.

Diseases of the Blood Vessels.—Since the opening year of the current century, diseases of the blood vessels have been abstracted separately from other diseases of the circulatory organs. The abstracts on pages 276 and 277 show that in the course of last year 28,528 deaths or 5·5 per cent. of the deaths from all causes were referred to diseases of the blood vessels. Among these diseases, the form most frequently registered is cerebral hæmorrhage, the deaths from which disease had in earlier years been classed, together with those from its symptoms, apoplexy, and hemiplegia, among diseases of the nervous system. The mortality attributed to cerebral hæmorrhage or to apoplexy was equal last year to a rate of 688 per million living, without distinction of age or of sex.

The mortality from cerebral hæmorrhage or apoplexy appears from the tables to have decreased considerably in the course of the last few years. It is certain, however, that many deaths which in earlier years would have been referred to apoplexy, are now more correctly assigned to disease of the heart, kidneys, or other important organs; in this way the recent reduction in mortality may with much probability be accounted for. It has been previously urged in these reports that the term "paralysis" is frequently used in medical certificates without mention of its cause; I would, therefore, take the present opportunity to intimate that the returns of deaths from diseases of the present group would be rendered more nearly accurate, if medical men would distinguish, where possible, between brain paralysis and paraplegia. In certifying deaths of the first kind the terms hemiplegia and apoplexy, which denote symptoms merely, might advantageously be replaced by the names of such conditions as cerebral hæmorrhage, cerebral embolism, &c. according to circumstances. In all cases where cerebral hæmorrhage is associated with diseases of the kidneys, the heart, or other organ, the fact should be mentioned in the certificate.

Either to cerebral hæmorrhage or to apoplexy not fewer than 119,019 deaths have been referred in the course of the last quinquennium. I have therefore thought it desirable to give the mortality from these conditions and symptoms at the several stages of life in both sexes. In the appended table the rates are shown with distinction of sex, as per million living; and as the mortality

is insignificant at the earlier ages, the rates are limited to the age-groups above 35 years.

MORTALITY FROM CEREBRAL HÆMORRHAGE AND APOPLEXY, 1901–5.

——	All Ages above 35 years.	35—	45—	55—	65—	75 years and upwards.
Males	2,085	233	868	2,786	7,211	14,039
Females ...	2,272	261	1,004	2,775	6,713	13,422

From this table it appears that according to the experience of the last five years, cerebral hæmorrhage or apoplexy is the reported cause of 2085 deaths in each million males living above the age of 35 years and of 2272 deaths in each million females. Up to the age of 55, women are more frequently the victims than are men, whilst after that age the reverse is the case. In both sexes the mortality increases rapidly with advancing age.

Laryngitis.—The deaths registered under this heading do not bulk largely in the national returns. Nevertheless laryngitis must be considered an important cause of death because of its frequently close relation to diphtheria. The Royal College of Physicians in the recent revision of their nomenclature recognize two chief varieties of simple laryngitis :—(*a*) catarrhal and (*b*) membranous ; but in a special note appended to the last of these forms, they direct that cases of diphtheria should not be returned under membranous laryngitis.

In 61 instances, last year, inquiries were made respecting the true nature of deaths returned as from membranous laryngitis, and in more than half of these instances the diphtheritic nature of the affection was acknowledged by the medical attendants. Laryngitis selects the great majority of its victims from among young children, in which respect it closely resembles the indefinite condition known as "croup," but it differs from croup in that a certain proportion of the fatal cases occur at later ages.

Bronchitis claims annually a larger number of victims than does any other disease now included in the respiratory group*—the deaths assigned to this cause in 1905 being equal to a rate of 1139 per million living, without distinction of age or of sex. This rate is below the average in the previous decennium by 23·2 per cent.

* The deaths from *pneumonia* are even more numerous, but this disease has been removed by the Royal College of Physicians from the respiratory group, and placed among the "infections." See revised "Nomenclature of Diseases, 1906," page 5, also see Abstracts, pages 272–3 of the present report.

The fall in the registered mortality from bronchitis still continues to be remarkable, the mortality in the past five years being only about two-thirds of the rate in the decennium 1891–1900.

As mentioned at a previous page,* this fall cannot be regarded as wholly real, a portion of it being probably due to the causes there specified.

In common with some other diseases still classed as local, bronchitis is now generally believed to be due to bacterial invasion, although the infective nature of that condition is not as yet generally asserted in the medical certificates of cause of death. In view of the exceptional fatality of this disease, especially at the extremes of life, the average mortality from bronchitis has been calculated for the past five years. The sexes seem to be about equally liable to death by this disease. Of the mortality from bronchitis in children aged 0–5 years, nearly three-fourths occurs within the first year of life. At ages under five, boys die of it at the rate of 4383 per million living and girls at the rate of 3667 per million. From the fifth to the thirty-fifth year the mortality is low, but from that age onward it becomes proportionally higher until at ages above 75 it accounts for the deaths of 18,613 per million living at those ages.

Pleurisy.—The mortality from pleurisy, not expressly stated to be tuberculous, varies but slightly from year to year. The disease is more fatal to males than to females—the death-rates in the five year period last ended being 49 and 34 per million for the respective sexes. The specific nature of some of the affections of the pleura is now coming to be generally recognized, and the Royal College of Physicians, in the recent revision of their nomenclature, have attached to the section on pleurisy the instruction that "when pleurisy is known to be tuberculous the fact should be stated." In this event it is hardly necessary to add that the death would be classed accordingly. The experience of 1901–5 shows that pleurisy is more fatal at ages below five years than at any other age up to about the forty-fifth year, after which it becomes increasingly fatal to both men and women as age increases. Included under this heading in the year 1905 are the deaths of 303 males and 124 females, where the pleurisy was of an infective nature. See pages 284 and 285.

Gastric Ulcer.—In the course of last year gastric ulcer was registered as the cause of 1747 deaths, or within two of the number recorded in the immediately preceding year. Of these deaths 113 which had originally been referred to some other condition, such as peritonitis, were transferred to the present heading after further information from the medical attendants.

In the last five years the mortality at all ages from this disease averaged 66 per million for females and exactly half this rate for males. According to the experience of these years, gastric ulcer does not appear frequently as a cause of death until the

* See page xcii.

attainment of the reproductive period, when the female rate greatly exceeds the male, while at the later ages the male rate is in excess. Of the 5703 deaths of females from this cause in the five years last ended, 71 per cent. occurred between the ages of 15 and 45, whereas of the 2683 deaths of males in the same period only 39 per cent. occurred within these limits of age.

Appendicitis.—Under this heading, or under that of perityphlitis, there were returned last year 1946 deaths, against 1485, 1729, and 1887 respectively in the three years immediately preceding.

Previous to the year 1901 the deaths from this condition were classed to enteritis, but for that and subsequent years the tables in the Registrar General's reports give separate particulars of the deaths from appendicitis—distinguishing age and sex. The deaths finally referred in the Abstracts to this disease were increased last year by 121 as a result of inquiry from this office; most of these deaths having originally been certified as from peritonitis. As the deaths from appendicitis in the last five years amount to 8291 in number, it has been thought desirable to subject them to a brief analysis for the purposes of the present report. The appended table shows the rates of mortality from this disease in each million living at the usual groups of ages.

MORTALITY FROM APPENDICITIS, 1901–5.

——	Males.	Females.	Both Sexes.
All ages	60	40	50
Under 5 years	13	12	13
5–	62	45	53
10–	89	52	70
15–	96	53	74
20–	77	43	59
25–	54	38	46
35–	49	32	40
45–	56	39	47
55–	60	45	52
65–	62	49	55
75 years and upwards ...	60	69	65

From this table, we learn that appendicitis secures its victims at all stages of life, being considerably more fatal to males than to

females. With a single exception in the case of females above 75 years of age, the disease appears to be most fatal in both sexes between the tenth and the twentieth year.

Peritonitis appears in the tables of last year as the cause of 843 deaths—a lower number than that attributed to this affection in any previous year. In addition to the above, 443 deaths had been originally certified as from peritonitis, but these, after inquiry from the medical certifiers, were referred to definite conditions.

There are good grounds for the statement that peritonitis, in practically all its forms, is an infective process; and the experience of England and Wales in the last five years shows that the following are the most frequent causes of fatal peritonitis in 3997 cases concerning which replies were received to medical inquiry in that period.

(*a*) Infection from the stomach or intestines	1,291	deaths
(*b*) Infection from the female generative organs.	462	,,
(*c*) Tuberculous infection	345	,,
(*d*) Other definite causes	337	,,
(*e*) Causes unknown	1,562	,,

From this we find that of the deaths from peritonitis here referred to, 32 per cent. were caused by infection from the stomach or intestines, including gastric and intestinal ulcer, enteritis, appendicitis, hernia, and intestinal obstruction; 11 per cent. by puerperal sepsis and other infections from the uterus, ovaries, &c.; 9 per cent. by tuberculous infection; and 8 per cent. by other definite morbid conditions; whilst the cause of peritonitis was stated to be unknown in the remaining 40 per cent. of the cases referred to. As a cause of death peritonitis is rapidly disappearing from the registers, the mortality from this affection being about half of what it was at the close of the last century.

Cirrhosis of the liver.—The mortality referred to cirrhosis of the liver has in recent years been much higher than that from all other diseases of this organ put together. In the last report the death-rate from all diseases of the liver was discussed, but inasmuch as cirrhosis is more definitely associated with alcoholism than are other affections of the liver, the following remarks relate to that form of disease exclusively. On reference to Table 18 it will be seen that the mortality from cirrhosis of the liver has varied considerably in the course of the last thirty-five years. In the quinquennium 1896–1900 the crude rate was higher than it had been in any previous period dealt with in the table, whereas in the more recent quinquennium it has reverted to about the average rate of the ten years 1886–95. In the five years ended 1905 this disease was fatal at all ages in males at the rate of 139 per million living, and in females at the rate of 105 per million. The mortality is not excessive in either sex until the 35th year of age, but within the forty years interval between 35 and 75, the rate increases steadily, among men from 171 to 749

per million, and among women, from 155 to 459 per million : after the age of 75 the mortality falls considerably in both sexes. As has been already mentioned, the mortality from cirrhosis of the liver can most conveniently be considered in its relation to alcoholism, see page xcviii.

Acute Nephritis, Chronic Nephritis, or Bright's Disease.—In the course of the last 35 years the registered mortality under these headings has steadily increased from an average rate of 183 per million persons living in 1871–5 to an average of 379 in 1901–5, *see* Table 18. In the last-mentioned period the mortality was equal to 425 per million in males and 336 per million in females. This disease finds a place in the death-roll at all stages of life from infancy to extreme old age. This is seen in the appended table which gives the death-rates per million living at each of the several age groups :—

MORTALITY FROM ACUTE AND CHRONIC NEPHRITIS, 1901–5.

——	Males.	Females.	Both Sexes.
All ages	425	336	379
Under 5 years	159	128	144
5—	70	57	63
10—	42	50	46
15—	63	63	63
20—	96	93	95
25—	169	171	170
35—	388	358	372
45—	863	633	744
55—	1,778	1,140	1,438
65—	2,811	1,831	2,266
75 and upwards	3,356	2,019	2,573

From this table it appears that in both sexes the interval between the tenth and the fifteenth year is the period of least fatality, but that after this age the fatality increases steadily in both sexes, reaching its maximum, at ages 75 and upwards, of 3356 per million in men and 2019 in women. In the year 1905 there was a slight break in the increase of mortality under the present heading, the deaths referred in the registers to acute and chronic nephritis numbering 12,775 as against 13,128 in the immediately preceding year.

Tumours and other Diseases of the Ovaries and Uterus.—Among diseases of the female generative organs there were returned last year 1132 fatal cases of tumour and other affections of the ovaries or uterus. Taken together these deaths are in the proportion of 64 per million females living at all ages, the rate in the previous decennium having averaged 68. In addition to these the registers contain entries of 372 deaths from malignant disease of the ovaries and 3986 from malignant disease of the uterus. The age distribution of the fatal cases of malignant disease of these organs, registered in the past five years, may be seen on reference to Table L on page civ. In order that the national returns may be rendered as nearly as possible correct, it is hoped that whenever a tumour is known to be malignant the fact will in future be stated in the certificate.

Diseases or Accidents of Pregnancy or of Childbirth.—In addition to the deaths enumerated on page 273 and referred to on page xc as caused by puerperal sepsis, the deaths of 2171 women were attributed to other diseases or accidents of pregnancy or of childbirth ; particulars of the age distribution of these fatal cases will be found in the abstracts on page 281. Of these deaths, 151 were assigned to abortion or miscarriage, 66 to puerperal mania, 467 to puerperal convulsions, 619 to placenta prævia or flooding, and 868 to other accidents of pregnancy or childbirth. In 235 out of the 868 deaths last-mentioned the cause was precisely stated : this was ectopic gestation in 87 instances, ruptured uterus in 34, inversion of that organ in 13, deformed pelvis in 21, retained placenta in 24, and mal-presentation in 13 instances. Of the 2171 cases in the present category, 158 were further complicated,* the complicating cause being pneumonia in 5 instances, meningitis in 5, diseases of the heart or blood-vessels in 40, bronchitis or pleurisy in 27, diseases of the digestive organs in 25, and kidney disease in 29 instances. The 2171 deaths from other diseases of pregnancy or of childbirth added to those from the puerperal septic diseases enumerated on page 273 numbered 3905, and were equal to a rate of 4·20 per 1000 births. In the ten years immediately preceding the average proportion had been 4·52 per 1000. Table J on page xci gives particulars of the 5164 deaths from all causes whatever returned as either dependent on, or associated with, the puerperal state. If the mortality be computed on this number it will be raised from 4·20 to 5·56 per 1000 births. Reference to Table J shows that of the deaths there enumerated 5110 occurred at ages between 15 and 45 years. Calculated on the estimated number of women living within the same limits of age these deaths would correspond to a mortality of 599 per million, or 31 per million more than that of the year 1904. In this connection it may be well to intimate that whenever parturition or miscarriage has occurred within one month before the death of a patient, the fact should be noted by the certifying practitioner.

* These complicating causes do not appear in Table J., the deaths having been classed to other diseases of pregnancy or of childbirth.

III.—Mortality of Infants and Young Children.

It has frequently been pointed out in these reports that although the general mortality in this country has steadily fallen in the course of the last half century, nevertheless infants in the first year of life have not shared in the benefit.

Atmospheric and seasonal conditions cause frequent and at times great fluctuations in the rate of death among young children ; but, if an average of several years be taken, it will be found that infants in their first year of life perish as rapidly now as they did half a century ago.* Although this fact has been kept steadily before the public in the Registrar-General's successive reports, it is only in comparatively recent times that public interest has been thoroughly awakened. Last autumn, however, the President of the Local Government Board called a conference of authorities to consider this question, and the Medical Officer of the Board has since taken steps to procure periodically from medical officers of health throughout England and Wales special returns of mortality in the infantile portion of the community.

In this Office also it is recognised that the continuously excessive loss of infant life calls for a more minute examination of the causes than that to which they have ordinarily been subjected ; and for the present report the deaths in the opening year of life from the principal diseases have been ascertained for each of the first four weeks after birth and also for each of the successive months from the first to the twelfth. The results are published in special tables at pages cxxi–cxxxi, and for these tables I would solicit particular attention.

Tables of infantile mortality have been prepared for representative areas also, urban as well as rural, in each case of considerable size, so that inquirers have now the means of comparing their local infantile mortality with a reliable standard.†

The mortality *under one year of age* and in specified parts of that year is indicated as a proportion of the total births registered in the year, although, if the information available had permitted, the more correct method would have been to calculate the deaths in each part of the first year on the number of survivors, or on the mean population in the period. Unfortunately, however, the births are not returned for intervals of time shorter than three months, and therefore it is not possible to calculate with precision the number of survivors at the several weeks or months of the first year. For these periods the figures in the tables must be regarded, not as death-rates in the common acceptation of that term, but as records of that portion of the total mortality under one year, which occurs in the particular week or month specified at the head of the column.

---

* In these circumstances it should be mentioned that in the years 1902, 1903 and 1905 infantile mortality was exceptionally low.

† For composition of these areas see page lxxv.

For the several complete years of childhood, from the second to the fifth inclusive, the figures in the tables show the proportion of deaths in each year to the estimated number of survivors at the beginning of that year, the survivors being deduced from the births and deaths in the preceding years.

For the first five years of life as a whole (0–5 years) the death-rates are based on an estimate of the number of children living at that age period, calculated from the populations enumerated at the Censuses of 1891 and 1901. Estimates of population obtained by the last-mentioned method differ so little from those obtained by taking the balance between births and deaths in recent years, that they have been adopted for the death-rates at 0–5 years in this and other tables in the report.

The table on page cxxii shows that in the year 1905 infantile mortality, or in other words the ratio of deaths under one year to registered births, was equal to 128 per 1000, without distinction of sex. Male infants died at the rate of 141 per 1000 births, and female infants at the rate of 115 per 1000.

Judging from the experience of last year, about one-fifth part of the total loss of life in the first year after birth takes place within a week of that event, whilst by the end of the first month the proportion reaches one-third, and by the end of the third month it exceeds one-half.

In the first week of life the mortality of male infants is higher by 30 per cent. than that of female infants. This excess in the male rate remains nearly constant for several months, and then decreases irregularly until, in the fourth and fifth years of life, female children die somewhat faster than male. From what has been said, it will be seen that in both sexes the first week of life is by far the most destructive to infant life. Put in another way, it may be stated that one out of every 35 males, and one out of every 46 females born perishes within a week of birth.

The high mortality in the first week is mainly due to the decease of infants that, either from immaturity or from debility at birth, can hardly be regarded as viable. Most of the deaths occurring at this early age are attributed either to wasting diseases including prematurity, congenital defects, atrophy, &c., or else to convulsions. In the second, third, and fourth weeks of life the mortality falls to less than a quarter of that in the first week. The same diseases still account for a large share of the mortality, but from diseases other than these the mortality in successive weeks of the first month of life varies but slightly, being somewhat higher in the second than in the first half of that period. The first month past, the causes just specified become rapidly less fatal, but in their stead, diarrhœal diseases, bronchitis, pneumonia, and whooping-cough become conspicuous in the death roll. From the first to the fourth month of life diarrhœal diseases steadily increase in destructiveness, after which month they become gradually less fatal, although they still contribute seriously to the death-rate throughout the first year of age.

It is in the second month of life that bronchitis destroys the largest number of victims, whilst pneumonia is most destructive in the later months of the first year.* Among common infectious diseases the most fatal in early infancy are whooping-cough and measles—the former disease shows almost uniformly high fatality from the second to the end of the twelfth month, and thereafter a rapidly diminishing fatality, whilst the latter disease attains its maximum fatality in the second year and then rapidly declines.

Of the remaining common infectious diseases both scarlet fever and diphtheria show a higher fatality in the later than in the early months of the first year, and a still higher fatality in each of the four years after the first. Tuberculous diseases cause more deaths in the second half than in the first half of the year of birth, and in that year they are more destructive than in either of the four years immediately succeeding. It is worthy of remark that of the total deaths from suffocation under one year of age one-sixth part occur within the first week after birth.

The table on page cxxiii, further shows that in the second year of life measles and pneumonia together account for more than one-third of the total mortality, which in that year amounts to 37·5 per 1000 of those reaching one year of life. The death-rate from whooping-cough is still high, although lower than that from measles. Diarrhœal diseases, tuberculous diseases, and bronchitis continue to destroy a considerable number of victims, whilst diphtheria and scarlet fever now become prominent in the death roll, their fatality increasing somewhat throughout the next two years. By the fifth year of life the mortality under all but one of the headings in the table shows a decrease.

Taking account of the four-year period 1–5 years it will be seen that of all diseases incidental to this age pneumonia is the most fatal. Measles comes next in order of fatality, and afterwards tuberculous diseases, diarrhœal diseases, whooping-cough, bronchitis, diphtheria, scarlet fever, and meningitis.

It has been mentioned already that in the year 1905 the mortality both of infants under one year and of children under five years was the lowest hitherto recorded. But as the period with which the year 1905 is compared in Table M includes two years of low mortality, no very remarkable differences are yielded by the comparison. It will be seen, however, that last year there was a reduction of mortality in the whole age period 0–5 years equal to about 12 per cent. This reduction was shared, unequally, by every smaller age-group, being least in infants under three months, and greatest in those of 3–12 months. In the first case wasting diseases predominated, and in the second case diarrhœal diseases. Apart from the apparent reduction in the mortality from convulsions and atrophy, probably resulting from more careful statement of cause, the diminution of mortality occurred chiefly under the following heads :—Diarrhœal diseases, bronchitis, whooping cough, and diphtheria. The mortality from all these diseases showed a reduction at each age group.

* As regards the incidence of mortality from these diseases, see pages xcii and cxii.

TABLE M.—ENGLAND and WALES.—BOTH SEXES. MORTALITY of INFANTS and YOUNG CHILDREN,* 1901–4 and 1905.

	Causes of Death.	Proportion of Deaths to 1000 Births.								Death-rate per 1000 living under 5 years of age.	
		Under 3 months.		3 to 6 months.		6 to 12 months.		Under 1 year.			
		1901–04.	1905.	1901–04.	1905.	1901–04.	1905.	1901–04.	1905.	1901–04.	1905.
	I. COM. INFEC. DIS. ..	1·23	1·01	1·59	1·32	6·08	5·46	8·90	7·79	7·37	6·38
	II. DIARRHŒAL DIS. .	7·26	6·69	8·81	7·85	9·88	8·83	25·95	23·37	7·79	6·71
	III. WASTING DISEASES	39·43	38·91	3·92	3·55	2·28	2·02	45·63	44·48	11·62	10·83
	IV. TUBERC. DISEASES	0·99	0·84	1·91	1·54	3·21	2·79	6·11	5·17	3·18	2·81
	V. OTHER CAUSES ..	21·48	19·11	12·29	10·50	19·85	17·73	53·62	47·34	20·55	17·93
	ALL CAUSES ..	70·39	66·56	28·52	24·76	41·30	36·83	140·21	128·15	50·51	44·66
I.	Small-pox ..	0·06	0·01	0·02	0·00	0·02	0·00	0·10	0·01	0·05	0·00
I.	Chicken-pox ..	0·01	0·00	0·01	0·01	0·04	0·04	0·06	0·05	0·03	0·02
I.	Measles	0·07	0·06	0·20	0·18	2·42	2·42	2·69	2·66	2·68	2·66
I.	Scarlet Fever ..	0·02	0·01	0·03	0·01	0·16	0·16	0·21	0·18	0·69	0·59
I.	Diphtheria, Croup	0·04	0·02	0·06	0·05	0·36	0·26	0·46	0·33	1·27	0·94
I.	Whooping Cough	1·03	0·91	1·27	1·07	3·08	2·58	5·38	4·56	2·65	2·17
II.	Diarrhœa (all forms): Enteritis, Gastro-Enteritis, Gastritis, Gastro-Intestinal Catarrh.	7·26	6·69	8·81	7·85	9·88	8·83	25·95	23·37	7·79	6·71
III.	Premature Birth	19·96	20·00	0·23	0·28	0·04	0·03	20·23	20·31	5·02	4·84
III.	Congenital Defects.	5·04	5·58	0·39	0·44	0·33	0·32	5·76	6·34	1·51	1·58
III.	Injury at Birth ..	0·72	0·76	0·00	—	0·00	—	0·72	0·76	0·18	0·18
III.	Want of Breast Milk, Starvation.	0·37	0·41	0·21	0·20	0·10	0·10	0·68	0·71	0·17	0·17
III.	Atrophy, Debility, Marasmus.	13·34	12·16	3·09	2·63	1·81	1·57	18·24	16·36	4·74	4·06
IV.	Tuberculous Meningitis.	0·14	0·12	0·42	0·37	1·05	1·00	1·61	1·49	1·11	1·05
IV.	Tuberculous Peritonitis, Tabes Mesenterica.	0·58	0·46	0·98	0·75	1·23	0·96	2·79	2·17	1·10	0·88
IV.	Other Tuberculous Diseases.	0·27	0·26	0·51	0·42	0·93	0·83	1·71	1·51	0·97	0·88
V.	Erysipelas .	0·18	0·20	0·06	0·05	0·05	0·04	0·29	0·29	0·08	0·08
V.	Syphilis	0·77	0·84	0·33	0·34	0·17	0·16	1·27	1·34	0·34	0·34
V.	Rickets	0·05	0·04	0·13	0·11	0·47	0·43	0·65	0·58	0·40	0·35
V.	Meningitis (not Tuberculous).	0·32	0·30	0·63	0·54	1·28	1·18	2·23	2·02	1·14	1·02
V.	Convulsions ..	9·27	7·98	3·16	2·39	2·51	1·92	14·94	12·29	4·19	3·30
V.	Bronchitis ..	4·15	3·52	3·07	2·56	4·77	4·01	11·99	10·09	4·19	3·39
V.	Laryngitis ..	0·05	0·07	0·04	0·03	0·15	0·12	0·24	0·22	0·23	0·19
V.	Pneumonia ..	2·21	2·04	2·70	2·55	6·42	6·61	11·33	11·20	5·47	5·35
V.	Suffocation ..	1·32	1·24	0·46	0·45	0·16	0·14	1·94	1·83	0·50	0·45
V.	Other Causes ..	3·16	2·88	1·71	1·48	3·87	3·12	8·74	7·48	4·01	3·46

* The divisions of the first year of life are limited to three in this table because the deaths in the several weeks and months of the first year were not abstracted separately previous to 1905.

TABLE N (I).—ENGLAND and WALES. BOTH SEXES.

MORTALITY under 5 Years of Age, 1905.

Cause of Death.	Proportion of Deaths to 1000 Births.													Deaths per 1000 Survivors.				Death-rate per 1000 living under 5 years of age.
	Weeks.				Months.													
	Under 1 week.	1—	2—	3—	Under 1 month.	1—	2—	3—	4—	5—	6—	7—	8—	9—	10—	11—	Under 1 year.	1 year.	2 years.	3 years.	4 years.	
I. COM. INFECTIOUS DIS. ..	0·00	0·00	0·04	0·08	**0·12**	0·44	0·45	0·44	0·39	0·49	0·62	0·73	0·89	1·01	1·06	1·15	**7·79**	10·29	5·20	3·95	3·01	**6·38**
II. DIARRHŒAL DISEASES ..	0·06	0·27	0·51	0·51	**1·35**	2·50	2·84	2·87	2·60	2·38	2·04	1·76	1·62	1·31	1·14	0·96	**23·37**	4·31	0·69	0·31	0·22	**6·71**
III. WASTING DISEASES	21·89	3·94	3·39	2·25	**31·47**	4·80	2·64	1·68	1·09	0·78	0·60	0·40	0·32	0·30	0·22	0·18	**44·48**	0·85	0·18	0·09	0·04	**10·83**
IV. TUBERCULOUS DISEASES ..	0·00	0·00	0·02	0·05	**0·07**	0·33	0·44	0·51	0·51	0·52	0·50	0·48	0·48	0·46	0·46	0·41	**5·17**	3·70	1·90	1·22	1·00	**2·81**
V. OTHER CAUSES	3·21	1·87	1·97	1·69	**8·74**	5·84	4·53	3·78	3·50	3·22	3 32	3·11	3·04	2·98	2·65	2·63	**47·34**	18·35	7·10	4·25	3·01	**17·93**
ALL CAUSES	25·16	6·08	5·93	4·58	**41·75**	13·91	10·90	9·28	8·09	7·39	7·08	6·48	6·35	6·06	5·53	5·33	**128·15**	37·50	15·07	9·82	7·28	**44·66**
I. Small-pox	—	—	0·00	0·00	**0·00**	0·01	0·00	—	0·00	0·00	—	0·00	—	—	—	—	**0·01**	0·00	0·00	0·00	0·00	**0·00**
I. Chicken-pox	—	—	—	0·00	**0·00**	0·00	0·00	0·00	0·01	0·00	0·01	0·01	0·00	0·01	0·01	0·00	**0·05**	0·03	0·01	0·00	0·01	**0·02**
I. Measles	—	0·00	0·01	0·00	**0·01**	0·02	0·03	0·04	0·05	0·09	0·18	0·27	0·37	0·48	0·52	0·60	**2·66**	5·60	2·20	1·32	0·84	**2·66**
I. Scarlet Fever	0·00	—	0·00	0·00	**0·00**	0·01	0·00	0·01	0·00	0·00	0·01	0·03	0·02	0·03	0·04	0·03	**0·18**	0·52	0·75	0·80	0·69	**0·59**
I. Diptheria, Croup ..	0·00	0·00	—	0·00	**0·00**	0·01	0·01	0·01	0·02	0·02	0·02	0·03	0·05	0·04	0·06	0·06	**0·33**	0·96	1·06	1·19	1·13	**0·94**
I. Whooping Cough ..	—	0·00	0·03	0·08	**0·11**	0·39	0·41	0·38	0·31	0·38	0·40	0·39	0·45	0·45	0·43	0·46	**4·56**	3·18	1·18	0·64	0·34	**2·17**
II. Diarrhœa (all forms): Enteritis, Gastro-Enteritis, Gastritis, Gast.-Int. Catarrh	0·06	0·27	0·51	0·51	**1·35**	2·50	2·84	2·87	2·60	2·38	2·04	1·76	1·62	1·31	1·14	0·96	**23·37**	4·31	0·69	0·31	0·22	**6·71**
III. Premature Birth ..	13·94	1·87	1·56	0·89	**18·26**	1·33	0·41	0·17	0·08	0·03	0·02	0·01	0·00	0·00	0·00	0·00	**20·31**	0·00	—	—	—	**4·84**
III. Congenital Defects ..	3·06	0·84	0·52	0·29	**4·71**	0·57	0·30	0·18	0·14	0·12	0·10	0·05	0·05	0·05	0·05	0·02	**6·34**	0·21	0·06	0·05	0·03	**1·58**
III. Injury at Birth	0·69	0·04	0·02	0·01	**0·76**	0·00	0·00	—	—	—	—	—	—	—	—	—	**0·76**	—	—	—	—	**0·18**
III. Want of Breast Milk, Starvation.	0·02	0·02	0·03	0·03	**0·10**	0·17	0·14	0·09	0·07	0·04	0·03	0·02	0·02	0·01	0·01	0·01	**0·71**	0·00	—	—	—	**0·17**
III. Atrophy, Debility, Marasmus.	4·18	1·17	1·26	1·03	**7·64**	2·73	1·79	1·24	0·80	0·59	0·45	0·32	0·25	0·24	0·16	0·15	**16·36**	0·64	0·12	0·04	0·01	**4·06**
IV. Tuberculous Meningitis	—	0·00	0·00	0·01	**0·01**	0·04	0·07	0·11	0·12	0·14	0·16	0·16	0·17	0·17	0·18	0·16	**1·49**	1·45	0·85	0·64	0·51	**1·05**
IV. Tuberculous Peritonitis, Tabes Mesenterica.	0·00	—	0·01	0·02	**0·03**	0·19	0·24	0·26	0·24	0·25	0·19	0·18	0·17	0·16	0·14	0·12	**2·17**	1·04	0·44	0·19	0·13	**0·88**
IV. Other Tuberculous Diseases.	0·00	0·00	0·01	0·02	**0·03**	0·10	0·13	0·14	0·15	0·13	0·15	0·14	0·14	0·13	0·14	0·13	**1·51**	1·21	0·61	0·39	0·36	**0·88**
V. Erysipelas	0·00	0·02	0·03	0·03	**0·08**	0·08	0·04	0·02	0·01	0·02	0·01	0·01	0·01	0·00	0·00	0·01	**0·29**	0·02	0·01	0·01	0·00	**0·08**
V. Syphilis	0·05	0·07	0·08	0·09	**0·29**	0·33	0·22	0·16	0·12	0·06	0·04	0·02	0·03	0·03	0·02	0·02	**1·34**	0·09	0·02	0·01	0·00	**0·34**
V. Rickets	0·00	0·00	—	—	**0·00**	0·02	0·02	0·03	0·04	0·04	0·06	0·05	0·07	0·08	0·07	0·10	**0·58**	0·69	0·23	0·10	0·02	**0·35**
V. Meningitis (not Tuberculous).	0·01	0·02	0·02	0·02	**0·07**	0·10	0·13	0·15	0·19	0·20	0·24	0·18	0·20	0·19	0·22	0·15	**2·02**	1·29	0·68	0·39	0·33	**1·02**
V. Convulsions	2·13	1·03	0·84	0·63	**4·63**	1·96	1·39	1·01	0·77	0·61	0·53	0·38	0·31	0·29	0·22	0·19	**12·29**	1·19	0·37	0·15	0·08	**3·30**
V. Bronchitis . ..	0·07	0·20	0·36	0·34	**0·97**	1·42	1·13	0·91	0·87	0·78	0·74	0·73	0·70	0·65	0·60	0·59	**10·09**	3·38	0·84	0·39	0·21	**3·39**
V. Laryngitis	0·01	0·01	0·01	0·00	**0·03**	0·02	0·02	0·01	0·01	0·01	0·02	0·01	0·02	0·03	0·02	0·02	**0·22**	0·21	0·18	0·18	0·16	**0·19**
V. Pneumonia	0·03	0·09	0·15	0·15	**0·42**	0·77	0·85	0·86	0·80	0·89	1·03	1·08	1·15	1·18	1·04	1·13	**11·20**	7·97	2·82	1·43	0·92	**5·35**
V. Suffocation	0·31	0·05	0·09	0·10	**0·55**	0·41	0·28	0·21	0·15	0·09	0·06	0·03	0·01	0·01	0·02	0·01	**1·83**	0·05	0·02	0·00	0·00	**0·45**
V. Other Causes	0·60	0·38	0·39	0·33	**1·70**	0·73	0·45	0·42	0·54	0·52	0·59	0·62	0·54	0·52	0·44	0·41	**7·48**	3·46	1·93	1·59	1·29	**3·46**

TABLE N (2).—ENGLAND and WALES. MALES.

Cause of Death.	Proportion of Deaths								
	Weeks.				Months.				
	Under 1 week.	1—	2—	3—	Under 1 month.	1—	2—	3—	4—
1. COM. INFECTIOUS DIS. ..	0·00	0·00	0·03	0·08	**0·11**	0·46	0·38	0·44	0·38
II. DIARRHŒAL DISEASES ..	0·08	0·31	0·61	0·57	**1·57**	2·92	3·23	3·16	2·76
III. WASTING DISEASES	24·47	4·35	3·67	2·50	**34·99**	5·38	2·89	1·79	1·12
IV. TUBERCULOUS DISEASES ..	—	0·00	0·04	0·06	**0·10**	0·39	0·50	0·56	0·54
V. OTHER CAUSES	3·79	2·09	2·23	1·92	**10·03**	6·63	5·21	4·22	3·81
ALL CAUSES	28·34	6·75	6·58	5·13	**46·80**	15·78	12·21	10·17	8·61
I. Small-pox	—	—	0·00	—	**0·00**	0·01	—	—	0·00
I. Chicken-pox	—	—	—	—	—	0·01	0·00	0·00	0·01
I. Measles	—	0·00	0·00	0·01	**0·01**	0·03	0·03	0·03	0·05
I. Scarlet Fever	0·00	—	0·00	0·00	**0·00**	0·01	0·00	0·02	0·00
I. Diphtheria, Croup ..	0·00	—	—	0·00	**0·00**	0·01	0·01	0·01	0·01
I. Whooping-Cough ..	—	—	0·03	0·07	**0·10**	0·39	0·34	0·38	0·31
II. Diarrhœa (all forms): Enteritis, Gastro-Enteritis, Gastritis, Gast.-Int. Catarrh	0·08	0·31	0·61	0·57	**1·57**	2·92	3·23	3·16	2·76
III. Premature Birth ..	15·51	2·00	1·61	0·90	**20·02**	1·33	0·38	0·16	0·08
III. Congenital Defects ..	3·35	0·92	0·58	0·37	**5·22**	0·65	0·34	0·21	0·16
III. Injury at Birth	0·79	0·06	0·02	0·01	**0·88**	0·01	—	—	—
III. Want of Breast Milk, Starvation.	0·02	0·02	0·04	0·03	**0·11**	0·21	0·16	0·10	0·08
III. Atrophy, Debility, Marasmus.	4·80	1·35	1·42	1·19	**8·76**	3·18	2·01	1·32	0·80
IV. Tuberculous Meningitis	—	0·00	0·01	0·01	**0·02**	0·06	0·07	0·12	0·11
IV. Tuberculous Peritonitis, Tabes Mesenterica.	—	—	0·02	0·02	**0·04**	0·20	0·28	0·30	0·26
IV. Other Tuberculous Diseases.	—	0·00	0·01	0·03	**0·04**	0·13	0·15	0·14	0·17
V. Erysipelas	0·00	0·01	0·04	0·03	**0·08**	0·09	0·03	0·02	0·01
V. Syphilis	0·04	0·08	0·08	0·12	**0·32**	0·36	0·23	0·18	0·11
V. Rickets	0·00	0·00	—	—	**0·00**	0·02	0·02	0·05	0·07
V. Meningitis (not Tuberculous).	0·02	0·01	0·02	0·03	**0·08**	0·11	0·15	0·19	0·20
V. Convulsions	2·58	1·16	0·99	0·73	**5·46**	2·28	1·56	1·12	0·82
V. Bronchitis	0·09	0·23	0·41	0·40	**1·13**	1·60	1·33	1·02	0·94
V. Laryngitis..	0·01	0·01	0·01	0·00	**0·03**	0·02	0·02	0·00	0·01
V. Pneumonia	0·04	0·10	0·18	0·15	**0·47**	0·93	1·01	0·99	0·90
V. Suffocation	0·34	0·05	0·10	0·11	**0·60**	0·39	0·31	0·21	0·17
V. Other Causes	0·67	0·44	0·40	0·35	**1·86**	0·83	0·55	0·44	0·58

MORTALITY under 5 YEARS of Age, 1905.

to 1000 Births.									Deaths per 1000 Survivors.				
Months.													
5—	6—	7—	8—	9—	10—	11—	Under 1 year.	1 year.	2 years.	3 years.	4 years.	Death-rate per 1000 living under 5 years of age.
0·50	0·66	0·73	0·92	1·07	1·02	1·16	**7·83**	10·19	4·96	3·72	2·83	**6·31**
2·51	2·17	1·97	1·70	1·34	1·18	0·91	**25·42**	4·40	0·69	0·32	0·20	**7·33**
0·85	0·68	0·46	0·34	0·29	0·22	0·20	**49·21**	0·90	0·18	0·10	0·04	**12·20**
0·57	0·57	0·47	0·49	0·51	0·52	0·42	**5·64**	3·92	1·97	1·25	1·01	**3·02**
3·63	3·76	3·49	3·47	3·18	2·85	2·81	**53·09**	19·30	7·52	4·28	3·19	**19·90**
8·06	7·84	7·12	6·92	6·39	5·79	5·50	**141·19**	38·71	15·32	9·67	7·27	**48·76**
—	—	—	—	—	—	—	**0·01**	0·00	—	0·01	—	**0·00**
0·01	0·01	0·01	0·00	0·01	0·01	0·00	**0·07**	0·02	0·01	0·00	0·01	**0·03**
0·11	0·18	0·27	0·41	0·56	0·56	0·62	**2·86**	5·84	2·13	1·24	0·78	**2·74**
0·00	0·01	0·03	0·03	0·03	0·03	0·03	**0·19**	0·54	0·80	0·79	0·69	**0·61**
0·03	0·03	0·03	0·05	0·04	0·05	0·07	**0·34**	1·01	1·04	1·16	1·11	**0·94**
0·35	0·43	0·39	0·43	0·43	0·37	0·44	**4·36**	2·78	0·98	0·52	0·24	**1·99**
2·51	2·17	1·97	1·70	1·34	1·18	0·91	**25·42**	4·40	0·69	0·32	0·20	**7·33**
0·04	0·01	0·01	0·00	0·00	—	—	**22·03**	0·00	—	—	—	**5·35**
0·13	0·13	0·07	0·06	0·05	0·05	0·03	**7·10**	0·23	0·06	0·06	0·03	**1·80**
—	—	—	—	—	—	—	**0·89**	—	—	—	—	**0·21**
0·04	0·04	0·02	0·01	0·00	0·01	0·01	**0·79**	0·01	—	—	—	**0·20**
0·64	0·50	0·36	0·27	0·24	0·16	0·16	**18·40**	0·66	0·12	0·04	0·01	**4·64**
0·16	0·18	0·16	0·17	0·17	0·20	0·17	**1·59**	1·58	0·88	0·66	0·51	**1·12**
0·29	0·21	0·16	0·17	0·19	0·15	0·12	**2·37**	1·13	0·45	0·19	0·14	**0·97**
0·12	0·18	0·15	0·15	0·15	0·17	0·13	**1·68**	1·21	0·64	0·40	0·36	**0·93**
0·01	0·01	0·01	0·00	0·00	—	0·01	**0·27**	0·01	0·01	0·00	0·00	**0·07**
0·06	0·05	0·03	0·04	0·02	0·01	0·01	**1·42**	0·08	0·02	0·02	0·01	**0·37**
0·04	0·07	0·05	0·09	0·08	0·08	0·11	**0·68**	0·77	0·26	0·09	0·02	**0·40**
0·26	0·26	0·20	0·24	0·17	0·23	0·15	**2·24**	1·38	0·69	0·44	0·34	**1·12**
0·67	0·53	0·41	0·37	0·28	0·24	0·18	**13·92**	1·28	0·37	0·15	0·09	**3·77**
0·84	0·85	0·82	0·75	0·69	0·62	0·63	**11·22**	3·43	0·85	0·34	0·22	**3·72**
0·02	0·02	0·02	0·02	0·03	0·02	0·03	**0·24**	0·22	0·18	0·16	0·19	**0·21**
1·03	1·22	1·25	1·35	1·31	1·15	1·22	**12·83**	8·33	2·94	1·43	0·96	**5·91**
0·07	0·07	0·03	0·00	0·02	0·02	0·01	**1·90**	0·07	0·02	0·01	0·00	**0·48**
0·63	0·68	0·67	0·61	0·58	0·48	0·46	**8·37**	3·73	2·18	1·64	1·36	**3·85**

TABLE N (3).—ENGLAND AND WALES. FEMALES.

Cause of Death.	Proportion of Deaths to 1000 Births.														Deaths per 1000 Survivors.				Death-rate per 1000 living under 5 years of age.
	Weeks.				Months.														
	Under 1 week.	1—	2—	3—	Under 1 month.	1—	2—	3—	4—	5—	6—	7—	8—	9—	10—	11—	Under 1 year.	1 year.	2 years.	3 years.	4 years.	
I. COM. INFECTIOUS DIS. ..	0·00	0·00	0·05	0·09	**0·14**	0·40	0·52	0·44	0·42	0·51	0·58	0·70	0·85	0·94	1·09	1·15	**7·74**	10·38	5·45	4·21	3·20	**6·47**
II. DIARRHŒAL DISEASES ..	0·04	0·22	0·41	0·45	**1·12**	2·06	2·43	2·58	2·42	2·24	1·92	1·56	1·54	1·29	1·10	1·01	**21·27**	4·23	0·69	0·29	0·23	**6·08**
III. WASTING DISEASES ..	19·20	3·51	3·11	2·00	**27·82**	4·22	2·37	1·56	1·05	0·72	0·52	0·37	0·30	0·29	0·23	0·15	**39·60**	0·80	0·17	0·08	0·05	**9·47**
IV. TUBERCULOUS DISEASES ..	0·00	0·00	0·02	0·04	**0·06**	0·27	0·36	0·45	0·46	0·45	0·42	0·48	0·45	0·44	0·41	0·38	**4·63**	3·46	1·83	1·22	1·00	**2·59**
V. OTHER CAUSES	2·64	1·65	1·67	1·42	**7·38**	5·01	3·87	3·32	3·21	2·78	2·86	2·71	2·62	2·75	2·42	2·47	**41·40**	17·43	6·68	4·18	2·82	**15·96**
ALL CAUSES	21·88	5·38	5·26	4·00	**36·52**	11·96	9·55	8·35	7·56	6·70	6·30	5·82	5·76	5·71	5·25	5·16	**114·64**	36·30	14·82	9·98	7·30	**40·57**
I. Small-pox	—	—	0·01	0·00	**0·01**	0·00	0·00	—	—	0·00	—	0·00	—	—	—	—	**0·01**	—	0·00	—	0·00	**0·00**
I. Chicken-pox	—	—	—	0·00	**0·00**	0·00	—	0·00	0·01	0·00	0·00	0·00	0·00	0·00	0·01	0·00	**0·02**	0·03	0·01	0·00	0·01	**0·02**
I. Measles	—	0·00	0·01	—	**0·01**	0·01	0·03	0·04	0·05	0·08	0·17	0·26	0·33	0·41	0·48	0·59	**2·46**	5·36	2·27	1·40	0·90	**2·59**
I. Scarlet Fever	0·00	—	0·00	0·00	**0·00**	0·00	0·00	0·00	0·01	0·00	0·01	0·03	0·02	0·02	0·05	0·03	**0·17**	0·49	0·70	0·81	0·69	**0·57**
I. Diphtheria, Croup ..	—	0·00	—	0·00	**0·00**	0·01	0·02	0·01	0·03	0·01	0·02	0·02	0·04	0·05	0·07	0·05	**0·33**	0·91	1·08	1·23	1·15	**0·93**
I. Whooping Cough ..	—	0·00	0·03	0·09	**0·12**	0·38	0·47	0·39	0·32	0·42	0·38	0·39	0·46	0·46	0·48	0·48	**4·75**	3·59	1·39	0·77	0·45	**2·36**
II. Diarrhœa (all forms): Enteritis, Gastro-Enteritis, Gastritis, Gast.-Int. Catarrh	0·04	0·22	0·41	0·45	**1·12**	2·06	2·43	2·58	2·42	2·24	1·92	1·56	1·54	1·29	1·10	1·01	**21·27**	4·23	0·69	0·29	0·23	**6·08**
III. Premature Birth ..	12·32	1·73	1·50	0·88	**16·43**	1·32	0·43	0·18	0·07	0·03	0·02	0·02	0·00	—	0·01	0·00	**18·51**	0·00	—	—	—	**4·32**
III. Congenital Defects ..	2·75	0·76	0·46	0·21	**4·18**	0·49	0·26	0·15	0·12	0·11	0·08	0·04	0·05	0·04	0·05	0·01	**5·58**	0·18	0·06	0·04	0·04	**1·37**
III. Injury at Birth	0·59	0·02	0·02	0·01	**0·64**	—	0·00	—	—	—	—	—	—	—	—	—	**0·64**	—	—	—	—	**0·15**
III. Want of Breast Milk, Starvation.	0·01	0·01	0·03	0·03	**0·08**	0·14	0·11	0·08	0·06	0·04	0·02	0·03	0·02	0·01	0·01	0·01	**0·61**	—	—	—	—	**0·14**
III. Atrophy, Debility, Marasmus.	3·53	0·99	1·10	0·87	**6·49**	2·27	1·57	1·15	0·80	0·54	0·40	0·28	0·23	0·24	0·16	0·13	**14·26**	0·62	0·11	0·04	0·01	**3·49**
IV. Tuberculous Meningitis	—	—	0·00	0·01	**0·01**	0·03	0·06	0·09	0·12	0·11	0·14	0·16	0·16	0·18	0·17	0·14	**1·37**	1·31	0·81	0·63	0·51	**0·97**
IV. Tuberculous Peritonitis, Tabes Mesenterica.	0·00	—	0·00	0·01	**0·01**	0·17	0·19	0·23	0·22	0·20	0·16	0·20	0·17	0·14	0·13	0·12	**1·94**	0·94	0·43	0·20	0·13	**0·80**
IV. Other Tuberculous Diseases.	0·00	0·00	0·02	0·02	**0·04**	0·07	0·11	0·13	0·12	0·14	0·12	0·12	0·12	0·12	0·11	0·12	**1·32**	1·21	0·59	0·39	0·36	**0·82**
V. Erysipelas	0·00	0·03	0·03	0·04	**0·10**	0·06	0·05	0·02	0·02	0·02	0·01	0·01	0·01	0·00	0·00	0·00	**0·30**	0·03	0·01	0·01	0·01	**0·09**
V. Syphilis	0·05	0·05	0·08	0·06	**0·24**	0·29	0·21	0·15	0·12	0·05	0·03	0·02	0·03	0·04	0·02	0·02	**1·22**	0·10	0·02	0·01	—	**0·31**
V. Rickets	—	—	—	—	—	0·01	0·01	0·02	0·02	0·04	0·04	0·06	0·06	0·07	0·06	0·08	**0·47**	0·61	0·20	0·11	0·02	**0·30**
V. Meningitis (not Tuberculous).	0·01	0·02	0·02	0·01	**0·06**	0·09	0·11	0·11	0·18	0·15	0·22	0·15	0·17	0·19	0·21	0·15	**1·79**	1·21	0·66	0·35	0·31	**0·93**
V. Convulsions	1·67	0·90	0·68	0·51	**3·76**	1·66	1·20	0·89	0·73	0·54	0·52	0·35	0·26	0·29	0·19	0·21	**10·60**	1·09	0·36	0·15	0·07	**2·81**
V. Bronchitis	0·05	0·18	0·30	0·28	**0·81**	1·24	0·92	0·79	0·79	0·72	0·63	0·63	0·65	0·62	0·58	0·54	**8·92**	3·33	0·83	0·44	0·21	**3·06**
V. Laryngitis	0·00	0·01	0·01	—	**0·02**	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·03	0·02	0·02	**0·17**	0·20	0·17	0·19	0·12	**0·18**
V. Pneumonia	0·03	0·07	0·12	0·14	**0·36**	0·61	0·70	0·73	0·69	0·74	0·83	0·90	0·95	1·06	0·93	1·04	**9·54**	7·60	2·70	1·42	0·88	**4·79**
V. Suffocation	0·27	0·05	0·09	0·10	**0·51**	0·42	0·23	0·21	0·14	0·10	0·06	0·03	0·02	0·01	0·01	0·01	**1·75**	0·03	0·01	0·00	0·01	**0·42**
V. Other Causes	0·56	0·34	0·34	0·28	**1·52**	0·62	0·43	0·39	0·51	0·41	0·51	0·55	0·46	0·44	0·40	0·40	**6·64**	3·23	1·72	1·50	1·19	**3·07**

MORTALITY under 5 Years of Age, 1905.

TABLE O.—URBAN COUNTIES. BOTH SEXES.

Cause of Death.	Proportion of Deaths to 1000 Births.														Deaths per 1000 Survivors.				Death-rate per 1000 living under 5 years of age.
	Weeks.				Months.									Under 1 year.	1 year.	2 years.	3 years.	4 years.	
	Under 1 week.	1—	2—	3—	Under 1 month.	1—	2—	3—	4—	5—	6—	7—	8—						
I. COM. INFECTIOUS DIS. ..	—	0·01	0·04	0·07	**0·12**	0·44	0·38	0·39	0·38	0·55	0·65	0·79	0·91	**8·17**	11·84	6·04	4·45	3·36	**7·24**
II. DIARRHŒAL DISEASES ..	0·07	0·28	0·56	0·58	**1·49**	2·94	3·41	3·36	3·08	2·87	2·47	2·14	1·97	**27·90**	5·41	0·82	0·35	0·24	**8·25**
III. WASTING DISEASES ..	21·98	4·19	3·55	2·29	**32·01**	5·00	2·80	1·83	1·13	0·84	0·65	0·46	0·34	**45·80**	0·92	0·20	0·09	0·04	**11·48**
IV. TUBERCULOUS DISEASES ..	0·00	0·00	0·02	0·05	**0·07**	0·38	0·46	0·56	0·60	0·57	0·53	0·56	0·52	**5·77**	4·16	2·18	1·46	1·06	**3·23**
V. OTHER CAUSES	3·34	2·00	2·20	1·78	**9·32**	6·35	4·92	4·17	3·75	3·53	3·59	3·44	3·38	**51·41**	20·58	7·85	4·73	3·37	**20·06**
ALL CAUSES	25·39	6·48	6·37	4·77	**43·01**	15·11	11·97	10·31	8·94	8·36	7·89	7·39	7·12	**139·05**	42·91	17·09	11·08	8·07	**50·26**
I. Small-pox	—	—	0·01	—	**0·01**	0·01	0·00	—	0·00	—	—	0·00	—	**0·02**	0·00	0·00	0·01	0·00	**0·01**
I. Chicken-pox	—	—	—	0·00	**0·00**	—	0·00	—	0·01	0·01	0·01	0·01	0·01	**0·07**	0·03	0·01	0·00	0·01	**0·02**
I. Measles	—	0·01	0·01	0·00	**0·02**	0·03	0·04	0·04	0·06	0·10	0·22	0·30	0·39	**3·06**	6·56	2·55	1·46	0·93	**3·12**
I. Scarlet Fever	—	—	0·00	0·00	**0·00**	0·01	0·00	0·01	0·01	0·00	0·01	0·04	0·03	**0·24**	0·68	0·98	1·02	0·91	**0·77**
I. Diphtheria, Croup ..	—	—	—	0·00	**0·00**	0·01	0·02	0·01	0·02	0·03	0·03	0·03	0·06	**0·40**	1·18	1·17	1·24	1·12	**1·04**
I. Whooping Cough ..	—	—	0·02	0·07	**0·09**	0·38	0·32	0·33	0·28	0·41	0·38	0·41	0·42	**4·38**	3·39	1·33	0·72	0·39	**2·28**
II. Diarrhœa (all forms): Enteritis, Gastro-Enteritis, Gastritis, Gast.-Int. Catarrh	0·07	0·28	0·56	0·58	**1·49**	2·94	3·41	3·36	3·08	2·87	2·47	2·14	1·97	**27·90**	5·41	0·82	0·35	0·24	**8·25**
III. Premature Birth ..	14·06	1·98	1·65	0·92	**18·61**	1·41	0·42	0·18	0·09	0·03	0·02	0·00	0·00	**20·76**	—	—	—	—	**5·08**
III. Congenital Defects ..	3·16	0·96	0·57	0·30	**4·99**	0·57	0·33	0·20	0·15	0·12	0·10	0·06	0·05	**6·67**	0·18	0·06	0·05	0·03	**1·70**
III. Injury at Birth	0·67	0·05	0·03	0·00	**0·75**	0·00	0·00	—	—	—	—	—	—	**0·75**	—	—	—	—	**0·19**
III. Want of Breast Milk, Starvation.	0·02	0·02	0·04	0·03	**0·11**	0·18	0·16	0·10	0·08	0·04	0·03	0·03	0·01	**0·76**	0·01	—	—	—	**0·19**
III. Atrophy, Debility, Marasmus.	4·07	1·18	1·26	1·04	**7·55**	2·84	1·89	1·35	0·81	0·65	0·50	0·37	0·28	**16·86**	0·73	0·14	0·04	0·01	**4·32**
IV. Tuberculous Meningitis	—	0·00	0·00	0·01	**0·01**	0·05	0·06	0·12	0·14	0·17	0·17	0·18	0·19	**1·68**	1·64	0·96	0·76	0·52	**1·21**
IV. Tuberculous Peritonitis, Tabes Mesenterica.	0·00	—	0·01	0·02	**0·03**	0·20	0·26	0·31	0·29	0·28	0·20	0·22	0·18	**2·43**	1·13	0·49	0·23	0·13	**1·00**
IV. Other Tuberculous Diseases.	0·00	0·00	0·01	0·02	**0·03**	0·13	0·14	0·13	0·17	0·12	0·16	0·16	0·15	**1·66**	1·39	0·73	0·47	0·41	**1·02**
V. Erysipelas	0·00	0·02	0·03	0·03	**0·08**	0·10	0·05	0·02	0·01	0·02	0·02	0·01	0·01	**0·33**	0·02	0·00	0·01	0·00	**0·09**
V. Syphilis	0·06	0·07	0·10	0·10	**0·33**	0·36	0·26	0·19	0·14	0·06	0·05	0·03	0·04	**1·54**	0·11	0·01	0·01	0·00	**0·41**
V. Rickets	0·00	0·00	—	—	**0·00**	0·02	0·02	0·04	0·04	0·04	0·06	0·06	0·07	**0·59**	0·75	0·27	0·13	0·02	**0·39**
V. Meningitis (not Tuberculous).	0·01	0·03	0·03	0·02	**0·09**	0·11	0·13	0·17	0·23	0·26	0·26	0·22	0·25	**2·40**	1·55	0·78	0·46	0·36	**1·23**
V. Convulsions	2·21	1·12	0·97	0·68	**4·98**	2·11	1·50	1·10	0·77	0·69	0·54	0·37	0·31	**13·05**	1·23	0·38	0·16	0·09	**3·58**
V. Bronchitis	0·09	0·21	0·41	0·35	**1·06**	1·55	1·19	1·00	0·93	0·85	0·78	0·79	0·76	**10·84**	3·61	0·82	0·42	0·21	**3·71**
V. Laryngitis	0·01	0·01	0·01	—	**0·03**	0·02	0·01	0·01	0·01	0·01	0·01	0·02	0·01	**0·21**	0·23	0·18	0·17	0·13	**0·19**
V. Pneumonia	0·04	0·09	0·16	0·15	**0·44**	0·82	0·96	0·96	0·88	0·96	1·16	1·27	1·30	**12·52**	9·23	3·20	1·66	1·06	**6·19**
V. Suffocation	0·37	0·07	0·11	0·12	**0·67**	0·54	0·36	0·26	0·19	0·11	0·08	0·04	0·02	**2·32**	0·07	0·02	0·00	0·00	**0·58**
V. Other Causes	0·55	0·38	0·38	0·33	**1·64**	0·72	0·44	0·42	0·55	0·53	0·63	0·63	0·61	**7·61**	3·78	2·19	1·71	1·50	**3·69**

MORTALITY under 5 Years of Age, 1905.

TABLE P.—RURAL COUNTIES. BOTH SEXES.

Cause of Death.	Proportion of Deaths to 1000 Births.														Deaths per 1000 Survivors.				Death-rate per 1000 living under 5 years of age.
	Weeks.				Months.									Under 1 year.	1 year.	2 years.	3 years.	4 years.	
	Under 1 week.	1—	2—	3—	Under 1 month.	1—	2—	3—	4—	5—	6—	7—	8—						
I. COM. INFECTIOUS DIS. ..	0·03	0·01	0·05	0·10	**0·19**	0·52	0·65	0·58	0·50	0·40	0·60	0·62	0·90	**7·38**	6·02	3·07	2·52	2·25	**4·42**
II. DIARRHŒAL DISEASES ..	0·05	0·24	0·38	0·29	**0·96**	1·40	1·77	1·63	1·43	1·02	1·01	0·75	0·70	**12·22**	1·79	0·31	0·24	0·10	**3·26**
III. WASTING DISEASES ..	20·51	3·38	3·03	2·34	**29·26**	4·74	2·64	1·47	1·07	0·61	0·49	0·38	0·31	**41·67**	0·75	0·10	0·06	0·03	**9·63**
IV. TUBERCULOUS DISEASES ..	—	—	0·01	0·03	**0·04**	0·22	0·32	0·44	0·27	0·28	0·37	0·29	0·36	**3·37**	2·74	1·13	0·78	0·81	**1·86**
V. OTHER CAUSES .. :	3·31	1·81	1·70	1·51	**8·33**	5·17	4·30	3·26	3·15	2·66	2·78	2·75	2·46	**42·18**	13·99	5·25	2·91	2·34	**14·47**
ALL CAUSES	23·90	5·44	5·17	4·27	**38·78**	12·05	9·68	7·38	6·42	4·97	5·25	4·79	4·73	**106·82**	25·29	9·86	6·51	5·53	**33·64**
I. Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
I. Chicken-pox	—	—	—	—	—	—	—	—	0·02	—	—	—	—	**0·05**	0·02	—	0·01	0·01	**0·02**
I. Measles	—	—	—	0·01	**0·01**	—	—	0·02	—	0·07	0·09	0·14	0·25	**1·51**	2·61	1·11	0·65	0·48	**1·31**
I. Scarlet Fever	0·02	—	—	0·01	**0·03**	0·01	—	0·02	—	—	0·01	0·01	0·02	**0·16**	0·35	0·24	0·40	0·27	**0·28**
I. Diphtheria, Croup ..	0·01	0·01	—	—	**0·02**	—	0·01	0·01	0·02	—	0·01	0·02	0·04	**0·21**	0·58	0·88	1·07	1·20	**0·78**
I. Whooping Cough ..	—	—	0·05	0·08	**0·13**	0·51	0·64	0·53	0·46	0·33	0·49	0·45	0·59	**5·42**	2·46	0·84	0·39	0·29	**2·03**
II. Diarrhœa (all forms): Enteritis, Gastro-Enteritis, Gastritis, Gastro-Int. Catarrh.	0·05	0·24	0·38	0·29	**0·96**	1·40	1·77	1·63	1·43	1·02	1·01	0·75	0·70	**12·22**	1·79	0·31	0·24	0·10	**3·26**
III. Premature Birth ..	12·88	1·48	1·33	0·84	**16·53**	1·25	0·48	0·17	0·07	0·03	0·01	0·02	—	**18·59**	—	—	—	—	**4·21**
III. Congenital Defects ..	2·37	0·62	0·44	0·28	**3·71**	0·61	0·29	0·15	0·18	0·07	0·11	0·05	0·09	**5·43**	0·25	0·04	0·03	0·03	**1·30**
III. Injury at Birth	0·49	0·03	—	0·02	**0·54**	—	—	—	—	—	—	—	—	**0·54**	—	—	—	—	**0·12**
III. Want of Breast Milk, Starvation.	0·03	—	0·04	0·05	**0·12**	0·21	0·12	0·08	0·06	0·04	0·06	—	0·02	**0·73**	0·01	—	—	—	**0·16**
III. Atrophy, Debility, Marasmus.	4·74	1·25	1·22	1·15	**8·36**	2·67	1·75	1·07	0·76	0·47	0·31	0·31	0·20	**16·38**	0·49	0·06	0·03	—	**3·84**
IV. Tuberculous Meningitis	—	—	—	—	—	0·04	0·08	0·08	0·06	0·07	0·10	0·10	0·11	**1·00**	0·99	0·49	0·40	0·47	**0·70**
IV. Tuberculous Peritonitis, Tabes Mesenterica.	—	—	0·01	0·01	**0·02**	0·12	0·11	0·23	0·15	0·09	0·11	0·06	0·10	**1·20**	0·69	0·22	0·08	0·13	**0·50**
IV. Other Tuberculous Diseases.	—	—	—	0·02	**0·02**	0·06	0·13	0·13	0·06	0·12	0·16	0·13	0·15	**1·17**	1·06	0·42	0·30	0·21	**0·66**
V. Erysipelas	0·01	—	0·04	0·02	**0·07**	0·02	0·01	0·01	—	0·01	—	0·02	0·01	**0·16**	0·02	0·01	—	—	**0·04**
V. Syphilis	0·02	0·04	0·03	0·07	**0·16**	0·20	0·11	0·11	0·04	0·04	0·03	—	0·01	**0·73**	0·01	0·03	—	—	**0·17**
V. Rickets	—	—	—	—	—	0·01	0·03	0·05	0·04	0·04	0·05	0·01	0·10	**0·58**	0·62	0·18	0·05	0·01	**0·30**
V. Meningitis (not Tuberculous).	0·02	0·02	0·03	0·01	**0·08**	0·07	0·09	0·07	0·11	0·08	0·15	0·12	0·13	**1·11**	0·62	0·39	0·20	0·28	**0·55**
V. Convulsions	2·32	1·01	0·69	0·62	**4·64**	1·93	1·49	1·03	0·83	0·57	0·50	0·41	0·34	**12·60**	1·18	0·31	0·12	0·04	**3·19**
V. Bronchitis..	0·07	0·14	0·29	0·30	**0·80**	1·13	1·08	0·66	0·78	0·70	0·69	0·72	0·63	**8·97**	3·00	0·80	0·24	0·19	**2·89**
V. Laryngitis	—	0·04	—	—	**0·04**	0·02	0·03	0·01	0·01	0·02	0·03	—	0·05	**0·26**	0·21	0·14	0·17	0·23	**0·20**
V. Pneumonia	0·03	0·07	0·12	0·14	**0·36**	0·64	0·71	0·68	0·71	0·63	0·74	0·94	0·79	**8·94**	5·34	1·64	0·87	0·55	**3·71**
V. Suffocation	0·09	0·01	0·06	0·07	**0·23**	0·19	0·12	0·10	0·07	0·04	0·01	0·01	0·01	**0·81**	0·01	0·03	0·01	0·01	**0·19**
V. Other Causes	0·75	0·48	0·44	0·28	**1·95**	0·96	0·63	0·54	0·56	0·53	0·58	0·52	0·39	**8·02**	2·98	1·72	1·25	1·03	**3·23**

MORTALITY under 5 Years of Age, 1905.

On comparing the mortality in the two groups of counties that have been selected as representative of urban and rural England and Wales respectively, it is at once apparent that at every stage of life children die more rapidly in the former area than in the latter. In the urban counties infantile mortality last year averaged 139 per 1000 births, and in the rural counties 107 per 1000; thus the urban rate exceeded the rural by 30 per cent. Examination of the rates at the several ages shows that the excess was least at the earliest ages, being only 6 per cent. in the first week of life, whilst it amounted to more than 50 per cent. in the later months of the first year. In the second, third, and fourth years the excess was still greater than this.

From almost all the diseases specified in the table the total mortality under one year of age in the selected urban counties was above, whilst that in the rural counties was below the mean rate in England and Wales, taken as standard, the most marked exceptions being whooping-cough and convulsions. From whooping-cough the rural rate was higher and the urban rate lower than the standard, whilst from convulsions the urban rate was higher than the rural and still higher than the standard rate for England and Wales. The mortality from rickets and from laryngitis in the urban as well as in the rural counties scarcely differed from the rates in the whole country, whilst the mortality returned under such unsatisfactory headings as atrophy, debility, and marasmus was practically the same in both county groups as it was in England and Wales.

I have already insisted on the fact that town life is much more prejudicial than country life in early infancy. It may now be added that half of this excess results from diarrhœal diseases, one eighth from premature birth and congenital defects, the same proportion from pneumonia, and smaller proportions from tuberculous diseases, bronchitis, &c.

Respecting the total mortality under five years of age from each of the diseases shown in the table, it will be seen that in all cases save those of chicken-pox and laryngitis, the urban mortality in 1905 exceeded the rural. The mortality was more than twice as great from measles, scarlet fever, diarrhœal diseases, syphilis, erysipelas, meningitis, and suffocation; and was considerably greater from tuberculous diseases and pneumonia. On the other hand, the mortality in the town as contrasted with the country from diphtheria, whooping-cough, wasting diseases, and convulsions showed no serious disparity. The tables show that in the case of measles the urban mortality was twice as great as the rural at most of those age-groups showing an appreciable rate, while in the case of scarlet fever it was about three times as great from the third to the end of the fifth year. Before the end of the first month of life, diarrhœal diseases had become twice as fatal in the urban group, and from the beginning of the eighth month to the end of the second year, nearly three times as fatal. In the case of tuberculous diseases the urban excess occurred mainly from the commencement of the fifth month to the end of the fourth year, while with regard to erysipelas it was confined mainly to the second and

third months of life. Congenital syphilis was excessively fatal to urban children under the age of five months, comparatively little mortality from this cause being registered after that age. The excess under the heading meningitis occurred mainly between the beginning of the fourth month and the end of the fourth year, while that from pneumonia, although noticeable at all ages, was chiefly so after the first year.

Deaths from suffocation, principally caused by overlying, were three times as frequent in the urban counties as in the rural, occurring mainly among infants under six months of age.

ILL-DEFINED OR NOT SPECIFIED CAUSES OF DEATH.

In the year 1905 the deaths of 49,026 persons were attributed to causes that do not admit of classification. Such deaths would have appeared in larger numbers than they now do had it not been for the inquiries that are systematically issued from this office to medical practitioners respecting deaths certified as due to some indefinite conditions. In the course of the year 3,848 answers to letters of inquiry were received at this office. The 686 inquiries relating to deaths from peritonitis resulted in the transference of 48 deaths to puerperal septicæmia, 54 to tuberculous peritonitis, 9 to malignant disease, 4 to intemperance, 41 to generative diseases, 75 to gastric ulcer, 26 to ulceration of the intestines, 109 to appendicitis, 45 to other specified diseases of the digestive organs, and 32 to other definite causes. The 717 inquiries regarding tumours of various organs led to the transference of 393 deaths to malignant disease, 17 to syphilis, 34 to tuberculous diseases, 18 to ovarian and uterine affections, and 26 to other definite causes. The 258 inquiries concerning deaths referred to septicæmia, pyæmia, and other septic diseases resulted in the transference of 68 deaths to puerperal sepsis, 6 to venereal diseases, 8 to tuberculosis, 3 to malignant disease, and 40 to other specified causes. The 237 inquiries relating to hydrocephalus resulted in the addition of 63 deaths to tuberculous meningitis and 139 to congenital defects. The 132 inquiries concerning paralysis led to the transference of 76 deaths to cerebral hæmorrhage, 34 to diseases of the spinal cord, 8 to intemperance, and 10 to other definite causes. The inquiries relating to cerebro-spinal meningitis numbered 204; they resulted in the addition of 90 deaths to cerebro-spinal fever and of 73 deaths to tuberculous meningitis. The 162 inquiries regarding strictures of the œsophagus and pylorus led to the transference of 93 deaths to malignant disease and 14 to gastric ulcer. The inquiries relating to hæmoptysis numbered 167; they resulted in the addition of 99 deaths to tuberculous phthisis. The 61 inquiries concerning membranous laryngitis led to the transference of 35 deaths to diphtheria. The 38 inquiries relating to eclampsia and convulsions resulted in the addition of 25 deaths to puerperal convulsions. The inquiries regarding hæmatemesis and melæna numbered 103 and led to the addition of 18 deaths to alcoholism, 21 to gastric

ulcer, and 20 to cirrhosis of liver. The deaths due either to carcinoma, sarcoma, or cancer, in which no mention was made of the organ or part affected, numbered 457 ; as the result of inquiries this information was supplied in 446 cases.

The total additions to certain definite headings resulting from these inquiries were as follows :—To malignant disease 534 deaths, to puerperal septic diseases 139, to venereal diseases 46, to intemperance 56, to tuberculous diseases 501, to gastric ulcer 113, and to appendicitis 121. In ten instances the condition stated in the certificate was found to be due to violence, whilst in eleven other instances, in which such indefinite terms as "fracture," "injury," &c., had been inserted in the certificate, the deaths were ultimately classed in accordance with the nature of the injury.

VIOLENCE.

In the year 1905 there were registered as due to accident or negligence 15,570 deaths at all ages, corresponding to a rate of 456 per million living. Among males the deaths numbered 10,829 and were equal to a rate of 655 per million, the deaths of females numbered 4,741 and were equal to 268 per million. The deaths of males exceeded those of females under every heading except that of "burns and scalds." In the case of 15,121 out of the 15,570 deaths stated to be due to accident or negligence coroners' inquests were held ; the causes of 374 deaths were certified by medical practitioners, and in 75 cases the causes remained uncertified. The deaths of 2,683 men and 862 women were attributed to *suicide* ; these figures, in both cases, exceeded the average after correction for increase of population. To homicide 133 males and 169 females fell victims, the number of males being somewhat below and that of females somewhat above the corrected average. Of the deaths by homicide 189 were returned by coroners' juries as by murder. In the course of the year there were 17 executions (all of males), the numbers in the three preceding years being 22, 25, and 18 respectively.

I am, Sir,

Your obedient Servant,

JOHN TATHAM.

Sir WILLIAM COSPATRICK DUNBAR, Bart., C.B.,
Registrar-General.

METEOROLOGY OF THE YEAR 1905.

REMARKS ON THE CONSPICUOUS METEOROLOGICAL OCCURRENCES IN THE BRITISH ISLES IN 1905.

(*Prepared in the Meteorological Office under the direction of W. N. Shaw, Esq., Sc.D., F.R.S.*)

In connection with the issue of the daily and weekly reports during the year 1905, the following were the more striking features noticed :—

1. *Gales.*—Although numerous cyclonic disturbances visited our neighbourhood in the course of the year, and many of them were of considerable depth and had rather steep gradients, there was a remarkable absence, after the first three months, of gales even of moderate strength which affected any large extent of the country. During the three months ending with July the conditions were so quiet that no general gale was experienced on our coasts. The principal gales of the year were :—

(*a.*) January 6th. A strong or whole gale from West and North-West on many coasts, hurricane force at Sule Skerry.

(*b.*) January 13th–17th. Direction mainly South-Easterly to Southerly (exceptionally dry winds), towards the close Westerly to North-Westerly on the Irish coasts. Attained the force of a strong gale to a storm in many places, a hurricane at St. Abb's Head, Sule Skerry and St. John's Point (Killough).

This was the most prolonged gale of the year, being continuous for more than 50 hours at a large number of stations, ranging upwards to 102 hours at North Unst. At Deerness the average hourly velocity for 99 hours was over 41 miles (Factor 2·2).

(*c.*) January 30th–31st (night of). A strong or whole West to North-West gale on the northern and north-western coasts, hurricane force at the Butt of Lewis.

(*d.*) February 1st–2nd (night of). Many localities felt a strong or whole Westerly to North-Westerly gale.

(*e.*) February 18th–20th. A strong or whole South-Westerly to North-Westerly gale on many coasts, storm force at Monach lighthouse.

(*f.*) February 25th–March 1st. In Ireland and Western England a strong or whole gale from South-East, veering to South-West, North-West and North-East.

(*g.*) March 10th–12th. A strong or whole gale from the South-Westward on the English and Bristol Channels, and the same force from the North-Eastward in the north-east of Scotland.

(*h.*) March 15th. Speaking generally this was the most violent gale of the year, from South-East to South-West and West, there being numerous instances of a strong gale to storm force, a hurricane at Coningbeg, Rockabill and Cardigan Bay. The highest velocity of the year was reached on this occasion—at Falmouth. The storm burst with remarkable suddenness—at Valencia from almost calm to a strong gale between 3 a.m. and 4 a.m.

(*i.*) November 26th–27th (night of). A strong or whole gale from South-West to North-West and North on many parts of our coasts, storm force at Loophead.

(*j.*) December 31st. A strong or whole gale from the South-East on many coasts, mainly in the west and south-west, storm force at the Fastnet. (The gale continued through the early days of January, 1906).

2. *Rainfall.*—At six stations in Scotland, one in Ireland and one in England, there was more rain than usual, the excess at Dungeness being 8·1 ins. Over the kingdom generally there was a deficiency, a large number of places showing a loss of more than 5 ins., Clifton as much as 10 ins., Falmouth 10·9 ins., and Roche's Point 13·2 ins. The largest aggregate totals for the year were 95·1 ins. at Glencarron, 81·4 ins. at Laudale, 52·2 at Valencia and 50·7 ins. at Stornoway. Numerous stations in the midland and eastern counties of England received less than 20 ins., Spurn Head 14·8 ins. and Shoeburyness 14·5 ins. The days on which precipitation was measured numbered 284 at Sumburgh Head, 283 at Lairg, 280 at Glencarron, and above 250 at Stornoway, Valencia, Wick and Malin Head. Ten stations in England had less than 150 days, Durham 139, Reading 137 and Shoeburyness 134. Heavy falls of more than an inch in a day were infrequent. On March 10th eight stations in the southern counties of England and Wales; and on June 5th the same number in the south-east quarter of England reported over an inch. Laudale measured 2·4 ins. on February 25th, Reading 2 ins. on May 30th, Dungeness 2 ins. and Southampton 2·5 ins. on June 5th, Barnet 2·4 ins. on July 9th, Rhyl 2·2 ins. on August 28th and Crathes 2·3 ins. on November 11th. The heaviest rainstorm of the year occurred over a limited area of Eastern Ireland on August 25th, when the amounts measured exceeded 3 ins. at several stations, 4·1 ins. at Newcastle (Wicklow) and 4·5 ins. at Bray.

3. *Snowstorms.*—In January, February and April, snow was of frequent occurrence, but in March, November and December it was but rarely recorded. The falls were generally in the form of showers of a local character, and at neither end of the year was any part of the country visited by a snowstorm worthy of special mention.

4. *Thunderstorms.*—In every month of the year thunderstorms were experienced in some part or other of the country. The distribution was very irregular. Laudale was visited on 19 days, Dunmow on 16, London and Manchester on 13, Dungeness, Spurn Head and Stonyhurst on 12, Oxford on 11, and Cambridge and Southampton on 10, but Plymouth, Portland Bill, Bath, Garforth and Armagh only on 2, and Birr Castle, Malin Head and Sumburgh Head on 1 day. As a rule the storms were of no great violence. A severe one travelled westward, at a rate exceeding 50 miles an hour, from Kent to South Wales, on the afternoon of April 16th, attended by heavy rain. At Hawarden Bridge, on June 18th, a heavy thunderstorm precipitated $1\frac{1}{4}$ in. of rain in half-an-hour. Nearly $2\frac{1}{2}$ inches of rain and melted hail fell in a very local but severe double thunderstorm at Barnet on July 9th. Some of the August storms were of a rather severe type, and were accompanied by heavy local rains.

5. *Droughts.*—The most remarkable droughts of the year occurred in the winter season. A period of dry weather which set in about the middle of December, 1904, was maintained with but unimportant interruptions down to the middle of February, 1905. For the eight weeks included in this period the rainfall over nearly the whole of England was only from 21 to 34 per cent. of the average. May was a very dry month over an extensive region, rain falling on only 3 or 4 days in many places. At Bath and Clifton the month's rainfall only totalled 0·07 in., and other places had less than 0·2 in. The southern and eastern counties of England had very dry weather during July, several localities having rain on from 3 to 5 days only, the total fall at Oxford being 0·17 in., and at Felixstowe 0·2 in., a number of stations less than 0·5 in. An unusually droughty period for the time of year was experienced in many parts of England in December. In the 19 days ending with the 27th, the only moisture measured at Westminster was 0·01 in. deposited by a wet fog. The total rainfall for the month was 0·15 in. at Shields, 0·19 in. at Saltburn-by-the-Sea, and less than half an inch at several other stations.

6. *Temperature.*—The *highest* temperatures occurred between June 22nd and 27th in Ireland and Scotland, and on various days in the second, third and fourth weeks of July in England. The year's maximum of 87° was reached at Maidenhead on July 26th, the nearest to this value being 86° at Bawtry on July 14th, and 85° at Foynes on June 22nd, at Leith on June 27th, and at Brixton on July 8th. There were numerous records of 80° and upwards. At Sumburgh Head the highest level was 65°, recorded on June 27th.

The *lowest* temperatures were recorded on the opening days of the year or about January 19th over the inland and eastern parts of England, 11° at Llangammarch Wells, 12° at Garforth and Hereford, and 14° at Wokingham, Bawtry and Rhyl. In Ireland and

Scotland the greatest cold was about November 19th. Braemar registered a minimum of 5°, Marchmont 13°, and Crathes 14° ; Dublin (Phœnix Park) 17°, Markree Castle 18°, and Armagh, Birr Castle and Glasnevin 19°. December was a very mild month, almost entirely free from frosts of seasonable intensity, 17° at Nairn and 20° at Braemar and Strathpeffer on the 30th or 31st being the lowest values recorded. The only station where no frost occurred was Scilly, with a minimum temperature of 35° on February 24th, Falmouth passing slightly below 32° on the previous day.

The annual range of temperature was 74° at Braemar, 72° at Bawtry, 68° at Garforth, Llangammarch Wells, Maidenhead and Wokingham, and exeeeded 60° in many other places, but was less than 50° at several west and south-west coast stations, 42° at Holyhead, Newquay and Portland Bill, 41° at Pembroke and only 37° at Scilly.

7. *Bright Sunshine.*—Over the greater part of the country the aggregate totals of bright sunshine for the whole year were in excess of the normal, England, S., returning an average amount, and England, S.W., the Channel Islands and Ireland, S., a deficiency. In the early months the duration in many localities was abnormally large, the monthly records for Jauuary, February and March showing a number of instances of an excess of 1 hour or more per day. At Westminster the duration of sunshine during these three months amounted to 196 hours, being 77 hours, or 64 per cent., above the average. On the other hand, April was very dull, every station returning a deficiency of bright sunshine, the records generally being the smallest since the institution of automatic instruments in 1881. South-western stations reported a loss of 2 hours or more per day, the total duration at Valencia being 74 hours, and at Tenby 92 hours, in both cases less than half the average.

8. *Fog.*—During the early months fog was of rare occurrence, and of no great density. Summer fog was limited to the coasts, in June being most frequent on the east and south of England, and in July along the English and Bristol Channels and the south of Ireland. The first half of the autumn was free from fog of any importance, but about the middle of October the early morning hours became very thick and foggy over the inland and southern districts of England, dissipating with sunrise, and succeeded by clear bright weather during the day. November had several foggy days over a great part of England, occasionally very dense ; but the worst visitation of the year occurred from December 10th to 14th, when an exceedingly thick fog enveloped the midland, eastern and south-eastern counties, and during most of the time undergoing no great variation in density.

9. *Barometer.*—The range of pressure for the year was unusually large, amounting to about 2 inches on the east coast of England three inches in the west and north of Ireland. At Blacksod Point the range was 3 inches between January 16th and 27th. Towards the close of January an anticyclone of great intensity covered these islands and Western Europe, and from the morning of the 27th to

the evening of the 29th, barometer readings of 31 ins. and upwards were registered at many western and south-western stations, in the west of France and north of Spain. At 11 a.m, on the 28th there was a record of 31·097 ins. at Falmouth Observatory, the highest level attained during the period. There is no previous record of such high readings in this locality. On the morning of December 12th the barometer had risen to 30·90 ins. at Oxford, and in the course of the day the central space of the high pressure system expanded so as to embrace our midland and western districts, with readings above 30·9 ins., the highest value reported being 30·94 ins., at Donaghadee. Except in the extreme south of England the deepest depressions were in the first three months. At 10 p.m. on January 16th the barometer read 27·99 ins. at Blacksod Point, the readings at most stations being below 29 ins. in the course of the night or following day. Over a great portion of the Kingdom readings below 29 ins. were recorded on February 26th or 27th, below 28·5 ins. in the west of Scotland. In March the barometer was frequently below 29 ins., and the deepest disturbance of the year skirted the north-western coasts on the 15th, when Malin Head reported 27·91 ins. A deep depression which appeared off the west of Ireland on November 12th followed a south-easterly course, and on the 13th the barometer fell to 28·74 ins. at Jersey, and below 29 ins. at all the southern stations.

Early in January there were very rapid fluctuations of the barometer in Scotland, Scandinavia and North Germany, many stations reporting a rise or a fall of more than an inch in a day, but at Sumburgh Head during the 14 hours down to 8 a.m. on the 7th there was a well-sustained rise of 1·13 ins. In the deep depressions of the early months rapid falls were comparatively numerous. On the western coasts, from Valencia to Stornoway, on February 25th–26th the mercury fell at the rate of 0·07 in. or 0·08 in. per hour for between 11 and 14 hours, the drop in single hours amounting to 0·12 in. or more. The most remarkable fall of the year, however, occurred on March 14th, at Valencia, when the total drop in 11 hours slightly exceeded an inch, but from 7 p.m. to 8 p.m. the fall was 0·11 in., from 8 p.m. to 9 p.m. 0·18 in., from 9 p.m. to 10 p.m. 0·23 in., and from 10 p.m. to 11 p.m., 0·13 in., or 0·65 in. in four hours. Such a fall as 0·23 in. in an hour is exceptionally rare in these islands. [On December 12th, 1893, a fall of 0·33 in. in one hour was registered at Falmouth.]

10. *High and Low Tides.*—Associated with the very deep depression of the night of January 6th–7th, the rapid rise of the barometer in the north, and a hard North-Westerly gale, an exceedingly high tide swept down the east coast of England, resulting in the flooding of extensive tracts of land and causing great destruction of property, During a South-Westerly gale on March 11th the tide in the Thames rose only 9 feet.

11. *Earthquake Shocks.*—Seismic phenomena were rather frequent, but in no instance of great intensity. Earthquake shocks were felt in various parts of Cornwall at about 2 a.m. on January 20th ; at 2 p.m. on March 15th at Barnet and Hadley Wood ; shortly after 1.30 a.m. on April 23rd (Easter Sunday) over a great portion of the

northern half of England [disastrous earthquakes occurred about this time in Northern India and Persia, and minor ones in France and Switzerland] ; early in the morning of May 1st at Llangollen and Valle Crucis Abbey ; shortly after midnight of July 24th, and again of September 21st, in the Stirling, Bridge of Allan and Comrie district of Scotland ; and at 3.45 a.m. of November 25th at Manchester, Salford and other parts of South Lancashire.

12. *Aurora Borealis and Magnetic Storm.*—Aurora Borealis was witnessed on the night of March 2nd in the western and north-western parts of the Kingdom. There was a more than usually brilliant display on the evening of November 15th, visible over practically the whole country, and to the southward, in France, Germany and Austria ; also on the western side of the Atlantic. The deep redness of the colouring was everywhere very noticeable. At 9 p.m., when the display was at its maximum in the vicinity of London, a magnetic storm was registered at Kew Observatory.

In continuation of the remarks given in previous annual reports the following notes refer exclusively to the stations the results from which are included in the tables already printed in the Quarterly Returns.

The highest temperatures of the air were at the Royal Observatory, Greenwich, 87·2° ; Salisbury 86·0° ; and at Hull 85·0°.

The lowest temperatures were at Llangammarch Wells 11·1° ; at Stokesay 14·8° ; and at Canterbury 14·9°.

The heaviest falls of rain at any of the stations were at Buxton 42·01 ins. ; Llangammarch Wells 41·34 ins. ; and at Stonyhurst 38·84 ins.

The least falls of rain were at Spurn Head 14·81 ins. ; Clacton-on-Sea 16·67 ins. ; and at Shrewsbury 18·54 ins.

The greatest number of days of rain were at Llangammarch Wells 227 ; Buxton 223 ; and at Jersey 222.

The least number of days of rain were at Canterbury and Durham 139 ; Oxford 141 ; and at Clacton-on-Sea 146.

The highest temperatures in the sun were at the Royal Observatory, Greenwich, 155·7° and 150·0° ; and at Dunmow 149·0°.

The lowest temperatures on the grass were at Canterbury 6·0° ; Dunmow 8·5° ; and at the Royal Observatory, Greenwich, 9·8°.