SIXTY-NINTH

ANNUAL REPORT

OF THE

REGISTRAR-GENERAL

OF

BIRTHS, DEATHS, AND MARRIAGES

IN ENGLAND AND WALES.

(1906.)

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, TWEEDDALE COURT, EDINBURGH; or
E. PONSONBY, 116, GRAFTON STREET, DUBLIN,

1908.

[Cd. 3833.] *Price* 3*s*. 6*d*.

EYRE AND SPOTTISWOODE, EAST HARDING STREET, E.C.

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OF THE

REGISTRAR-GENERAL'S ANNUAL REPORT FOR 1906.

1250 Wt 8030 & 19541 1/08 D & S 3 29108

REPORT

TO

THE RIGHT HONOURABLE JOHN BURNS, M.P.,

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

(1906.)

SIR,

I HAVE the honour to submit to you the following Report on the estimated population, and on the marriages, births, and deaths registered in England and Wales during the year 1906.

The provisional numbers of marriages, births, and deaths in England and Wales and in each registration county for the year 1906 have already been published in the "General Abstract," and in somewhat greater detail as regards causes of death for the counties of England and Wales, for London and for other large towns, in the "Annual Summary," which publication was issued in May, 1907. The figures given in the Summary were tabulated from returns furnished by the local registrars acting in the 2,032 registration sub-districts into which England and Wales is divided.

The statistics which I now beg to submit to you in the following Report also relate to the year 1906, but they have been tabulated from the individual entries in the registers of births, deaths, and marriages deposited in this office; and they have been analysed in far greater detail and more important deductions drawn therefrom than was possible in the Annual Summary.

I have endeavoured to expedite the issue of the Annual Reports so far as possible, but, in connection with this point, it should be borne in mind that they are of a permanent character, and that technical knowledge and the expenditure of considerable time is required for a detailed and accurate analysis of the vital statistics concerning a population of nearly thirty-five millions of people.

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 1906 the number of births exceeded the number of deaths by 2,145,453. Had neither emigration nor immigration occurred this surplus would have raised the population in the middle of the year to 34,673,296. In the absence of precise information with reference to migration, 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 1906 amounted to 34,547,016 persons, of whom 16,689,707 were males and 17,857,309 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 these estimates the intermediate London Census has been left out of account.

Marriages.

The marriages in England and Wales during the year 1906 numbered 270,038, corresponding to a rate of 15·6 persons married per 1,000 of the population at all ages. This rate was 0·3 per 1,000 above the corresponding rate in 1905, but was 0·2 per 1,000 below the average rate in the ten years 1896–1905.

The marriage rate in 1893 was 14·7 per 1,000 living; during the next six years it rose gradually to a maximum of 16·5, in the following five years it fell by degrees to 15·2 in the year 1904; in 1905 the rate was 15·3, and in the year under review it further rose to 15·6.

Methods of Measuring the Marriage Rate.—The total population does not, however, afford the most satisfactory standard by which to measure the marriage rate, because of the variations which occur from time to time in the number and age constitution of marriageable men and of marriageable women* in the population. How important these changes have been in recent years is shown by the following statement on page vii, which gives for the last four censuses the proportions of the unmarried, married and widowed in each age group above 15 years.

These figures show that the proportion of bachelors in 1000 males aged 15 years and upwards rose from 384 in 1871 to 411 in 1901, and that among 1000 females aged 15 years and upwards the proportion of spinsters increased from 361 to 395, on the other hand, the proportion of widowed persons in the population steadily decreased throughout the period.

The proportions of bachelors showed an increase in each age-group up to 55 years, while the increase in the proportion of spinsters affected every age-group.

Before drawing deductions from the several calculations in the following pages, it would be well to point out that the figures for intercensal years should only be used as approximate indications of changes in the rate of marriage, because the estimates of total population on which the proportions are based depend on an assumption, and estimates of sections of the population such as the numbers of persons of specified ages depend on further assumptions. It should also be noted that calculations based on the ages at marriage must be used with caution, because in earlier years a comparatively high proportion of the ages were unstated.

Table A., page viii, shows for each of the years 1876–1906, the marriage rates based on the total population, and the rates based on that section of the population in which marriages take place. It will be seen from this Table and from the accompanying Diagram that the two methods used for calculating the marriage rate lead to different conclusions.

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

Proportions of Unmarried, Married, and Widowed in 1,000 Males and 1,000 Females in each Age Group :—

Age and Condition as to Marriage.		Census Years. 1871.	1881.	1891.	1901.
Males.					
Total aged 15 years and upwards.	Unmarried ...	384	392	406	411
	Married ...	559	553	540	536
	Widowed ...	57	55	54	53
15–20 ...	Unmarried ...	995	995	996	997
	Married ...	5	5	4	3
	Widowed ...	0	0	0	0
20–25 ...	Unmarried ...	767	777	805	826
	Married ...	230	221	193	173
	Widowed ...	3	2	2	1
25–35 ...	Unmarried ...	316	317	343	359
	Married ...	668	669	645	631
	Widowed ...	16	14	12	10
35–45 ...	Unmarried ...	137	138	147	158
	Married ...	826	826	818	812
	Widowed ...	37	36	35	30
45–55 ...	Unmarried ...	97	96	100	110
	Married ...	832	832	827	819
	Widowed ...	71	72	73	71
55–65 ...	Unmarried ...	89	83	84	89
	Married ...	771	779	771	764
	Widowed ...	140	138	145	147
65 and upwards.	Unmarried ...	79	76	73	74
	Married ...	579	587	590	574
	Widowed ...	342	337	337	352
Females.					
Total aged 15 years and upwards.	Unmarried ...	361	367	387	395
	Married ...	523	517	499	497
	Widowed ...	116	116	114	108
15–20 ...	Unmarried ...	968	975	981	985
	Married ...	32	25	19	15
	Widowed ...	0	0	0	0
20–25 ...	Unmarried ...	652	665	701	726
	Married ...	343	331	296	272
	Widowed ...	5	4	3	2
25–35 ...	Unmarried ...	294	293	326	340
	Married ...	676	681	653	643
	Widowed ...	30	26	21	17
35–45 ...	Unmarried ...	156	153	164	185
	Married ...	762	765	761	751
	Widowed ...	82	82	75	64
45–55 ...	Unmarried ...	120	119	124	136
	Married ...	717	711	706	705
	Widowed ...	163	170	170	159
55–65 ...	Unmarried ...	109	109	110	117
	Married ...	589	581	573	569
	Widowed ...	302	310	317	314
65 and upwards.	Unmarried ...	102	104	107	111
	Married ...	331	325	319	306
	Widowed ...	567	571	574	583

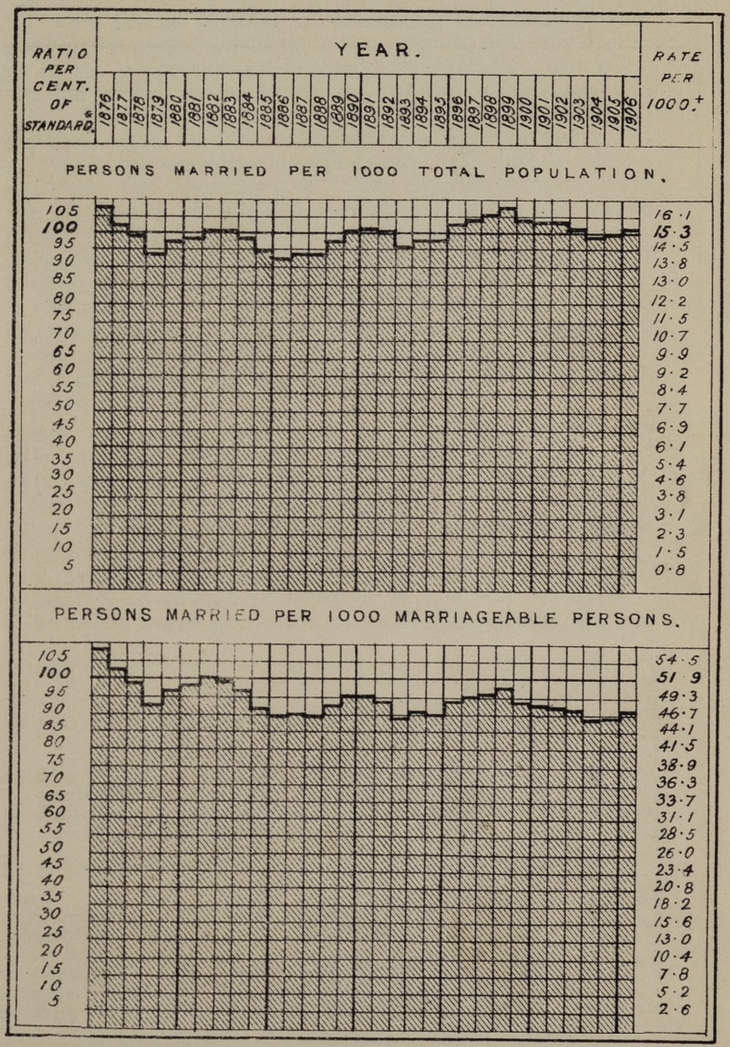
TABLE A.—ENGLAND AND WALES.—MARRIAGE RATES, 1876–1906.

Cols.	a.		b.	
Period.	Calculated on the total population at all ages.		Calculated on the total number of marriageable persons in the population.	
	Rate per 1000.	Compared with rate in 1876–80 taken as 100.	Rate per 1000.	Compared with rate in 1876–80 taken as 100.
1876–1880	15·3	100·0	51·9	100·0
1881–1885	15·2	99·3	50·6	97·5
1886–1890	14·7	96·1	47·8	92·1
1891–1895	15·1	98·7	47·9	92·3
1896–1900	16·1	105·2	49·7	95·8
1901–1905	15·6	102·0	47·6	91·7
1876	16·5	107·8	56·0	107·9
1877	15·7	102·6	53·3	102·7
1878	15·2	99·3	51·4	99·0
1879	14·4	94·1	48·5	93·4
1880	14·9	97·4	50·3	96·9
1881	15·1	98·7	51·1	98·5
1882	15·5	101·3	52·1	100·4
1883	15·5	101·3	51·7	99·6
1884	15·1	98·7	50·2	96·7
1885	14·5	94·8	47·9	92·3
1886	14·2	92·8	46·8	90·2
1887	14·4	94·1	47·0	90·6
1888	14·4	94·1	46·9	90·4
1889	15·0	98·0	48·6	93·6
1890	15·5	101·3	49·8	96·0
1891	15·6	102·0	49·8	96·0
1892	15·4	100·7	49·0	94·4
1893	14·7	96·1	46·5	89·6
1894	15·0	98·0	47·4	91·3
1895	15·0	98·0	47·0	90·6
1896	15·7	102·6	49·1	94·6
1897	16·0	104·6	49·7	95·8
1898	16·2	105·9	50·1	96·5
1899	16·5	107·8	50·7	97·7
1900	16·0	104·6	48·9	94·2
1901	15·9	103·9	48·6	93·6
1902	15·9	103·9	48·4	93·3
1903	15·6	102·0	47·8	92·1
1904	15·2	99·3	46·5	89·6
1905	15·3	100·0	46·6	89·8
1906	15·6	102·0	47·7	91·9

ENGLAND & WALES.

MARRIAGE RATES.

DIAGRAM I.—ANNUAL MARRIAGE-RATES, 1876-1906.



* *The Standard adopted (see left hand column) is the average rate in the five years 1876–80.*

† *The Rate per 1000 in the top section of the diagram is calculated upon the total population, and that in the bottom section upon the number of marriageable persons in the population (See right hand column).*

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For purposes of comparison the mean rate in the period 1876–80 is taken as a standard in each case; the rates based on the total population were above the standard in 14 of the 26 years (1881–1906), whereas those based on the numbers of marriageable persons in the population were, with one exception, below the standard.

A still more precise method of calculating the marriage rate over an extended period would be to take account 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 in earlier years. On the assumption, however, that a fair approximation to the number of marriages in each age group may be obtained by distributing the unrecorded ages in the same proportions as the recorded ages, a rate has been calculated for the period 1876–80 based on the age constitution and proportions of marriageable men and of marriageable women at the Census of 1901. Taking this corrected rate as a standard, the marriage rate in 1906, when compared with the rate of 1876–80, shows a fall of 11·5 per cent., which may be said to represent approximately the fall in the marriage rate in the period under review.

Marriages in Counties.—Table B. on page x shows for the registration counties of England and Wales the marriage rates in the four past census periods, in the triennial period 1903–5, and in the year 1906. The rates are based on the proportion of persons married to the unmarried and widowed population aged 15 years and upwards.

Among registration counties with populations exceeding 100,000 persons the highest and lowest marriage rates in the year 1906, in proportion to the marriageable section of the population, were as follows :—

a.		b.	
Registration Counties with the highest Marriage rates.	Persons married per 1000 marriageable population.	Registration Counties with the lowest Marriage rates.	Persons married per 1000 marriageable population.
Durham	57·9	Kent	39·5
Nottinghamshire ...	57·8	Surrey	39·4
Glamorganshire ...	57·5	Cornwall	38·7
Monmouthshire ...	57·2	Sussex	38·2
Warwickshire	55·6	Shropshire	37·5
Staffordshire	52·9	Herefordshire	37·2
Derbyshire	51·6	Carnarvonshire ...	37·0

The differences between the marriage rates in the several counties may in some few cases be accounted for by differences in the age constitution of the marriageable population in the respective areas; it is probable however that economic conditions are mainly responsible for the variations shown in the figures.

TABLE B.—MEAN ANNUAL MARRIAGE RATES in each REGISTRATION COUNTY, 1870–1906.

Registration Counties.	Persons married per 1000 of the unmarried and widowed population aged 15 years and upwards.						Increase or Decrease per cent. in each County between the periods 1870–72 and 1903–05.
	Three year periods.					Year 1906.	
	1870–72.	1880–82.	1890–92.	1900–02.	1903–05.		
England and Wales	57·2	51·5	49·8	48·7	47·0	47·7	−17·8
London	60·9	56·2	52·3	50·3	48·3	48·3	−20·7
Surrey	38·3	39·2	37·0	38·0	39·0	39·4	+ 1·8
Kent	46·1	46·0	42·4	43·5	40·9	39·5	−11·3
Sussex	44·5	42·3	38·4	39·0	37·5	38·2	−15·7
Hampshire	48·9	48·0	44·7	44·5	45·7	44·9	− 6·5
Berkshire	47·0	43·4	43·7	43·2	43·6	43·2	− 7·2
Middlesex	34·8	38·0	37·8	42·5	44·3	44·3	+27·3
Hertfordshire ..	41·0	37·2	38·0	39·3	40·7	40·0	− 0·7
Buckinghamshire ..	47·7	45·7	44·5	47·1	44·5	44·7	− 6·7
Oxfordshire ..	46·6	41·4	41·7	41·6	43·6	43·6	− 6·4
Northamptonshire	58·0	53·0	53·6	49·4	46·8	44·7	−19·3
Huntingdonshire ..	52·1	44·8	44·7	46·0	45·5	48·6	−12·7
Bedfordshire ..	52·3	48·0	43·2	43·8	43·2	45·8	−17·4
Cambridgeshire ..	52·0	41·8	45·3	46·3	44·4	45·5	−14·6
Essex	45·9	46·2	48·4	49·3	47·8	47·3	+ 4·1
Suffolk	51·8	50·2	46·9	47·0	45·0	43·5	−13·1
Norfolk	52·3	50·2	45·9	45·5	45·2	45·7	−13·6
Wiltshire	47·4	44·5	44·8	45·0	46·7	47·9	− 1·5
Dorsetshire	45·6	42·7	43·1	41·5	43·1	41·2	− 5·5
Devonshire	50·6	46·7	45·7	43·4	44·6	44·6	−11·9
Cornwall	44·6	38·7	39·8	38·4	39·2	38·7	−12·1
Somersetshire ..	45·6	42·2	43·1	40·7	40·9	42·0	−10·3
Gloucestershire ..	58·1	50·9	49·2	47·2	45·9	44·5	−21·0
Herefordshire ..	38·6	35·4	38·3	38·6	36·9	37·2	− 4·4
Shropshire	44·9	37·9	40·2	42·0	39·9	37·5	−11·1
Staffordshire ..	71·6	60·0	58·7	55·9	52·3	52·9	−27·0
Worcestershire ..	56·2	47·5	47·0	46·1	43·3	45·7	−23·0
Warwickshire ..	62·9	53·2	56·4	54·7	51·8	55·6	−17·6
Leicestershire ..	61·8	55·1	53·4	51·6	50·4	47·4	−18·4
Rutlandshire ..	43·1	37·0	38·3	37·2	37·8	35·2	−12·3
Lincolnshire ..	53·1	47·9	49·9	50·6	50·8	51·1	− 4·3
Nottinghamshire ..	68·1	64·8	58·4	58·1	54·3	57·8	−20·3
Derbyshire	60·0	51·2	54·3	53·5	50·1	51·6	−16·5
Cheshire	54·7	46·8	45·5	43·8	43·2	43·9	−21·0
Lancashire	66·1	56·8	52·8	50·3	48·1	50·4	−27·2
West Riding ..	66·1	55·2	54·1	52·0	48·9	50·4	−26·0
East Riding ..	63·8	54·9	53·7	50·4	48·0	48·5	−24·8
North Riding ..	50·7	49·7	45·9	47·4	46·3	48·1	− 8·7
Durham	70·9	62·9	57·6	58·9	54·6	57·9	−23·0
Northumberland ..	64·4	54·1	52·9	51·1	48·2	48·2	−25·2
Cumberland ..	47·6	45·7	42·6	43·7	42·8	42·9	−10·1
Westmorland ..	44·7	39·2	37·7	36·4	37·1	36·3	−17·0
Monmouthshire ..	64·4	55·6	57·5	55·6	54·6	57·2	−15·2
Glamorganshire ..	67·6	60·3	63·3	59·2	55·0	57·5	−18·6
Carmarthenshire ..	53·0	45·6	45·4	46·4	46·9	45·7	−11·5
Pembrokeshire ..	47·0	41·6	42·8	42·8	44·0	44·4	− 6·4
Cardiganshire ..	38·1	31·7	31·3	30·9	30·6	30·9	−19·7
Brecknockshire ..	50·5	44·1	47·1	52·3	47·1	44·2	− 6·7
Radnorshire ..	43·3	38·1	34·6	40·1	29·7	28·3	−31·4
Montgomeryshire ..	41·6	33·3	37·7	37·2	40·2	35·5	− 3·4
Flintshire	38·3	36·0	42·1	37·2	34·9	37·5	− 8·9
Denbighshire ..	45·7	42·0	46·8	43·9	41·4	41·4	− 9·4
Merionethshire ..	44·8	37·6	36·1	38·6	35·4	31·4	−21·0
Carnarvonshire ..	44·0	41·3	39·5	39·0	37·8	37·0	−14·1
Anglesey	37·9	36·6	36·1	38·5	36·1	36·2	− 4·7

If a comparison be made between the rates recorded in the triennial periods 1870–72 and 1903–05, it will be noted that all the counties except Surrey, Middlesex and Essex, showed a decrease in the marriage rate. The fall did not exceed 1 per cent. in Hertfordshire; in 15 mainly agricultural counties it ranged from 1 to 9 per cent., in London it amounted to 21 per cent.; while in the remaining counties the decreases ranged from 10 to 30 per cent.

First Marriages; Re-marriages.—The changes in the marriage rate, already shown in previous tables, are further analysed in the following statement, which shows the annual marriage rates of bachelors, widowers, spinsters, and widows, calculated on those sections of the population aged 15 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.
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
1906	54·2	38·6	52·3	12·6
	Proportions of first marriages and re-marriages in 1000 marriages.			
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
1906	917	83	938	62

* The rates in each period are based on the age constitution, and proportions of these particular sections of the population as enumerated at the Census of 1901.

Divorced Persons who Re-Married.—Of the 540,076 persons who married in the course of the year 1906, there were 676 who were described in the marriage register as having been previously divorced. The corresponding numbers in the three years 1903–05 had been 522, 578, and 551.

Of the 676 divorced persons who re-married in 1906, 351 were men and 325 were women. Of the 351 divorced men who re-married, 268 married spinsters, 55 married widows, and 28 married divorced women. Of the 325 divorced women who re-married, 227 married bachelors, 70 married widowers, and 28 married divorced men.

Ages at Marriage.—Among the persons who married in 1906, 43 per 1000 of the husbands and 146 per 1000 of the wives were minors. These are the lowest proportions of minors that have been recorded since 1847 among men, and the lowest since 1848 among 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
1906	43·0	145·7

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.			
Registration Counties.	Highest per 1000 Marriages.	Registration Counties.	Lowest per 1000 Marriages.
Husbands.			
Nottinghamshire ...	71	Kent	26
Bedfordshire	64	Hampshire	26
Leicestershire	63	Devonshire	26
Staffordshire	61	Surrey	23
Derbyshire	59	Berkshire	22
Durham	57	Shropshire	22
West Riding of Yorkshire.	54	Herefordshire	21
		Carnarvonshire ...	13
Wives.			
Durham	224	Gloucestershire ...	103
Nottinghamshire ...	206	Berkshire	102
Glamorganshire ...	203	Surrey	100
Monmouthshire ...	197	Shropshire	96
Derbyshire	193	Oxfordshire	95
Staffordshire	180	Denbighshire	89
Northumberland ...	180	Herefordshire	78
		Carnarvonshire... ...	49

Unstated Ages.—Among the 540,076 persons who married in 1906, 2,445, or 0·91 per cent. of the husbands, and 2,674, or 0·99 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 50,942 minors who married, all but 14, stated their ages. Among adults, 0·94 per cent. of the husbands and 1·15 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 1906. With few exceptions the proportions of unstated ages in 1906 were lower than those in 1905.

For purposes of comparison the figures for 1905 and 1906 are placed side by side in the following Table :—

	Proportions per cent. of Ages not stated.			
	Adult Husbands.		Adult Wives.	
	1905.	1906.	1905.	1906.
In Marriages of—				
Bachelors with Spinsters	0·72	0·65	0·93	0·83
Bachelors with Widows	1·90	2·06	2·39	2·37
Widowers with Spinsters	3·54	3·21	3·71	3·30
Widowers with Widows	3·84	4·00	4·15	4·20
In all Marriages of—				
Bachelors	0·76	0·70	0·99	0·89
Widowers	3·65	3·50	3·87	3·63
Spinsters	0·89	0·80	1·11	0·99
Widows	2·84	3·01	3·25	3·26

Mean Age at Marriage.—In the two years ended 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 succeeding years the increase was rapid, the ages of both parties being stated in more than 96 per cent. of the marriages registered 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 99·1 per cent. of the husbands, and by 99·0 per cent. of the wives.

In view 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.

ENGLAND AND WALES.—MEAN AGES at MARRIAGE 1896-1906 (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
1906	28·56	27·03	45·37	26·76	34·39	42·59	50·25

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
1906	26·41	25·46	40·79	24·99	36·27	33·30	45·53

It will be noted from the figures in the above Table that the mean age at marriage has steadily increased both for bachelors and for spinsters, and a similar tendency, 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.

Changes in the mean age at marriage of bachelors and spinsters measure with approximate accuracy the tendency to earlier or later marriage ; but changes in the mean age of widowers and widows who re-marry are the result of more complex causes. For example, a general decrease of mortality defers the age at which married persons become widowed and tends to defer in corresponding degree the age of re-marriage. The mean age of all of each sex who marry or re-marry is involved in still greater complexity, for it depends not only on the mean ages of the bachelors and widowers and of the spinsters and widows, but on the proportion of bachelors to widowers and on the proportion of spinsters to widows, among those who marry ; and these proportions have changed very considerably in recent years. Had the proportions been the same in 1896 as they were in 1906, the mean age of all husbands and all wives who married in the earlier year would have been 28·08 years and 26·04 years respectively instead of 28·43 years and 26·21 years, and the mean ages in 1906 would have shown increases of 0·48 and 0·37 years instead of 0·13 and 0·20 years.

The mean age at marriage varies in different parts of the country, and the following comparison for the year 1906 between London and the rest of England and Wales, may be of interest :—

In marriages of—	Husbands.		Wives.	
	England and Wales, less London.	London.	England and Wales, less London.	London.
All Bachelors	26·93	27·59	—	—
,, Widowers	45·22	46·20	—	—
,, Spinsters	—	—	25·42	25·71
,, Widows	—	—	40·94	40·01
Bachelors with spinsters ...	26·67	27·29	24·95	25·24
Bachelors with widows	34·26	35·02	36·23	36·43
Widowers with spinsters ...	42·31	44·16	33·29	33·38
Widowers with widows... ...	50·31	49·90	45·74	44·26
In all marriages	28·45	29·13	26·37	26·63

It will be noted that except in the case of marriages of widowers and widows the mean age at marriage was higher in the Metropolis than in the rest of the country.

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 England and Wales in each of the years 1896–1906 is given in the following Table :—

ENGLAND AND WALES.—AGE-CONSTITUTION of MEN AND WOMEN who MARRIED, reduced to 1000 at ALL AGES, 1896–1906.

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
1906	1000	47	380	368	127	43	16	7	3	2	7

ENGLAND AND WALES.—AGE-CONSTITUTION of MEN AND WOMEN who MARRIED reduced to 1000 at ALL AGES, 1896–1906—*continued.*

Year.	All Ages.	Minors.	Full Age.								
			21—	25—	30—	35—	40—	45—	50—	55 and upwards.	Age not stated.
						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
1906	1000	0	10	66	125	149	152	143	117	203	35
						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
1906	1000	155	428	278	83	28	11	6	2	1	8
						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
1906	1000	1	23	113	180	184	162	131	78	95	33

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 each sex have diminished almost continuously, until in the year 1906 only 15 out of 1000 bridegrooms, and 19 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 :—

	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
1906	15·2	18·6	4·5

In the year under notice, 55 per cent. of the total number of illiterates were women and 45 per cent. were men. It is interesting to note, as regards the topographical distribution of illiteracy, that, while in industrial and mining counties the number of illiterate females is generally greater than the number of illiterate males, the reverse appears to be the case in the agricultural counties (see Table 12, page 13).

Among Counties with populations exceeding 100,000 persons, the highest proportions of illiteracy among both sexes were recorded in Denbighshire, in Monmouthshire, and in Glamorganshire ; among husbands only, in Herefordshire, in Cambridgeshire, and in Shropshire ; and among wives only, in the North Riding of Yorkshire, in London, in Durham, in Carmarthenshire, and in Warwickshire.

The case of London is exceptional. In the year 1906, the number of husbands who signed the marriage register by mark averaged 17 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 7 signatures by mark of husbands and 9 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, 1906.		Jewish marriages per 1000 marriages, 1906.	Natives of Russia, Russian Poland, Servia, Roumania, and Bulgaria per 1000 of the population in 1901.
	Husbands.	Wives.		
London City	45	29	391	13·3
Bethnal Green... ...	19	41	19*	27·3
Whitechapel	112	154	502	265·1
St. George-in-the-East	102	162	86	241·0
Mile End Old Town ...	205	332	568	89·4
The above five districts	115	178	363	117·4
The remainder of London.	7	9	6	2·2

* The Jewish marriages in Bethnal Green were solemnized at the Great Bethnal Green Synagogue during the latter half of the year 1906.

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.

Buildings in which Marriages may be Solemnized.—At the end of the year 1906 the number of churches or chapels of the Established Church and of registered buildings in which marriages could be legally solemnized were as follows :—

Established Church	15,623
All other Religious Denominations	14,669
Total	30,292

The increase upon the numbers at the end of the previous year was : Established Church 39, other religious denominations 268.

By the Acts 15 & 16 Vict. c. 36 and 18 & 19 Vict. c. 81 it was enacted that all places of religious worship not being churches or chapels of the Established Church should, if the congregation desire, but not otherwise, be certified to the Registrar-General : certification for public worship being a necessary preliminary to the registration of a building for the solemnization of marriages. The number of places of meeting for religious worship on the official register on 31st December, 1906, and the number of buildings registered for the solemnization of marriages appear in the following Table.

Denomination.	Buildings certified to the Registrar-General as Meeting places for Religious Worship.	Buildings registered for the Solemnization of Marriages.*
Roman Catholics	1,273	1,232
Presbyterians...	423	428*
Congregationalists	3,086	2,766
Baptists	2,864	2,462
Unitarians	168	187*
Wesleyan Methodists	7,176	3,267
Methodist New Connexion‡	319	232
Primitive Methodists	4,107	1,455
United Methodist Free Churches‡ ...	1,121	625
Calvinistic Methodists	1,094	808
Bible Christians‡	479	196
Other Methodists	189	92
Countess of Huntingdon's Connexion ...	39	41*
New Jerusalem Church	50	53*
Catholic Apostolic Church	68	48
Salvation Army	1,171	26
Society of Friends	348	—†
Jews	184	—†
All others	2,214	751
	26,373	14,669

* Nearly 1000 Places of Worship which have been registered for the solemnization of marriages therein and are still on the Register were certified before 1852 to some other Authority than the Registrar-General.

† Buildings are not registered for the solemnization of Quaker or Jewish Marriages. Officers of the Society of Friends and Secretaries of Jewish Synagogues who have been certified to the Registrar-General, record the Marriages in each case.

‡ In accordance with the provisions of the United Methodist Church Act of 1907, the three bodies of Bible Christians, Methodist New Connexion, and United Methodist Free Churches have become merged in the single denomination of the United Methodist Church.

The Marriage Act of 1898 provided that, under specified conditions, marriages might be solemnized in registered buildings in the presence of duly authorised persons without the attendance of a Registrar of Marriages. The governing bodies of some of the registered buildings have availed themselves of this privilege, and at the end of the year 1906 the number represented on the Register of Authorised Persons was 2,287 out of the total of 14,669 ; the numbers of these buildings and the denominations to which they belonged, were as follows :—

1,084	Wesleyan Methodists.
384	Congregationalists.
221	Baptists.
211	Primitive Methodists.
138	United Methodist Free Churches.
62	Calvinistic Methodists.
52	Methodist New Connexion.
135	Other Denominations, and Unsectarian.
2,287	

These 2,287 registered buildings were distributed among 457 of the registration districts. In the remaining 178 registration districts there was no registered building under the operation of the Act.

Manner of Solemnization.—Of the 270,038 marriages in England and Wales during the year 1906, 170,579, or 631 per 1000, were solemnized according to the rites of the Established Church, 48,777, or 181 per 1000, were solemnized according to the rites of other religious denominations, and 50,682, or 188 per 1000, took place in the offices of Superintendent Registrars.

Period.	Of 1000 Marriages.						
	According to the Rites of the Established Church.	Not according to the Rites of the Established Church.	In Registered Buildings.		Quakers.	Jews.	Civil Marriages in Superintendent Registrar's Office.
			Roman Catholics.	Nonconformists.			
1841–50 ...	896	104	73		0·5	1·4	29
1851–60 ...	831	169	47	66	0·4	1·7	54
1861–70 ...	778	222	45	91	0·3	1·8	84
1871–80 ...	739	261	42	107	0·3	2·3	109
1881–90 ...	706	294	43	115	0·3	3·3	132
1891–00 ...	686	314	41	121	0·3	5·4	146
1901–5 ...	650	350	41	130	0·3	7·3	171
1901 ...	666	334	41	128	0·3	7·0	158
1902 ...	661	339	41	127	0·3	7·4	163
1903 ...	651	349	41	130	0·4	7·3	170
1904 ...	642	358	41	131	0·3	7·0	179
1905 ...	636	364	41	132	0·3	7·6	183
1906 ...	631	369	42	130	0·3	8·3	188

In the period under review, the proportion of Church marriages has shown a continuous decrease, balanced by the increased proportions of Civil, Nonconformist and Jewish marriages.

In the year 1906, the proportion of Church marriages was the lowest on record; marriages in registered buildings belonging to the various Nonconformist bodies amounted to 130 per 1000 of the total marriages, against 132 per 1000 in the previous year. This proportion was made up of 97 per 1000 that were contracted in the presence of Registrars (against 100 in 1905), and of 33 per 1000 that were contracted in the presence of "Authorised Persons" under the provisions of the Marriage Act of 1898 (against 32 in 1905).

The proportion of Roman Catholic marriages was 42 per 1000, and was slightly above the proportion in the five 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 8·3 per 1000, as compared with 7·6 per 1000 in the previous year. Of the 2139 Jewish marriages contracted in the year 1906 in England and Wales, 1599 or 75 per cent. were registered in London, 186 or 9 per cent. in the City of Manchester, and 120 or 6 per cent. in the City of Leeds. Of the Jewish marriages in London, no fewer than 1354 or 85 per cent. were registered in a group of three registration districts—London City, Whitechapel, and Mile End Old Town.

Civil marriages, that is to say, marriages taking place in the office of a superintendent registrar, steadily increased from an average of 29 per 1000 in the period 1841–1850 to 188 per 1000 in the year 1906.

Among registration counties with populations exceeding 100,000 persons, the highest proportions of marriages solemnized according to the rites of the Established Church, and of those contracted otherwise were as follows :—

Of 1000 Marriages.							
According to Rites of Established Church.		Roman Catholics.		Nonconformists.		Civil Marriages.	
Hertfordshire ..	768	Lancashire ..	105	Carnarvonshire	385	Glamorganshire	459
Oxfordshire ..	765	Durham ..	80	Carmarthenshire	346	Carmarthenshire	449
Suffolk	759	Northumberland	79	Denbighshire ..	330	Carnarvonshire	322
Cambridgeshire ..	758	Cumberland ..	72	Cornwall ..	305	Denbighshire ..	320
Berkshire	751	North Riding ..	71	Monmouthshire	234	Monmouthshire	305
Buckinghamshire	747	Cheshire ..	60	Glamorganshire	222	Northumberland	303
Worcestershire ..	743			Cheshire ..	176	Durham.. ..	270
				Wiltshire ..	174		

Births.

The births registered in the year 1906 numbered 935,081, and were in the proportion of 27·1 per 1000 of the total population of both sexes and all ages; this is the lowest rate recorded since civil registration was established.

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 1906 it was, as already stated, no more than 27·1 per 1000 living. The birth rate calculated in this way was 0·1 per 1000 below that recorded in 1905, and was 1·6 per 1000 below the average in the ten years 1896–1905.

Measuring the Birth-Rate.—The usual plan of measuring the birth-rate by the ratio of births to the population at all ages is of considerable value, inasmuch as it affords, in conjunction with the death-rate, 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 over a long period, because it masks the effect of the changing constitution of the population in regard to age and condition as to marriage.

How important these changes have been in recent years is shown by the following statement, relating to the four last censuses :—

ENGLAND AND WALES.

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.	Of the Married Women aged 15–45 years, the proportion per cent. at four groups of ages.				Persons Married to 1000 Marriage-able Persons in the Population.
			Aged 15–20 years.	Aged 20–25 years.	Aged 25–35 years.	Aged 35–45 years.	
1871	23·1	49·6	1·3	13·9	45·5	39·3	56·9
1881	23·1	49·1	1·1	13·7	45·6	39·6	51·1
1891	23·8	47·1	0·9	12·8	46·0	40·3	49·8
1901	25·0	46·8	0·7	11·8	46·8	40·7	48·6

It is obvious from these figures that the changes in the population, in regard to age, and condition as to marriage, have been so considerable that it is desirable to make a comparison of birth-rates, based not only on the total population, but also on the number of possible mothers.

In Table C on page xxiii the results are shown of calculating the birth-rate based on the following proportions :—

(*a*) Of total births to the total population of both sexes and all ages ;

(*b*) Of total births to the female population aged 15–45 years ;

(*c*) Of legitimate births to the married women aged 15–45 years ; and

(*d*) Of illegitimate births to the unmarried and widowed female population aged 15–45 years.

These calculations have also been illustrated in the accompanying diagrams facing page xxiv, which afford a ready means of gauging the fall in the birth-rate during the past thirty years.

TABLE C.—ENGLAND AND WALES.—BIRTH-RATES, 1876–1906.

Period.	(*a*.) Birth-rate calculated on Total Population at All Ages.		(*b*.) Birth-rate calculated on the Female Population aged 15–45 years.		(*c*.) Legitimate Birth-rate calculated on the Married Female Population aged 15–45 years.		(*d*.) Illegitimate Birth-rate calculated on the Unmarried and Widowed Female Population aged 15–45 years.	
	Rate per 1,000.	Compared with rate in 1876–80 taken as 100.	Rate per 1,000.	Compared with rate in 1876–80 taken as 100.	Rate per 1,000.	Compared with rate in 1876–80 taken as 100.	Rate per 1,000.	Compared with rate in 1876–80 taken as 100.
1876–1880	35·3	**100·0**	153·3	**100·0**	296·3	**100·0**	14·4	**100·0**
1881–1885	33·5	94·9	144·3	94·1	282·4	95·3	13·5	93·8
1886–1890	31·4	89·0	133·4	87·0	267·1	90·1	11·8	81·9
1891–1895	30·5	86·4	126·8	82·7	258·3	87·2	10·1	70·1
1896–1900	29·3	83·0	118·8	77·5	242·9	82·0	9·2	63·9
1901–1905	28·1	79·6	112·5	73·4	230·7	77·9	8·4	58·3
1876 ..	36·3	102·8	157·5	102·7	304·1	102·6	14·6	101·4
1877 ..	36·0	102·0	155·9	101·7	301·1	101·6	14·6	101·4
1878 ..	35·6	100·8	154·5	100·8	298·8	100·8	14·4	100·0
1879 ..	34·7	98·3	150·5	98·2	291·1	98·2	14·2	98·6
1880 ..	34·2	96·9	148·3	96·7	287·0	96·9	14·1	97·9
1881 ..	33·9	96·0	147·0	95·9	284·9	96·2	14·1	97·9
1882 ..	33·8	95·8	145·8	95·1	283·9	95·8	13·8	95·8
1883 ..	33·5	94·9	144·1	94·0	281·9	95·1	13·4	93·1
1884 ..	33·6	95·2	144·2	94·1	283·7	95·7	13·2	91·7
1885 ..	32·9	93·2	140·7	91·8	277·6	93·7	13·0	90·3
1886 ..	32·8	92·9	140·2	91·5	278·0	93·8	12·8	88·9
1887 ..	31·9	90·4	135·5	88·4	269·9	91·1	12·4	86·1
1888 ..	31·2	88·4	132·3	86·3	265·0	89·4	11·7	81·3
1889 ..	31·1	88·1	131·7	85·9	265·1	89·5	11·5	79·9
1890 ..	30·2	85·6	127·6	83·2	258·2	87·1	10·7	74·3
1891 ..	31·4	89·0	132·1	86·2	268·8	90·7	10·6	73·6
1892 ..	30·4	86·1	127·3	83·0	259·3	87·5	10·1	70·1
1893 ..	30·7	87·0	127·9	83·4	260·4	87·9	10·3	71·5
1894 ..	29·6	83·9	122·4	79·8	249·4	84·2	9·9	68·8
1895 ..	30·3	85·8	124·8	81·4	254·5	85·9	9·9	68·8
1896 ..	29·6	83·9	121·5	79·3	247·8	83·6	9·7	67·4
1897 ..	29·6	83·9	120·7	78·7	246·4	83·2	9·5	66·0
1898 ..	29·3	83·0	118·9	77·6	243·0	82·0	9·3	64·6
1899 ..	29·1	82·4	117·7	76·8	241·0	81·3	8·9	61·8
1900 ..	28·7	81·3	115·6	75·4	236·8	79·9	8·6	59·7
1901 ..	28·5	80·7	114·2	74·5	234·2	79·0	8·4	58·3
1902 ..	28·5	80·7	114·1	74·4	234·2	79·0	8·4	58·3
1903 ..	28·4	80·5	113·8	74·2	233·3	78·7	8·4	58·3
1904 ..	27·9	79·0	111·8	72·9	229·1	77·3	8·4	58·3
1905 ..	27·2	77·1	108·9	71·0	223·2	75·3	8·2	56·9
1906 ..	27·1	76·8	108·3	70·6	222·0	74·9	8·1	56·3

Before discussing the figures in Table C on the previous page it should be observed that in the absence of precise information as to the changes in the number and constitution of the population from year to year the estimates of total population at all ages are calculated by geometrical progression, on the assumption that the rate of increase in each intercensal period was maintained regularly throughout the period, and that the estimates for the several sections of the population are based on the further assumption that the proportion which each section bore to the total population changed uniformly during the intercensal period. In view of the necessity of these or similar assumptions the figures for intercensal years are inevitably less accurate than those for years in which censuses were taken.

The registration of births in this country was made compulsory at the beginning of the year 1875, and it may be assumed that since that date birth registration has been fairly complete. As already stated, the birth-rate in England and Wales attained the highest point on record in the year 1876, and for the purpose of measuring the decrease that has since occurred, the mean annual rate in the quinquennial period 1876–1880 has been taken as a standard for comparison. Calculated on the total population the fall in the birth-rate in the period under review amounted to over 23 per cent. Based 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 rate amounted to over 29 per cent. in the same period; while the fertility of married women, based on the ratio of legitimate births to wives of conceptive ages, showed a decrease amounting to over 25 per cent. in the same period. Put in another way, if the fertility of married women in proportion to their numbers had been identical in 1876–80 and in 1906, then the legitimate births would have numbered over 1,198,000 in 1906 instead of the 897,691 actually recorded.

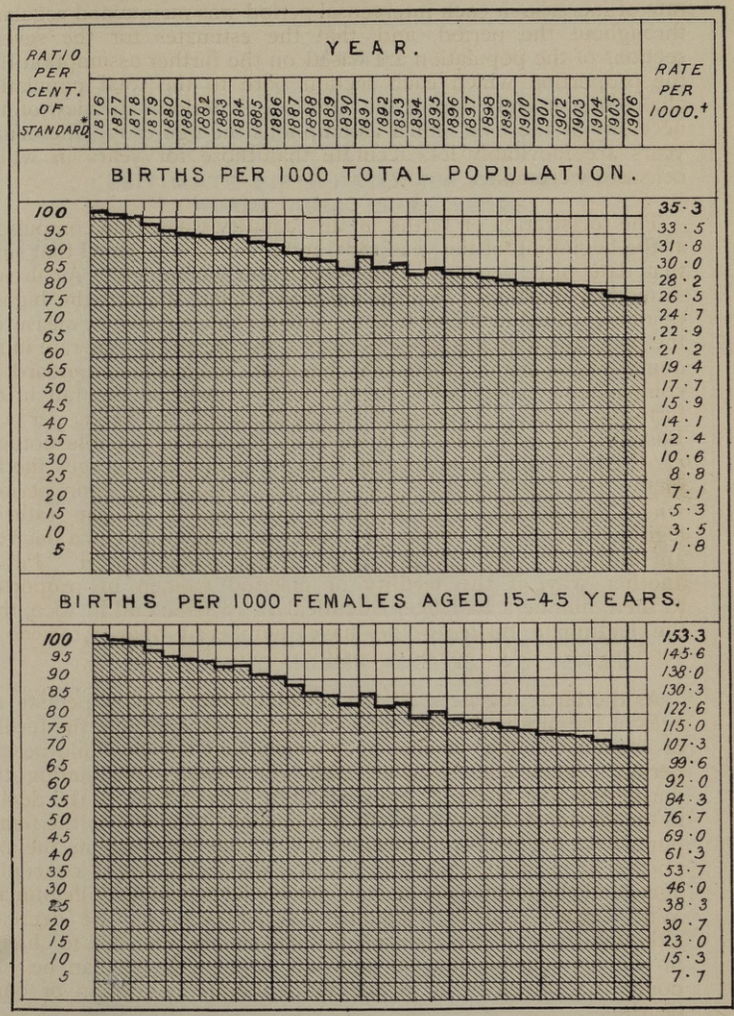
As the birth registers do not afford information respecting the ages of the mothers, there are no means of ascertaining the fertility of women at the several ages comprised in the child-bearing period; there are, however, sufficient grounds for stating that during the past 30 years approximately 15 per 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 that over 7 per cent. is due to the decrease of illegitimacy. With regard to the remaining 78 per cent. of the decrease, although some of the reduced fertility may be ascribed to changes in the age constitution of married women, there can be little doubt that much of it is due to deliberate restriction of child-bearing.

Some of the consequences of the decreasing birth-rate in this country are modified by a decreasing death-rate. But, as stated in the previous Report, the fact is significant that whilst on the one hand, in the years 1880–2 there were no fewer than six European States in which the fertility of wives was less than that in England and Wales; on the other hand, in the years 1900–02, the rate of fertility

ENGLAND & WALES.

BIRTH RATES.

DIAGRAM II.-ANNUAL BIRTH-RATES, 1876-1906.



* *The Standard adopted (see left hand column) is the average rate in the five years 1876–80.*

† *The Rate per 1000 in the top section of the diagram is calculated upon the total population, and that in the bottom section upon the number of females aged 15–45 years (See right hand column).*

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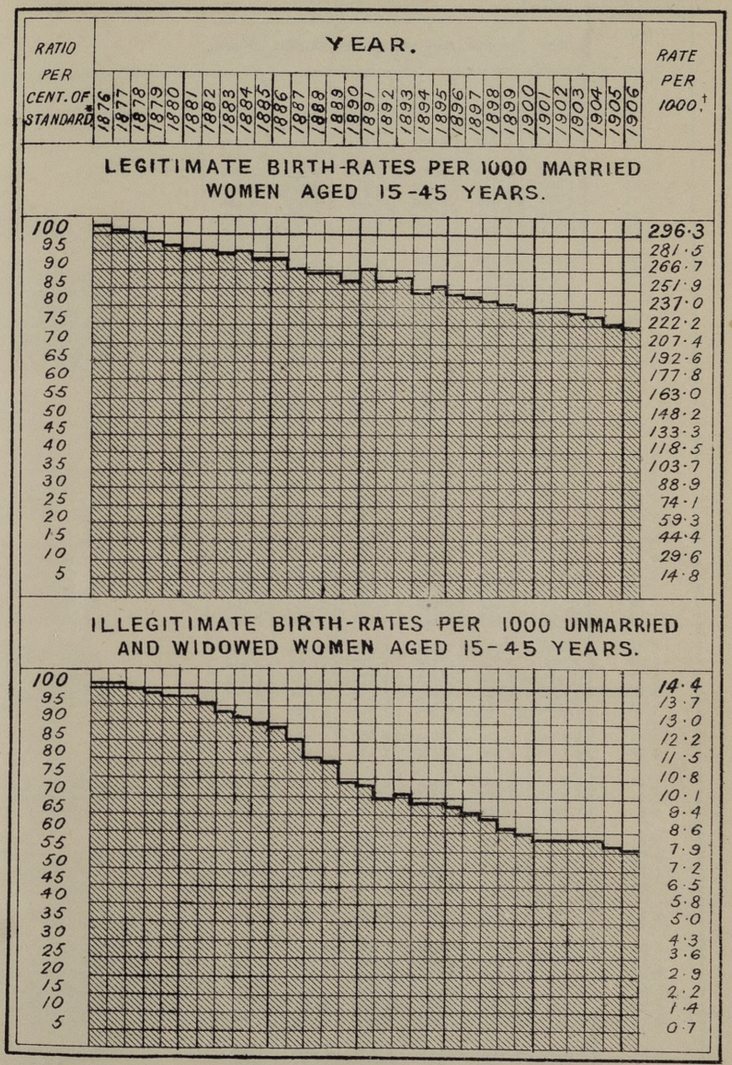
ENGLAND & WALES.

BIRTH-RATES.

DIAGRAM III.—ANNUAL LEGITIMATE AND ILLEGITIMATE BIRTH-RATES, 1876 - 1906.



The Standard adopted (see left hand column) is the average rate in the five years 1876-80.

†*The Rate per 1000 in the top section of the diagram is calculated upon the number of married women aged 15-45 years, and that in the bottom section upon the number of unmarried and widowed women aged 15-45 years. (See right hand column).*

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TABLE D.—MEAN ANNUAL FERTILITY RATES OF MARRIED WOMEN in each REGISTRATION COUNTY, 1870–1906.

Registration Counties	Legitimate Births per 1000 Married Women aged 15–45 years.*						Decrease per cent. in each County between the period 1870-2 and 1903-5.
	Three-year periods.					Year.	
	1870–72.	1880–82.	1890-92.	1900–02.	1903–05.	1906.	
England and Wales . .	292·5	286·0	263·8	235·5	228·5	222·0	21·9
London	269·9	272·6	250·4	227·8	218·2	209·9	19·2
Surrey	285·1	284·3	244·4	208·2	215·4	215·7	24·4
Kent	288·8	287·6	255·6	221·2	214·5	204·4	25·7
Sussex	284·6	279·2	235·9	203·3	194·5	188·7	31·7
Hampshire	272·9	273·9	243·3	211·6	209·4	210·7	23·3
Berkshire	294·5	290·0	257·6	219·0	217·1	206·7	26·3
Middlesex	288·0	293·6	252·3	224·1	231·6	226·3	19·6
Hertfordshire	300·0	291·7	264·0	224·8	224·7	222·6	25·1
Buckinghamshire	299·5	291·9	270·4	230·4	230·8	216·3	22·9
Oxfordshire	295·7	294·7	271·1	228·0	223·5	221·0	24·4
Northamptonshire	297·5	290·6	265·8	222·0	199·2	186·1	33·0
Huntingdonshire	302·3	274·9	262·5	236·0	233·4	241·6	22·8
Bedfordshire	296·0	283·1	256·8	219·1	206·6	213·5	30·2
Cambridgeshire	294·3	276·6	255·0	223·9	220·4	215·1	25·1
Essex	293·7	300·4	270·0	238·5	228·6	217·2	22·2
Suffolk	290·2	293·6	269·5	236·5	231·1	223·4	20·4
Norfolk	273·1	279·3	257·2	229·5	221·1	215·9	19·0
Wiltshire	297·9	291·6	261·3	225·1	225·5	228·1	24·3
Dorsetshire	288·8	286·8	254·7	219·2	220·8	220·9	23·5
Devonshire	284·5	284·5	252·2	208·4	203·9	199·0	28·3
Cornwall	294·0	287·7	262·0	219·6	203·8	197·6	30·7
Somersetshire	293·0	292·0	267·6	221·0	220·0	209·2	24·9
Gloucestershire	285·7	281·5	259·3	224·6	220·0	213·0	23·0
Herefordshire	285·6	279·2	272·3	235·0	231·2	222·1	19·0
Shropshire	302·7	286·8	275·3	257·0	255·1	241·4	15·7
Staffordshire	320·2	311·1	298·7	270·1	256·6	246·7	19·9
Worcestershire	296·6	288·3	268·2	239·0	224·9	217·5	24·2
Warwickshire	291·5	287·3	264·5	243·2	234·6	231·4	19·5
Leicestershire	300·6	295·0	268·4	232·7	217·3	208·0	27·7
Rutlandshire	295·9	297·9	258·5	227·5	217·4	229·1	26·5
Lincolnshire	293·4	284·1	255·3	228·3	223·9	229·6	23·7
Nottinghamshire	285·6	287·8	260·5	242·9	240·6	232·5	15·8
Derbyshire	296·6	293·2	270·8	243·9	235·2	220·4	20·7
Cheshire	292·8	286·0	266·9	230·8	224·2	220·5	23·4
Lancashire	297·1	285·0	264·3	233·7	224·9	219·4	24·3
West Riding	293·0	272·7	249·3	223·0	211·9	203·5	27·7
East Riding	281·9	274·9	258·1	238·7	227·0	221·2	19·5
North Riding	313·6	304·2	274·5	260·4	257·2	259·7	18·0
Durham	324·1	307·9	299·7	282·7	272·5	269·1	15·9
Northumberland	313·0	300·1	290·c	266·8	261·2	250·7	16·5
Cumberland	311·8	309·7	288·6	256·5	254·8	245·6	18·3
Westmorland	305·9	300·2	267·4	218·9	212·3	210·3	30·6
Monmouthshire	304·1	298·7	304·6	283·5	288·7	287·5	5·1
Glamorganshire	313·1	303·4	303·5	274·0	268·9	258·9	14·1
Carmarthenshire	344·1	321·7	309·4	274·9	284·3	284·3	17·4
Pembrokeshire	319·6	320·4	291·9	253·8	259·4	246·2	18·8
Cardiganshire	315·2	296·4	277·3	245·4	242·8	236·0	23·0
Brecknockshire	310·6	296·4	292·1	272·9	276·5	267·1	11·0
Radnorshire	308·6	302·5	282·6	264·2	243·2	188·5	21·2
Montgomeryshire	308·7	292·5	273·2	253·0	250·1	247·1	19·0
Flintshire	310·4	284·0	285·7	246·4	274·7	274·5	11·5
Denbighshire	301·2	289·6	282·8	265·3	259·6	241·5	13·8
Merionethshire	311·0	287·2	255·5	247·7	233·2	221·2	25·0
Carnarvonshire	289·9	271·8	237·2	226·7	215·3	210·2	25·7
Anglesey	277·2	275·1	240·7	224·2	229·0	218·1	17·4

* *See* first paragraph, page xxiv.

among married women in England and Wales was, with the exception of France, lower than that recorded in any other European country.*

Birth-rates in Counties.—Table D, on page xxv, shows for the registration counties of England and Wales the legitimate birth-rates for the last four census periods, for the years 1903–1905, and for the year 1906; also the percentage of decrease between the periods 1870–2 and 1903–5. The rates are based on the proportion of legitimate births to the number of married women aged 15–45 years. It will be observed from this Table that during the year 1906, 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.
Monmouthshire	287·5	London	209·9
Carmarthenshire... ...	284·3	Somersetshire	209·2
Durham	269·1	Leicestershire	208·0
North Riding of Yorkshire	259·7	Berkshire	206·7
Glamorganshire	258·9	Kent	204·4
Northumberland	250·7	West Riding of Yorkshire	203·5
Staffordshire	246·7	Devonshire	199·0
Cumberland	245·6	Cornwall	197·6
Denbighshire	241·5	Sussex	188·7
Shropshire	241·4	Northamptonshire ...	186·1

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, were engaged in coal mining, and that, on the other hand, the low fertility rates were recorded mainly in the manufacturing and agricultural counties. The disparities between the fertility rates in the two lists of counties (*a.* and *b.*) are to some extent due to differences in age constitution of the married women in the respective areas.† According to the last census in nearly all mining counties the proportion of married women at the earlier age groups showed a marked excess,

* See section of this Report dealing with International Birth Statistics, pages lvi and lvii.

† Reference to the Marriage Statistics on page xii shows that the highest proportions of wives under age at marriage are recorded in mining counties.

whereas in the manufacturing counties and particularly in the agricultural counties the reverse was the case, these areas containing a high proportion of married women at the later age groups. The following figures furnish typical examples of the differences in the age constitution of married women in the three groups of counties.

—	Census of 1901. Proportion per cent. of married women aged 15-45 years, 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
Glamorganshire ...	1·1	14·0	48·2	36·7
Northumberland ...	1·0	14·1	47·3	37·6
West Riding	0·7	12·1	47·2	40·0
Leicestershire	0·6	12·0	47·2	40·2
Northamptonshire ...	0·5	11·4	46·7	41·4
Devonshire	0·5	9·8	45·5	44·2
Sussex	0·5	9·5	45·8	44·2
Cornwall	0·5	9·2	45·2	45·1

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. Comparing the rates in the period 1903–5 with those prevailing in 1870–2, it will be observed that the decrease in fertility ranged from 5 per cent. in Monmouthshire, 14 in Denbighshire and in Glamorganshire, and 16 in Shropshire, in Nottinghamshire and in Durham, to as much as 28 per cent. in Leicestershire, in the West Riding of Yorkshire and in Devonshire, 30 in Bedfordshire, 31 in Cornwall, 32 in Sussex, and 33 in Northamptonshire.

Birth-rates in Urban and Rural Districts.—From the Table of birth-rates in the several counties, page xxv, it might be inferred that the fertility of married women is greater in urban than in rural areas. It is, therefore, desirable to institute a more accurate comparison of birth rates in town and country areas than is furnished by selected groups of 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 legitimate births recorded in 21 representative towns containing at the date of the last Census an aggregate population of 9,799,866 persons ; and

(*b*) The legitimate 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 :—

BIRTH-RATES IN URBAN AND RURAL AREAS.

Towns.	Legitimate Births per 1,000 married women aged 15–45 years.		
	Census Years.		
	1881.	1891.	1901.
	Urban.		
London	272·0	256·2	228·4
Brighton	255·3	224·1	198·9
Portsmouth	265·6	239·3	210·7
Norwich	278·3	265·4	230·2
Plymouth	272·3	246·5	207·3
Bristol	280·1	262·4	222·4
Birmingham	285·9	270·6	246·1
Leicester	284·2	258·5	218·1
Nottingham	263·2	225·0	213·3
Liverpool	274·1	268·2	251·2
Manchester	268·5	262·6	220·6
Oldham	263·0	235·9	184·9
Blackburn	290·1	261·9	205·0
Preston	289·0	290·0	243·4
Bradford	245·7	226·6	176·1
Leeds	275·1	258·1	221·7
Sheffield...	273·6	271·7	238·6
Hull	261·2	261·9	251·1
Newcastle-on-Tyne	293·4	288·1	256·4
Cardiff	290·5	272·7	236·7
Rhondda	325·4	342·0	298·9
Aggregate of 21 large towns.	273·3	259·0	228·9
	Rural.		
Aggregate of 112 entirely Rural Registration Districts.	294·5	272·9	244·0

The figures in the Table show the fertility of women living in the country districts as being from 5 to 8 per cent. greater than that of women residing in towns. It must, however, be observed that the continuous migration of young persons from the country has considerably reduced the normal proportion of the younger married women and therefore has reduced the average birth-rate in rural districts. The following statement based on the census returns shows the proportion of married women at three age-groups in the above urban and rural areas. A reasonable inference is that if the proportion of married women under 35 years of age in rural districts were equal to that in urban districts the additional fertility of the former would be still more marked.

Urban.

21 large towns with an aggregate population of 9,799,866 persons at the date of the Census of 1901.

Census year.	Of the married women aged 15–45 years, the proportion per cent. at three groups of ages.		
	15–25.	25–35.	35–45.
1881	15·8	46·5	37·7
1891	14·8	46·6	38·6
1901	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	13·1	43·6	43·3
1891	11·5	44·7	43·8
1901	10·2	44·6	45·2

It might be hastily assumed that the high birth-rates prevailing in the mining districts and in certain urban areas are more effective in the maintenance of population than the moderate birth-rates recorded in rural and other districts ; but such is not always the case. In the last Report the subject was fully discussed, and a series of Tables was published showing the effect of child mortality on the numbers of the population. From those Tables it was deduced that moderate birth-rates associated with low mortality among the children are more effective in the upkeep of population than are high birth-rates associated with excessive child mortality. (See pp. xxvii–xxxii, 68th Annual Report.)

Proportion of Males and Females at Birth.—The births of males numbered 476,939 and the births of females 458,142. The male births were therefore to the female births in the proportion of 1041 to 1000 ; the average proportion in the preceding decennium having been 1036 to 1000. 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.
Cambridgeshire ...	1139	Norfolk	1018
Denbighshire ...	1101	Staffordshire ...	1018
Carmarthenshire ...	1089	Leicestershire ...	1018
Wiltshire	1085	Herefordshire ...	1017
Suffolk	1075	Hertfordshire ...	1014
Cumberland ...	1070	Cornwall	1013

Illegitimate Births.—The births registered during the year 1906 included 897,691 of children born in wedlock, and 37,390 born out of wedlock. The measure of illegitimacy is usually obtained by

TABLE E.—ENGLAND AND WALES.—ILLEGITIMATE BIRTH-RATES, 1876–1906.

Period.	Illegitimate Births.			
	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 1876–80 taken as 100.	Rate per 1000.	Compared with rate in 1876–80 taken as 100.
1876–1880 ...	47·5	100·0	14·4	100·0
1881–1885 ...	48·0	101·1	13·5	93·8
1886–1890 ...	46·3	97·5	11·8	81·9
1891–1895 ...	42·4	89·3	10·1	70·1
1896–1900 ...	41·0	86·3	9·2	63·9
1901–1905 ...	39·5	83·2	8·4	58·3
1876	46·8	98·5	14·6	101·4
1877	47·5	100·0	14·6	101·4
1878	47·2	99·4	14·4	100·0
1879	47·9	100·8	14·2	98·6
1880	48·3	101·7	14·1	97·9
1881	48·8	102·7	14·1	97·9
1882	48·5	102·1	13·8	95·8
1883	47·9	100·8	13·4	93·1
1884	47·1	99·2	13·2	91·7
1885	47·9	100·8	13·0	90·3
1886	47·4	99·8	12·8	88·9
1887	47·5	100·0	12·4	86·1
1888	46·3	97·5	11·7	81·3
1889	45·9	96·6	11·5	79·9
1890	44·2	93·1	10·7	74·3
1891	42·4	89·3	10·6	73·6
1892	41·9	88·2	10·1	70·1
1893	42·5	89·5	10·3	71·5
1894	43·1	90·7	9·9	68·8
1895	42·1	88·6	9·9	68·8
1896	42·3	89·1	9·7	67·4
1897	41·7	87·8	9·5	66·0
1898	41·5	87·4	9·3	64·6
1899	40·0	84·2	8·9	61·8
1900	39·7	83·6	8·6	59·7
1901	38·9	81·9	8·4	58·3
1902	39·0	82·1	8·4	58·3
1903	39·3	82·7	8·4	58·3
1904	39·9	84·0	8·4	58·3
1905	40·2	84·6	8·2	56·9
1906	40·0	84·2	8·1	56·3

taking the proportion of illegitimate births to the total births; this method, though convenient, is defective mainly because it ignores the varying proportions 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. Such ratios 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, are specially liable to error. (See remarks, first paragraph, page xxiv.)

The proportions of illegitimacy in England and Wales in the years 1876–1906 are shown in Table E on page xxx.

Comparing the proportion of illegitimate births in England and Wales in the year 1906 with that recorded in the quinquennial period 1876–80, it will be seen that, based on the standard of total births, the illegitimate rate has decreased by about 16 per cent., whereas if the rate is based on the unmarried and widowed female population of conceptive ages the decrease during the same period has amounted to nearly 44 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 proportions in the first column of the foregoing 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 in which illegitimate births usually occur.

Table F on page xxxii 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 last four census periods, for the years 1903–5, and for the year 1906; also the percentage of decrease between the periods 1870–2 and 1903–5.

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 1906 were as follows:—

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

TABLE F.—MEAN ANNUAL ILLEGITIMATE BIRTH-RATES in each REGISTRATION COUNTY, 1870-1906.

Registration Counties.	Illegitimate Births to 1000 Unmarried and Widowed Females, aged 15-45 years.*						Decrease per cent. in each County between the period 1870-2 and 1903-5.
	Three-year periods.					Year 1906.	
	1870-72.	1880-82.	1890-92.	1900-02.	1903-5.		
England and Wales..	17·0	14·1	10·5	8·5	8·3	8·1	51·2
London	10·3	9·8	8·1	6·9	6·9	6·8	33·0
Surrey	9·5	8·5	6·6	5·9	5·7	5·9	40·0
Kent	14·7	12·1	9·3	7·5	7·6	7·5	48·3
Sussex	13·7	11·5	8·7	7·2	7·0	6·5	48·9
Hampshire	13·6	11·8	8·5	7·3	7·1	6·9	47·8
Berkshire	16·8	13·4	10·3	8·7	8·6	8·1	48·8
Middlesex	9·4	9·4	6·5	5·9	6·0	6·1	36·2
Hertfordshire.. ..	18·4	15·3	10·4	7·0	7·2	6·6	60·9
Buckinghamshire ..	19·0	16·5	12·6	9·1	8·9	7·3	53·2
Oxfordshire	19·0	15·4	10·4	9·0	9·1	9·3	52·1
Northamptonshire ..	18·7	15·9	11·7	9·1	8·8	9·0	52·9
Huntingdonshire ..	19·8	14·0	12·9	10·9	9·7	9·7	51·0
Bedfordshire	21·1	18·0	11·2	8·4	8·0	8·2	62·1
Cambridgeshire ..	19·3	15·6	12·4	9·6	10·1	9·7	47·7
Essex	16·2	12·7	9·1	7·3	7·1	6·7	56·2
Suffolk..	22·0	17·8	14·0	12·0	11·7	12·4	46·8
Norfolk	27·3	22·6	16·7	13·4	13·4	12·5	50·9
Wiltshire	17·1	14·7	10·3	9·2	8·7	8·6	49·1
Dorsetshire	14·2	13·1	9·6	7·2	7·2	8·1	49·3
Devonshire	14·0	10·6	8·1	6·7	6·5	6·7	53·6
Cornwall	16·5	14·8	11·2	8·6	8·1	7·5	50·9
Somersetshire.. ..	13·3	11·3	7·4	6·0	6·0	5·4	54·9
Gloucestershire ..	12·9	11·6	8·2	6·3	6·1	6·8	52·7
Herefordshire.. ..	21·4	19·0	13·4	11·2	11·5	10·3	46·3
Shropshire	28·2	21·8	16·6	12·8	13·4	13·0	52·5
Staffordshire .. .	24·6	19·4	14·5	11·2	11·4	10·9	53·7
Worcestershire ..	16·3	13·7	9·2	7·2	6·8	6·6	58·3
Warwickshire ..	14·9	13·2	9·7	7·6	7·5	6·6	49·7
Leicestershire ..	19·9	16·1	11·4	8·6	7·9	7·5	60·3
Rutlandshire	18·1	12·7	7·9	7·2	6·8	9·0	62·4
Lincolnshire	22·3	18·5	14·2	12·2	12·1	12·7	45·7
Nottinghamshire ..	24·5	21·7	15·4	12·7	12·6	12·0	48·6
Derbyshire	22·5	17·7	12·8	10·0	10·0	10·0	55·6
Cheshire	17·5	14·2	10·3	7·7	7·3	7·2	58·3
Lancashire	16·2	13·6	10·2	7·9	7·8	7·5	51·9
West Riding	20·4	16·1	11·4	9·4	9·2	8·8	54·9
East Riding	23·0	18·2	14·3	12·2	11·7	12·2	49·1
North Riding.. ..	27·7	20·2	15·4	12·1	11·6	11·9	58·1
Durham	24·0	18·0	13·8	11·1	11·1	10·8	53·8
Northumberland ..	21·1	17·9	12·4	10·2	10·0	10·4	52·6
Cumberland	29·2	23·9	18·6	12·3	12·3	12·3	57·9
Westmorland.. ..	21·9	17·9	13·1	8·6	9·1	8·5	58·4
Monmouthshire ..	18·6	15·9	11·3	10·2	9·1	9·6	51·1
South Wales :—							
Glamorganshire ..	17·7	13·5	10·3	8·5	9·1	8·9	48·6
Carmarthenshire ..	18·2	13·9	9·4	7·7	8·2	7·7	54·9
Pembrokeshire ..	21·6	15·9	12·4	8·9	10·2	10·7	52·8
Cardiganshire ..	16·0	14·8	11·8	8·9	7·8	6·3	51·3
Brecknockshire ..	19·9	18·0	12·5	10·1	9·2	9·2	53·8
Radnorshire ..	41·8	33·2	20·1	14·4	13·4	8·3	67·9
North Wales :—							
Montgomeryshire..	29·5	24·3	16·7	13·1	13·4	12·6	54·6
Flintshire	18·7	18·4	13·1	9·7	11·2	11·9	40·1
Denbighshire ..	21·1	17·6	13·4	12·3	11·6	13·5	45·0
Merionethshire ..	24·4	19·5	16·4	13·5	13·4	13·2	45·1
Carnarvonshire ..	18·3	13·9	12·7	10·3	9·6	9·4	47·5
Anglesey	19·7	16·7	15·7	16·1	14·9	13·3	24·4

* See remarks, para. 1, page xxiv.

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 a high 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.

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 fell 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 years 1901, 1902 and 1903, the annual rate of natural increase began to rise again, due to the death-rate having declined more rapidly than the birth-rate, but in the succeeding years this tendency was not maintained.

—	Mean Annual Birth-rate per 1000 living.	Mean Annual Death-rate per 1000 living.	Mean 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
1901	28·50	16·91	11·59
1902	28·50	16·23	12·27
1903	28·41	15·42	12·99
1904	27·92	16·24	11·68
1905	27·21	15·23	11·98
1906	27·07	15·38	11·69

DEATHS.

The deaths registered in England and Wales during the year 1906 numbered 531,281, and were in the proportion of 15·4 per 1000 of the population at all ages. Although the rate showed an increase of 0·2 per 1000 upon the unprecedentedly low rate of 1905, it was 1·4 per 1000 below the mean rate in the ten years 1896–1905.

Sex.—The 531,281 deaths registered in the year under notice included 274,233 of males, and 257,048 of females. The death-rate of males was 16·4, and that of females 14·4 per 1000 living of each sex respectively. Compared with the average rates in the

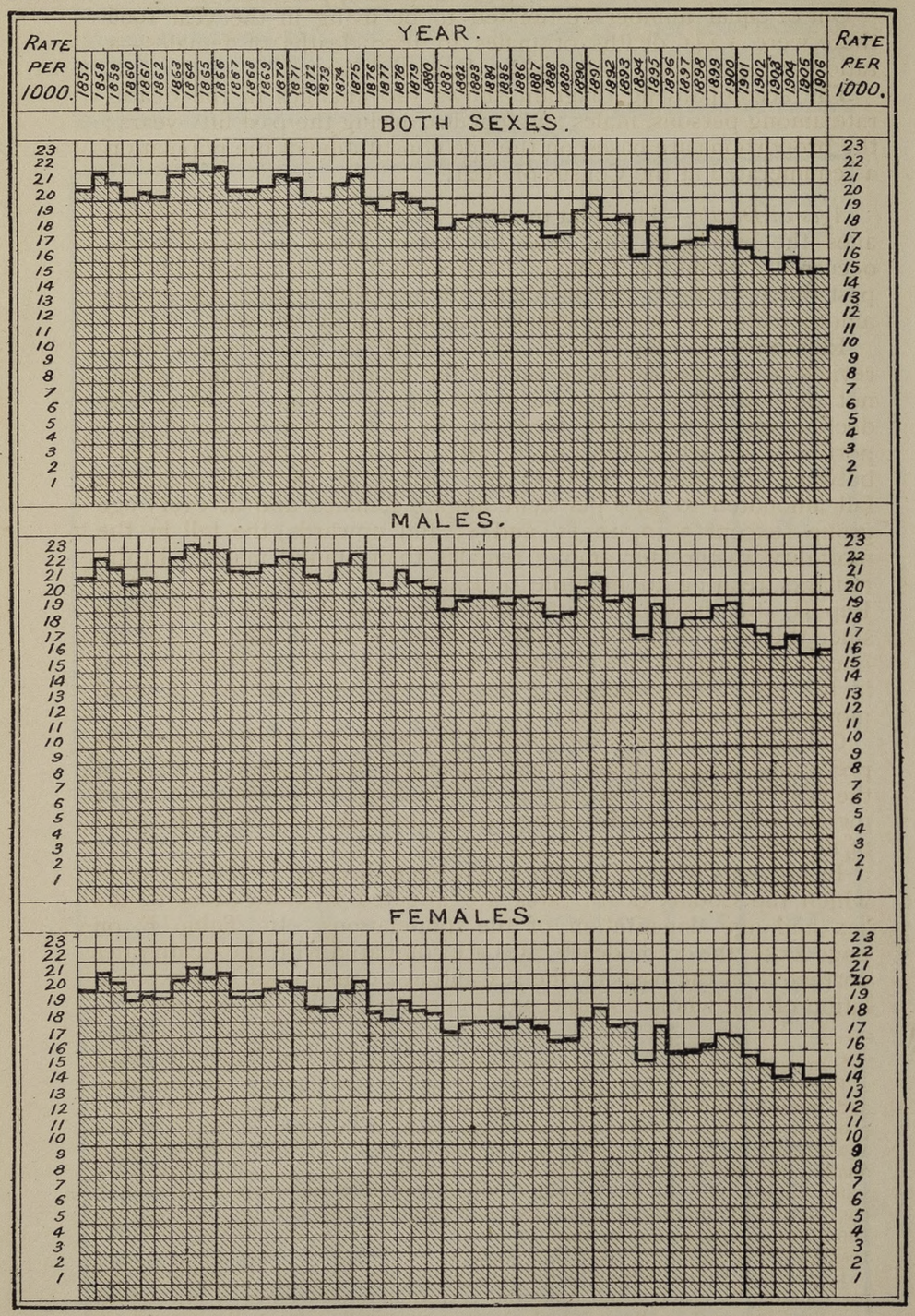
ENGLAND AND WALES.—ANNUAL DEATH-RATES PER 1000 LIVING AT TWELVE AGE-PERIODS, 1876–1906.

Ages.	1876–1880.	1881–1885.	1886–1890.	1891–1895.	1896–1900.	1901–1905.	1905.	Decrease per cent. in 1901–05 compared with 1876–80.
Males.								
All ages*	21·0	19·7	19·6	19·6	18·8	17·1	16·4	18·6
0—5	57·0	61·3	61·9	62·9	62·4	53·8	49·3	19·7
5—10	6·3	5·8	4·9	4·5	4·1	3·6	3·4	42·9
10—15	3·4	3·2	2·8	2·6	2·3	2·1	2·0	38·2
15—20	4·9	4·5	4·1	4·0	3·6	3·2	3·0	34·7
20—25	6·7	6·0	5·5	5·2	4·9	4·3	3·9	35·8
25—35	8·7	8·2	7·4	7·1	6·5	5·9	5·6	32·2
35—45	13·4	12·8	12·0	12·0	11·1	9·9	9·5	26·1
45—55	19·8	19·3	19·4	19·6	18·3	17·3	16·8	12·6
55—65	34·9	34·2	35·2	35·9	34·1	32·9	33·2	5·7
65—75	69·4	68·7	72·1	72·5	68·3	67·2	68·7	3·2
75–85	152·2	145·4	147·9	149·3	142·9	137·4	136·9	9·7
85 and upwards..	331·6	297·8	313·8	291·0	282·6	283·0	319·5	14·7
Females.								
All ages*	18·7	17·8	17·5	17·5	16·5	15·0	14·4	19·8
0—5	56·8	51·9	52·0	52·8	52·7	44·9	41·2	21·0
5—10	5·9	5·7	4·9	4·6	4·2	3·7	3·6	37·3
10—15	3·5	3·3	2·9	2·8	2·4	2·2	2·2	37·1
15—20	5·0	4·7	4·1	4·0	3·3	3·0	2·7	40·0
20—25	6·2	5·9	5·2	4·8	4·1	3·6	3·3	41·9
25—35	8·0	7·9	6·9	6·6	5·6	5·0	4·7	37·5
35—45	11·2	11·0	10·3	10·2	9·1	8·2	7·8	26·8
45—55	15·4	15·2	15·0	15·2	14·3	13·3	13·0	13·6
55—65	28·6	28·1	28·8	29·5	27·4	25·7	25·3	10·1
65—75	60·8	59·0	61·7	63·1	58·4	56·4	56·1	7·2
75—85	135·5	128·9	132·3	134·4	126·8	121·5	123·2	10·3
85 and upwards..	299·0	265·4	276·2	264·2	258·5	261·3	287·4	12·6

* The death-rates at all ages are based on the age constitution of the population prevailing at the Census of 1901,

ENGLAND & WALES.
DEATH-RATES.

DIAGRAM IV.—ENGLAND & WALES 1857-1906. ANNUAL DEATH-RATES FROM ALL CAUSES PER 1000 LIVING AT ALL AGES, CORRECTED FOR VARIATIONS OF AGE CONSTITUTION.



Note :- The death-rates throughout the entire period are based upon the age constitution of the population as enumerated in 1901.

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ten years 1896–1905 the male rate showed a decrease of 1·5 per 1000, and the female rate a decrease of 1·4 per 1000.

Out of equal numbers estimated to be living in the year 1906 there were 1,141 deaths of males to 1000 deaths of females—a ratio corresponding closely to the decennial average.

The accompanying diagram shows the changes in the death-rate among persons, males and females, during the past fifty years ; the proportions are based on the age constitution of the population as enumerated at the Census of 1901.

Ages at Death.—The next question that presents itself is at what ages the saving of life, that has taken place in recent years, occurred. From the Table on page xxxiv the changes during the past thirty years in the incidence of mortality at each age group, among males and among females, can be readily followed.

Reference to the Table shows that in the period under review a very considerable fall in the mortality has taken place, not only at all ages, but at every separate stage of life. The decline was not shared, however, by both sexes in equal proportions ; for while the rate at all ages among males decreased between the periods 1876–80 and 1901–5 by 18·6 per cent., the fall amounted to 19·8 per cent. among females, and at every age group (except 5–10, 10–15, and 85 and upwards) the fall in the mortality was greater among females than among males. In the remarks relating to infantile mortality in a later section of this Report, attention is drawn to the general fall that has taken place since the year 1899 in the proportion of deaths of children under one year of age to the numbers of births, and it is significant that in the last quinquennium a decline has also occurred in child mortality at ages 1–5 years.

Comparing the rates recorded in the year 1906 with those in the preceding quinquennium it will be noted that, except at a few of the later age groups the figures for which are of doubtful accuracy owing to mis-statements of age, a fall has taken place in the rates of mortality at nearly every age group.

In previous Reports attention has been directed to the degree in which the County death rates are affected by differences in the sex and age constitution of the populations. In Table F. on page xxxvi the crude death rates are compared with the death rates corrected on the basis of the sex and age constitution of the population of the whole country, as enumerated at the last census.*

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* In recent Annual Reports attention has been drawn to the modifying effects of the steady decrease in the Birth Rate on the age constitution of the population and consequently on the rate of mortality. The crude death-rate, that is the proportion borne by deaths from all causes to each thousand of the population at all ages is a fairly trustworthy test of relative mortality when comparing the death rates year by year for the whole country, or for the same district ; but when comparisons for an extended period are made, or when one district is compared with another, comparisons of crude death rates may be erroneous, and should be supplemented by rates in which the sex and age distribution of the respective populations is taken into account.

In the last Annual Report a full description was given of two methods used for applying to crude death rates, the correction for difference of sex and age constitution ; (1) the "direct" method (when the death rates at the several age groups are known) used in the Annual Reports (2) the "indirect" method (when the death rates at the several age groups are not known) used in the Annual Summaries.

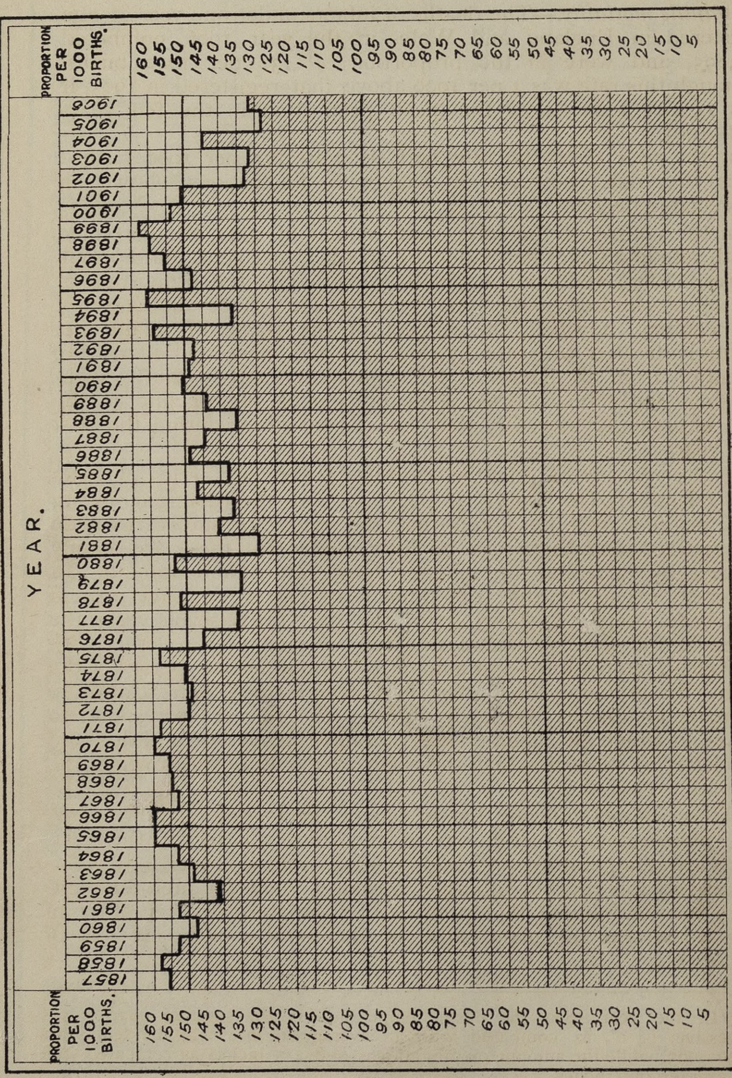
TABLE F.—ENGLAND and WALES: COMPARISON of DEATH-RATES in REGISTRATION COUNTIES BEFORE and AFTER CORRECTION for DIFFERENCES of SEX and AGE-CONSTITUTION, 1906.

Registration County.	Before Correction.	After Correction.	Increase or Decrease of Death-rate due to Correction.
England and Wales ...	15·4	15·4	—
London	15·4	16·1	+ 0·7
Surrey	13·6	13·7	+ 0·1
Kent	13·1	12·6	— 0·5
Sussex	13·3	12·1	— 1·2
Hampshire	13·8	13·0	— 0·8
Berkshire	13·1	11·9	— 1·2
Middlesex	12·9	13·5	+ 0·6
Hertfordshire	13·9	12·6	— 1·3
Buckinghamshire	13·2	11·6	— 1·6
Oxfordshire	14·0	11·8	— 2·2
Northamptonshire	12·1	11·3	— 0·8
Huntingdonshire	15·5	11·8	— 3·7
Bedfordshire	14·8	13·4	— 1·4
Cambridgeshire	14·5	12·3	— 2·2
Essex	13·3	13·3	—
Suffolk	14·6	12·2	— 2·4
Norfolk	15·4	12·8	— 2·6
Wiltshire	14·0	12·0	— 2·0
Dorsetshire	13·9	12·0	— 1·9
Devonshire	14·7	13·1	— 1·6
Cornwall	14·6	12·3	— 2·3
Somersetshire	13·7	11·6	— 2·1
Gloucestershire	14·4	13·5	— 0·9
Herefordshire	14·5	11·9	— 2·6
Shropshire	14·8	12·6	— 2·2
Staffordshire...	15·8	16·2	+ 0·4
Worcestershire	13·8	13·4	— 0·4
Warwickshire	16·4	16·6	+ 0·2
Leicestershire	14·1	13·9	— 0·2
Rutlandshire...	14·3	11·7	— 2·6
Lincolnshire...	15·1	13·4	— 1·7
Nottinghamshire	15·2	15·2	—
Derbyshire	14·0	14·3	+ 0·3
Cheshire	15·4	16·0	+ 0·6
Lancashire	17·6	19·4	+ 1·8
West Riding of Yorkshire...	15·9	17·0	+ 1·1
East Riding of Yorkshire ...	16·0	15·6	— 0·4
North Riding of Yorkshire	17·4	16·8	— 0·6
Durham	17·5	18·2	+ 0·7
Northumberland	17·0	17·6	+ 0·6
Cumberland	15·9	15·6	— 0·3
Westmorland	13·1	11·7	— 1·4
Monmouthshire	16·3	16·3	—
South Wales...	16·1	16·4	+ 0·3
Glamorganshire	16·1	17·3	+ 1·2
Carmarthenshire... ...	15·8	15·2	— 0·6
Pembrokeshire	15·6	13·9	— 1·7
Cardiganshire	17·2	14·1	— 3·1
Brecknockshire	16·7	14·9	— 1·8
Radnorshire	11·1	9·7	— 1·4
North Wales...	16·3	14·8	— 1·5
Montgomeryshire ...	14·9	12·0	— 2·9
Flintshire	16·1	14·7	— 1·4
Denbighshire	17·2	16·2	— 1·0
Merionethshire	16·5	14·9	— 1·6
Carnarvonshire	15·7	14·6	— 1·1
Anglesey	18·5	15·7	— 2·8

ENGLAND & WALES.

Infantile Mortality.

Diagram V. – Annual Deaths of Children under One Year of age per 1000 Births, 1857–1906.



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It thus appears that correction has increased the death rate during the year 1906 in 12 counties, but diminished it in forty others.

Tables 18 and 19 give the death rates at various ages for males and females separately in each of the Registration Counties of England and Wales, and thus illustrate the variations of sex and age mortality in different parts of the country. Further remarks on age mortality will be found in Dr. Tatham's letter to me on page lxxiii.

Infantile mortality.—The deaths of infants under one year of age registered in England and Wales in the year 1906, numbered 123,895, and were in the proportion of 132 per 1000 births. Although this rate was 4 per 1000 above that registered in 1905, it was 15 per 1000 below the mean proportion in the ten years 1896–1905.

In the year 1899* the rate had risen to 163 per 1000 births; since that date, however, it has, with fluctuations, shown an appreciable decline.

In the course of the forty years ended in 1900, the corrected death rate at all ages had fallen by about 15 per cent., but no such corresponding reduction could be recorded in the proportion of deaths of children under one year of age; since the close of the century, however, the subject of the waste of infant life, formerly treated with apathy, has received close and increasing attention from all classes of the community, and to this awakening may fairly be ascribed some portion of the decline in the rate of infantile mortality that has taken place during the past few years.

If the records of infantile mortality for a long series of years are examined (*see* Table 3, page 5, and the diagram facing this page) it will be noted that the rates are subject to wide fluctuations, and there can be little doubt that these are mainly caused by variations of summer temperature and rainfall. In order to exemplify this, the tabular statement on page xxxviii has been prepared, showing for the past thirty-seven years the rates in the third or summer quarter of each year, together with the mean temperature and amount of rainfall in that period of the year. By grouping the highest and lowest rates their relation to climatic conditions is clearly shown; the former correspond to years in which the summers were comparatively hot and dry, and the latter to years in which the earth temperature was low and the rainfall excessive.

These figures indicate that in ten of the 37 years under review, the meteorological conditions in the third quarter of the year, viz., low temperature and high rainfall were conducive to comparatively low rates of infantile mortality, while the high temperature and low rainfall that prevailed in the third quarter of 11 of the years was the main cause of the greatly increased loss of infant life.

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* In the year 1899, the mean temperature in the summer quarter was excessive, 64·0°, as compared with an average of 61·7° in the ten years 1896–1905, while the amount of rainfall was only 4·3 inches as compared with an average of 6 inches.

ENGLAND and WALES.—INFANTILE MORTALITY, Temperature and Rainfall in the THIRD QUARTER of the years 1870–1906.

Year.	Deaths of Infants under one year to 1000 Births.	Observations at Greenwich.		Year.	Deaths of Infants under one year to 1000 Births.	Observations at Greenwich.	
		Mean Temperature of earth at depth of 3 feet 2 inches.	Amount of Rainfall.			Mean Temperature of earth at depth of 3 feet 2 inches.	Amount of Rainfall.
		°	Inches.			°	Inches.
1870	200	61·5	5·7	1890	160	60·4	7·7
1871	194	62·8	8·2	1891	146	60·2	7·9
1872	182	63·0	6·5	1892	150	60·6	6·6
1873	173	62·4	7·6	1893	214	63·1	5·9
1874	174	62·2	6·2	1894	134	60·7	7·5
1875	176	61·7	10·3	1895	201	62·3	6·5
1876	172	62·6	5·3	1896	178	62·2	8·7
1877	138	61·6	6·4	1897	213	62·2	6·3
1878	185	63·1	6·5	1898	225	62·0	2·5
1879	115	59·4	11·7	1899	255	64·0	4·3
1880	195	62·0	8·8	1900	188	61·3	4·6
1881	138	61·3	8·2	1901	208	62·0	5·1
1882	150	60·3	6·0	1902	125	59·6	5·7
1883	142	61·0	6·5	1903	133	60·2	12·3
1884	191	63·1	4·5	1904	190	61·4	4·8
1885	141	61·5	5·6	1905	155	61·6	5·8
1886	180	62·3	4·9	1906	176	62·0	3·8
1887	175	63·0	5·9				
1888	135	59·3	11·2				
1889	166	61·9	5·6				

SUMMARY.

Deaths of Children under one year to 1000 Births in the **Third** Quarter of the Year.				Observations at Greenwich.	
				Mean Temperature of Earth at depth of 3 ft. 2 ins.	Mean Rainfall.
Proportions ranging from	115 to 146 (10 years).	Average in 10 years	135	° 60·5	Inches. 8·3
Proportions ranging from	150 to 188 (16 years).	Average in 16 years	171	61·9	6·4
Proportions ranging from	190 to 255 (11 years).	Average in 11 years	208	62·4	5·7

The next table shows that large variations in the rates are confined almost exclusively to the third quarter of the year, and it is satisfactory to note that, notwithstanding the high temperature and deficient rainfall in the year 1906, infantile mortality in comparison with the decennial average showed a reduction of 10 per cent., the reduction ranging from 6 per cent. in the third quarter and 9 per cent. in the first quarter, to 12½ and 14 per cent. in the fourth and second quarters respectively.

Year.	Deaths of Children under one year to 1,000 Births.					Observations at Greenwich—Third Quarter of each Year.	
	Complete Year.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Mean Temperature of Earth at depth of 3 ft. 2 ins.	Amount of Rainfall.
						°	Inches.
1896... ...	148	143	124	178	146	62·2	8·7
1897... ...	156	141	124	213	145	62·2	6·3
1898... ...	160	141	123	225	153	62·0	2·5
1899... ...	163	137	116	255	145	64·0	4·3
1900... ...	154	148	131	188	151	61·3	4·6
1901... ...	151	137	118	208	142	62·0	5·1
1902... ...	133	140	120	125	149	59·6	5·7
1903... ...	132	131	110	133	154	60·2	12·3
1904... ...	145	143	113	190	136	61·4	4·8
1905... ...	128	132	106	155	120	61·6	5·8
Average in 10 years, 1896–1905.	147	139	118	187	144	61·7	6·0
1906... ...	132	126	102	176	126	62·0	3·8

It is well known that the mortality in the first year of life is not uniformly distributed over that period, about one-half the deaths occurring in the first three months; it is therefore desirable to ascertain whether the improvement that has been noted in the general rate has extended to the first trimester. From the subjoined figures it will be seen that in the last quinquennial period a moderate fall took place in the mortality at each of the age groups, 0–3 months, 3–6 months, and 6–12 months, and this decline continued in the year 1906.

Quinquennial Period.	Proportion of Infantile Deaths to 1,000 Births.			
	Under one Year.	Months.		
		0–3.	3–6.	6–12.
1891–1895	151	74	31	46
1896–1900	156	74	34	48
1901–1905	138	70	28	40
1906	132	67	27	38

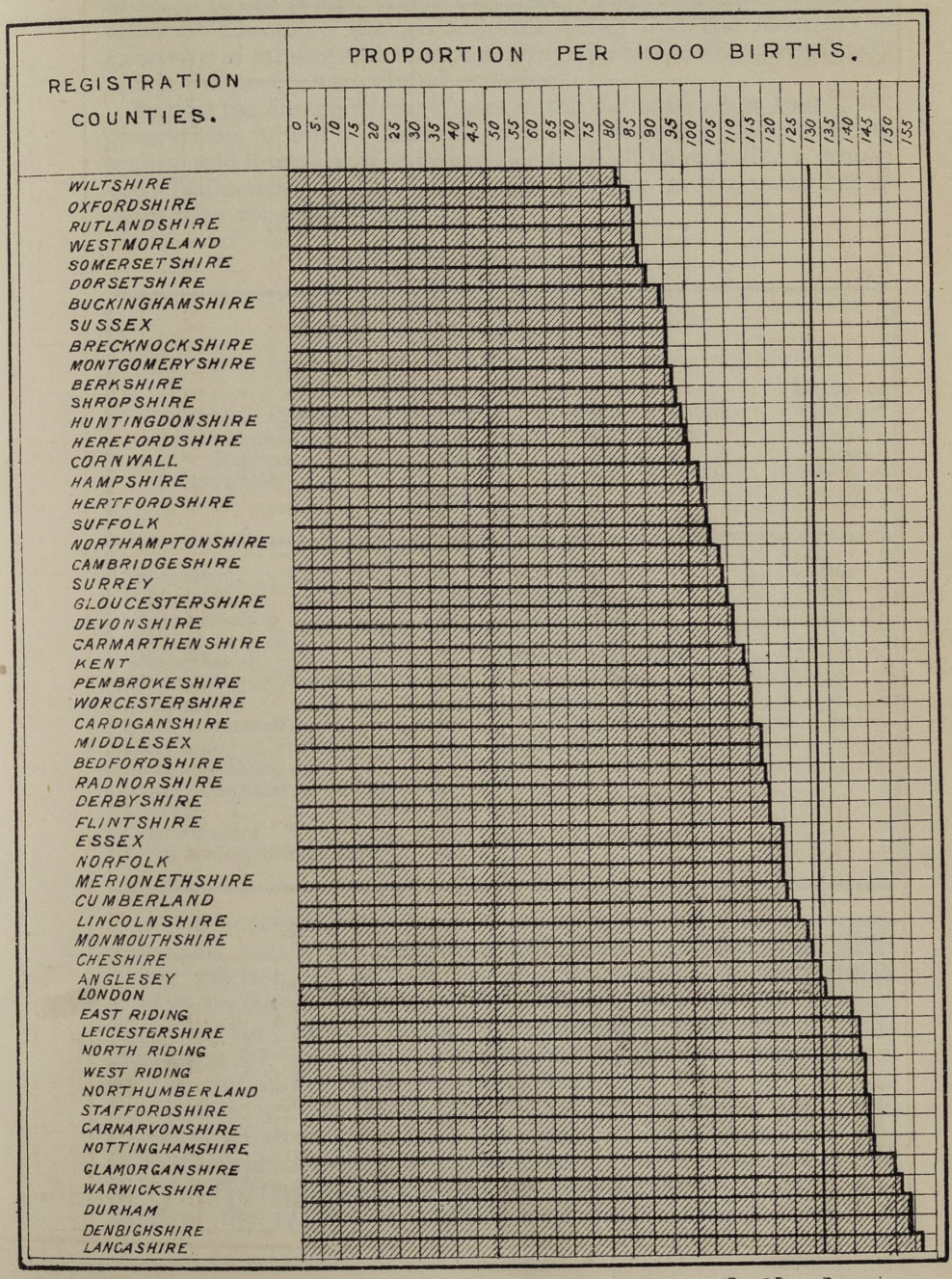
TABLE G.—INFANTILE MORTALITY RATES in each REGISTRATION COUNTY in QUINQUENNIAL PERIODS 1871–1905, and in the YEAR 1906.

Registration Counties.	Deaths of Children under 1 year to 1000 Births.								Increase (+) or Decrease (−) per cent. in each County in the 30 years 1871–75 to 1901–05.
	Quinquennial Periods.							Year 1906.	
	1871–75.	1876–80.	1881–85.	1886–90.	1891–95.	1896–1900.	1901–05.		
England and Wales	153	145	139	145	151	156	138	132	− 9·8
London	161	154	150	154	156	163	140	133	−13·0
Surrey	115	115	110	109	116	127	105	109	− 8·7
Kent	124	123	114	119	123	135	118	114	− 4·8
Sussex	116	114	107	111	115	121	101	96	−12·9
Hampshire ..	116	116	108	116	122	132	110	103	− 5·2
Berkshire	119	117	102	108	110	118	101	97	−15·1
Middlesex	135	130	127	130	130	146	121	118	−10·4
Hertfordshire ..	128	115	108	107	109	111	92	104	−28·1
Buckinghamshire	129	129	115	117	113	114	98	94	−24·0
Oxfordshire ..	132	125	109	116	114	113	99	87	−25·0
Northamptonshire	152	141	129	134	134	132	115	105	−24·3
Huntingdonshire	127	121	107	106	120	116	95	99	−25·2
Bedfordshire ..	148	146	130	131	124	128	106	118	−28·4
Cambridgeshire ..	136	135	120	123	124	124	107	108	−21·3
Essex	126	125	124	128	132	150	127	123	+ 0·8
Suffolk	126	123	112	116	121	121	111	105	−11·9
Norfolk	152	147	131	138	141	143	128	123	−15·8
Wiltshire	111	108	101	104	103	102	91	84	−18·0
Dorsetshire ..	108	107	97	96	100	103	92	91	−14·8
Devonshire ..	124	126	116	125	128	134	118	112	− 4·8
Cornwall	145	145	133	142	144	137	117	101	−19·3
Somersetshire ..	122	119	110	110	114	115	95	89	−22·1
Gloucestershire ..	135	135	123	125	132	131	114	110	−15·6
Herefordshire ..	113	117	104	114	115	108	101	100	−10·6
Shropshire	125	124	114	120	115	114	105	98	−16·0
Staffordshire ..	164	155	152	160	168	176	151	144	− 7·9
Worcestershire ..	143	135	129	139	141	141	124	116	−13·3
Warwickshire ..	167	152	145	154	160	178	152	152	− 9·0
Leicestershire ..	183	169	161	168	167	161	140	142	−23·5
Rutlandshire ..	121	120	110	113	113	108	97	88	−19·8
Lincolnshire ..	140	135	127	136	141	144	131	127	− 6·4
Nottinghamshire	169	159	154	155	156	170	153	145	− 9·5
Derbyshire ..	145	137	131	138	144	148	133	120	− 8·3
Cheshire	148	140	137	146	155	157	138	130	− 6·8
Lancashire ..	179	165	161	170	177	181	161	157	−10·1
West Riding ..	176	158	152	160	164	165	152	143	−13·6
East Riding (with York).	169	156	147	152	164	168	149	140	−11·8
North Riding ..	146	135	132	138	144	149	140	142	− 4·1
Durham	178	153	150	154	166	169	158	154	−11·2
Northumberland ..	163	142	139	146	155	167	151	143	− 7·4
Cumberland ..	143	131	120	125	128	132	127	124	−11·2
Westmorland ..	106	107	102	99	109	104	89	88	−16·0
Monmouthshire ..	138	133	132	148	149	154	142	129	+ 2·9
South Wales ..	135	129	132	147	162	163	151	141	+11·9
Glamorganshire	150	138	143	159	173	175	158	150	+ 5·3
Carmarthenshire	120	117	115	124	141	143	142	112	+18·3
Pembrokeshire	112	115	111	120	124	122	116	115	+ 3·6
Cardiganshire	95	99	93	100	120	119	119	116	+25·3
Brecknockshire	124	128	124	137	140	134	124	96	—
Radnorshire	101	124	115	113	125	114	103	119	+ 4·0
North Wales ..	123	126	117	120	130	139	127	134	+ 3·3
Montgomeryshire	110	111	104	108	106	114	103	96	− 6·4
Flintshire ..	130	120	106	112	120	126	101	120	−22·3
Denbighshire	132	134	123	131	139	153	136	154	+ 3·0
Merionethshire	119	129	120	122	141	152	130	123	+ 9·2
Carnarvonshire	126	132	122	118	135	138	136	144	+ 7·9
Anglesey ..	109	114	113	120	115	128	131	132	+20·2

REGISTRATION COUNTIES.

INFANTILE MORTALITY.

DIAGRAM VI.—DEATHS OF CHILDREN UNDER ONE YEAR OF AGE PER 1000 BIRTHS IN EACH REGISTRATION COUNTY: 1906.



Note:—The thick vertical line marks the rate of Infantile Mortality in England and Wales as a whole during the year.

The accompanying diagram shows the relative incidence of infantile mortality in the several registration counties in the year 1906 ; and if a reference is made to Table G. on page xl it will be seen that the improvement in the rate of infantile mortality in the year under review as compared with the average rate in the preceding quinquennium, was shared by nearly all parts of the country. Of the 43 English Registration Counties no fewer than 35 showed a reduced rate, and similarly a reduction was recorded in seven of the twelve Welsh Counties. The rates differ widely in different counties ; the general rule being that the mortality is excessive in mining and manufacturing counties, and comparatively low in the purely agricultural counties.

Taking the annual average rates in the quinquennium 1901–5 for comparison, it will be observed from the foregoing Table that the highest and lowest proportions of deaths of children under 1 year to 1000 births were as follows, among counties with populations of more than 100,000 persons :—

ANNUAL AVERAGE RATES 1901–5.

A.		B.	
Registration Counties with Highest Rates of Infantile Mortality.	Deaths of Children under 1 year per 1000 Births.	Registration Counties with Lowest Rates of Infantile Mortality.	Deaths of Children under 1 year per 1000 Births.
Lancashire...	161	Sussex	101
Durham	158	Berkshire	101
Glamorganshire	158	Herefordshire	101
Nottinghamshire	153	Oxfordshire	99
Warwickshire	152	Buckinghamshire... ...	98
West Riding of Yorkshire	152	Somersetshire	95
Staffordshire	151	Dorsetshire	92
Northumberland	151	Hertfordshire	92
East Riding of Yorkshire	149	Wiltshire	91
Monmouthshire	142		
Carmarthenshire	142		
London	140		
Leicestershire	140		
North Riding of Yorkshire	140		

If the average proportions of infantile mortality in the quinquennium 1901–5 are compared with those recorded thirty years earlier (1871–5) it will be noted that, subject to fluctuations, a considerable improvement has taken place in the English Counties, for, except Essex and Monmouthshire, all of them showed a fall in the rate of mortality ; the decrease ranging from 4·1 per cent. in the North Riding of Yorkshire, 4·8 in Kent and in Devonshire, 5·2 in Hampshire, 6·4 in Lincolnshire, and 6·8 in Cheshire, to as much as 24·0 per cent. in Buckinghamshire, 24·3 in Northamptonshire, 25·0 in Oxfordshire, 25·2 in Huntingdonshire, 28·1 in Hertfordshire, and 28·4 in Bedfordshire. On the other hand, of the 12 Welsh Counties no fewer than nine showed an

increase in the infantile mortality rate in the thirty years under review.

It has been frequently pointed out that those divisions of the country that comprise the districts of the mining, textile, and pottery industries, show very badly in the Tables of Infantile Mortality; not only are the rates excessive in many of the large boroughs of these districts, but they are equally so in the majority of the smaller towns.

The following lists show the towns with the highest and lowest average annual rates of infantile mortality in the quinquennial period 1902–6 :—

LIST A.—TOWNS WITH HIGH RATES OF INFANTILE MORTALITY.

TOWNS.	Population Census 1901.	Proportion per cent. of persons living more than two in a room. 1901.	Average Birth-rate 1902–6.	Average Infantile Mortality rate 1902–6.
Staffordshire—				
Bilston	24,034	12·5	37·4†	197†
Burslem	38,766	2·7	34·9	189
Fenton	22,742	4·6	36·0†	178†
Hanley*	62,226	3·8	34·3	183
Longton	35,815	6·6	36·8	209
Tunstall*	24,709	4·2	38·0†	205†
Worcestershire—				
Oldbury	25,191	12·3	36·4	171
Lincolnshire—				
Grimsby	63,138	1·9	29·5	170
Derbyshire—				
Ilkeston	25,384	3·7	38·9	174
Cheshire—				
Hyde	32,766	5·9	24·0	185
Stalybridge	27,673	6·7	25·0	193
Stockport*	92,832	5·0	27·5	184
Lancashire—				
Ashton-under-Lyne ...	43,890	5·1	26·5	170
Burnley	97,043	7·1	27·4	202
Farnworth	25,925	5·7	27·3	220
Gorton	26,564	4·6	34·8	174
Ince in Makerfield ...	21,262	17·6	37·4†	202†
Leigh	40,001	3·8	31·8	179
Preston	112,989	2·6	28·9	178
Radcliffe	25,368	6·4	23·6	173
Swinton and Pendlebury	27,005	7·3	30·8	173
Wigan*	82,428	13·4	35·1	170
Yorkshire—				
Barnsley	41,086	9·6	35·2	173
Batley	30,321	20·7	27·2	188
Middlesbrough	91,302	10·9	35·9	175
Monmouthshire—				
Abertillery	21,945	7·7	42·5†	179†
Glamorganshire—				
Aberdare	43,365	5·8	35·1	198
Merthyr Tydfil	69,228	12·2	38·1	179
Mountain Ash	31,093	3·1	41·2	174
Rhondda	113,735	5·0	39·4	180

* Boundaries altered since the Census of 1901.
† Average for three years, 1904–6.

LIST B.—TOWNS WITH LOW RATES OF INFANTILE MORTALITY.

TOWNS.	Population Census 1901.	Proportion per cent. of persons living more than two in a room. 1901.	Average Birth-rate 1902–6.	Average Infantile Mortality rate 1902–6.
Surrey—				
Guildford*	20,639	0·8	21·7†	71†
Reigate	25,993	1·0	20·8	87
Richmond...	31,672	2·6	20·0	102
Kent—				
Beckenham*	26,288	1·3	23·0	101
Bromley*	27,397	1·8	23·5	107
Dover*	42,672	1·7	25·4	107
Erith	25,296	3·5	32·3	101
Tunbridge Wells... ...	33,373	1·1	18·7	88
Sussex—				
Eastbourne	43,344	2·1	19·6	101
Worthing*	22,567	0·8	20·4‡	103‡
Hampshire—				
Aldershot	30,974	3·2	29·5	97
Bournemouth*	59,762	0·6	17·3	101
Winchester, City of ...	20,929	0·8	22·5‡	84‡
Middlesex—				
Hornsey	72,056	2·0	19·6	81
Wood Green	34,233	4·3	30·9	103
Hertfordshire—				
Watford*	29,414	0·8	27·5	92
Essex—				
Ilford	41,234	1·0	30·0	100
Wiltshire—				
Salisbury, City of ...	20,185	1·5	22·0†	108†
Swindon	45,006	1·3	28·6	103
Somersetshire—				
Bath, City of	49,839	4·5	20·1	103
Taunton	21,087	1·6	23·0‡	103‡
Staffordshire—				
Burton-on-Trent	50,386	1·7	25·8	106
Handsworth	52,921	1·5	24·5	108
Worcestershire—				
Kings Norton and Northfield.	57,122	1·5	27·5	100

* Boundaries altered since the Census of 1901.
† Average for two years, 1905–6.
‡ Average for three years, 1904–6.

Examination of the figures in List A. shows that there are several groups of towns, in close contiguity, in Staffordshire, Cheshire, Lancashire, and Glamorganshire, carrying on the industries alluded to above; in no fewer than eight of these towns, Bilston, Longton, Tunstall, Stalybridge, Burnley, Farnworth, Ince in Makerfield and Aberdare, an average of about one in every five children born did not survive the first year of life. Speaking broadly, excessive waste of infant life is generally associated with a high birth rate and overcrowding, and it will be noted that these conditions prevail in the majority of the towns given in the list; it should be observed, however, that there are several towns which have a comparatively low birth rate and little overcrowding,

but in which nevertheless the child mortality is very high. Such towns not only produce fewer children, but lose an immoderate proportion of this smaller number of children.

Turning to List B. it will be seen that the towns with low rates of infantile mortality may generally be described as superior residential towns or suburbs, the birth rates in these towns are conspicuously low, and there is no apparent evidence of overcrowding. There are two instances in this list deserving of special notice—Swindon and Burton-on-Trent : the statistics for these towns would appear to show that industrial urban life need not necessarily be inimical to infant life.

From the foregoing analysis of the figures relating to infantile mortality it will be gathered that there are numerous areas in this country, both urban and rural, where the rates are low and compare favourably with the lowest recorded in the several Foreign and Colonial States. On the other hand, many industrial centres have been specified where the excessive rates indicate that the conservation of infant life is much neglected. It may confidently be affirmed that, in future, any permanent reduction in the mortality of young children in England and Wales as a whole, will largely depend upon a due recognition of parental responsibility on the one hand, and on the other, an improved health administration in these industrial areas, particularly in that of numerous small towns.

Centenarians.—Among the deaths registered during the year there were 65 of reputed centenarians, 16 of whom were males and 49 females. In the preceding three years the numbers had been 53, 59, and 58 respectively.

Urban and Rural Mortality.—At page lxxi. will be found a Table showing the variations in the death-rates, both in 1906 and in the quinquennium 1901–05 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 respective populations, the death-rate during 1906 in the urban group was equal to 16·9 per 1000, and in the rural group to 13·0 per 1000. Compared with the average rates in 1901–05, the mortality in the urban group showed a decrease of 0·7 per 1000, and that in the rural group a decrease of 0·4 per 1000.

In the year 1906 the ratio of urban to rural mortality was as 1301 is to 1000, against a ratio of 1309 to 1000 in the five years immediately preceding.

Certification of Causes of Death.—Of the 531,281 deaths registered in England and Wales during the year 1906, the causes of 486,892, or 91·64 per cent., were certified by registered medical practitioners ; inquests were held respecting 36,275, or 6·83 per cent. ; whilst the causes of the remaining 8,114, or 1·53 per cent., were uncertified. This is the lowest proportion of uncertified deaths hitherto recorded.

Of the 8,114 uncertified deaths, 891, or 11·0 per cent., were not reported to coroners, as compared with 1,001, or 11·9 per cent., in the year 1905.

TABLE H.—CERTIFIED DEATHS, INQUEST CASES, and UNCERTIFIED DEATHS IN 1906, 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	91·64	6·83	1·53	1·36	0·17
London { North of Thames ..	88·77	11·17	0·06	0·03	0·03
London { South of Thames ..	91·41	8·19	0·40	0·38	0·02
Surrey	91·53	7·76	0·71	0·62	0·09
Kent	91·62	5·72	2·66	2·58	0·08
Sussex	92·03	7·36	0·61	0·56	0·05
Hampshire	91·15	7·54	1·31	1·19	0·12
Berkshire	91·02	6·41	2·57	2·36	0·21
Middlesex	92·47	6·85	0·68	0·61	0·07
Hertfordshire	92·55	5·47	1·98	1·73	0·25
Buckinghamshire	91·48	6·78	1·74	1·53	0·21
Oxfordshire	92·16	6·07	1·77	1·62	0·15
Northamptonshire	92·48	5·54	1·98	1·69	0·29
Huntingdonshire	89·55	5·44	5·01	4·58	0·43
Bedfordshire	93·02	4·70	2·28	1·20	1·08
Cambridgeshire	92·63	4·94	2·43	2·33	0·10
Essex	92·16	6·40	1·44	1·41	0·03
Suffolk	91·67	6·49	1·84	1·65	0·19
Norfolk	92·46	5·80	1·74	1·48	0·26
Wiltshire	92·65	6·64	0·71	0·58	0·13
Dorsetshire	93·25	5·28	1·47	1·37	0·10
Devonshire	91·90	6·96	1·14	1·09	0·05
Cornwall	91·39	7·41	1·20	1·01	0·19
Somersetshire	93·03	5·86	1·11	0·99	0·12
Gloucestershire	91·18	8·06	0·76	0·56	0·20
Herefordshire	89·54	6·77	3·69	2·95	0·74
Shropshire	90·81	6·16	3·03	2·90	0·13
Staffordshire	91·49	6·40	2·11	2·01	0·10
Worcestershire	92·83	5·11	2·06	1·98	0·08
Warwickshire	91·94	5·58	2·48	2·35	0·13
Leicestershire	91·71	6·98	1·31	0·89	0·42
Rutlandshire	94·47	4·84	0·69	0·34	0·35
Lincolnshire	92·81	5·59	1·60	1·53	0·07
Nottinghamshire	92·68	5·57	1·75	1·60	0·15
Derbyshire	90·65	6·17	3·18	3·00	0·18
Cheshire	92·34	7·03	0·63	0·55	0·08
Lancashire	92·00	6·00	2·00	1·91	0·09
West Riding of Yorkshire ..	92·00	6·70	1·30	1·17	0·13
East Riding of Yorkshire ..	91·27	8·21	0·52	0·48	0·04
North Riding of Yorkshire ..	92·46	6·49	1·05	0·44	0·61
Durham	91·32	5·31	3·37	2·95	0·42
Northumberland	91·79	6·63	1·58	1·44	0·14
Cumberland	93·10	4·21	2·69	2·62	0·07
Westmorland	92·25	4·65	3·10	2·98	0·12
Monmouthshire	92·16	6·85	0·99	0·90	0·09
South Wales :					
Glamorganshire	91·80	7·85	0·35	0·15	0·20
Carmarthenshire	93·33	4·58	2·09	1·54	0·55
Pembrokeshire	88·11	5·33	6·56	2·32	4·24
Cardiganshire	91·28	3·93	4·79	2·36	2·43
Brecknockshire	92·16	5·96	1·88	1·33	0·55
Radnorshire	93·44	3·28	3·28	1·23	2·05
North Wales :					
Montgomeryshire	93·65	3·55	2·80	2·69	0·11
Flintshire	94·07	4·02	1·91	1·81	0·10
Denbighshire	92·70	4·59	2·71	1·79	0·92
Merionethshire	94·72	3·49	1·79	1·32	0·47
Carnarvonshire	92·27	3·84	3·89	2·34	1·55
Anglesey	92·05	2·60	5·35	1·38	3·97

TABLE I.—UNCERTIFIED DEATHS REGISTERED in 1906, 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	67	40	27	65	2	1	16	48	2	—	—	—	—
Scarlet Fever	5	2	3	4	1	—	—	3	2	—	—	—	—
Whooping Cough ..	38	18	20	32	6	5	16	16	1	—	—	—	—
Diphtheria	21	10	11	18	3	—	1	11	8	1	—	—	—
Enteric Fever	3	1	2	1	2	—	—	—	2	—	—	1	—
Diarrhœa	175	92	83	163	12	24	72	52	8	—	2	7	10
Pneumonia	108	59	49	92	16	11	21	36	11	3	9	11	6
Tuberculous Diseases ..	162	94	68	138	24	6	8	12	12	23	62	32	7
Alcoholism	6	4	2	6	—	—	—	—	—	—	2	4	—
Cancer	37	12	25	29	8	—	—	—	—	—	7	18	12
Premature Birth and Congenital Defects.	1002	584	418	690	312	985	11	5	—	1	—	—	—
Dentition	121	73	48	117	4	—	75	46	—	—	—	—	—
Epilepsy	124	56	68	116	8	2	3	5	11	15	41	29	18
Convulsions	1534	858	676	1387	147	833	496	196	9	—	—	—	—
Other Nervous Diseases	109	52	57	97	12	2	18	5	9	3	14	24	34
Cerebral Hæmorrhage and Apoplexy, Hemiplegia.	305	164	141	287	18	—	—	1	2	2	43	137	120
Other Circulatory Diseases.	1773	936	837	1705	68	—	1	6	18	41	254	868	585
Bronchitis	421	212	209	384	37	24	74	51	3	1	23	101	144
Other Respiratory Diseases.	121	78	43	109	12	5	9	9	5	2	15	43	33
Digestive Diseases ..	151	81	70	125	26	16	30	14	12	8	14	26	31
Childbirth	26	—	26	23	3	—	—	—	—	4	22	—	—
Violence	55	30	25	52	3	13	3	4	—	2	9	6	18
Atrophy, Debility, &c. ..	369	188	181	299	70	280	76	11	2	—	—	—	—
Old Age	859	421	438	803	56	—	—	—	—	—	—	4	855
Other stated Causes ..	449	265	184	410	39	97	26	26	16	17	59	102	106
Causes not stated ..	73	42	31	71	2	24	3	6	1	1	3	20	15
All Causes — Reported to Coroners	**7,223**					**1821**	**888**	**518**	**117**	**114**	**552**	**1376**	**1837**
All Causes — Not Reported to Coroners	**891**					**507**	**71**	**45**	**17**	**10**	**27**	**57**	**157**
All Causes — Males	**4,372**					**1323**	**519**	**316**	**72**	**63**	**295**	**772**	**1012**
All Causes — Females	**3,742**					**1005**	**440**	**247**	**62**	**61**	**284**	**661**	**982**
All Causes — Total	**8,114**					**2328**	**959**	**563**	**134**	**124**	**579**	**1433**	**1994**

The subjoined table shows the changes in the proportion to total deaths of certified deaths, inquest cases, and uncertified deaths in the course of the six years 1901–1906 :—

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
1906 ...	91·64	6·83	1·53	1·36	0·17

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

In six English counties—Shropshire, Westmorland, Derbyshire, Durham, Herefordshire, and Huntingdonshire, and in five Welsh counties—Radnorshire, Carnarvonshire, Cardiganshire, Anglesey, and Pembrokeshire, the proportions of uncertified deaths were unduly high, ranging from 3·03 to 6·56 per cent. of the total deaths, compared with 1·53 per cent. in the whole of England and Wales. In several of the 76 large towns the proportion per cent. of uncertified deaths was also excessive ; it reached 3·1 per cent. in Preston, 3·3 in Burton-on-Trent and in Liverpool, 3·4 in Sunderland, 3·6 in Warrington, 3·9 in Rotherham, 4·2 in South Shields, 4·7 in St. Helen's and in Barrow-in-Furness, and 5·8 in Gateshead.

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 9 per cent., whereas in the Welsh counties the average was as high as 44 per cent.

Table I on page xlvi shows the uncertified deaths registered in the year 1906, 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 and debility were the assigned causes of most of these deaths.

Deaths in Public Institutions.—Of the 531,281 deaths registered during the year, no fewer than 96,636 or 18·19 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 15·09 per cent.

Thus the present figures confirm those of previous reports to the effect that the proportion of deaths occurring in public Institutions, although fluctuating slightly from time to time, has a distinct tendency to increase. The following statement shows the proportions of deaths occurring in Workhouses, in Hospitals, and in Lunatic Asylums :—

Public Institutions.	Proportion per cent. to Total Deaths.	
	Ten years, 1896–1905.	1906.
Workhouses and Workhouse Infirmaries ...	8·18	9·67
Hospitals	5·34	6·62
Lunatic and Idiot Asylums	1·57	1·90

The 96,636 deaths in public Institutions registered during the year were equal to a rate of 2·80 per 1,000 of the estimated population of England and Wales, against an average rate in the ten preceding years of 2·53 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 211 to 262 of this Report.

Offences against the Registration Acts.

In 1906, 24 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	1
For falsifying certificate of birth or death and using same as true	7
For giving false information to the registrar when registering a birth or death	9
For failing to comply with a requisition to register a birth	5
For forging the signature of a registered medical practitioner to a medical certificate of cause of death	2

In addition to the above, an unregistered Benefit Society was prosecuted by the Chief Registrar of Friendly Societies, for paying money on the death of a child under 10 years of age without the production of a Registrar's Certificate of Death, a conviction being obtained and a fine imposed.

Proceedings were taken by the Public Prosecutor (at the instance of the Registrar General) for giving false information when registering an illegitimate birth as legitimate and in a

false name, the defendant being sentenced to five years' penal servitude.

In three prosecutions for bigamy, involving also offences against the Registration Acts, convictions were obtained (in addition to the primary offence) (1) for forging the consent of the father of one of the parties to the marriage ; (2) for giving false information to a Registrar when registering the birth and death of an illegitimate child ; and (3) for causing a false entry to be made in a marriage register. Sentences were imposed of twelve months and one month hard labour, respectively, in the first two cases, and in the third case of seven years for bigamy and three years for the secondary offence.

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 1906 by 2,006,438, this addition raising the total of names in the indexes, which at the end of 1906 embraced a period of 69½ years, to 112,726,217.

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 statute or other arrangement. 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 29th December, 1906, the total number of searches was 64,340, and of certificates issued 49,330 ; the total amount received in fees was 9,458*l.* 6*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.
1865 (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
1906 (52 weeks)	64,340	49,429	9,458 6 0

United Kingdom.

Population.

The first complete Census of the United Kingdom was taken in 1821, when the population numbered 20,893,584 persons; during the eighty years, 1821–1901, the population nearly doubled itself, the numbers enumerated at the end of March, 1901, amounting to 41,458,721 persons.

From that date until the middle of 1906 the number of births exceeded the number of deaths by 2,571,316; had neither emigration nor immigration occurred this surplus would have raised the population in the middle of the year 1906 to 44,030,037. In the absence of precise information as to migration, the populations of the several divisions of the Kingdom are provisionally estimated as follows:—

Population estimated to the middle of the Year 1906.

——	Persons.	Males.	Females.
England and Wales	34,547,016	16,689,707	17,857,309
Scotland	4,726,070	2,305,850	2,420,220
Ireland	4,388,006	2,176,982	2,211,024
United Kingdom ...	43,661,092	21,172,539	22,488,553

Marriages.

The marriages in the United Kingdom during the year 1906 numbered 325,823, corresponding to a rate of 14·9 persons married per 1000 of the population at all ages.

This rate was 0·3 per 1000 above the corresponding rate in 1905, but was 0·2 per 1000 below the average rate in the ten years, 1896–1905.

——	Marriages, 1906.	Persons married to 1000 living.	
		Ten years, 1896–1905.	1906.
England and Wales	270,038	15·8	15·6
Scotland	33,123	14·3	14·0
Ireland	22,662	10·2	10·3
United Kingdom ...	325,823	15·1	14·9

Births.

The births registered in the United Kingdom in the year 1906 numbered 1,170,537 and were in the proportion of 26·8 per 1000 of the population at all ages.

This rate was 0·1 per 1000 below the corresponding rate in 1905 and lower than the rate in any other year on record; compared with the average in the ten years 1896–1905 the birth-rate in 1906 showed a decrease of 1·4 per 1000.

——	Births, 1906.	Births to 1000 living.	
		Ten years, 1896–1905.	1906.
England and Wales	935,081	28·7	27·1
Scotland	131,920	29·5	27·9
Ireland	103,536	23·2	23·6
United Kingdom ...	1,170,537	28·2	26·8

Deaths.

The deaths registered in the United Kingdom in the year 1906 numbered 681,293, and were in the proportion of 15·6 per 1000 of the population at all ages.

This rate was 0·1 per 1000 above the corresponding rate in 1905; compared with the average in the ten years 1896–1905 the death-rate in 1906 showed a decrease of 1·4 per 1000.

——	Deaths, 1906.	Deaths to 1000 living.	
		Ten years, 1896–1905.	1906.
England and Wales	531,281	16·8	15·4
Scotland	75,585	17·4	16·0
Ireland	74,427	17·9	17·0
United Kingdom ...	681,293	17·0	15·6

In Tables 47–50, pages 96–99, the population, marriages, births, deaths and principal causes of death are given for each of the years 1881–1906 for the United Kingdom and for each of its three divisions.

Mortality in the Army.

The average regimental strength of the British Army at home and abroad during the year 1906 was 263,834, and the deaths during the year numbered 1,445 giving a death-rate of 5·5 per 1000, as compared with 7·0, 6·0, and 5·6 per 1000 respectively, in the three preceding years. The mortality in the Army abroad was 7·8 per 1000, against 8·6, 8·5 and 8·0 in the three preceding years. Whilst the mortality in the Army at home was 3·1 per 1000, against 5·1, 3·3, and 2·9 (Table 38).

Mortality in the Navy.

The average strength of the service afloat was 108,190. The deaths during the year numbered 399, being in the proportion of 3·68 per 1000 of the strength, against an average of 5·12 per 1000 in the six years immediately preceding. Of the 399 deaths in 1906, 269 were caused by disease and 130 by violence; the death-rate from disease was therefore 2·48 per 1000, and that from violence 1·2 per 1000. Of the deaths from violence, 121 were accidental, and 9 were suicidal; the accidental deaths included 76 cases of suffocation from submersion, and 2 from heatstroke. (Table 39.)

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 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 1906, this register was increased by the addition of 254 entries of birth and 3290 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 years 1891–1906. In the year 1905 the number employed was 237,811, of whom 30,204 were employed in sailing vessels, being 2,262 fewer than in the preceding year, and 207,607 in steam vessels, being 5,496 more than in the preceding year.

The reported deaths from all causes in sailing or steam vessels during the year ended 30th June, 1906, numbered 2,485, of which 1,274 resulted from disease, suicide, &c., 574 from wreck or casualty to ship, and 637 from accident other than wreck or casualty to ship, showing a death-rate from all causes of 10·4 per 1000 of the strength; this rate was 0·4 per 1000 below the mean rate in the previous five years. (Table 40.)

International Vital Statistics.

The information given in this section of the Report is based on the statistics so courteously furnished by the Presidents of the Foreign Statistical Bureaux and by our own Colonial Authorities.

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 recent Annual Reports the scope of these International Returns was extended to include particulars relating to infantile mortality, to mortality from the principal epidemic diseases, from pulmonary tuberculosis, and from cancer; while those of our Colonies in which records of such particulars had been kept were asked to contribute similar returns. (See Tables 46–79, pages 94–128.)

The tables in this part of the Report give, for each of the countries furnishing returns, the average marriage, birth, and death rates per 1000 of the population, the average proportion of deaths of children under one year of age to 1000 births, and the average ratio of deaths from pulmonary tuberculosis and from cancer (1) for the ten years 1896–1905, and (2) for the year 1906. As the number of countries which have as yet furnished figures for the year 1906 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.

In addition to these valuable statistics data have been obtained from certain countries for which marriage rates based on the number of marriageable persons have been calculated, and legitimate birth-rates based on the number of married women of conceptive ages, at the three past Census periods.

Marriages.—Some of the disparity between the marriage-rates shown in the table on page liv. is undoubtedly due to differences in the age constitution and to variations in the sex proportions of the populations of the several countries.

Taking as a standard the average marriage rate in England and Wales in 1896–1905, viz., 15·8 per 1000, it will be seen that 7 European countries had rates above, and 9 below this standard. The extent of the variation throughout the continent was from 4·0 above the English rate in Servia, to 3·8 below in Sweden; the rates were 2·6 per 1000 above the standard in Bulgaria, 2·1 in Russia, 1·3 in Hungary, 0·7 in the German Empire, 0·6 in Belgium, and 0·1 in Austria; while they were 0·1 below in Spain, 0·5 in Switzerland, 0·6 in France, 0·9 in the Netherlands, 1·2 in Denmark, 1·3 in Italy, 1·8 in Finland, and 2·8 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 10·2 per 1000 of total population as compared with 15·8 per 1000 in England and Wales.

In an earlier section of this report dealing with the marriages recorded in England and Wales, it is stated that the variations which occur from time to time in the number of marriageable men and women in the population make it desirable when comparing

the rates of one district or country with another, to base the proportions on the total number of marriageable persons in the community.

MARRIAGE RATES.

Country.	Persons married to 1000 living.		Country.	Persons married to 1000 living.	
	Average Annual rate in 10 years, 1896–1905.	1906.		Average Annual rate in 10 years, 1896–1905.	1906.
Servia	19·8	20·4	The Netherlands...	14·9	14·9
Western Australia	19·1	17·4	Ceylon	14·8	9·0
Bulgaria	18·4	?	Denmark	14·6	14·9
Russia (European)	17·9*	?	Italy	14·5	15·5
Japan	17·2	?	Scotland	14·3	14·0
Hungary	17·1	17·4	New South Wales	14·3	15·3
Prussia	16·5	16·4	Tasmania	14·3	15·5
German Empire ...	16·5	?	Finland	14·0	?
Belgium	16·4	16·1	Victoria	13·5	14·6
Austria	15·9	?	Norway	13·0	11·8
England & Wales	**15·8**	**15·6**	South Australia ...	12·9	14·2
Roumania	15·8	?	Queensland ...	12·5	13·5
Spain	15·7	14·5	Sweden	12·0	12·2
Switzerland ...	15·3	?	Ireland	10·2	10·3
France	15·2	15·6	Chili	9·8	?
New Zealand ...	15·2	17·0	Jamaica	8·5	13·2

* Average for 10 years, 1892-1901.

A limited number of countries have furnished returns for the three past Census periods of the numbers of marriageable persons in their populations. From these data the table on page lv. has been constructed; although it has not been possible to correct those figures for variations in the ages of bachelors, widowers, spinsters, and widows, in the respective populations, nevertheless they give a fair approximation of the relative marriage rates, in the several countries, based on the numbers of the population among whom marriages can take place.

MARRIAGE RATES.

Country. (Arranged in order of rates in 1900–2).	Persons married per 1000 of the unmarried and widowed population, aged 15 years and upwards.		
	Approximate periods.		
	1880–82.	1890–92.	1900–02.
Servia	—	118·7	119·4
Bulgaria	—	—	87·3
Hungary	80·9	73·1	73·1
Spain	—	41·1	59·3
Prussia	50·5	53·7	56·5
German Empire	48·7	51·6	55·0
Austria	46·6	44·3	49·1
Italy	48·5	—	48·8
England and Wales ...	**51·5**	**49·8**	**48·7**
France	45·4	43·9	47·7
Denmark	47·9	45·0	46·2
The Netherlands	48·6	43·7	46·2
Finland	46·6	45·5	43·3
Switzerland	38·1	39·7	42·2
Norway	46·5	40·6	41·9
Scotland	40·7	40·1	39·7
Sweden	36·6	35·6	35·3
Ireland	21·9	22·0	23·0

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 arrest; in all the European States for which returns are available the rates for the year 1906 were, with the exception of Servia, 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 1896–1905 was 28·7 per 1000 living. It appears from the Table on page lvi 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.

BIRTHS.

Country.	Births to 1000 living.		Country.	Births to 1000 living.	
	Average Annual rate in 10 years, 1896–1905.	1906.		Average Annual rate in 10 years, 1896–1905.	1906.
Russia (European)	48·7*	?	Denmark	29·5	28·5
Bulgaria	41·1	?	Scotland	29·5	27·9
Roumania	39·8	?	Norway	29·4	26·5
Servia	39·4	41·3	Western Australia	29·1	30·0
Jamaica	38·9	38·1	**England & Wales**	**28·7**	**27·1**
Hungary	38·3	36·0	Tasmania	28·6	29·5
Ceylon	37·9	35·7	Belgium	28·3	25·7
Austria	36·4	?	Switzerland ...	28·3	?
Prussia	35·7	33·7	Queensland ...	27·9	26·3
German Empire ...	35·2	?	New South Wales	27·3	27·0
Spain	34·8	34·1	Sweden	26·5	25·7
Chili	34·7	?	New Zealand ...	26·2	27·1
Italy	33·3	31·9	South Australia ...	25·7	23·7
Finland	32·0	?	Victoria	25·6	25·1
The Netherlands ...	31·9	30·4	Ireland	23·2	23·6
Japan	31·4	?	France	21·6	20·6

* Average for 10 years, 1892–1901.

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 causes that produce such wide differences between the crude birth-rates in the various countries. These differences are to some extent due to variations in the civil condition and in the sex and age constitution of the several populations; with a view, therefore, to eliminate as far as possible the effect of these variations, comparative statistics were obtained from those countries which possessed data showing the fertility of their married women at the three past Census periods, and the results were published in the previous report in a Table which is reproduced on the next page. Although it has not been practicable to extend the correction to differences in the age constitution of the wives at reproductive ages in each state, the figures nevertheless form a valuable measure of human fertility in the several countries.

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 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 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 probable that there is a common cause operating throughout these civilized countries to account for the phenomenon of a general decline in human fertility, and apart from any decrease due to changes in the age constitution of the married women of conceptive ages, there is strong ground for the assumption that in varying degree that cause is the deliberate restriction of child-bearing on the part of the people themselves.

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.

Deaths.—In all the Countries mentioned in the following Table, the death-rate has, in recent years, shown a general tendency to decline, and the rates for the year 1906 were, with the exception of those recorded in Servia, Jamaica, and Ceylon, below the average for the previous ten years.

The average annual death-rate in England and Wales in the ten years 1896–1905 was 16·8 per 1000 living, and it appears from the following Table that this ratio was exceeded in all Countries for which returns are available, except in the Netherlands, Sweden, Denmark, Norway, New Zealand, and the States of the Australian Commonwealth.

DEATHS.

Country.	Deaths to 1000 living.		Country.	Deaths to 1000 living.	
	Average annual rate in 10 years, 1896–1905.	1906.		Average annual rate in 10 years, 1896–1905.	1906.
Russia (European)	33·6*	?	Switzerland ...	17·9	?
Chili	29·3	?	Ireland	17·9	17·0
Spain	27·5	26·2	Belgium	17·5	16·4
Hungary	27·1	24·8	Scotland	17·4	16·0
Ceylon	26·9	34·3	**England & Wales**	**16·8**	**15·4**
Roumania	26·5	?	The Netherlands...	16·6	14·8
Austria	24·9	?	Sweden	15·8	14·4
Servia	23·6	24·0	Denmark	15·6	13·5
Bulgaria	23·4	?	Norway	15·1	13·7
Italy	22·4	20·8	Western Australia	13·9	11·8
Jamaica	22·3	26·2	Victoria	13·2	12·4
Japan	20·8	?	Queensland ...	11·7	9·6
German Empire ...	20·6	?	Tasmania	11·6	11·2
Prussia	20·3	17·9	New South Wales	11·5	9·9
France	20·1	19·9	South Australia ...	11·4	10·3
Finland	18·8	?	New Zealand ...	9·7	9·3

NOTE.—It has been frequently pointed out in these Reports that crude death-rates, or the proportion borne by deaths from all causes to 1000 of the population at all ages, are a fairly trustworthy test of mortality when comparing the death-rates year by year in a particular country, but the comparison of the crude death-rate of one country with that of another country may lead to erroneous conclusions because of the variations in sex and age constitution of the respective populations. For example, the relative number of old people in the population of Ireland is considerably greater, while in the Australian Commonwealth it is considerably less than in England and Wales; for comparative purposes therefore, the crude death-rate over-states the mortality in Ireland and under-states it in the Australian Commonwealth. An attempt will be made in the next Report to supplement the crude rates given above by rates in which the sex and age distribution of the respective populations is taken into account.

* Average for 10 years 1892–1901.

Natural Increase.— Assuming the registration of births and deaths in the countries dealt with to be reasonably complete, 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 1896–1905 was 11·9 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 Italy, Belgium, Sweden, Japan, Switzerland, and Spain; in Ireland the rate was very low, being only 5·3 per 1000 of population, while in France the natural rate of increase was no more than 1·5 per 1000 of population per annum.

NATURAL INCREASE.

Country.	Average annual increase, by excess of births over deaths, per 1000 of the population, 1896–1905.	Country.	Average annual increase, by excess of births over deaths, per 1000 of the population, 1896–1905.
Bulgaria	17·7	Finland	13·2
Tasmania	17·0	Victoria	12·4
Jamaica	16·6	Scotland	12·1
New Zealand	16·5	**England & Wales** ...	**11·9**
Queensland	16·2	Austria	11·5
Servia	15·8	Hungary	11·2
New South Wales ...	15·8	Ceylon	11·0
Prussia	15·4	Italy	10·9
The Netherlands ...	15·3	Belgium	10·8
Western Australia ...	15·2	Sweden	10·7
Russia (European) ...	15·1*	Japan	10·6
German Empire ...	14·6	Switzerland	10·4
Norway	14·3	Spain	7·3
South Australia ...	14·3	Chili	5·4
Denmark	13·9	Ireland	5·3
Roumania	13·3	France	1·5

* Average for 10 years, 1892–1901.

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 1896–1905 was 147 per 1000 births. Taking this figure as a standard it appears from the Table that in ten European countries and in Ceylon, Jamaica, Chili, and Japan, the rates of infantile mortality were above the English rate. 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, 1896–1905.	1906.		Average Annual rate in 10 years, 1896–1905.	1906.
Chili	326*	?	The Netherlands...	144	127
Russia (European)	268†	?	Bulgaria	144**	?
Austria	223‡	?	Western Australia	143	110
Roumania	218§	?	Switzerland ...	139	?
Hungary	215	205	Finland	135	?
German Empire ...	199††	?	Denmark	126	?
Prussia	196	177	Scotland	125	?
Spain	178¶	173	New South Wales	105	75
Jamaica	174	197	Victoria	103	93
Ceylon	170	198	Ireland	102	93
Italy	168	?	South Australia ...	100	76
Servia	154	144	Queensland ...	99	75
Belgium	153	?	Sweden ...	97**	?
Japan	153	?	Tasmania	94	91
France	149	?	Norway	88	?
England & Wales	**147**	**132**	New Zealand ...	77	62

* Average for 10 years, 1894–1903.
‡ „ „ 9 „ 1895–1903.
¶ „ „ 6 „ 1900–1905.
†† „ „ 5 „ 1901–1905.
† Average for 10 years, 1892–1901.
§ „ „ 10 „ 1890–1899.
** „ „ 10 „ 1895–1904.

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, as regards the relative incidence of mortality from these two important diseases. Several States were unable to furnish complete returns of mortality from phthisis or from 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; again in Hungary and in Prussia the returns comprise deaths from all forms of tuberculosis, while

in Italy deaths from general tuberculosis are included under pulmonary tuberculosis; in Hungary and in 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, 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.

PULMONARY TUBERCULOSIS.

Country.	Deaths to 1000 living.		Country.	Deaths to 1000 living.	
	Average annual rate in 10 years, 1896–1905.	1906.		Average annual rate in 10 years, 1896–1905.	1906.
Hungary*	3·80†	3·84	Spain	1·44§	1·44
Austria	3·43‡	?	Belgium	1·30	?
Servia	2·57	2·87	**England & Wales**	**1·27**	**1·15**
Ireland	2·14	2·04	Italy*	1·20	1·22
Norway	2·01	?	Victoria	1·15	0·99
Prussia*	2·00	1·71	Ceylon	0·91	1·05
German Empire ...	1·97	?	South Australia ...	0·84	0·82
Switzerland ...	1·89	?	Queensland ...	0·84	0·68
Jamaica	1·58	1·60	New South Wales	0·80	0·66
Scotland	1·55	?	New Zealand ...	0·74	0·62
The Netherlands ...	1·49	1·34	Western Australia	0·70	0·82
Japan	1·45	?	Tasmania	0·67	0·66

* 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 9 years, 1897–1905.
‡ Average for 10 years, 1895–1904.
§ Average for 6 years, 1900–1905.

Cancer.—In comparing the rates of mortality from cancer, it is necessary to take into account the fact that the certification of causes of death is more complete or more accurate in some countries than in others, and that in most countries it has probably shown improvement in later years. Thus, in Norway only 50 per cent. of the causes of death were stated in 1881, against

85 per cent. in 1901; in the German Empire the statistics of cancer were available for ten of the principal federated states previous to 1904, while from that year statistics for 13 other smaller states are added. For Hungary it is probable that the rates are under-stated, and for Ceylon the registration of causes of death is admittedly so imperfect that very little reliance can be placed in the figures given in the Table. In France, Denmark, Sweden, and Bulgaria, causes of death are tabulated for the towns only, and the mortality is not, therefore, fairly comparable with that in the other states; these countries are consequently not included in the following Table.

CANCER.

Country.	Deaths to 1000 living.		Country.	Deaths to 1000 living.	
	Average annual rate in 10 years, 1896–1905.	1906.		Average annual rate in 10 years, 1896–1905.	1906.
Switzerland ...	1·29	?	New South Wales	0·59	0·68
The Netherlands ...	0·95	1·01	Tasmania	0·56	0·52
Norway	0·90	?	Italy	0·53	0·62
England & Wales	**0·83**	**0·92**	Queensland ...	0·50	0·55
Scotland	0·81	?	Japan	0·49†	?
German Empire ...	0·74	?	Spain	0·44‡	0·48
Victoria	0·72	0·75	Western Australia	0·38	0·59
Austria	0·70*	?	Hungary	0.35§	0·40
New Zealand ...	0·63	0·70	Jamaica	0·16	0·17
Ireland	0·63	0·79	Servia	0·09	0·11
South Australia ...	0·61	0·74	Ceylon	0·06	0·05
Prussia	0·61	0·70			

* Average for 10 years, 1895–1904.
† Average for 5 years 1899–1903.
‡ Average for 6 years, 1900–05.
§ Average for 9 years, 1897–1905.

Even in those cases where the compilation of statistics may be regarded as fairly trustworthy it must be borne in mind that cancer is a disease mainly confined to adult life, and variations in the age-constitution of the several populations may therefore considerably affect the crude rates stated in the Table.

Subject to the above important reservations, the general conclusion is that this country occupies an unenviable position with respect to its mortality from cancer, being exceeded by only three European countries, viz., Switzerland, The Netherlands and Norway. Scotland is slightly better, and Ireland, notwithstanding its abnormal age-constitution, occupies a very much better position. The mortality ascribed to this cause varies very considerably in the several Australasian States, being nearly twice as high in Victoria as in Western Australia.

In Ceylon and in Jamaica the rates are very low; the apparent immunity from the disease may be due to incomplete or erroneous statements as to the cause of death; for example, the Registrar-General for Ceylon states, "that too much reliance "should not be placed on the figures given under the causes of "death, as in the large majority of cases the cause of death is not "medically certified and registration is made in the vernacular "languages and by Registrars who possess no medical qualifi-"cations."

In nearly all countries from which returns have been received the proportionate mortality from cancer has shown a general tendency to increase in recent years.

FINAL REMARKS.

In the first place, I desire to call attention to the fact that in dealing with the statistics of a year so far removed as 1906 from the last census enumeration the provisional nature of the estimates of population must be carefully borne in mind.

The additions to the number of the people by births and the reductions by deaths since the date of the census are known with approximate accuracy; but no precise data are at present available showing, on the one hand, the numbers that have entered England and Wales from other parts of the United Kingdom, and from places beyond the sea; and, on the other hand, the numbers that have left England and Wales by sea, or by crossing the border into Scotland. If these numbers were known, the actual population of the country could be stated with reasonable accuracy; but even then the distribution of that population among the several counties and other areas dealt with in my Annual Reports would still be a matter for estimate by some empirical process. Failing authoritative returns of the total movement of the population, a provisional estimate has been made by assuming that the rate of growth since 1901 has been the same as it was found to be between the censuses of 1891 and 1901; and the total thus estimated has been distributed among the various divisions of the country in proportions determined by their rates of growth during the same period.

The estimates for following years until the next census taking must inevitably be still less trustworthy than those for 1906, and this in an increasing degree for each year. It cannot be too strongly urged that a more frequent census enumeration is the true remedy for this state of things. It is possible that the estimates of population for the whole country may differ by only a small percentage from the actual population, and that the resulting errors in the rates of birth, death, and marriage are therefore not of great importance. But rates for the whole country are only a small part of the statistics that are prepared year by year and quarter by quarter. Attempts are made, and must continue to be made, to trace the changes in the health conditions, as well as in the social conditions of separate towns, of rural districts, and of other defined areas; and comparisons must be made of the changes in one area with those in another area. But all these

comparisons are liable to be vitiated by the want of accurate knowledge as to the number and the ages of the population in each area, and the conclusions arrived at may need to be modified or even reversed when the estimates of population come to be revised by means of the next census returns.

Following on what I said in the Sixty-eighth Annual Report, I have introduced nine diagrams with which the various matters dealt with in this Report and in Dr. Tatham's letter have been illustrated, namely :—

(1 and 2) Marriage and birth rates by alternate methods of calculation ;

(3) Rates of legitimate and illegitimate births calculated upon those sections of the population among which they occur ;

(4) Death-rates during the 50 years from 1857 to 1906 corrected for variations of age constitution of the population ;

(5 and 6) Infantile mortality from 1857 to 1906, and also in the registration counties for the year 1906 ;

(7) Proportional numbers of deaths from the principal causes to 1,000 from all causes ;

(8) Death-rates from all forms of tuberculosis, and also from phthisis, from 1857 to 1906 ; and

(9) Death rates from cancer during the same period, distinguishing the mortality due to cancer of the generative and mammary systems since 1897.

These charts have been carefully prepared by Mr. Hampson, of the Statistical Branch of this Department, and I submit them as a useful auxiliary to the statistical tables.

In relation to these tables and diagrams I may point out that, as regards marriage, the rate in 1893 was as low as 14·7 per 1,000 living, and that in the subsequent six years it rose gradually to 16·5 in 1899 ; whereas in the next five years it again fell to 15·2 in 1904, since which time it has yet again risen to 15·6 in the year under review. As regards births, the rate attained the highest point on record in 1876, namely, 36·3 per 1,000 living ; but, with trifling exceptions, this rate has steadily fallen until in the year 1906 it stood at 27·1 per 1,000 living. There is no present indication of arrest in this decline of the birth-rate, the provisional returns for the first three quarters of the year 1907 showing a decrease in each quarter as compared with those for the corresponding quarters of the previous year. On the other hand, the deaths registered in England and Wales during the year 1906 numbered 531,281, and were in the proportion of 15·4 per 1,000 of the population at all ages. This rate shows a rise of 0·2 per 1,000 upon the unprecedentedly low rate of 1905, but it is still 1·4 per 1,000 below the mean rate during the ten years 1896–1905.

From Dr. Tatham's valuable and instructive letter to me on page lxix I gather that, speaking generally, the year 1906 has been a favourable one from the standpoint of the national health.

On the one hand, the steady decrease, which for several years past I have been privileged to record in the mortality from tuberculosis, and especially from that form of it which has been termed the "Great White Plague," has been practically sustained throughout the year. The mortality from phthisis corresponded to a rate of 1,150 per million living ; and, although this rate was slightly higher than the rate in 1905, it was otherwise the lowest rate on record, and 64 per million below the rate of the quinquennium 1901–5. Several other diseases also, including most of the infectious diseases of childhood, which in the aggregate materially affect the death roll, have shown diminished fatality. On the other hand, the sad pre-eminence of cancer—the one disease that hitherto has evinced no abatement of fatality—has been fully maintained in the year under notice, the rate showing an increase of 32 per million on the rate in 1905. Diabetes mellitus, and diarrhœa are also amongst the diseases that have proved more fatal than the average.

A comparison of the mortality among the two sexes during the year shows that there were about 2,000 more deaths in a million males than in a million females. Nearly one-fourth of this excess was caused by accident and other forms of violence, and may accordingly be set down to the greater physical risks incurred by men in the course of their occupations. The greater mortality of men by violence is, however, rather more than counterbalanced by conditions to which women are solely or specially subject, namely, childbirth (including septic diseases supervening thereon), cancer, mainly of the generative and mammary organs, and other diseases of those organs. If, therefore, deaths from such causes and from violence be excluded from the account, the mortality of males still shows an excess of about 2,000 per million above that of females. And this excess is found to be spread in varying proportions over most of the more important groups of diseases. In round numbers it may be set down as 1,050 from tuberculosis (mainly of the lungs), pneumonia and respiratory diseases, 400 from immaturity of young infants, 300 from diseases of the nervous system, 250 from diseases of the urinary system, and 200 from what are known as the chief epidemic diseases. These figures make an aggregate of 2,200, against which about 200 more females than males in each million are stated to have died from old age. No marked sex liability is shown by the figures under other groups of diseases, and it is worthy of note that diseases of the heart and blood vessels, which caused more than one-seventh of all the deaths during the year, affected the two sexes almost equally, the difference of incidence being only a little over 2 per cent. of the mortality of either sex from these causes.

During recent years public attention has again been prominently directed by the National Conference on Infantile Mortality held in London, and by expert writers in the press, to the enormous wastage of infant life. The view commonly taken by these authorities has been that although the general death-rate is decreasing the rate of infantile mortality is not declining. This, I am glad to state, holds good only up to the close of the last century. Since the beginning of the current century there has

been a break in the growth of infantile mortality which, with some fluctuations, had prevailed throughout the previous decennium, The average mortality among infants under the age of one year has shown a decrease since 1900 amounting to 11·0 per cent. on the rate of 1891–1900, and I have reason to believe that this improvement will be further stimulated in the current year.

In connection with this subject I desire to point out that about one-third of the deaths of infants under one year of age may be considered as due to ante-natal influences, such as premature birth, atrophy, debility, and congenital malformations, a group of conditions which may be described under the general heading of "immaturity." Over and above these conditions, the employment of women in textile and other industries, ignorance, careless and insufficient nursing on the part of mothers, and overcrowding and insanitary environment are important factors in bringing about a high rate of infantile mortality. I observe in the valuable report by Miss A. M. Anderson, H.M. Principal Lady Inspector of Factories, for the year 1906, that she quotes the opinion of Dr. Reid, Medical Officer of Health for Staffordshire, who, in connection with the employment of women in factories, stated before the London Conference above referred to, that "the "restriction now imposed by law of one month's abstention from "work after her confinement is advantageous to the mother, but it "does not materially benefit the child. If, however, the restriction "extended to three months, the probability is that the mother "would suckle her child during that time, and thus the most "precarious period of the infant's life would be tided over, and "the chances of subsequent survival would be considerably "enhanced." Whilst, therefore, we have reason to be grateful for the present decrease in infant mortality, I have little doubt that the awakening of public interest in this and kindred matters connected with health will, as time goes on, bear even more striking results. In my 67th Annual Report, in referring to the system of registration, it was pointed out that "a well devised system of early "*notification* of births—legalised and worked in conjunction with "the present registration system on the one hand, and with sanitary "administration on the other—might, along with other motive "forces, serve as a most effective and lasting barrier with which to "stem the tide of infant mortality." The Notification of Births Act was passed in last Session of Parliament, and I trust that, if consistently carried out, it may have the desired effect.

At the same time I think it right in connection with this branch of the subject to refer to the special influence of summer temperature and rainfall upon infantile mortality. For example, the showery and exceedingly cool weather experienced in the past summer checked the rise in the rate of infant mortality that usually occurs in the third quarter of the year in a remarkable manner, the deaths in the September quarter falling from 176 per 1,000 births in 1906 to 99 in 1907. It should accordingly be borne in mind that, speaking generally, throughout the last six years this country has experienced a cycle of favourable seasons, and that, for this reason, before calculating upon the continuance of the present fall in infantile mortality, it will be prudent to await a return of hot and dry summers, in order that the extent may be

ascertained to which existing sanitary arrangements in some of the manufacturing centres are able to withstand the onset of extreme heat and dryness, without involving the inordinate sacrifice of infant life.

In my last Annual Report, it was stated that the registers in some respects were no doubt capable of improvement. This has not been lost sight of, but I find, on consideration of this important matter, that further evidence is required as to the desirability, or otherwise, of including some of the proposed improvements, before actually embarking on so large a work as the reconstruction of the registers.

To Dr. W. N. Shaw, F.R.S., I am again indebted for the admirable series of quarterly returns and for the annual report on meteorology with which in the year under review he has enriched the official publications of this Department.

I also desire once more to record my obligations to the Presidents of the Foreign Statistical Bureaux and to the Colonial Registrars-General for the valuable information which they have so courteously furnished for the compilation of the International Vital Statistics, which are prepared under the supervision of Mr. Archer Bellingham, Assistant Superintendent of the Statistical Branch, and are included in this report. As in previous years, tables are given in these statistics showing the birth and death rates and the mortality from certain important diseases during a series of years in several of the British colonies. The difficulties in the way of obtaining complete mortality statistics for the whole of the British Empire are great and have not yet been surmounted, but the statistics hitherto furnished by the authorities of the British colonies and possessions are valuable in themselves, and are of considerable interest for study in conjunction with the report on the census of the British Empire which was drawn up in 1905 by the Census Commissioners, who at the end of their report stated: "We would suggest, "therefore, for your favourable consideration, whether it might "not be desirable to arrange for a Conference between the repre-"sentatives of our Colonies and Dependencies and our own Census "Authorities for the purpose of discussing the essential points of "difference and of arriving, if possible, at some agreement in "regard to them. If this suggestion be adopted, the Conference "should take place prior to the commencement of the preliminaries "in connection with the taking of the Census of 1911."

In conclusion, it appears desirable to call your special attention to the Abstract of Legal Preliminaries to Marriage prevailing in the United Kingdom, in the British dominions beyond the seas, and in India *under statute law*, which is inserted on pages *1–58* of the Appendix to this Report. It follows on the abstract of the various systems of registration of births, deaths, and marriages printed in my 65th Annual Report. In that report it was pointed out that the arrangements respecting registration, though differing in detail, were practically identical in principle. It was hardly to be expected that the same identity would be found in the enactments relating to marriage, and, as will be seen from the abstract now published, such enactments, as a matter of fact, exhibit the widest diversity, not only in detail, but in principle. The abstract has been prepared, with much care and zeal, by Mr. Jastrzebski, of

this Department, from the documents collected in course of the inquiry ; and my thanks are due to the Colonial and India Offices for their cordial co-operation in the matter.

I trust the Abstract may be deemed worthy of consideration by those interested in the reform or modification of our marriage laws, and, at the same time, may be found useful to all those throughout the British Empire who have the responsibility of administering the laws and regulations connected with the important subject of marriage.

I have the honour to be,
Sir,
Your faithful Servant,

WILLIAM COSPATRICK DUNBAR,
Registrar-General.

General Register Office,
Somerset House,
December, 1907.

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 HAVE the honour to present for your information the following remarks concerning English mortality and its causes in the year 1906.

In every one of your last five Annual Reports you have been able to announce a rate of mortality more favourable than that of any year of the nineteenth century, for which records exist. And although the death-rate in 1906, namely, 15·378 per 1,000, was higher by a trifle than that of its immediate predecessor, nevertheless it was substantially below the average rate in the previous decennium.

In the year 1905 the deaths of infants were for the first time abstracted to show, in terms of registered births, the mortality from the principal causes in each of the first four weeks after birth, and in each month of the first year of life. The death-rates were also shown of survivors in each year of the first quinquennium. The results of this new departure have proved so important and so instructive, that in preparing similar tables for the present report opportunity has been taken to carry a step further our analysis of infant mortality ; the object being to distinguish the deaths occurring shortly after birth from those in which life had been prolonged beyond the first 24 hours. Infantile mortality is also shown in similar detail for representative areas, rural as well as urban. The tables in this report have been prepared on the lines of the tabular form No. V. issued by the Local Government Board, so that Medical Officers of Health have at hand reliable standards with which to compare the infantile mortality of their own districts. In the year 1904, for the information of the Duke of Devonshire's Committee on physical deterioration—on which Committee I had the honour to serve—statistics were prepared in this office to show the influence of illegitimacy on infantile mortality. To have abstracted the data for the whole country would have unduly delayed the publication of the Committee's report, and therefore the investigation was limited to London and to certain counties of England that are mainly of a rural character.

So striking, however, were the differences revealed by that limited inquiry in the mortality of illegitimate and that of legitimate infants, that an attempt has been made in the present report to discriminate, in this respect, between these two sections of the

infantile population, advantage having been taken of the arrangements which you have recently sanctioned, for ascertaining in detail the mortality of young children in the entire English population. A study of the results of these investigations shows that they are mutually confirmatory. But the later investigation has this great advantage over the earlier, that it is based on the deaths occurring among nearly a million new-born children. In this case, therefore, there is no danger of error from "paucity of data."

In the course of your remarks at page lxvii you have suitably acknowledged the valuable report of Dr. W. N. Shaw, F.R.S., on the conspicuous meteorological occurrences of the year 1906, in the British Isles. By reference to his remarks in that report and in the return for the third quarter of the year, which is usually the season for excessive infantile mortality from diarrhœa, we learn that the mean earth temperature at four feet below the surface was decidedly above, whilst the rainfall was considerably below, the average for the quarter. These weather conditions are unquestionably favourable to high mortality from this affection. But, from his further remarks, we gather that the highest temperatures were registered unusually late in the season, namely, within a period of five days at the end of August and the beginning of September. It does not appear unreasonable to suggest that the very late occurrence of abnormal heat and dryness in the third quarter of 1906 may have modified in some degree the effect of these conditions on the incidence of diarrhœa fatality. The first and last quarters of the year were, on the whole, mild and bright. The usual cold snap occurred in May, which was an abnormally dull month, but the lowest temperatures were registered in the closing days of the year; any excessive respiratory mortality caused thereby would therefore appear in the registers for 1907. We see, then, that the weather conditions of the first and last quarters of the year under notice were not unfavourable to persons of advanced age, among whom the mortality from diseases of the respiratory organs was decidedly low.

Mortality from all Causes.

In the abstracts for the year 1906, on pages 278 to 295, the causes of the deaths of males and females at the usual age groups are recorded in detail. The deaths from the same causes, but without discrimination of age, are shown for a series of 20 years in the tables on pages 22 to 63—the facts having been reduced to rates per million of the population, for purposes of comparison.

On page 21 of the present, as in several previous reports, a comparative table (Table 20) has been inserted, showing the average mortality from the principal causes for each of seven quinquennia since the year 1871. Table 27 on page 64 has also been repeated, tracing the death-rates from certain causes back to the earliest year for which the data are available.

With the object of giving graphic expression to the various degrees in which certain prevalent diseases contribute to the death-roll, the chart on the opposite page has been constructed.

The several columns show the mortality from each separate cause, compared with the mortality from all causes—the latter being represented by a column whose total height is 40 inches.

In the year 1906, 91·6 per cent. of the registered deaths were certified by Medical Practitioners—exclusive of the deaths occurring under medical care, but concerning which the certificates of medical attendants appear to have been superseded by those of the coroners. It would add considerably to the statistical value of your reports if the coroner's certificate in every case contained information as to whether or not medical evidence of cause of death had been given in his court.

Experience shows that the chief industrial centres suffer more severely from disease generally, than do the sparsely peopled country districts. For this reason, at the beginning of the current century a selection was made from among the Counties of England and Wales, showing in one group, Counties which at the Census of 1901 were mainly urban in character, containing the chief centres of industry; and, in another group, Counties in which the rural character greatly preponderates, although the group contains some considerable urban communities. For each successive year the death-rates of these county groups have been calculated, and as far as practicable corrected for differences in age and sex constitution of population. The counties included in each selected group are enumerated at foot.*

The following Table shows the death-rates from all causes and at all ages in the year 1906, and the average rates in the five preceding years. In this Table the rates are given as per 1000 of the population; but, if the decimal points be disregarded they will obviously read as per million of the population, and in that case the readings would correspond in this respect to those of most of the other Tables in the report. The corrected rates are shown in columns parallel to the crude rates; and, with the object of avoiding confusion, the figures in each column are printed in distinctive type. The Table shows that in the year 1906 the deaths from all causes corresponded to a rate of

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* (i) *Urban Registration Counties.*

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

Estimated population of Urban counties, middle of 1906—18,715,537.

(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 1906—4,356,496.

15·4 per 1000 persons living, of both sexes and at all ages. This rate, although higher by 0·2 per 1000 than that of the previous year, which had been the lowest rate on record, was nevertheless below the rate in the quinquennium 1901–05 by 3·9 per cent. Among males the rate was equal to 16·431 and among females to 14·395 per 1000 living. These rates are below the corresponding average rates in the previous quinquennium by 3·9 and 3·8 per cent. respectively.

All Causes. Mortality at All Ages.		Crude Rates. — Average, 1901-05.	Corrected Rates.* Average, 1901-05.	Corrected Rates.* Year 1906.	Ratio.†
Both Sexes	England & Wales	15·997	15·997	15·378	96
	Urban Counties ...	16·860	17·578	16·858	96
	Rural Counties ...	15·261	13·431	12·961	97
Males ...	England & Wales	17·095	17·095	16·431	96
	Urban Counties ...	18·081	18·836	18·005	96
	Rural Counties ...	16·065	14·210	13·696	96
Females ...	England & Wales	14·970	14·970	14·395	96
	Urban Counties ...	15·717	16·401	15·783	96
	Rural Counties ...	14·513	12·702	12·272	97

* 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.

† *i.e.*, the ratio of the corrected death-rates in 1906 to those in 1901–05, the latter taken as 100.

On comparing the Urban with the Rural county groups it will be seen (1) that in the former area the mortality at all ages is uniformly higher than in the latter, and (2) that the male rates are in both cases considerably in excess of the female. This is true generally with respect to the year under present notice, as well as to the quinquennial period 1901–5. It further appears from this table that not only in England and Wales as a whole, but in each county area likewise, the general death-rate of both sexes has shown a considerable reduction in the year 1906.

In confirmation of what has frequently been advanced in these reports concerning the necessity of correction for age and sex differences of population, we may cite the first two columns of figures in the above table. From this table it will be seen that correction has increased the average general death-rate in the selected urban counties by 4·3 per cent., whilst it has reduced the rate in the rural counties by not less than 12·0 per cent. It is desirable to insist that wherever comparison of local death-rates is attempted, this correction should invariably be applied. The method of correcting rates of mortality for variations in age and sex constitution of the living is fully set forth on page xxxviii of your last Annual Report.

All Causes. Mortality at Age Groups.		Average 1901–1905. England and Wales.	Average 1901–1905. Urban Counties.	Average 1901–1905. Rural Counties.	Year 1906. England and Wales.	Year 1906. Urban Counties.	Year 1906. Rural Counties.
Both Sexes	0—	49·315	56·100	36·115	45·266	51·464	32·821
	5—	3·887	4·087	2·964	3·484	3·768	2·964
	10—	2·153	2·292	1·959	2·072	2·208	1·919
	15—	3·048	3·096	3·087	2·876	2·933	2·860
	20—	3·913	3·862	4·300	3·589	3·468	4·127
	25—	5·457	5·590	5·412	5·138	5·210	5·122
	35—	9·034	9·930	7·430	8·605	9·259	7·311
	45—	15·239	17·234	11·753	14·804	16·612	11·489
	55—	29·079	32·966	23·429	29·013	32·795	23·620
	65—	85·236	89·599	82·057	86·729	92·064	82·564
Males ..	0—	53·777	60·977	40·051	49·361	55·771	36·186
	5—	3·640	4·031	2·930	3·388	3·703	2·895
	10—	2·103	2·272	1·898	1·972	2·111	1·727
	15—	3·141	3·249	2·998	3·029	3·140	2·808
	20—	4·294	4·202	4·668	3·925	3·721	4·350
	25—	5·919	6·013	5·816	5·598	5·602	5·435
	35—	9·921	10·875	7·982	9·479	10·107	7·835
	45—	17·316	19·651	13·104	16·787	18·850	12·787
	55—	32·935	37·446	26·251	33·212	37·670	27·110
	65—	90·645	96·083	86·570	92·580	98·709	88·230
Females ..	0—	44·871	51·257	32·180	41·193	47·190	29·458
	5—	3·735	4·142	2·998	3·579	3·831	3·032
	10—	2·203	2·312	2·020	2·171	2·304	2·113
	15—	2·956	2·950	3·179	2·726	2·735	2·912
	20 --	3·572	3·558	3·975	3·290	3·243	3·931
	25—	5·043	5·206	5·061	4·727	4·853	4·851
	35—	8·205	9·033	6·927	7·788	8·454	6·833
	45—	13·316	14·955	10·545	12·969	14·503	10·328
	55—	25·701	29·046	20·969	25·337	28·533	20·579
	65—	81·065	84·799	78·441	82·223	87·148	78·029

The general death-rates per 1,000 males and females living at several groups of ages are shown in the above table, the areas dealt with being the same as those in the table immediately preceding. From this table it appears that in the year under notice the general English death-rates for males were below the respective averages at all age-groups below 55–65 years, and, for females, at all age-groups except the highest. The

greatest proportional reduction occurred in the age-groups 0–5 and 20–25, in which it was equal to 8 per cent. The reduction was somewhat greater among males than among females at ages under 15 years, the reverse being generally the case at subsequent ages. In most age-groups the mortality in 1906 showed a greater reduction in the urban than in the rural counties, although the difference was less strongly marked than it had been in the year immediately preceding. As in previous years, the data for 1906 show striking differences between the mortality of the town and that of the country. Taking the average rates for 1901–05, it appears that during the first five years of life mortality in the selected rural counties was only about two-thirds of that in the urban, and that in every group of ages except the groups 20–25 in males and 15–25 in females, mortality was lowest in the selected rural counties. By reference to the table on page xcii, it will be seen that the excess of mortality at these ages in rural, as compared with urban areas, is again most strongly marked in the case of young adults dying of phthisis. There is no doubt that the exceptional mortality attributed to the rural counties at these ages is due, in part, to the return to their homes of young adults who had migrated to the towns in search of more lucrative employment, and who had contracted the disease there; although both the births and the deaths of these people had been registered in some part of the country area.

It is worthy of mention that the slight prolongation of the term of life during which rural mortality had been excessive in 1905,* has not been maintained in the year now under notice.

By way of summary of what will be found in detail under the appropriate headings in the following pages, it may be mentioned that among the diseases which in the year under notice have shown exceptional fatality, as compared with the decennial average, are cancer, which has shown an increase certainly not less than that of recent previous years: diabetes and diarrhœa have also proved more destructive than usual. The diseases that have been less fatal than the average are tuberculosis, the ordinary infectious diseases of childhood (except diarrhœa), enteric fever, premature birth, bronchitis, meningitis, and convulsions.

MORTALITY FROM SPECIFIED CAUSES.

I.—General Diseases.

The section headed "General Diseases" is provisional only—certain morbid conditions formerly regarded as merely local having been authoritatively declared to be either "infections" or "intoxications."†

The principal diseases at present included under the term "General" are enumerated in the abstracts on pages 280–285, the facts of death, but not the rates of mortality, being there shown for

* *See* Registrar General's 68th Annual Report, page lxxviii.

† *See* Nomenclature of Diseases by the Royal College of Physicians, Fourth Edition, 1906, pages 3–11.

each sex at several groups of ages. In the numbered tables* the deaths from several causes are given, without discrimination of age, and the corresponding rates of mortality are there shown for a series of years.

Small-pox.—There were registered in the year under notice 21 deaths from small-pox, corresponding to a rate of less than one per million living; the rates in the previous five years having been respectively 10, 75, 23, 15, and 4 per million.

In addition to the 21 deaths definitely referred to small-pox, chicken-pox is reported to have claimed 106 victims, but it is at least probable that some of the latter were unrecognised cases of the graver malady. In addition to the foregoing, 29 deaths were returned as from "cow-pox and other effects of vaccination." *It should be very clearly understood that the 29 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 certificate to be in any way connected with the cause of death.*

In the year 1906 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 156, corresponding to a rate of five per million persons living. Of the 21 persons definitely stated to have died of small-pox, one was returned as unvaccinated, whilst concerning the vaccinal condition of the remaining 20 only doubtful information appeared in the certificates. The mortality from the effects of vaccination, in comparison with the number vaccinated, cannot as yet be given for the year 1906; but it appears from the Thirty-sixth Annual Report of the Local Government Board that the operation of vaccination was successfully performed on 711,504 or 75·3 per cent. of the 945,500 children whose births were returned by the Vaccination Officers in 1904, 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 850,814 children 83·6 per cent. were registered as successfully vaccinated, showing the slight improvement of 0·2 per cent. upon the proportion in the preceding year.

In the same year (1904) the deaths from cow-pox and other effects of vaccination numbered 28, or one in every 25,411 vaccinated.

It is desirable, in the interest of vital statistics, that in 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.

* Tables 21–26 will be found at pages 22–63.

Of the 21 deaths occurring in England and Wales in the year under notice, 11 occurred in the East Riding of Yorkshire (10 belonging to the City of Hull) and five occurred in Devonshire (three belonging to the borough of Devonport, and two to that of Plymouth).

Measles.—The deaths of 9,444 persons at all ages were referred to measles in the year under notice, being fewer by 3,402 than the decennial average number, corrected for increase of population.

Unfortunately, the use in some districts of the term "Rubeola" to denote measles continues to cause uncertainty in the classification of deaths. In certifying the cause of death the use of the term "Rubeola" should be discontinued: and it would conduce to accuracy in the national mortality records, if the term "Morbilli," the only authorised synonym for this disease, were exclusively employed as a Latin equivalent for measles. Of the 9,444 deaths from measles, 8854 were those of children under five years, of whom 2,111 had not reached the first anniversary of their birth. Table Q, on pages cxviii–cxxiii, shows the mortality of infants in the several weeks and months of the first year of life, and also in each year of the first quinquennium. It has often been stated in these reports that measles is most destructive to infants between the ages of one and two years.

From the tables on pages cxvii–cxxvii it appears that in the year 1906 measles was less fatal than usual, the rate being equal to 224 per 100,000 living under five years, as against 267, the average rate in the preceding five years. At this stage of life measles was vastly more fatal in the town than in the country, the death-rate being equal to 306 per 100,000 children living in the urban group of counties, as compared with 95 only in the rural group. Both these rates were below the respective averages. Measles was fatal to boys at the rate of 229 per 100,000, and to girls at the rate of 220 per 100,000.

In the year under review the male rate in the selected urban counties group exceeded the female rate, but in the rural group the female rate was the higher. Among individual counties containing more than 100,000 persons at all ages those suffering inordinately from this disease were Norfolk, where the death-rate in children 0–5 years was 255 per 100,000, Denbighshire 264, Northumberland 311, West Riding of Yorkshire 337, London 358, and Lancashire 462 (Table 33). Of these counties Denbighshire, London, and Lancashire had been among the areas with highest rates in the year 1905.

Infantile mortality from measles in the several counties of England and Wales is shown in Table 32, where the deaths under one year appear in terms of total births.

Scarlet Fever.—In the year under notice this disease was fatal to 3,475 persons at all ages, a number corresponding to a rate of 101 per million of the population. This rate is lower by 29 per million than the average rate in the preceding ten years. In our reports scarlet fever was not differentiated from diphtheria until the year 1855, and it is probable that for several years after that date the two diseases were to some extent confused. If, with the help of Table 20 in the present and of the corresponding

table in preceding reports, the average scarlet fever mortality in the quinquennium 1866–70 be compared with that in the quinquennium last ended, it will be seen that in the more recent period scarlet fever was less than one-seventh part as fatal as it had been in the earlier, for, the rate fell from 960 to 126 per million, the fall having been practically continuous throughout the last 40 years.

As regards the local distribution of scarlet fever mortality, Table 31 on page 70 shows that among the counties of England and Wales containing more than 100,000 inhabitants each, the highest crude death-rates at all ages were 127 per million in Cheshire, 147 in Leicestershire, 155 in Lancashire, 172 in Middlesex, and 198 in the West Riding of Yorkshire. The above county rates have not been adjusted for deaths occurring in public hospitals; and for this reason it is that Middlesex occupies so unfavourable a position in the list. Of the 535 deaths registered either in London or in metropolitan hospitals outside the county, not less than 94 per cent. took place in public institutions. Of the five counties in the foregoing list Cheshire and Lancashire showed in 1906 a diminished scarlet fever mortality, as compared with the average in the preceding ten years, whilst Leicestershire, Middlesex, and the West Riding of Yorkshire showed an increased mortality. Of the 3,475 deaths at all ages, 2,031 or 58 per cent. occurred in children under five years of age. The table on page cxvii shows that scarlet fever was fatal in the proportion of 51 per 100,000 children living at this age, a rate which is lower by 16 than the average rate in the preceding quinquennium. From Table Q (1) on page cxviii we learn that in 1906, as in both oft he years immediately preceding, scarlet fever was much less fatal in the first than in any other year of the first quinquennium of life; it was also less fatal in the first half than in the second half of the first year after birth.

In the year 1906 as in recent previous years scarlet fever, in common with many other infectious maladies, was very much more destructive in the town than in the country: this is shown by Tables R and S, from which it appears that whilst the death-rate from this disease at the age 0-5 years did not exceed 28 per 100,000 in the rural group of counties, it was as high as 67 in the urban group. Both in the town and in the country area boys succumb to scarlet fever in greater proportion than do girls.

The incidence of fatal scarlet fever on children under five years in the separate counties of England and Wales is shown in Table 33, page 73.

Influenza.—In the year under notice this disease was returned as the cause of 6,310 deaths, equal to a death-rate of 183 per million of the population, as compared with 289 per million, the average rate in the period that has elapsed since the invasion of this country by influenza in 1889–90.

Contrary to the experience of the previous three years, London suffered somewhat more severely from influenza last year than did the extra-metropolitan portion of England and Wales, the London rate being equal to 194 per million, against 181 in the remainder of the country. The difference between town and country mortality from this disease was less pronounced in 1906 than it

had been in recent previous years, the urban and rural county rates differing from one another by only 23 per million. Among counties with more than 100,000 population the highest crude death-rates from influenza were—272 in Norfolk, 290 in Buckingham, 325 in Somerset, 326 in Dorset, 419 in Hereford, and 462 in Salop.

Whooping cough.—The deaths definitely referred to this disease numbered 8,313 at all ages, and were fewer by 3,031 than the average number in the preceding ten years, corrected for increase of population. Of the deaths at all ages not fewer than 8,065 or 97 per cent. were those of children under five years old. The Table on page cxvii shows that among children of both sexes under five years whooping-cough was responsible for a mortality equal to 204 per 100,000 living at that age, a rate which is lower by 51 than the average rate in the five years ended 1905. It is familiar knowledge that for many years past whooping-cough has been exceptionally fatal to female children. The death-rate in 1906 was 184 per 100,000 for boys, and 225 per 100,000 for girls; in the previous five-year period the rates averaged 232 and 279 respectively. From this table it further appears that whooping-cough, like most other infectious ailments, finds the greater number of its victims in the towns, the rates of the urban counties being generally considerably higher than those of the rural. Table 33 on page 73 shows that in counties with populations exceeding 100,000 at all ages the highest death-rates from Whooping Cough among children under five years were—266 per 100,000 in Leicestershire, 268 in the North Riding of Yorkshire, 284 in Staffordshire, 339 in Warwickshire, 348 in Shropshire, and 393 in Carnarvonshire.

As regards the destructive effect of whooping-cough on infants of tender age, Table Q on page cxviii, shows that this disease makes exceptional havoc among infants from the second to the twelfth month after birth; after the close of the second year the disease rapidly becomes less fatal.

Diphtheria.—The deaths referred to diphtheria (exclusive of croup not definitely stated to be membranous) numbered 6,108, and were fewer by 2,079 than the average in the preceding decennium, corrected for increase of population. This total includes 43 deaths that were originally ascribed to membranous laryngitis; but the diphtheritic nature of all these cases has since been affirmed by the medical attendants concerned. The tables still contain entries of 40 deaths under the head of membranous laryngitis, some of which were probably due to diphtheria.

Diphtheria and Croup.—In previous letters I have given the reason for combining these headings, in order to ascertain approximately the death-rate from diphtheria. In the year 1906 there were registered 460 deaths from croup. These deaths, together with those definitely referred to diphtheria, were equal to a rate of 190 per million at all ages—the average rate in the preceding decennium having been 264 per million. The mortality from diphtheria and croup was nearly identical in both sexes, the male rate being 192 per million of the male population, and the female

rate being lower than this by only three per million. The local distribution of mortality from these affections together is shown in the four tables next following, but for the reason that nine-tenths of the total deaths from diphtheria and croup occur at ages under ten years, the second and fourth of these tables refer exclusively to that period of life. From one and all of these tables it will be noted that in recent years the disease has been considerably more fatal in the town than in the country, on the other hand past records tell us that in earlier years, about the middle of last century for instance, diphtheria was regarded as for the most part a disease of sparsely populated districts—the more populous industrial areas apparently enjoying comparative immunity.*

Diphtheria and Croup. Mortality per Million Living at all Ages.		Crude Rates. — Average, 1901–05.	Corrected Rates.* Average, 1901–05.	Corrected Rates.* Year 1906.	Ratio.†
Both Sexes	England and Wales	221	221	190	86
	Urban Counties ...	245	243	194	80
	Rural Counties ...	173	177	165	93
Males ...	England and Wales	224	224	192	86
	Urban Counties ...	248	247	200	81
	Rural Counties ...	178	181	158	87
Females ...	England and Wales	217	217	189	87
	Urban Counties ...	242	240	187	78
	Rural Counties ...	168	172	172	100

* See note to table on page lxxii.

† *i.e.*, the ratio of the corrected death-rates in 1906 to those in 1901–05, the latter taken as 100.

Diphtheria and Croup. Mortality per Million Living at Ages under 10 Years.		England and Wales.	Urban Counties.	Rural Counties.
Both Sexes	1906	792	825	646
	1901–5	916	1027	691
Boys	1906	771	826	602
	1901–5	905	1013	697
Girls	1906	813	825	688
	1901–5	927	1041	686

Table J. on page lxxxi indicates that among registration counties containing populations exceeding 100,000 there were, in the year under notice, 18 in which the mortality at ages under ten years was above the average for extra-metropolitan England and Wales; of these, 11 had experienced an average mortality above the mean

* See a valuable article on the Distribution of Diphtheria in Dr. Longstaff's Studies in Statistics, 1890.

in the previous five years also. The counties with the highest rates in 1906 were the East Riding of Yorkshire, where the rate was equal to 1654 per million, Berkshire, 1329, Herefordshire, 1280, Lincoln, 1247, and the North Riding of Yorkshire, 1183.

Diphtheria and Croup. Mortality at Age Groups.		Average 1901-1905.			Year 1906.		
		England and Wales.	Urban Counties.	Rural Counties.	England and Wales.	Urban Counties.	Rural Counties.
Both Sexes	0—	1205	1393	830	996	1095	706
	5—	607	626	553	575	530	583
	10—	101	95	123	80	57	123
	15—	22	18	30	16	12	30
	20—	12	11	19	9	7	8
	25—	9	9	13	8	9	6
	35—	8	8	9	9	8	19
	45—	7	6	13	6	6	7
	55—	7	8	5	10	10	16
	65—	8	8	8	8	7	10
Males ..	0—	1230	1415	872	1010	1114	738
	5—	557	572	521	515	508	466
	10—	95	91	114	84	66	103
	15—	23	21	29	15	13	28
	20—	12	12	13	12	10	12
	25—	8	9	13	6	5	3
	35—	7	6	9	11	10	20
	45—	6	6	11	7	5	5
	55—	5	5	—	6	8	7
	65—	9	10	6	7	7	15
Females ..	0—	1180	1372	787	982	1076	674
	5—	657	679	585	634	551	701
	10—	107	99	132	77	48	143
	15—	21	16	31	17	10	33
	20—	12	11	23	6	5	5
	25—	9	9	13	11	12	9
	35—	10	10	9	8	7	19
	45—	8	7	16	6	7	9
	55—	10	10	10	13	11	24
	65—	7	7	10	9	7	6

In the East Riding the excessive mortality was largely due to apparently exceptional incidence of diphtheria in the City of Hull, where the death-rate at all ages was above the average in England

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

Registration Counties.	Average, 1901–5.	Year, 1906.
Brecknockshire*	1115	2045
East Riding	948	1654
Anglesey*	459	1472
Berkshire	653	1329
Herefordshire	519	1280
Lincolnshire	727	1247
North Riding	1127	1183
Merionethshire*	1122	1180
Bedfordshire...	722	1119
Northumberland	740	1096
Essex	1024	1086
Radnorshire*	1272	1085
Derbyshire	710	987
Durham	945	968
Hampshire	953	962
Dorsetshire	561	960
Monmouthshire	1211	933
Carmarthenshire	1144	886
Lancashire	1147	875
West Riding	949	869
Glamorganshire	1587	846
Gloucestershire	982	831
England & Wales, less London	*920*	*807*
Warwickshire	924	791
Middlesex	1009	788
Cheshire	865	774
Surrey	685	750
Denbighshire	954	729
Rutlandshire*	378	720
Staffordshire	1124	700
Norfolk	711	691
London	889	690
Buckinghamshire	1020	650
Leicestershire	880	640
Cambridgeshire	519	614
Pembrokeshire*	823	601
Kent	810	597
Carnarvonshire	529	592
Nottinghamshire	778	580
Flintshire*	1061	546
Devonshire	561	493
Somersetshire	830	477
Suffolk	559	446
Worcestershire	403	423
Shropshire	516	413
Wiltshire	600	401
Sussex...	805	390
Cumberland	781	388
Hertfordshire	538	330
Cardiganshire*	1074	312
Montgomeryshire*	321	296
Oxfordshire	474	275
Northamptonshire	532	271
Cornwall	484	226
Huntingdonshire*	362	205
Westmorland*	424	152

* The Counties to which an asterisk is attached contained, at the last Census, populations of fewer than 100,000 at all ages.

and Wales by 192 per cent. The mortality in Beverley, however, was also high.

In Berkshire the mortality from diphtheria and croup among children under ten years of age was at the rate of 1,329 per million or 537 per million more than the rate in England and Wales; this excess was mainly due to abnormal diphtheria mortality in the borough of Reading, and in the registration district of Windsor.

Herefordshire stands third highest in the order of county death-rates in the year under notice. The districts of Hereford and Ross, especially the latter, were the areas of highest mortality in this county. The undue mortality in Lincolnshire was largely caused by excessive fatality in the City of Lincoln, where the death-rate at all ages was higher than even that of the previous year, and exceeded the average for extra-Metropolitan England and Wales by 378 per cent. The districts of Bourne, Louth and Caistor also contributed inordinately to the general mortality of that county.

As had been the case in 1905, the North Riding of Yorkshire was again prominent last year among counties with excessive diphtheria fatality, the high death-rate being due to continued prevalence of this disease in the district of Middlesbrough.

In several previous reports I have referred to an area of high diphtheria mortality in Monmouthshire and South Wales. This area, the precise boundary of which changes from year to year, continues to suffer heavily from diphtheria. In the year 1905 this area contracted slightly in size, and separated into two smaller areas, the one area consisting of the districts of Crickhowell, Bedwellty, and Merthyr Tydfil; the other area, of the districts of Llandilofawr, Pontardawe, and Llanelly. In the following year (1906) there were again two areas similarly circumstanced—the first with a population of half a million, and comprising the districts of Monmouth, Abergavenny, Bedwellty, Merthyr Tydfil, and Pontypridd, where the rate averaged 69 per cent. above the mean for extra Metropolitan England and Wales; the second with a population of about 88,000, comprising the districts of Pontardawe, Llandilofawr, and Carmarthen, where the rate was in excess of that mean by 24·7 per cent.

Of the 6,568 deaths at all ages from diphtheria and croup 3,930, or 60 per cent. occurred within the first five years of life. These deaths correspond to a rate of 100 per 100,000 children living at that age, which is below the average in the previous quinquennium by 21 per 100,000. (Table P.) Table 33, page 73 shows the distribution, in registration counties, of these deaths.

Table Q (1) on page cxviii indicates that in 1906, as in recent previous years, diphtheria was much less destructive to infants in their first year of life than in any other year of the first five. The mortality, however, steadily increased from birth up to the end of the fourth year.

Cerebro-Spinal Fever.—The deaths referred to this disease in the year under notice, numbered not more than 71 in all, viz.:—34 males and 37 females, as many as 48 of which were thus referred as a consequence of the existing system of medical inquiry

respecting deaths certified as from cerebro-spinal meningitis. In the last five years the deaths classified to this heading have averaged 81 annually.

Enteric (Typhoid) Fever.—In the year 1906 there were attributed to this disease the deaths of 3,169 persons—a number corresponding to a rate of 92 per million of the population. Enteric fever was not abstracted separately from typhus and other forms of continued fever until 1869. With one exception, the death-rate in the year under notice was lower than in any other year since that date, and was less by 52 per million than the average rate in the decennium ended 1905.

As in recent previous reports, the death-rates in the following Table are given for males and females separately at all ages; the rates for the year recently ended are there compared with the respective averages in the previous quinquennium. Experience shows that, as in the case of many other diseases, the loss of life by enteric fever varies considerably, according as the area affected contains a large or a small proportion of urban population. For this reason the death-rates are shown in the Table, not only for England and Wales as a whole, but for the two groups of counties which have been specially selected as representative of urban and rural England respectively.* In this Table, where the rates are shown per million living, correction has been made for differences in the age and sex constitution of the populations.

Enteric Fever. Mortality at all Ages.		Crude Rates. — Average 1901–5.	Corrected Rates.* Average, 1901–5.	Corrected Rates.* Year 1906.	Corrected Rates.* Ratio.†
Both Sexes...	England & Wales	112	112	92	82
	Urban Counties ...	129	127	104	82
	Rural Counties ...	78	80	58	73
Males ...	England & Wales	134	134	110	82
	Urban Counties ...	156	153	123	80
	Rural Counties ...	85	87	67	77
Females ...	England & Wales	92	92	74	80
	Urban Counties ...	104	103	85	83
	Rural Counties ...	71	73	50	68

* See note to table on page lxxii.

† *i.e.*, the ratio of the corrected death-rates in 1906 to those in 1901–05, the latter taken as 100.

The foregoing Table indicates that in the year under notice, as in previous years, enteric fever was far more destructive in the town than in the country, the corrected urban rates at all ages showing an excess over the rural rates of 83·6 per cent. in the case of males, and of 70·0 per cent. in the case of females. If the mortality from this disease among males in the year under notice

* For composition of these selected county groups see page lxxi.

be compared with the average rate in the previous quinquennium, it will be seen that the urban counties have experienced a decrease of 19·6 per cent., and the rural counties a decrease of 23·0 per cent., the decrease in England and Wales as a whole being 17·9 per cent. Among females, the reduction has been equal to 17·5 per cent. in the urban counties and to 31·5 per cent. in the rural, the decrease in the whole country being 19·6 per cent.

Table 31 on pages 70–72 shows that among registration counties with populations exceeding 100,000 persons, the highest uncorrected death-rates from this disease were 186 in the East Riding of Yorkshire, 185 in Monmouthshire, 181 in Durham, 147 in Nottinghamshire, and 142 in Lancashire. Of these counties the East Riding of Yorkshire and Monmouthshire had a mortality above, whilst Durham, Nottinghamshire and Lancashire had a mortality below the respective decennial averages. In the East Riding of Yorkshire enteric fever was particularly fatal in the Cities of Hull and York, and in the Registration district of Beverley.

In Monmouthshire the areas of excessive mortality from this disease were the adjoining districts of Bedwellty and Pontypool, especially the district last named. In the remainder of Monmouthshire enteric fever was less fatal than in England and Wales generally.

In the county of Durham enteric fever mortality was generally high in the year under notice, being above that in the country generally in eleven out of the fifteen registration districts therein comprised. In the following districts the rate exceeded 200 per million of the population:—Stockton, Sedgefield, Auckland, Durham, Easington and Houghton-le-Spring.

In the "northern area of high enteric fever mortality" mentioned in several previous reports the mean death-rate from this disease in the year under notice was 196 per million.* As compared with their several averages, nine of the districts in this northern area showed improvement on the rates of the previous decennium, and five showed the opposite. Among the districts last alluded to the highest rates in the year under notice were 439 in Auckland, and 970 in Sedgefield. In one district (Chester-le-Street) of the northern area the death-rate from this disease was below the average in England and Wales.

In Nottinghamshire the principal areas of excessive enteric fever fatality were the City of Nottingham, where the death-rate was 165 per million, and the district of Mansfield, where it was as high as 313 per million. Lancashire contains many districts in which high death-rates from enteric fever prevailed in the year 1906. Among Lancashire towns with populations of more than 20,000, death-rates above 200 per million living from "fever" (mainly enteric) were recorded in Bolton, Farnworth, Heywood, Ince in Makerfield, Leigh, Swinton and Pendlebury, Widnes, and Wigan.

* 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.

In the following table the age incidence of fatal enteric fever is shown in the country generally and in both the selected county groups before referred to:—

Enteric Fever. Mortality at Age-Groups.		Average 1901-1905. England and Wales.	Urban Counties.	Rural Counties.	Year 1906. England and Wales.	Urban Counties.	Rural Counties.
Both Sexes	0—	40	46	21	30	36	15
	5—	70	83	54	51	52	27
	10—	94	106	70	81	100	62
	15—	146	165	111	120	125	101
	20—	169	183	130	123	131	80
	25—	166	187	105	139	152	79
	35—	142	165	100	116	139	68
	45—	104	121	82	98	120	44
	55—	77	90	60	68	80	61
	65—	36	42	25	26	29	20
Males ..	0—	40	47	20	30	39	17
	5—	66	80	45	46	51	8
	10—	89	98	67	74	87	51
	15—	170	194	120	141	143	115
	20—	225	245	140	157	160	95
	25—	219	247	127	190	208	97
	35—	175	204	116	144	169	98
	45—	125	146	98	121	148	73
	55—	96	111	65	83	101	68
	65—	40	46	27	33	43	22
Females ..	0—	40	45	22	29	33	13
	5—	73	85	63	56	54	46
	10—	99	113	73	88	112	74
	15—	123	137	102	100	108	86
	20—	120	127	121	94	105	68
	25—	119	132	86	92	102	64
	35—	111	128	85	90	111	41
	45—	85	98	68	76	93	19
	55—	61	72	55	55	63	54
	65—	33	39	24	21	19	18

As in the preceding table the rates are given per million of the population at the several ages, and for males and females separately, as well as for "persons" of both sexes. The table shows that both in 1906 and in the previous quinquennium this

disease was more destructive to males than to females at all ages above 15 years. With a few unimportant exceptions the rates of mortality at every age group showed a reduction in 1906 on the quinquennial average rates. In every case, and at every age group, in both periods the death-rate of the urban area exceeded that of the rural area. From this table, as from corresponding tables in previous reports, it appears that in proportion to numbers living enteric fever attains its highest mortality somewhere between the ages of 15 and 35 years.

Diarrhœal Diseases.—The deaths at all ages referred to affections of this nature numbered 30,563, or more by 4,778 than the average annual number recorded in the previous decennium, after allowance for increase of population. Of these deaths 18,201 were attributed to "infective enteritis" (*i.e.*, epidemic diarrhœa), 304 to "diarrhœa due to food," and 296 to "dysentery," whilst not fewer than 11,762 were indefinitely returned as from gastro-enteric catarrh or from "diarrhœa," simply. Examination of the Table * on page 23, reveals the encouraging fact that the proportion of deaths referred to one or other of the definite diseases above mentioned is gradually increasing at the expense of the indefinite; nevertheless, it is unsatisfactory to note the large proportion of deaths that are still indefinitely referred to such symptoms as "diarrhœa," without further qualification.

Of the 30,563 deaths from diarrhœal affections at all ages, 28,156 or 92 per cent. occurred in children under the age of five years. Of all the ailments that beset infant life diarrhœal diseases are ordinarily the most destructive. They are generally more fatal to boys than to girls. For many years past our reports have shown that the incidence of mortality from these diseases is enormously heavier in the town than in the country. The same is true of the year 1906 also. Table 33, on page 73, shows that among counties with populations exceeding 100,000, the mainly rural areas of Shropshire, Wiltshire, Dorsetshire, and Herefordshire experienced, in that year, a mortality from diarrhœal diseases varying from 242 to 284 only per 100,000 living under five years, whilst the urban areas of Durham, the East Riding of Yorkshire, Middlesex, Lancashire, and Warwickshire sustained a mortality of from 1,164 to 1,383 in the same number living at those ages. Practically the same lesson may be learnt from Table 32, on page 72, in which the infantile mortality of the several counties is shown in proportion to registered births; and again, the table on page cxvii indicates that of the total mortality in the first year of life about one-fourth part is caused by diarrhœal affections. Further remarks on mortality from these diseases will be found at page cxxxi.

Rabies.—(*Hydrophobia.*)—Not a single death from this disease has been reported either in 1906 or in any of the previous three years. In the course of the last eight years only two deaths from hydrophobia have been reported in England and Wales, and these

* In Tables P, Q, R, S, T, and U, which relate to mortality among young children, enteritis, gastritis, and gastro-enteritis (in addition to the above) are included under the head of diarrhœal diseases.

were registered in the year 1902. In the last 10 years of the 19th century the deaths from this disease averaged seven annually.

Pyæmia, Septicæmia, Septic Intoxication.—In the year 1906 the deaths of 235 males and 204 females were referred to septicæmia, and the deaths of 113 males and 81 females, to pyæmia; the deaths of females being exclusive of those occurring in connection with childbirth. As in previous reports the parts of the body certified to have been invaded by infective processes are shown in the "supplementary tables" on pages 294 and 295. Before the year 1901 the deaths from septicæmia and from pyæmia were classed together in the Registrar General's returns. In proportion to population, the annual loss of life from diseases of this nature has not varied greatly in the course of the last vicennium.

Puerperal Pyæmia, Septicæmia, Septic Intoxication.—Either to one or other of the conditions classed under this head, or else to the indefinite affection termed "puerperal fever", 1,640 deaths were referred in the year under notice, the number so certified in the previous year having been 1,734. 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 amounted to 247. Of the deaths referred to puerperal septic affections, 142 were further complicated. In 3 cases the complicating cause was stated to be scarlet fever, influenza in 6, enteric fever in 5, pneumonia in 76, tuberculous disease in 5, disease of heart or blood vessels in 10, bronchitis in 8, pleurisy in 7, and kidney disease in 6 cases. In addition to the above there occurred, in connection with pregnancy or childbirth, 2,117 deaths, particulars of which will be found in the abstracts on page 291 and also in Table K. on page lxxxviii. For further remarks on mortality of whatever kind occurring in connection with the puerperal state, see page cxiv.

Pneumonia.—In the year under notice this disease, in one or other of its forms, was returned as the cause of death in 41,825 instances. These deaths were equal to a rate of 1,210 per million living at all ages and of both sexes, or 5 per cent. below the average rate in the previous quinquennium. The 41,825 deaths were thus returned—lobar pneumonia 4,991, broncho-pneumonia 17,276, epidemic pneumonia 6, and "pneumonia," not otherwise described, 19,552. In abstracting the causes of death for the present report it has been found that some medical men still continue to use the term "capillary bronchitis" to denote deaths from broncho-pneumonia. As the only authorised synonym for the latter disease is catarrhal pneumonia, it would conduce to accuracy in the classification of causes of death if the use of the term "capillary bronchitis," as an alternative for "broncho-pneumonia," were entirely discontinued.*

* See Nomenclature of Diseases, by the Royal College of Physicians of London, fourth Edition, 1906, page 111.

TABLE K.—DEATHS OF WOMEN IN ENGLAND & WALES DURING 1906 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	4,944	131	772	2,403	1,587	51
Small-pox	1	—	1	—	—	—
Measles	3	—	2	—	1	—
Scarlet Fever	14	—	5	8	1	—
Influenza	54	1	6	33	13	1
Diphtheria	6	—	1	4	1	—
Enteric Fever	19	—	6	9	4	—
Diarrhœa	4	—	—	2	2	—
Syphilis	1	—	—	1	—	—
Gonorrhœa	3	1	2	—	—	—
Puerperal Septicæmia†	1,225	39	250	632	297	7
Puerperal Pyæmia†	66	1	12	31	21	1
Phlegmasia Alba Dolens†	102	—	9	45	46	2
Puerperal Fever†	247	9	68	115	53	2
Infective Endocarditis	6	1	—	2	3	—
Lobar Pneumonia	73	1	12	33	26	1
Broncho-Pneumonia	24	—	5	10	8	1
Pneumonia (not defined)	216	3	31	105	74	3
Tuberculous Phthisis	49	1	13	27	8	—
Phthisis (not otherwise defined)	84	2	12	45	25	—
Tuberculous Meningitis	1	—	1	—	—	—
Tuberculous Peritonitis	3	—	3	—	—	—
Other Tuberculous Diseases	11	1	1	6	3	—
Rheumatic Fever	24	1	4	12	7	—
Malignant Disease	14	—	2	4	8	—
Purpura	1	—	—	1	—	—
Anæmia	27	1	1	11	14	—
Diabetes Mellitus	2	—	—	—	2	—
Meningitis, Inflammation of Brain ..	2	—	—	2	—	—
Chorea	6	—	2	3	1	—
Epilepsy	5	—	1	2	2	—
Other Diseases of Nervous System ..	5	—	—	3	2	—
Valvular Disease, Endocarditis	93	2	2	49	40	—
Pericarditis	3	—	—	1	2	—
Dilatation of Heart	10	1	1	5	3	—
Fatty Degeneration of Heart	9	—	—	4	5	—
Other Diseases of Heart	96	—	9	46	40	1
Apoplexy, Hemiplegia	3	—	—	1	2	—
Laryngitis	1	—	—	1	—	—
Bronchitis	31	—	1	10	20	—
Emphysema, Asthma	7	—	1	2	4	—
Pleurisy	10	1	—	8	1	—
Other Diseases of Respiratory System ..	4	—	—	3	1	—
Gastric Ulcer	9	—	1	6	2	—
Other Diseases of Stomach	8	—	2	2	4	—
Enteritis, Gastro-Enteritis, Ulcer Intest..	9	—	1	4	4	—
Appendicitis	4	—	2	—	2	—
Intestinal Obstruction	6	—	2	3	1	—
Diseases of Liver	10	—	—	5	5	—
Diseases of Thyroid Body	4	—	2	1	—	1
Acute Nephritis	74	—	11	33	28	2
Chronic Bright's Disease	105	1	13	53	38	—
Ovarian Tumour	2	—	—	1	1	—
Uterine Tumour and other Diseases of Uterus.	17	—	1	9	7	—
Abortion, Miscarriage‡	143	1	11	68	59	4
Puerperal Mania‡	68	5	12	36	15	—
Puerperal Convulsions‡	438	38	107	184	106	3
Placenta Prævia, Flooding‡	618	6	40	283	281	8
Other Accidents of Pregnancy and Childbirth.‡	850	14	103	431	288	14
Violence	3	—	—	2	1	—
Other Causes	11	—	—	6	5	—

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

† Of the 1,640 deaths attributed to puerperal septic diseases, 142 were further complicated with other diseases.

‡ Of the 2,117 deaths classed to accidents of pregnancy or of childbirth, a secondary cause was mentioned in 147 cases.

Typhoid Pneumonia is an ambiguous term, the use of which in certifying deaths of this nature is still frequent with some medical practitioners. This practice is to be regretted, for the reason that the term in question may mean either pneumonia with so-called typhoid symptoms in the one case, or enteric (*i.e.*, typhoid) fever with supervening pneumonia, in the other. I venture to appeal to my medical brethren to relinquish the use of this term in their death certificates.

In the year 1906 there were registered, as from "septic pneumonia," the deaths of 263 males and 146 females. In Tables 20–26 of the present report these deaths are included under the head of "pneumonia."

From Table 22, on page 25, it appears that the crude rate of mortality from pneumonia does not greatly vary from year to year, and we find from the following table in the text—in which the rates have been corrected for age and sex differences of the living, that, as compared with the quinquennial average, there has been a general decline in pneumonia mortality in the year under notice, except among females in the selected rural counties. This table, which is continued from previous reports, emphasizes the disparity between town and country, as well as between males and females, with respect to the mortality from this disease.

Pneumonia. Mortality at all Ages.		Crude Rates. Average 1901–05.	Corrected Rates.* Average, 1901–05.	Corrected Rates.* Year 1906.	Corrected Rates.* Ratio†.
Both Sexes	England & Wales	1,271	1,271	1,210	95
	Urban Counties ...	1,482	1,510	1,420	94
	Rural Counties ...	914	860	849	99
Males ...	England & Wales	1,492	1,492	1,416	95
	Urban Counties ...	1,739	1,770	1,648	93
	Rural Counties ...	1,072	1,011	979	97
Females ...	England & Wales	1,065	1,065	1,019	96
	Urban Counties ...	1,241	1,266	1,205	95
	Rural Counties ...	766	719	727	101

* See note to table on page lxxii.

† *i.e.*, the ratio of the corrected death-rates in 1906 to those in 1901–05, the latter taken as 100.

The mortality of pneumonia varies greatly according to age. In the last Decennial Supplement a table was given (Table 5 p. cxciii.) tracing the history of pneumonia mortality through a period of 40 years. That table shows that pneumonia was more fatal at ages under five years than at any other time of life. The period of least fatality was from the fifth to the twenty-fifth year—after which age both men and women succumbed to pneumonia in rapidly increasing proportion with advancing age.

The mortality from the principal types of pneumonia varies considerably at the several stages of life. The following table shows that in 1906 "lobar" or "croupous" pneumonia was most fatal in advanced life; it further indicates that we are justified by experience in regarding broncho-pneumonia as more especially a disease of childhood, for it is at ages under five years that this form of malady is by far the most destructive. In the year under notice however, as in previous years, the mortality from broncho-pneumonia at the higher ages also is very high.

Pneumonia. Mortality at Age-groups.	Males.			Females.		
	All forms.	Lobar-Pneumonia.	Broncho-Pneumonia.	All forms.	Lobar-Pneumonia.	Broncho-Pneumonia.
All Ages	1416	187	543	1019	105	460
0–5 years	5139	188	3580	4279	144	3022
5–10 „	290	36	102	305	30	129
10–15 „	118	21	17	149	25	25
15–20 „	254	59	22	139	31	19
20–25 „	372	107	22	183	41	16
25–35 „	563	156	38	315	76	34
35–45 „	1003	245	74	539	121	67
45–55 „	1615	373	187	770	146	134
55–65 „	2729	504	457	1541	243	399
65 years and upwards	4538	602	1071	3625	411	1095

Tuberculosis.

The deaths in 1906 assigned to all forms of tuberculosis in the aggregate numbered 56,841, or fewer by 6,041 than the average number in the previous decennium, after allowance for increase of population. Tuberculosis, therefore, appears to have been the cause of 10·7 per cent. of the mortality from all causes, and to have been responsible for a death-rate of 1644 per million living, at all ages and of both sexes.

The accompanying chart, which relates to England and Wales for a long period of years, has been prepared to show, graphically, the incidence of mortality on males and females respectively, (*a*) from all forms of tuberculosis (indicated by the entire shaded portion) and (*b*) from phthisis (indicated by darker shading). The death-rates are given as per million of the male and female population, the rates at all ages having been rendered fairly comparable by recalculating them on the age-constitution of the enumerated population in 1901.

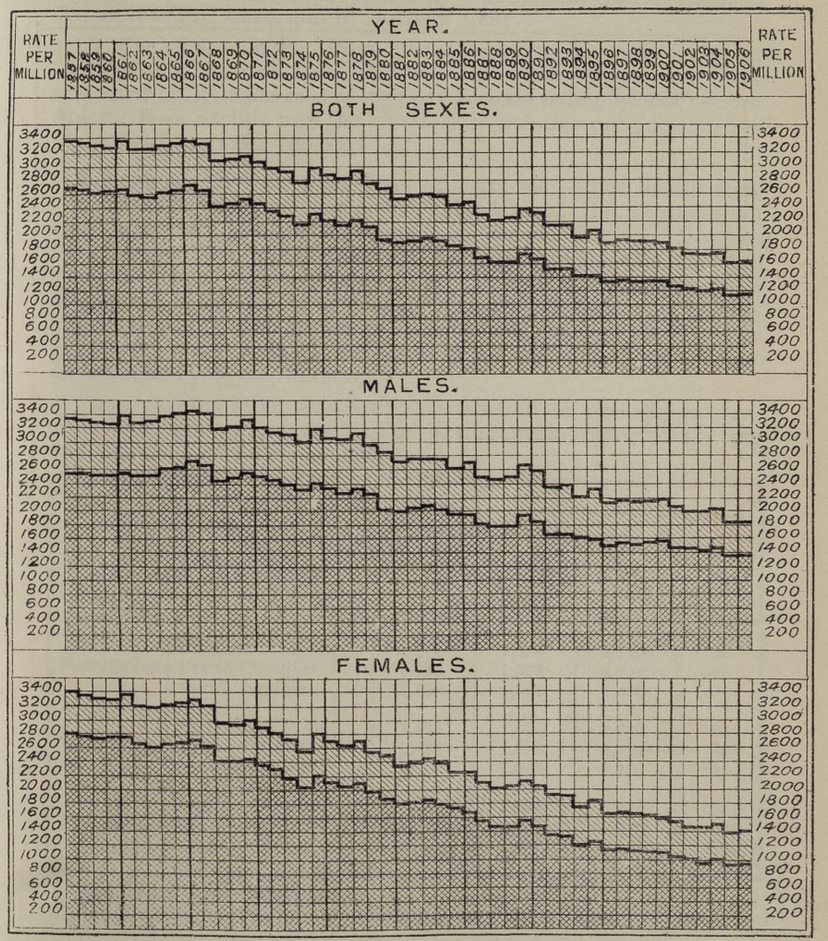
As regards tuberculous disease generally, the chart shows that throughout the last 40 years there has been a fairly steady decrease in the mortality, and that the decrease has been considerably greater among females than among males.

ENGLAND & WALES.

DEATH-RATES.

DIAGRAM VIII:-ENGLAND & WALES, 1857-1906. (a) TUBERCULOSIS (ALL FORMS), (b) PHTHISIS:-ANNUAL DEATH-RATES PER MILLION LIVING AT ALL AGES, CORRECTED FOR VARIATIONS OF AGE CONSTITUTION.

(NOTE:- THE DARKER SHADING REFERS TO PHTHISIS).



Note:- The death rates throughout the entire period are based upon the age constitution of the population as enumerated in 1901.

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Among counties with populations exceeding 100,000 persons the crude death-rate from tuberculosis in the year 1906 was highest in Carnarvonshire, where it was equal to 2,131 per million living, in Carmarthenshire where the rate was 2,067 per million, in Northumberland 2,058 per million, and in London 1,975 per million. Among males, the rates were excessive in London 2,465 per million, in Carnarvonshire 2,244, in Lancashire 2,180, and in Sussex 2,081 ; among females the rates were excessive in Carmarthenshire 2,299 per million, in Northumberland 2,094, in Carnarvonshire 2,029, and in Durham 1,865.

Of the 56,841 deaths from tuberculosis, at all ages, 10,859 or 19·1 per cent. were those of children under the age of five years, who died of it at the rate of 275 per 100,000 living, of both sexes. Among boys at this age the death-rate was 297 per 100,000, and among girls, 253 per 100,000.

Tuberculous phthisis (pulmonary tuberculosis).—The deaths from "tuberculous phthisis" numbered 18,384, and the deaths from "phthisis," not otherwise defined, numbered 21,362. Not less than 70 per cent. of the total deaths from tuberculosis are thus accounted for. The mortality from phthisis in the year under notice was at the rate of 1,150 per million living, which is slightly higher than the rate of the preceding year, but otherwise is the lowest rate on record, and is below the rate of the quinquennium ended 1905 by 64 per million.

The following table shows the distribution of phthisis, by sex, and by locality, the several rates having been corrected for age and sex differences of population :—

Phthisis. Mortality at all Ages.		Crude Rates. — Average, 1901–05.	Corrected Rates.* Average, 1901–05.	Corrected Rates.* Year 1906.	Ratio.†
Both Sexes	England & Wales ...	1,214	1,214	1,150	95
	Urban Counties ...	1,310	1,303	1,219	94
	Rural Counties ...	1,106	1,140	1,088	95
Males ...	England & Wales ...	1,434	1,434	1,356	95
	Urban Counties ...	1,588	1,581	1,474	93
	Rural Counties ...	1,218	1,256	1,164	93
Females ...	England & Wales...	1,009	1,009	957	95
	Urban Counties ...	1,049	1,043	979	94
	Rural Counties ...	1,001	1,031	1,018	99

* See note to table on page lxxii.

† *i.e.*, the ratio of the corrected death-rates in 1906 to those in 1901–05, the latter taken as 100.

In the year under notice phthisis accounted for a death-rate of 1,356 per million at all ages among males, and of 957 per million among females, the male rate being lower than the quinquennial average by 5·4 per cent., and the female rate lower by 5·2 per cent. Among males phthisis mortality in the urban group of counties was higher than in the rural group by 26·6 per

cent., whilst the corresponding mortality among females was lower by 3·8 per cent. in the urban group than in the rural.

The rates of mortality from phthisis in the several counties of England and Wales are shown approximately in Tables 29 and 30.*

Phthisis. Mortality at Age-groups.		Average 1901–1905.			Year 1906.		
		England and Wales.	Urban Counties.	Rural Counties.	England and Wales.	Urban Counties.	Rural Counties.
Both Sexes	0—	338	401	241	324	371	274
	5—	172	189	140	160	178	118
	10—	287	284	316	263	270	265
	15—	871	844	1,004	857	843	896
	20—	1,389	1,294	1,774	1,309	1,191	1,764
	25—	1,805	1,788	1,987	1,691	1,636	1,878
	35—	2,195	2,452	1,746	2,075	2,267	1,751
	45—	2,208	2,617	1,551	2,106	2,468	1,490
	55—	1,762	2,075	1,374	1,644	1,962	1,182
	65—	946	1,137	768	931	1,108	753
Males	0—	363	437	251	344	388	279
	5—	149	164	125	126	140	93
	10—	173	184	156	149	150	150
	15—	765	758	815	770	787	729
	20—	1,572	1,462	1,959	1,406	1,263	1,793
	25—	2,100	2,077	2,289	1,956	1,893	2,061
	35—	2,687	3,048	2,054	2,563	2,872	1,921
	45—	3,041	3,698	1,959	2,919	3,456	1,940
	55—	2,506	3,053	1,770	2,376	2,945	1,533
	65—	1,303	1,670	942	1,330	1,653	944
Females	0—	314	364	232	304	353	270
	5—	196	213	155	194	216	144
	10—	401	384	477	376	388	381
	15—	974	926	1,200	943	896	1,069
	20—	1,226	1,145	1,610	1,222	1,127	1,720
	25—	1,541	1,526	1,725	1,459	1,403	1,719
	35—	1,734	1,886	1,465	1,620	1,693	1,596
	45—	1,437	1,598	1,186	1,353	1,538	1,088
	55—	1,111	1,220	1,030	1,003	1,102	877
	65—	671	743	629	624	705	601

* The rates in registration counties have not been corrected for age and sex differences of population, but the preceding table shows that correction does not greatly alter the rates in the case of phthisis.

These tables show that, disregarding counties of fewer than 100,000 inhabitants, phthisis was least fatal among males at all ages in Buckinghamshire, where the crude rate was equal to 870 per million, in Wiltshire 893, in Monmouthshire 918, and in Derbyshire 961 per million. On the other hand, the rates rose to 1,584 in Sussex, 1,595 in Lancashire, 1,690 in Carnarvon, and 1,848 in London. Among females at all ages, although the crude rate did not exceed 731 in Buckinghamshire, 745 in Somersetshire, 759 in Derbyshire, and 763 in Middlesex, it rose to 1,184 in Durham, 1,313 in Northumberland, 1,419 in Carnarvonshire, and 1,588 in Carmarthenshire.

In several recent Annual Reports the high phthisis mortality in some parts of Wales has been specially referred to. Tables 29 and 30 in the present report show that in three counties the rates for 1906, among males, were above the average for England and Wales, whilst in ten counties the rates among females were similarly in excess. In that year the highest rates among males were 1,396 per million in Merionethshire, 1,690 in Carnarvonshire, and 2,358 in Cardiganshire, while among females the highest rates were 1,588 in Carmarthenshire, 1,765 in Merionethshire, and 2,283 in Cardiganshire. Reference to the 68th Annual Report shows that in the year 1905 also, Cardiganshire had been among the counties with highest rates from phthisis, in both sexes.

The incidence of fatal phthisis at specified ages is shown in the Table on p. xcii, the mortality being given for males and females separately, and the urban rates being distinguished from the rural by the use of special type. On examining this table it will be seen that the mortality at the several age groups was for the most part below the quinquennial average. In the urban county group only three exceptions to this were observed, and these were comparatively trivial; but in the rural county group the exceptions were somewhat more important. For example, the table indicates that in the rural group, phthisis mortality under five years of age showed an increase on the rate of the previous quinquennium of 11 per cent. in boys, and an increase of 16 per cent. in girls. In the year under notice rural mortality was higher than urban in males from 20 to 35 years of age, and in females from 15 to 35 years. At almost all other ages urban mortality was the highest.

Tuberculous Meningitis.—Either to "tuberculous meningitis" or to "acute hydrocephalus," 6104 deaths were referred in the year under notice, or fewer by 649 than the corrected average number in the preceding decennium.* Of the deaths at all ages, 67 per cent. were those of children under the age of five years. Among boys of this age, 111 died of tuberculous meningitis in each 100,000 living, and among girls, 96 in the same number living. Comparing the present with the past, it appears that in recent years there has been a considerable fall in the registered mortality from tuberculous meningitis. This will be seen from the following table, which gives for each of the last four quinquennia, the

* Of these 6,104 deaths, 53 were returned as from "acute hydrocephalus."

average death-rates in each hundred thousand of the population under five years old.

Quinquennia.	Boys.	Girls.	Both Sexes.
1887–91	162	119	140
1892–96	150	116	133
1897–1901	136	111	123
1902–06	117	101	109

From this table it will be seen that the mortality from tuberculous meningitis has fallen more rapidly among boys than among girls.

Tables Q, R, and S (pages cxviii–cxxvii) confirm the corresponding tables in the two preceding reports, and show that tuberculous meningitis is very fatal at an early stage of life. In the year 1906, there were referred to this disease 147 deaths in the first year of age, out of every hundred thousand births, of which deaths 50 occurred in the first six months, and 97 in the last six months of that period. In the tables above referred to, the mortality from tuberculous meningitis is shown for each week and month of the first year of life, and also for each year of the first quinquennium.

Tuberculous Peritonitis.—In the year under notice, 5,095 deaths were referred either to "tuberculous peritonitis" or to "tabes mesenterica."* These deaths are fewer by 1,156 than the corrected annual average number in the previous decennium. Of the total deaths 67 per cent. were those of children under five years old. Tables Q (2) and Q (3) on pages cxx to cxxiii show that among boys at this age, 95 died in every hundred thousand living, and that among girls, 79 died in the same number living. Table P. in the present report confirms the corresponding table in the report for 1905, and shows that in early infancy tuberculous peritonitis is even more fatal than is tuberculous meningitis; from the former disease, the deaths registered in the first six months of life were not fewer than 115, and in the second six months, not fewer than 90 per 100,000 births.

As in the case of most other forms of tuberculosis, there has been a considerable decrease in the mortality from tuberculous peritonitis. This will be seen from the following table, which gives for each of the last four quinquennia the average death-rates from this disease in each hundred thousand living under five years of age.

Quinquennia.	Boys.	Girls.	Both Sexes.
1887–91	189	151	170
1892–96	168	137	153
1897–1901	145	116	131
1902–1906	109	87	98

* Of these deaths 24 per cent. were referred to "tabes mesenterica"; a term that has been expunged from the recently published Nomenclature of diseases, by the Royal College of Physicians. The use of this indefinite term has been discontinued by the medical staffs of the principal London hospitals.

It will thus be seen that although tuberculous peritonitis still continues to be more fatal to boys than to girls, there has been in both sexes a proportionate decrease of nearly the same amount in each quinquennium since 1887–91.

Other Tuberculous Diseases.*—In the year 1906, there were referred to "General Tuberculosis" 3,954 deaths, 2,128 of which were those of children under ten years of age. The deaths from lupus, scrofula, and tuberculous disease of the bones, joints and specified parts other that those already mentioned were 1,942 in number. The mortality from these diseases, taken together, was therefore equal to 169 per million, which is slightly below the average rate in the preceding ten years (*see* Table 22).

Alcoholism.—Under the head of alcoholism, or of delirium tremens, there were returned in the year under notice the deaths of 2,281 persons, viz., 1,341 males and 940 females. Of this total 39 had been originally certified as from hæmatemesis, paralysis, dropsy, or other indefinite cause, the true nature of the fatal malady having been ascertained from the medical attendant by subsequent correspondence in each case. Among males, the deaths at all ages from alcoholism corresponded to a rate of 80 per million living, and among females, to a rate of 53 per million, both of which rates are considerably below the average in recent previous years. Of the total deaths from alcoholism in the last three years, about nine-tenths occurred within the "main working period of life," viz., at ages from 25 to 65 years, whilst the proportion of deaths from all other causes, within the same age limits, was less than one-third of the total at all ages.

The difficulty of arriving at even an approximate estimate of the mischief caused annually by the abuse of alcohol has frequently been alluded to in these pages. At best, but an imperfect measure of this mischief is furnished by the mortality actually assigned to alcoholism or to delirium tremens. The deaths definitely referred to these causes are much fewer than they would otherwise be, because the wish to spare the feelings of relatives undoubtedly leads to diminution of the deaths thus entered in the registers. For this reason many of the deaths caused by alcoholism are attributed in medical certificates either to some disease of the nervous system, or to liver disease in one or other of its forms. There is some doubt whether the returns, with respect to hepatic cirrhosis, are even now complete; for, Table 22 shows that a considerable, albeit decreasing, number of deaths are still referred to ill-defined diseases of the liver, and it is practically certain that some of these should properly be classed to cirrhosis. In existing circumstances, probably the best available indication of the extent to which this particular form of intemperance prevails in England and Wales is still afforded by fluctuations in the combined mortality from alcoholism and cirrhosis of the liver. But, since the deaths from

* Attention is again directed to the fact that in the latest revised Nomenclature of the Royal College of Physicians there is an instruction that the terms "strumous" and "scrofulous" should no longer be used.

these two diseases occur to the extent of 99 per cent. among persons above the age of 25 years, it is obvious that the rates shown in Tables 24 and 26 imperfectly express the actual mortality, for these rates are based on the population at all ages. Clearly, then, it will be more accurate to compare the deaths with that part of the population in which they almost exclusively occur. In the following table this has been done, the deaths at ages over 25 years being compared with the population per million living at the same ages, for each year since 1901.

Alcoholism and Cirrhosis of the Liver. Mortality at ages above 25 years.	Males.			Females.		
	Alcoholism.	Cirrhosis of the Liver.	Both Diseases.	Alcoholism.	Cirrhosis of the Liver.	Both Diseases.
1901	236	317	553	163	231	394
1902	220	304	524	132	209	341
1903	192	287	479	127	202	329
1904	179	285	464	111	204	315
1905	165	276	441	105	211	316
1906	168	268	436	107	197	304
Ratio per cent. of Mortality in 1906 to that in 1901.	71	85	79	66	85	77

The recorded mortality from alcoholism and cirrhosis of the liver thus appears to have fallen in the course of the last quinquennium, the rate having decreased since 1901 by 21 per cent. among men, and by 23 per cent. among women.

Rheumatic Fever.*—(Acute and sub-acute rheumatism.)—The abstracts on pages 284 and 285 show that 1,090 males and 1,129 females died of this disease in the year under notice, these deaths being equal to rates of 65 and 63 per million living, of these sexes respectively. The experience of the last six years shows that rheumatic fever is most fatal in males at ages 25 to 35 years and in females at ages from 10 to 20 years. At ages under five years boys are more liable than girls to succumb to it, whilst in the 10 year period 5–15 the disease is more fatal to girls. Between the ages of 15 and 25 years the mortality is approximately equal in both sexes, whilst at ages 25–75 men die of rheumatic fever in relatively larger numbers than women.

Gout.—To this disease the deaths of 366 males and 95 females were referred, in the year under review. The mortality, in males, was therefore equal to 22 per million, and in females, to 5 per million living. In your 68th Report (page xcix) a table was inserted showing, for England and Wales, the mortality from gout—the

* Previous to the beginning of the current century rheumatic fever had been classed together with rheumatism of the heart; consequently the present mortality from rheumatic fever cannot be compared with that prevailing at periods earlier than 1901.

rates at several ages for 1871–5 being compared with those for 1901–5. The figures indicate that among women, as well as among men, gout is now less fatal than formerly, at most ages above 35 years. As the data for 1906 generally support this indication, the table has not been repeated for the present report.

Malignant Disease.

The deaths assigned to cancer, or malignant disease, in the year 1906 amounted to 31,668, and were more numerous by 2,882 than the average in the ten years ended 1905, corrected for increase of population. Among males the deaths were in excess of the corrected decennial average by 16 per cent., and among females, in excess by 6 per cent. Applying the deaths at all ages to the aggregate populations of the respective sexes, we find that in the year under review this disease was fatal in males, to 794 per million living, and in females, to 1,032 per million living. Both of these rates are the highest on record.

The chart facing page xcviii has been designed to show the rapid and practically steady increase in the recorded mortality from malignant disease, in the last half century, among males and females. The chart shows by distinctive shading how large a proportion of cancer mortality in females, and how small a proportion in males, has been due in the years 1897–1906 to invasion of the generative and mammary organs. It further emphasizes the statement in the text, that if malignant disease of these organs be left out of account, cancer is more destructive to the male sex than to the female.

Cancer. Mortality per million Living at ages above 35 years.		Crude Rates. — Average, 1901–05.	Corrected Rates.* Average, 1901–05.	Corrected Rates.* Year 1906.	Ratio.†
Both Sexes	England & Wales ...	2,600	2,600	2,759	106
	Urban Counties ...	2,555	2,707	2,895	107
	Rural Counties ...	2,781	2,420	2,507	104
Males ...	England & Wales ...	2,220	2,220	2,441	110
	Urban Counties ...	2,162	2,329	2,592	111
	Rural Counties ...	2,446	2,063	2,193	106
Females ...	England & Wales ...	2,940	2,940	3,044	104
	Urban Counties ...	2,911	3,046	3,166	104
	Rural Counties ...	3,074	2,739	2,789	102

* See note to table on page lxxii.

† *i.e.*, the ratio of the corrected death-rates in 1906 to those in 1901–5, the latter taken as 100.

The preceding table shows the rate of mortality from malignant disease at that time of life when cancer is most destructive—namely at ages above 35 years. In this table the rates are shown (*a*) for

England and Wales as a whole, (*b*) for a selected group of urban counties containing more than 18,000,000 inhabitants, and (*c*) for a selected group of rural counties of which the aggregate population exceeds 4,000,000.*

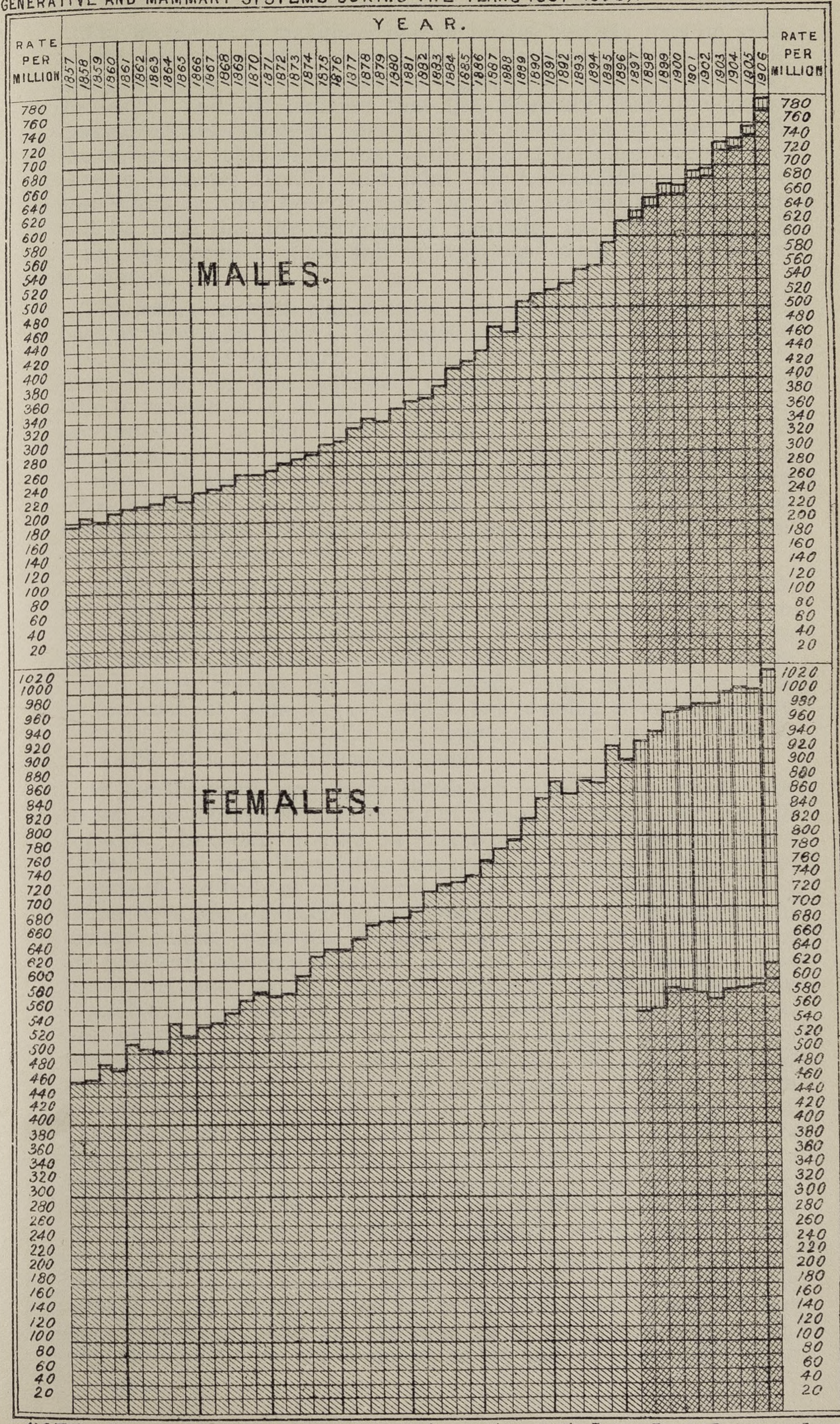
According to this table it appears that cancer mortality continues to increase more rapidly among males than among females. The crude death-rates there given would seem to indicate that cancer is more prevalent in the country than in the town; whereas the reverse is, in reality, the case; for, the rates after due correction for age differences among the living clearly prove that the rural areas suffer much less severely than the urban.

In this connection it is necessary to revert to a difficulty which has been discussed in previous reports—a difficulty arising from the fact that a considerable proportion of the beds in the hospitals of our chief towns are occupied by patients who have migrated thither from the country. Many of the cancer patients die in hospital, and their deaths are attributed to the districts in which they occur. In order, however, to ascertain the true local distribution of cancer it is obviously essential that every death occurring in hospital should be referred to the place in which the patients had previously resided. But, in present circumstances, it appears that the complete distribution of hospital deaths is impracticable.

Cancer. Mortality at Age-Groups.		Average 1901-05.			Year 1906.		
		England and Wales.	Urban Counties.	Rural Counties.	England and Wales.	Urban Counties.	Rural Counties.
Both Sexes	35—	658	713	576	671	723	542
	45—	1,987	2,143	1,740	2,052	2,255	1,662
	55—	4,134	4,355	3,802	4,438	4,665	4,174
	65—	6,656	6,758	6,517	7,135	7,336	6,870
	75—	7,566	7,291	7,584	8,243	8,099	7,954
Males ..	35—	411	449	359	452	493	366
	45—	1,532	1,696	1,285	1,656	1,889	1,249
	55—	3,799	4,047	3,472	4,242	4,466	3,941
	65—	6,548	6,666	6,438	7,200	7,478	6,853
	75—	7,425	7,129	7,558	8,056	8,021	7,850
Females ..	35—	888	963	774	876	941	701
	45—	2,409	2,565	2,146	2,419	2,599	2,032
	55—	4,427	4,624	4,089	4,610	4,838	4,377
	65—	6,742	6,829	6,582	7,082	7,227	6,883
	75—	7,667	7,397	7,604	8,376	8,150	8,032

* The composition of these county groups may be seen at page lxxi.

DIAGRAM IX:- ENGLAND & WALES 1857-1906. CANCER:-ANNUAL DEATH-RATES PER MILLION LIVING AT ALL AGES, CORRECTED FOR VARIATIONS OF AGE CONSTITUTION.
(NOTE:-THE PORTION SHADED VERTICALLY REPRESENTS THE MORTALITY ASCRIBED TO CANCER OF THE GENERATIVE AND MAMMARY SYSTEMS DURING THE YEARS 1897-1906).



NOTE:-The death rates throughout the entire period are based upon the age constitution of the population as enumerated in 1901.

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The incidence of malignant disease on age and sex may be seen by the foregoing table, which shows the mortality per million living at each of five groups of ages, from 35 years upwards. Tables L. and M. indicate that the mortality from malignant disease occurs mainly in persons above the age of 35 years : and the foregoing table shows that as the higher ages are reached the disease becomes rapidly more fatal. If the mortality of England and Wales in 1906 be compared with the average in 1901–05, it will be seen that the increase of mortality has taken place at every age group in men, and at every age group above 55 years in women.

The frequency with which cancer attacks different parts of the body is shown by Table L. for males, and by Table M. for females. The statistics of 1906 agree with those of each of the previous five years in proving that malignant disease, in the aggregate, is more fatal to women than to men. This difference, however, may be accounted for by the known tendency of the disease to attack the generative and mammary organs of women, rather than those of men. In the six years 1901–6 the registered deaths of males from malignant disease, other than that of the generative and mammary organs, corresponded to a rate of 723 per million, the deaths of females to a rate of 591 per million.

In the Registrar General's Annual Reports for several years past the deaths from malignant diseases in England and Wales have been classified according to the part of the body invaded. By this means it has been established that there are certain organs which rarely become the seat of cancer. And, further, that even in the case of some organs which are invaded more frequently than the average, the deaths in a single year are too few to form a reliable basis for statistical treatment.

In the six years, 1901–6, the death-roll from cancer included not fewer than 176,019 persons, 71,601 of whom were males and 104,418 females. In order to show in a convenient form and on a satisfactorily wide basis the relative susceptibility to cancer of the various organs of the body at different stages of life, the numbers in these tables have been reduced proportionally to 10,000 of all deaths from cancer, among males and females respectively. The proportions for males are shown in Table N, those for females in Table O. It is hardly necessary to insist that these tables are not intended to show the relative frequency of cancer of any particular organ in one sex, as compared with the other sex. They are designed to give a ready means of determining *for each sex separately* the extent to which any organ or part of the body is attacked. Table N., which relates exclusively to males, may be read thus—according to the experience of 1901–6, of 10,000 males dying of cancer, 2,172 suffered from cancer of the stomach, of which number 37 were under the age of 35 years, 149 from 35 to 45, 406 from 45 to 55, 696 from 55 to 65, 653 from 65 to 75, 219 from 75 to 85, and 12 were aged 85 years or upwards. Table O., which relates exclusively to females, may be read similarly. Thus—in the six years 1901–6, of 10,000 females dying of cancer, 2,259 suffered from cancer of the uterus, 100 of whom were less than 35 years of age, 404 were from 35 to 45, 657 from 45 to 55, 595 from 55 to 65, 367 from 65 to 75, 122 from 75 to 85, and 14 were aged 85 or

TABLE L.—ENGLAND and WALES.—DEATHS from MALIGNANT DISEASE, 1901–1906, CLASSIFIED according to AGE, and PART AFFECTED.

MALES.

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 ..	71,601	77	74	81	89	80	401	187	170	269	431	1,656	TOTAL.
Skin of—													Skin of—
Face	1,409	1	2	—	1	2	6	1	—	6	4	16	Face.
Lip	1,126	—	1	—	—	—	1	—	—	—	—	3	Lip.
Nose	133	—	—	—	—	—	—	1	3	3	2	5	Nose.
Scalp	71	—	2	—	—	—	2	1	—	1	2	5	Scalp.
Ear	134	1	—	—	1	—	2	1	1	1	—	3	Ear.
Stomach	15,553	1	—	—	—	—	1	—	—	3	18	246	Stomach.
Intestines	5,439	3	2	1	2	2	10	5	3	8	24	146	Intestines.
Rectum	7,277	—	1	—	—	—	1	—	4	9	38	175	Rectum.
Breast	133	—	—	—	—	—	—	—	—	1	—	1	Breast.
Œsophagus	4,505	—	—	—	—	—	—	—	1	—	—	23	Œsophagus.
Liver and Gall Bladder ..	9,328	6	2	5	9	3	25	13	8	13	22	133	Liver and Gall Bladder.
Pancreas	1,252	—	—	—	—	—	—	—	1	3	7	38	Pancreas.
Bladder and Urethra ..	2,240	—	—	—	6	1	7	4	2	2	1	21	Bladder and Urethra.
Pharynx, Throat	1,557	2	—	—	—	2	4	3	9	8	9	30	Pharynx, Throat.
Larynx and Trachea	1,348	1	—	—	1	—	2	—	1	—	2	6	Larynx and Trachea.
Thyroid	120	—	—	—	—	1	1	1	1	1	1	—	Thyroid.
Tongue	3,898	—	—	—	—	—	—	—	—	1	1	22	Tongue.
Mouth	1,327	—	1	1	2	1	5	—	1	3	4	10	Mouth.
Prostate..	744	—	—	—	—	—	—	1	—	2	1	2	Prostate.
Peritoneum	645	4	3	1	4	3	15	4	2	5	10	41	Peritoneum.
Pleura	51	—	—	—	—	—	—	—	—	—	1	5	Pleura.
Brain	666	3	3	5	10	13	34	37	28	32	41	105	Brain.
Spinal Cord	38	—	—	1	—	—	1	—	—	1	3	3	Spinal Cord.
Heart and Pericardium ..	7	—	—	—	—	—	—	—	—	—	—	2	Heart and Pericardium.
Globe of Eye, Orbit	230	2	3	20	15	9	49	16	6	3	2	7	Globe of Eye, Orbit.
Axilla	97	—	—	1	—	1	2	3	—	—	—	8	Axilla.
Groin	134	—	—	—	—	—	—	—	—	1	3	10	Groin.
Lymphatic Glands	164	2	—	1	—	1	4	3	5	2	7	11	Lymphatic Glands.
Shoulder	124	—	—	—	1	1	2	2	5	6	6	11	Shoulder.
Arm, Leg	996	5	5	1	2	1	14	8	20	46	51	72	Arm, Leg.
Hip	58	—	—	—	—	—	—	—	1	4	3	5	Hip.
Skull	95	—	3	3	4	1	11	7	2	1	10	5	Skull.
Rib, Sternum	114	—	—	—	—	—	—	4	2	2	4	8	Rib, Sternum.
Spinal Column	165	—	1	—	1	—	2	1	2	5	3	14	Spinal Column.
Jaw	2,116	4	4	1	3	2	14	10	7	8	11	26	Jaw.
Buttock	16	1	—	—	—	—	1	—	—	1	—	2	Buttock.
Pelvic Bones	358	1	3	—	1	1	6	9	3	11	11	33	Pelvic Bones.
Kidney and Supra-Renals ..	759	16	26	23	10	20	95	18	5	5	12	27	Kidney and Supra-Renals.
Testes and Penis	1,064	1	—	2	1	1	5	1	2	6	22	113	Testes and Penis.
Parotid Gland	221	—	—	—	1	1	2	2	1	—	3	8	Parotid Gland.
Lung	908	1	—	2	2	1	6	5	5	12	28	61	Lung.
Mediastinum	682	—	1	1	2	1	5	6	7	17	14	45	Mediastinum.
Mesentery	169	2	—	—	1	—	3	4	1	2	5	6	Mesentery.
Lymphatic Glands of Neck ..	2,078	6	1	1	1	4	13	5	10	9	23	44	Lymphatic Glands of Neck.
Spleen	158	1	3	2	—	—	6	2	1	3	—	11	Spleen.
Abdomen	943	3	4	2	6	4	19	3	5	9	9	40	Abdomen.
Thorax	202	1	1	—	—	3	5	2	1	6	2	13	Thorax.
Part not stated	749	9	2	7	2	—	20	4	12	7	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.

MALES.

45—	55—	65—	75—	85 and upwards.	Part of the Body Affected.*
13,434	21,791	19,710	7,763	784	TOTAL.
179	289	391	351	90	Skin of— Face.
97	233	353	320	85	Lip.
20	28	32	28	7	Nose.
8	19	17	10	3	Scalp.
12	15	36	47	11	Ear.
2,898	4,984	4,679	1,566	89	Stomach.
919	1,593	1,648	657	44	Intestines.
1,233	2,258	2,186	876	79	Rectum.
29	34	45	16	3	Breast.
1,034	1,662	1,163	362	24	Œsophagus.
1,610	2,932	2,786	1,052	106	Liver and Gall Bladder.
270	388	310	90	4	Pancreas.
332	617	792	322	39	Bladder and Urethra.
356	541	377	114	6	Pharynx, Throat.
342	479	330	93	5	Larynx and Trachea.
27	41	27	9	—	Thyroid.
280	999	1,353	899	319	24 Tongue.
81	260	420	392	134	17 Mouth.
53	208	317	139	10	Prostate.
59	119	181	145	59	5 Peritoneum.
6	8	14	9	6	— Pleura.
128	121	97	38	4	1 Brain.
8	8	5	7	2	— Spinal Cord.
—	3	1	1	—	— Heart and Pericardium.
11	20	30	46	33	7 Globe of Eye, Orbit.
11	9	20	27	14	3 Axilla.
14	32	38	22	12	2 Groin.
21	27	40	31	13	— Lymphatic Glands.
12	16	27	21	13	3 Shoulder.
74	123	190	209	158	31 Arm, Leg.
7	10	9	9	9	1 Hip.
6	15	18	14	5	1 Skull.
12	24	25	23	9	1 Rib, Sternum.
15	36	47	33	7	— Spinal Column.
144	448	661	551	223	13 Jaw.
1	1	3	4	3	— Buttock.
44	59	84	70	27	1 Pelvic Bones.
78	137	186	144	50	2 Kidney and Supra-Renals.
161	208	199	202	124	21 Testes and Penis.
13	46	57	57	29	3 Parotid Gland.
128	225	245	158	31	4 Lung.
90	167	178	121	30	2 Mediastinum.
19	39	38	37	14	1 Mesentery.
162	493	653	453	196	17 Lymphatic Glands of Neck.
15	22	48	39	11	— Spleen.
75	165	258	259	95	6 Abdomen.
16	43	68	34	10	2 Thorax.
63	132	217	165	71	11 Part not stated.

TABLE M.—ENGLAND and WALES.—DEATHS from MALIGNANT DISEASE in 1901-1906, 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—	35—	45—	55—	65—	75—	85 and upwards.	
TOTAL ..	104,418	59	62	76	71	57	325	137	154	281	361	3,002	11,338	22,506	28,615	25,216	10,997	1,486	TOTAL.
Skin of—																			Skin of—
Face	960	—	—	—	2	1	3	1	4	1	1	10	39	93	148	273	298	89	Face.
Lip	93	1	1	—	—	—	2	—	—	—	—	—	2	7	9	31	34	8	Lip.
Nose	108	—	—	—	—	—	—	1	—	—	3	1	1	10	17	37	30	8	Nose.
Scalp	105	—	—	1	—	—	1	—	—	—	—	3	5	15	21	29	25	6	Scalp.
Ear	51	—	—	—	—	—	—	—	—	—	—	2	6	14	11	8	8	2	Ear.
Stomach	14,737	—	—	—	—	1	1	—	1	1	12	221	984	2,628	4,410	4,508	1,805	166	Stomach.
Intestines	7,380	—	—	—	—	—	—	2	4	11	23	160	465	1,203	2,115	2,273	1,013	111	Intestines.
Rectum	6,185	—	—	—	—	—	—	—	—	15	25	204	498	1,109	1,745	1,718	786	85	Rectum.
Uterus	23,590	—	2	—	—	—	2	—	2	5	30	1,010	4,208	6,859	6,219	3,828	1,277	150	Uterus.
Breast	17,305	—	—	—	—	—	—	—	1	3	11	354	2,176	4,248	4,497	3,624	1,982	409	Breast.
Œsophagus	1,537	—	—	—	—	—	—	—	—	—	1	83	173	294	367	412	190	17	Œsophagus.
Liver and Gall Bladder ..	14,112	5	4	6	4	8	27	8	4	11	15	152	812	2,416	4,444	4,312	1,740	171	Liver and Gall Bladder.
Pancreas	1,178	—	—	1	—	—	1	1	2	1	3	29	90	217	390	324	109	11	Pancreas.
Bladder and Urethra ..	949	—	—	—	1	—	1	—	—	—	—	15	66	128	248	308	162	21	Bladder and Urethra.
Pharynx, Throat	453	—	—	—	—	—	—	3	5	6	5	21	64	91	121	87	48	2	Pharynx, Throat.
Larynx and Trachea	458	—	—	—	—	—	—	1	—	2	—	38	80	108	116	88	20	5	Larynx and Trachea.
Thyroid	335	1	—	1	—	—	2	—	—	2	3	13	32	56	101	87	33	6	Thyroid.
Tongue	521	1	—	—	—	—	1	—	—	—	2	37	55	83	120	141	75	7	Tongue.
Mouth	255	—	—	—	1	1	2	2	2	6	1	10	23	40	61	74	29	5	Mouth.
Peritoneum	1 642	2	2	1	2	1	8	1	3	5	5	53	137	315	504	434	161	16	Peritoneum.
Pleura	57	—	—	1	—	—	1	—	—	1	1	2	6	15	17	11	3	—	Pleura.
Brain	485	1	2	4	4	8	19	19	14	20	31	63	108	92	77	33	9	—	Brain.
Spinal Cord	32	—	1	—	—	—	1	1	—	1	1	2	5	9	5	7	—	—	Spinal Cord.
Pericardium	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	Pericardium.
Globe of Eye, Orbit	210	6	5	10	16	7	44	9	2	2	—	3	8	24	36	42	29	11	Globe of Eye, Orbit.
Axilla	144	—	—	—	—	—	—	—	—	—	—	3	10	18	32	40	35	6	Axilla.
Groin	132	—	—	—	—	—	—	1	—	—	2	5	16	24	27	29	23	5	Groin.
Lymphatic Glands	132	—	1	—	—	1	2	1	5	1	3	8	15	31	28	31	6	1	Lymphatic Glands.
Shoulder	100	—	—	—	1	—	1	2	4	3	3	9	11	13	23	20	10	1	Shoulder.
Arm, Leg	997	6	1	2	—	5	14	16	30	47	27	45	71	110	183	231	168	55	Arm, Leg.
Hip	44	—	—	—	—	—	—	—	2	1	6	4	5	8	7	9	2	—	Hip.
Skull	66	2	1	2	3	—	8	2	2	4	2	4	5	8	13	11	6	1	Skull.
Rib, Sternum	84	—	—	—	1	—	1	1	2	1	5	7	11	16	15	15	8	2	Rib, Sternum.
Spinal Column	148	3	—	1	2	—	6	—	2	5	2	7	24	27	38	25	11	1	Spinal Column.
Jaw	783	—	2	1	2	1	6	3	7	7	10	28	63	128	205	194	116	16	Jaw.
Buttock	29	—	—	2	—	—	2	—	—	2	2	2	2	1	5	7	6	—	Buttock.
Pelvic Bones	698	3	4	1	1	—	9	2	9	13	18	27	107	158	161	138	50	6	Pelvic Bones.
Ovary	2,012	—	2	2	—	1	5	6	5	27	27	139	362	596	501	274	66	4	Ovary.
Kidney and Supra-Renals ..	803	14	31	24	19	17	105	23	6	5	8	26	70	147	192	153	62	6	Kidney and Supra-Renals.
Parotid Gland	120	1	—	—	—	1	2	1	1	3	2	7	10	17	28	26	20	3	Parotid Gland.
Lung	723	—	—	—	3	1	4	7	9	15	15	41	104	193	177	127	29	2	Lung.
Mediastinum	431	—	—	—	—	—	—	2	1	6	12	27	56	93	119	81	32	2	Mediastinum.
Mesentery	245	—	—	1	—	—	1	—	1	3	4	9	20	44	61	72	26	4	Mesentery.
Lymphatic Glands of Neck ..	657	6	1	2	2	—	11	6	12	21	13	34	45	113	151	144	95	12	Lymphatic Glands of Neck.
Spleen	177	—	—	1	2	—	3	2	—	2	2	2	25	28	58	46	8	1	Spleen.
Abdomen	1,876	1	—	7	3	2	13	5	4	9	10	31	113	372	499	560	233	27	Abdomen.
Thorax	207	—	1	1	—	—	2	1	2	—	3	10	17	45	57	47	16	7	Thorax.
Part not Stated	1,071	6	1	4	2	1	14	7	6	13	12	41	133	242	236	246	103	18	Part not Stated.

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

TABLE N.—ENGLAND and WALES.—MALES.—PROPORTION in 10,000 DEATHS from CANCER, of DEATHS at several AGES from CANCER of specified ORGANS or PARTS of the BODY.

(Based on a total of 71,601 *deaths of* MALES *from Cancer in the six years* 1901–6.*)*

Part of Body Affected.	All Ages	Ages at Death.						
		0—35.	35—	45—	55—	65—	75—	85 and upwards.
TOTAL	10,000	435	699	1876	3044	2753	1084	109
Skin of—								
Face	197	5	11	25	40	55	48	13
Lip	159	1	5	14	33	49	45	12
Nose	19	2	1	3	4	4	4	1
Scalp	9	2	0	1	3	2	1	0
Ear	20	1	1	2	2	5	7	2
Stomach	2172	37	149	406	696	653	219	12
Intestines	760	27	53	129	222	231	92	6
Rectum	1016	32	58	173	315	305	122	11
Breast	18	0	1	4	5	6	2	0
Œsophagus	629	3	33	144	232	163	51	3
Liver and Gall Bladder	1303	30	79	225	418	389	147	15
Pancreas	175	7	19	38	54	43	13	1
Bladder and Urethra ..	313	5	14	46	86	112	45	5
Pharynx, Throat ..	219	9	14	50	76	53	16	1
Larynx and Trachea ..	189	2	12	48	67	46	13	1
Thyroid	18	1	2	4	6	4	1	—
Tongue	544	3	38	140	189	126	45	3
Mouth	185	3	11	36	59	55	19	2
Prostate	104	1	2	7	29	45	19	1
Peritoneum	90	11	8	17	25	20	8	1
Pleura	7	1	1	1	2	1	1	—
Brain	93	38	18	17	14	5	1	0
Spinal Cord	5	1	1	1	1	1	0	—
Heart and Pericardium	0	0	—	0	0	0	—	—
Globe of Eye, Orbit ..	33	12	2	3	4	6	5	1
Axilla	14	2	2	1	3	4	2	0
Groin	18	2	2	4	5	3	2	0
Lymphatic Glands ..	23	4	3	4	6	4	2	—
Shoulder	17	4	2	2	4	3	2	0
Arm, Leg	139	29	10	17	27	29	22	5
Hip	7	2	1	1	1	1	1	0
Skull	14	5	1	2	3	2	1	0
Rib, Sternum	15	3	2	3	3	3	1	0
Spinal Column .. .	24	4	2	5	7	5	1	—
Jaw	296	11	20	63	92	77	31	2
Buttock	2	1	0	0	0	1	0	—
Pelvic Bones	50	10	6	8	12	10	4	0
Kidney and Supra-renals.	106	23	11	19	26	20	7	0
Testes and Penis ..	148	21	22	29	28	28	17	3
Parotid Gland	31	2	2	6	8	8	4	1
Lung	126	16	18	31	34	22	4	1
Mediastinum ..	95	13	13	23	25	17	4	0
Mesentery ..	23	3	3	5	5	5	2	0
Lymphatic Glands of Neck.	290	15	23	69	91	63	27	2
Spleen	22	3	2	3	7	5	2	—
Abdomen	131	12	10	23	36	36	13	1
Thorax	27	4	2	6	9	5	1	0
Part not stated	105	12	9	18	30	23	10	3

TABLE O.—ENGLAND and WALES.—FEMALES.—PROPORTION in 10,000 DEATHS from CANCER, of DEATHS at several AGES from CANCER of specified ORGANS or PARTS of the BODY.

(Based on a total of 104,418 *deaths of* FEMALES *from Cancer in the six years* 1901–6.*)*

Part of Body Affected.	All Ages.	Ages at Death.						
		0—35.	35—	45—	55—	65—	75—	85 and upwards.
TOTAL	10,000	408	1086	2155	2741	2415	1053	142
Skin of—								
Face	92	2	4	9	14	25	29	9
Lip	9	0	0	1	1	3	3	1
Nose	11	0	0	1	2	4	3	1
Scalp	9	0	0	1	2	3	2	1
Ear	5	0	1	1	1	1	1	0
Stomach	1412	23	94	252	422	432	173	16
Intestines	707	18	45	115	203	218	97	11
Rectum	592	23	48	106	167	165	75	8
Uterus	2259	100	404	657	595	367	122	14
Breast	1656	35	208	407	431	347	190	38
Œsophagus	147	8	17	28	35	39	18	2
Liver and Gall Bladder	1352	21	78	231	426	413	167	16
Pancreas	113	4	9	21	37	31	10	1
Bladder and Urethra ..	91	2	6	12	24	29	16	2
Pharynx, Throat ..	44	4	6	9	12	8	5	0
Larynx and Trachea ..	43	4	8	10	11	8	2	0
Thyroid	32	2	3	5	10	8	3	1
Tongue	50	4	5	8	11	14	7	1
Mouth	24	2	2	4	6	7	3	0
Peritoneum	157	7	13	30	48	42	15	2
Pleura	5	0	1	1	2	1	0	—
Brain	46	16	10	9	7	3	1	—
Spinal Cord ..	3	1	0	1	0	1	—	—
Pericardium	0	—	—	—	—	0	—	—
Globe of Eye, Orbit ..	20	6	1	2	3	4	3	1
Axilla	14	0	1	2	3	4	3	1
Groin	13	1	2	2	3	3	2	0
Lymphatic Glands ..	13	2	1	3	3	3	1	0
Shoulder	9	2	1	1	2	2	1	0
Arm, Leg	95	17	7	11	18	22	16	4
Hip	4	1	0	1	1	1	0	—
Skull	6	2	0	1	1	1	1	0
Rib, Sternum	8	2	1	2	1	1	1	0
Spinal Column	14	2	2	3	4	2	1	0
Jaw	76	6	6	12	20	19	11	2
Buttock	3	1	0	0	0	1	1	—
Pelvic Bones	67	7	10	15	16	13	5	1
Ovary	192	20	35	57	48	26	6	0
Kidney and Supra-renals.	79	17	7	14	18	15	6	2
Parotid Gland	12	2	1	2	3	2	2	0
Lung	69	9	10	18	17	12	3	0
Mediastinum	41	5	5	9	11	8	3	0
Mesentery	23	2	2	4	6	7	2	0
Lymphatic Glands of Neck.	62	9	4	11	14	14	9	1
Spleen	17	1	2	3	6	4	1	0
Abdomen	180	7	11	36	48	54	21	3
Thorax	21	2	2	4	5	5	2	1
Part not stated	103	9	13	23	23	23	10	2

upwards. The deaths from malignant disease of persons under 35 years of age are so few that they have been placed together in one age-group.

Turning to Table N it will be seen that among *males* the organ most frequently affected is the stomach, which is the seat of disease in nearly 22 per cent. of the total cases of cancer, while among other abdominal viscera the liver and gall bladder are the seat of disease in 13 per cent. of the total cases, the rectum in 10 per cent., and the intestines in 8 per cent. Altogether, the parts above specified are invaded in more than half of the fatal cases. Other parts specially liable to invasion in males are the mouth, lip, tongue, pharynx, throat, larynx, œsophagus, trachea, jaw, and lymphatic glands of the neck, the aggregate mortality from cancer of these adjacent parts amounting to more than one-fifth of the total.

Among *females* the generative and mammary organs are affected in more than two-fifths of the total cases, while affections of the stomach, liver, intestine, and rectum together contribute a further two-fifths to the total.

Diabetes Mellitus.—In the year under notice 3342 deaths were referred to diabetes mellitus, or 398 more than the decennial average number, after allowance for age and sex differences of population. Of the total deaths from this disease 70 per cent. occurred at ages above 45 years. From a table which was published in the 68th Annual Report, but which is not repeated here, it appears that there has been in recent years an increase in the mortality from this disease, the increase being greatest among females; and that in both sexes it has been mainly at ages above 55 years.

II.—Diseases of Particular Organs.

To diseases of particular organs or parts of the body about two-fifths of the total deaths were referred in the year 1906.

From the official returns it appears that among the chief inflammatory diseases of particular organs the only ones that have not shown a substantially reduced fatality, within the last 20 years, are those of the ear, the kidneys, the intestines, and the valves of the heart, all of which have shown a mortality considerably in excess of the average. From Tables 21–26, on pages 22 63, it will be seen that within that period there has been a remarkable fall in the registered mortality from acute inflammatory diseases of the brain, the lung,* and the peritoneum, which diseases taken together are still responsible for nearly one-tenth of the aggregate mortality from definite forms of disease. Since the year 1887, the first year shown in Table 21, the total mortality there recorded from meningitis, bronchitis, laryngitis, pleurisy, and peritonitis has declined by 51 per cent., and therefore considerably faster than has the mortality from all other definite diseases put together. A considerable portion of this fall is probably real, but it is certain that

* Pneumonia being an "infective disease" is not included here.

some portion of it is merely apparent, being due to recent improvements in the medical certification of causes of death.

For many years past it has been my practice to address letters of inquiry to medical attendants concerning deaths that had originally been referred to inflammatory affections of certain organs or parts of the body. In the course of the last six years inquiries have been issued from this office respecting 6157 deaths that had originally been certified as from inflammation of the brain and its membranes, the larynx, or the peritoneum. From the answers to these inquiries the following data have been derived. Of the above-mentioned 6157 deaths 293 were authoritatively assigned to puerperal sepsis, 801 to tuberculosis, 225 to diphtheria, 99 to malignant diseases, 329 to cerebro-spinal fever, and 2181 to other definite headings. It will thus be seen that of the above deaths originally certified as from inflammatory affections of one or other of these organs, nearly two-thirds were, with the approval of the medical certifiers, transferred to their proper headings, where they now appear in the official records of causes of death.

Meningitis.—Table 21 shows that in the year under notice 5997 deaths were referred to inflammation of the brain or its membranes, being fewer by 1427 than the average annual number in the previous decennium, corrected for increase of population. The supplementary tables on pages 294–5 show that of the 5997 deaths above enumerated, the infective nature of the malady was recognized in 286 instances. Of the deaths from meningitis at all ages 67 per cent. occurred at ages under five years. This disease was therefore fatal to boys at this age in the proportion of 115 in 100,000 living, and to girls in the proportion of 89 in the same number living.

Softening of the Brain.—The mortality from this disease in the year 1906 was at the rate of 65 per million living, or less by 7 per million than the decennial average rate. Among males the rate was 69 per million living of that sex, or 9 per million below the average; and among females it was 60 per million, or 6 per million below the average. As in previous years the mortality from this disease in the year 1906 occurred mainly at ages beyond mid-life.

General Paralysis of the Insane.—In the year under notice this condition was responsible for a mortality at the rate of 68 per million of the population, without distinction of sex or of age. The male rate was equal to 106 per million, but the female rate did not exceed 32 per million. Both these rates correspond to the respective averages in the previous five years. In both sexes the mortality from this condition is inconsiderable before the twenty-fifth year; and examination of the statistics for the last six years shows that men from 35–45 years of age die of it in the proportion of 312 per million living at that age, at age 45–55 the proportion is 320, but at the three subsequent age-groups it is slightly lower. Women die of general paralysis in proportionately smaller numbers than men: at age 35–45 years they succumb to it at the rate of 67 per million, but, with advancing years the mortality increases rapidly.

Epilepsy.—In recent years there has been a considerable fall in the registered mortality from epilepsy. For many years prior to 1880 the death-rate was almost stationary at 115 per million; in the four subsequent quinquennia there was a slight but steady decrease; but in the quinquennium 1901–5 the rate showed a tendency to increase. With regard to the fluctuations in the mortality from this disease it may be mentioned that many deaths, which in earlier years would have been attributed to convulsions, are now with greater precision referred to epilepsy. In the year 1906 the deaths from epilepsy numbered 2797 of both sexes, and corresponded to a rate of 81 per million living. Among males the rate was equal to 89 per million, and among females, to 74 per million.

Convulsions.—This symptom now appears in the registers as the cause of death less frequently than it appeared in years gone by. Nevertheless, in the year under review it was responsible for the loss of 12,528 lives, and for a death-rate equal to 363 per million of the population, at all ages. In this connection it is desirable again to direct attention to the instruction of the Royal College of Physicians, namely, that the use of the term convulsions (which is the name not of a definite disease but of a symptom merely) should be restricted to those cases in which precise information is wanting. Nearly all of the deaths from convulsions occurred among children under five years old—comparatively few of whom had reached the first anniversary of their birth. From the table on page cxvii it will be seen that in the five years 1901–5 meningitis and convulsions together accounted for more than a tenth part of the mortality from all causes at ages under five years.

Locomotor Ataxy.—To this disease 562 deaths were referred in the year 1906, as compared with an annual average of 508 in the previous quinquennium, after allowance for increase of population. The deaths hitherto separately recorded under the head of locomotor ataxy are too few to justify the presentation of rates of mortality in groups of ages. But, according to the experience of the years 1901–6, this disease appears to have the following features in common with general paralysis; (*a*) that it claims few victims of either sex before the age of puberty, and (*b*) that it is much more fatal to men than to women. Locomotor ataxy differs from general paralysis in that it becomes increasingly destructive from the 25th to the 75th year of life.

Neuritis, Peripheral, Poly-neuritis.—Under this heading only those cases of fatal neuritis are returned for which no definite cause is assigned in the medical certificates. In the year under review the deaths classified under the head of neuritis numbered 451, not fewer than 323 of which were those of females. In many cases of death from intemperance, either peripheral or poly-neuritis appears additionally in the certificates, with or without cirrhosis of the liver: in all of which cases the death is classed, not under the head of neuritis, but under that of "alcoholism." From examination of the death records for the years elapsed since 1901 (in which year the deaths from this disease were for the first time separately abstracted for these reports), we find that neuritis is considerably more fatal to women than to men, and that its fatality is greatest at ages after the 35th year of life.

Tumour of the Brain, not known to be the result of specific disease, was returned as the cause of death in 744 instances in the year under notice. It should be repeated here, for the information of medical certifiers, that whenever brain tumour is stated in the certificate to be due to a specific cause, the death is referred to that cause, and not to the local affection.* In addition to the 744 deaths above referred to, there were originally certified as from brain tumour 144 deaths, of which 95 were ascertained to be due to malignant disease, 31 to tuberculosis, and 15 to syphilis.

Diseases of the Heart.—The abstracts on pages 286 and 287 show that in the year under notice, diseases of the heart in the aggregate accounted for the deaths of 23,376 males, and 25,385 females, together 48,761 persons. The age and sex distribution of the several forms of heart disease are there given. Ever since the commencement of the present century efforts have been made to amend the statistics of fatal heart diseases, with the result that improvement, if slow, is steadily taking place. In particular, it is noteworthy that valvular disease of the heart is now differentiated from other forms of cardiac affection in a much larger proportion than formerly. In the year 1906, the mortality from valvular disease of the heart was equal to 430 per million living among males, and to 464 per million among females. According to the experience of 1901–1906, valvular disease is most fatal to the female sex, up to the age of 55 years, the reverse being the case after that age. In both sexes the fatality increases gradually from childhood up to the 20th year, and from the 35th year to the close of life it increases very rapidly.

Diseases of the Blood Vessels.—To these diseases in the aggregate there were referred 30,051 deaths, rather more than half of which were those of females. Of these deaths 24,611 were returned as from cerebral hæmorrhage, or from its symptoms apoplexy or hemiplegia. According to the experience of 1901–1906, the mortality from this cause is low until after the age of puberty, but at ages above 35 years it is equal to a rate of 2,081 per million living among males, and to a rate of 2,279 per million living among females. From the age 35–55 years women succumb to disease of this nature, in greater proportion than do men, whilst at ages above 65 the reverse holds good. Since the beginning of the current century diseases of the blood vessels have been discriminated in the tables from other diseases of the circulatory organs. Previous to that date the deaths from cerebral hæmorrhage (with those from apoplexy and hemiplegia) had been classed among diseases of the nervous system. Table 22 indicates that the mortality from cerebral hæmorrhage, as well as from apoplexy or hemiplegia, has decreased considerably in recent years; but the fact is important that many deaths from cerebral hæmorrhage are now assigned to some definite cause, such as

* In Tables L and M, on pages c–ciii, the deaths from malignant disease of the brain are stated at the several age groups for the years 1901–6.

renal or cardiac disease, which deaths would in earlier years have been certified as from apoplexy simply, without mention of the probable cause of that symptom.

In certifying deaths from diseases of this nature it were much to be desired that brain paralysis should be distinguished from paraplegia, and that the terms hemiplegia and apoplexy should be replaced by "cerebral hæmorrhage." Should cerebral hæmorrhage be associated with disease of the kidneys, the heart, or other important organ, the fact should invariably be recorded in the certificate. From the supplementary table on pages 294 and 295, it appears that a certain portion of the deaths from diseases of the blood vessels are now certified to be due to infective processes.

Laryngitis.—To this disease, either in its catarrhal or in its membranous* form, 1,102 deaths were referred in the year under review; membranous laryngitis, not believed to be diphtheritic, being returned as the cause of 40 of these deaths.

Relatively to population the deaths appearing in Table 22 as from laryngitis are much fewer now than they were a few years ago. This, however, must not be taken to mean that the affection (whatever may be the true nature of the cases so returned) is actually less fatal than it formerly was: for, it is important to remember that the deaths in 1906 originally certified as from laryngitis were nearly four per cent. more than the number eventually registered in the official tables. Most of these additional deaths will be found under the head of diphtheria, their specific nature having been ascertained by subsequent correspondence with the medical attendants concerned. Of the total deaths from laryngitis, about two-thirds were those of children under the age of five years—an age incidence somewhat resembling that of the indefinite condition known as "croup." The age distribution of laryngitis in the several weeks and months of the first year, and in the several years of the first quinquennium of life will be seen on reference to Tables Q, R, and S, on pages cxviii–cxxvii.

Bronchitis.—The deaths from bronchitis numbered 35,714 in the year under notice, and were equal to a rate of 1,034 per million living, without distinction of age or of sex. This rate is below the average rate in the preceding decennium by 26·1 per cent. Year after year bronchitis destroys a greater number of lives than does any other disease now included in the respiratory group.

Although the mortality from this disease has fallen considerably and almost continuously throughout the last 35 years, it is noteworthy that pneumonia, the disease most likely to be confused with bronchitis has considerably increased in fatality in the same period (Table 20). According to statistics prepared for the last annual report, but not repeated here, it appears that nearly three-fourths

* The Royal College of Physicians, in their recently issued nomenclature of diseases recognize two chief forms of "simple laryngitis"; (*a*) catarrhal, and (*b*) membranous. But they attach to the form last-mentioned, the warning that "cases of diphtheria should not be returned under this heading, *i.e.*, under membranous laryngitis."

of the total mortality from bronchitis in children under the age of five years occurs within a year of birth. From the fifth to the thirty-fifth year the mortality is low, but from that age onward it becomes proportionally higher, until at ages beyond the 75th year, bronchitis accounts for more deaths than does any other definite disease. The sexes seem about equally liable to death from bronchitis. As regards the distribution of this disease in infancy, Tables Q., R. and S. show that it is in the second month after birth, rather than the first, that bronchitis levies its heaviest death toll, the rate in the third and subsequent months of the first year showing a considerable fall, and the rates in the second, third, fourth and fifth years showing a still further fall.

Pleurisy.—The deaths from pleurisy in the year under notice numbered 1,259, and were in the proportion of 36 per million persons living of both sexes and at all ages. Among males the rate was equal to 44 per million, and among females, to 29 per million.

The frequent association of pleurisy with tuberculosis is now generally recognized, and the Royal College of Physicians have recently given effect to this recognition by inserting in their nomenclature of diseases a special instruction that, in cases where pleurisy is known to be tuberculous, the fact should be stated. The experience of the year 1906 agrees with that of the previous quinquennium in showing that pleurisy is more fatal at ages below five years than at any other age up to about the forty-fifth year; after which age it becomes increasingly fatal to both men and women.

The Supplementary Table on pages 294 and 295 shows that in the year under notice there were returned the deaths of 260 males and 121 females in which the pleurisy was medically certified to be infective in character. In Tables 21, 23 and 25 these deaths are included under the head of pleurisy.

Gastric Ulcer.—To this cause 1,745 deaths were referred in the year under notice; the deaths thus referred in the previous year having exceeded this number by two only. Of the 1,745 deaths appearing in the registers for 1906, under this heading, there were 106 that had originally been medically certified as due to some other condition, such as peritonitis. These deaths were transferred to gastric ulcer, after correspondence with the certifying medical practitioners. In the year 1901, for the first time, this disease was separately abstracted for statistical purposes. In previous years the deaths from gastric ulcer had been included under the head of diseases of the stomach. The death-rate from this disease in the six years ended 1906 averaged 34 per million in males, and 65 per million in females.

As a registered cause of death ulcer of the stomach is rarely met with until the age of puberty, when the majority of the victims are women. The age and sex incidence of fatal gastric ulcer is peculiar. According to the experience of 1901–6 not less than 70 per cent. of the total deaths of females occurred in the interval between the 15th and the 45th year, whereas the deaths of males in

the same interval did not exceed 39 per cent. of the total number in that sex. In proportion to population, the disease secured the largest number of female victims at the age-group 20–25 years—the mortality at this age being equal to 123 per million then living. Among males the incidence of mortality is very different. At the age 20–25 years it does not exceed 18 per million, or about one-seventh of the female rate at that age. After this period the mortality increases steadily with advancing age, the highest rates being attained at ages above 55 years.

Appendicitis.—Not until the beginning of the present century were the deaths from appendicitis separately given in the official tables, the deaths from that disease having previously been classed to enteritis. But since the year 1900 full particulars of these deaths have been published in the reports of the Registrar General.

In the year under review appendicitis (sometimes called peri-typhlitis) was returned as the cause of 2,144 deaths. To this total 130 deaths were contributed as the result of medical inquiry respecting deaths originally certified as from peritonitis, the true nature of which deaths was subsequently acknowledged by the medical attendants concerned.

Happily for the sufferers, appendicitis is a disease that is particularly amenable to treatment, and, except in complicated or neglected cases, the mortality is relatively small. Therefore, inasmuch as the vast majority of cases recover, and as the statistics published in your reports relate to fatal cases only, it is clear that these statistics cannot be regarded as indicating even approximately either the local or the general incidence of the disease in a given community. The mortality from appendicitis in the last six years has averaged 63 per million in males, and 41 per million in females. In both sexes fatal cases are recorded at all stages of life, but for the most part the mortality has been highest between the tenth and the twentieth year.

Peritonitis.—Among ill-defined affections of the digestive system peritonitis, of uncertain origin, appears in the registers for 1906 as the cause of 845 deaths, which is only about one-third of the number thus recorded fifteen years ago, even without allowance for increase for population. For some years past pathologists have held acute peritonitis to be due to bacterial organisms; and in the latest edition of their Nomenclature of Diseases the Royal College of Physicians have confirmed this opinion. They divide inflammation of the peritoneum under two heads—

(*a*) Acute-infective inflammation—(1) general or local, (2) suppurative, (3) septic, puerperal.

(*b*) Chronic inflammation—(1) general or local, (2) tuberculous, and (3) cancerous.

The College further insist that when the cause of peritonitis is known the return should be made under the head of such cause, the local condition being also specified.

The death-rate from peritonitis in the year under review was equal to 24 per million of the total population, namely, 23 per

million in males, and 25 per million in females, both of which rates are the lowest on record. In my letter in your Annual Report for 1905, it was stated that of the deaths which, after inquiry from the medical attendants, were attributed to peritonitis, in the five years 1901–5, 32 per cent. were caused by infection from the digestive tract, *i.e.*, from gastric or intestinal ulcer, from enteritis or appendicitis, or else from hernia or intestinal obstruction; 11 per cent. were caused by puerperal sepsis or other infections of the uterus or ovaries; 9 per cent. by tuberculous infection; and 8 per cent. by other conditions permitting of definite classification; whilst the causes of 40 per cent. of the whole were stated to have been unascertained. The returns for the year 1906 have been similarly analysed; they generally lead to the same conclusions as those of the previous quinquennium.

Cirrhosis of the liver.—The deaths referred to cirrhosis of the liver numbered 3,861 in the year under notice, and corresponded to a rate of 112 per million of the population, irrespective of age or of sex. The death-rate from this disease was equal to 127 per million living among males, and to 98 per million among females; both the male and the female rate show a decrease as compared with recent previous years. According to the experience of the last six years the mortality from cirrhosis is not excessive until towards the middle of life, but from the thirty-fifth to the seventy-fifth year the disease becomes seriously and increasingly destructive, ranging in men from 171 to 738 per million, and in women from 154 to 442 per million. Further remarks regarding this disease, in its connection with alcoholism, will be found at pages xcv–xcvi.

Acute Nephritis, Chronic Nephritis or Bright's Disease.—To these diseases in the aggregate there were assigned in the year under notice 13,352 deaths, corresponding to a mortality of 387 per million living at all ages and of both sexes. The recorded mortality from nephritis has increased considerably in recent years, but this is probably due, in part, to the improved certification of causes of death by medical practitioners, who now attribute to this cause many deaths that formerly would have been referred to dropsy without mention of the disease producing it.

Nephritis, acute as well as chronic, is exceptionally fatal to the male sex. In the six years ended 1906 males at all ages died of nephritis at the rate of 426 per million, and females at the rate of 337 per million of the respective sexes. In a table at page cxvi. of the last Annual Report the age incidence of nephritis was exhibited for the years 1901–5. That table is not reproduced here, but as the facts for the six years 1901–6 confirm the conclusions previously drawn, it may be mentioned that, in both sexes, the interval between the tenth and the fifteenth year of life is attended by the lowest fatality, whilst after the fifteenth year the mortality increases rapidly, reaching a very high maximum, in both sexes, towards the close of life.

Tumours and other Diseases of the Ovaries and Uterus.—To one or other of these causes the deaths of 1,079 women were assigned in the year under review, as compared with 1,075, 1,065 and 1,132

respectively in the previous three years. Taken together the 1,079 deaths referred to were equal to a rate of 61 per million women living at all ages, which rate is less by 6 per million than the decennial average. In addition to the above there were registered in the same year 386 deaths from malignant affections of the ovaries, and 3,945 from malignant affections of the uterus. The ages at which malignant affections of these organs have been fatal in recent years may be seen by Table M on page cii, and the ages at which non-malignant affections of these organs were fatal in 1906, by the abstracts on page 291. It were much to be desired that whenever a tumour is known to be malignant the fact should invariably be recorded in the certificate of cause of death.

Diseases or Accidents of Pregnancy or of Childbirth.—The deaths of women from puerperal sepsis are enumerated on page 283. They were 1,640 in number, but in addition thereto the deaths of 2,117 women were attributed to other diseases or accidents of pregnancy or of childbirth; particulars of the age distribution of these deaths will be found in the abstracts on page 291. Of this number, 143 were assigned to abortion or miscarriage, 68 to puerperal mania, 438 to puerperal convulsions, 618 to placenta prævia or flooding, and 850 to other accidents of pregnancy or childbirth. In 230 out of the 850 deaths last-mentioned the cause was precisely stated: this was ectopic gestation in 80 instances, ruptured uterus in 38, inversion of that organ in 12, deformed pelvis in 25, adherent placenta in 17, malpresentation in 12, and Cæsarian section in 11 instances. Of the 2,117 cases in the present category, 147 were further complicated,* the complicating cause being pneumonia in 3 instances, meningitis in 3, diseases of the heart or blood-vessels in 46, bronchitis or pleurisy in 26, diseases of the digestive organs in 21, and kidney disease in 23 instances. The 2,117 deaths from other diseases of pregnancy or of childbirth added to those from the puerperal septic diseases enumerated on page 283 numbered 3,757, and were equal to a rate of 4·02 per 1000 births. In the ten years immediately preceding the average proportion had been 4·48 per 1000. Table K on page lxxxviii gives particulars of the 4,944 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 4·02 to 5·29 per 1000 births. Reference to Table K shows that of the deaths there enumerated 4,893 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 567 per million, or 32 per million less than that in the year 1905. 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 K., the deaths having been classed to other diseases of pregnancy or of childbirth.

III.—Mortality of Infants and Young Children.

For this Report, as for its immediate predecessor, tables in considerable detail have been prepared showing the deaths from the principal causes in the various parts of the opening year of life. For the whole of England and Wales the results will be found at pages cxvii to cxxiii, and for the urban and rural groups of counties respectively at pages cxxiv to cxxvii.

Having regard to the serious waste of life which is known to prevail among children not born in wedlock, particular reference to the causes of mortality among these unfortunates has been made in the present section.

In the year 1904, at the request of my colleagues on the Physical Deterioration Committee, I caused to be prepared a series of tables contrasting the incidence of infantile mortality among illegitimate infants with that among infants legitimately born.

For the present report a similar investigation has been made; but the area dealt with has been extended so as to embrace the whole of England and Wales. In tables T and U, pages cxxviii to cxxx the mortality of illegitimate children is shown side by side with that of children born in wedlock.

Table T shows the rates of mortality in each of the first four weeks after birth, and in each subsequent month of the first year of life. The list of diseases in this table has unavoidably been abridged; but in table U the causes of death are shown, for the same areas, in greater detail; although the exact ages at death of infants under one year of age are not separately given.

A cursory examination of these tables suffices to prove that the waste of life among illegitimate children is enormous; the mortality under one year in England and Wales being 261 per 1000 illegitimate births, against 127 per 1000 among children born in wedlock; we find that within a year of birth, illegitimate infants experience a death-rate which is higher by 106 per cent. than that of legitimate infants.

In the selected urban counties the illegitimate rate amounts to 285 per 1000 births, and exceeds the legitimate rate by 107 per cent. In the selected rural counties the illegitimate rate is 181 per 1000, or 73 per cent. above the legitimate rate.

Among illegitimate children the greatest proportional excess of mortality occurs, not, as might have been expected, immediately after birth, but at a somewhat later stage. In the first week of life the mortality among these unfortunates exceeds that among their more fortunate brothers and sisters by 71 per cent.; thereafter, it increases until, in the third month, the excess amounts to 171 per cent. After this age it falls again somewhat irregularly, and at the end of the first year it is almost the same as in the first week. In the urban counties a similar excess is observed, but in the rural counties the excess at the successive stages of life is much less pronounced as well as less regular.

As regards the causes of death, we find that the common infectious diseases prevail almost equally among both classes of infants, but that under every other heading in the tables there is an excess of mortality among the illegitimate. Thus, not only tuberculous diseases but diarrhœal diseases and wasting diseases also are about twice as fatal among these unfortunates as they are among legitimate infants.

A striking feature in table U is the high mortality from syphilis among illegitimate children; the deaths directly ascribed to this disease are relatively more than ten times as numerous among illegitimate as they are among legitimate infants. Among the former, premature birth is exceptionally frequent, and this fact, coupled with that mentioned in the preceding paragraph, explains to a large extent the excessive loss of life prevalent among infants not born in wedlock. It will be seen from the tables that excessive mortality from syphilis is much more marked in the town than in the country, and that all causes of death among illegitimate children are much more rife in the former area than in the latter.

With regard to the loss of life in specified parts of *the first year after birth*, it is necessary yet again to remark that in the following tables the mortality is indicated as a proportion of the total births registered in the year. Had the means at our disposal permitted, a better 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 each period. For reasons given in the last annual report this method is hardly practicable. It only remains to add that the figures in the following tables relating to parts of the first year of life must be regarded, not as death-rates in the ordinary acceptation of that term, but as records of that portion of the total mortality under one year which occurs in the particular interval specified at the head of each column.

For the four complete years after the first the tables show the proportion of deaths in each year to the approximate number of survivors at the beginning of that year, the number of these being deduced from the births and deaths in the years immediately preceding.

Experiment has proved that the death-rates in the age group 0–5 years differ but little, whether they are based (*a*) on numbers calculated from the populations enumerated at the last two censuses, or (*b*) on numbers derived from the births and deaths recorded in recent years. Accordingly, for the tables in the present report, the death-rates in this age group are calculated by the method first mentioned.

The tables on pages cxx and cxxii show that in the year 1906 infantile mortality was equal to a rate of 133 per 1000 births, without distinction of sex. Boys died at the rate of 145 per 1000 born, and girls at the rate of 120 per 1000.

The statistics for 1906 confirm those of the previous year in this respect, that they indicate the first week after birth as being by far the most fatal to infant life. For this reason it has been thought well on the present occasion to still further examine the deaths of infants at this early age. In Tables Q, R, and S, the column "under one week" has been sub-divided: it now shows the

TABLE P.—ENGLAND and WALES.—BOTH SEXES. MORTALITY of INFANTS and YOUNG CHILDREN,* AVERAGE 1901–5, and 1906.

	Cause 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.			
		1901–05.	1906.	1901–05.	1906.	1901–05.	1906.	1901–05.	1906.	1901–05.	1906.
	I. COM. INFEC. DIS. ..	1·19	0·99	1·54	1·29	5·94	4·80	8·67	7·08	7·17	5·82
	II. DIARRHŒAL DIS.	7·14	8·82	8·62	11·04	9·68	12·77	25·44	32·63	7·57	9·53
	III. WASTING DISEASES	39·33	39·26	3·85	3·48	2·23	2·03	45·41	44·77	11·45	10·87
	IV. TUBERC. DISEASES	0·95	0·76	1·83	1·54	3·13	2·62	5·91	4·92	3·11	2·75
	V. OTHER CAUSES ..	21·02	17·79	11·93	9·60	19·44	15·71	52·39	43·10	20·02	16·30
	ALL CAUSES ..	69·63	67·62	27·77	26·95	40·42	37·93	137·82	132·50	49·32	45·27
I.	Small-pox ..	0·05	0·00	0·02	—	0·02	—	0·09	0·00	0·04	0·00
I.	Chicken-pox ..	0·01	0·00	0·01	0·02	0·04	0·05	0·06	0·07	0·03	0·03
I.	Measles	0·07	0·06	0·20	0·17	2·41	2·03	2·68	2·26	2·67	2·24
I.	Scarlet Fever ..	0·02	0·00	0·02	0·03	0·16	0·09	0·20	0·12	0·67	0·51
I.	Diphtheria, Croup	0·04	0·02	0·05	0·04	0·33	0·32	0·43	0·38	1·21	1·00
I.	Whooping Cough	1·00	0·91	1·23	1·03	2·98	2·31	5·21	4·25	2·55	2·04
II.	Diarrhœa (all forms): Enteritis, Gastro-Enteritis, Gastritis, Gastro-Intestinal Catarrh.	7·14	8·82	8·62	11·04	9·68	12·77	25·44	32·63	7·57	9·53
III.	Premature Birth	19·96	20·17	0·24	0·19	0·05	0·02	20·25	20·38	4·98	4·83
III.	Congenital Defects.	5·15	5·80	0·40	0·42	0·33	0·34	5·88	6·56	1·52	1·62
III.	Injury at Birth ..	0·73	0·93	0·00	0·00	0·00	0·00	0·73	0·93	0·18	0·22
III.	Want of Breast Milk, Starvation.	0·38	0·49	0·21	0·23	0·09	0·10	0·68	0·82	0·17	0·20
III.	Atrophy, Debility, Marasmus.	13·11	11·87	3·00	2·64	1·76	1·57	17·87	16·08	4·60	4·00
IV.	Tuberculous Meningitis.	0·13	0·12	0·41	0·38	1·04	0·97	1·58	1·47	1·11	1·03
IV.	Tuberculous Peritonitis, Tabes Mesenterica.	0·55	0·41	0·93	0·74	1·18	0·90	2·66	2·05	1·05	0·87
IV.	Other Tuberculous Diseases.	0·27	0·23	0·49	0·42	0·91	0·75	1·67	1·40	0·95	0·85
V.	Erysipelas .	0·19	0·18	0·06	0·07	0·05	0·03	0·30	0·28	0·08	0·07
V.	Syphilis	0·79	0·83	0·32	0·31	0·17	0·14	1·28	1·28	0·34	0·32
V.	Rickets	0·05	0·04	0·13	0·13	0·46	0·43	0·64	0·60	0·39	0·34
V.	Meningitis (not Tuberculous).	0·31	0·31	0·62	0·57	1·26	1·22	2·19	2·10	1·12	1·02
V.	Convulsions ..	9·02	7·74	3·01	2·37	2·38	1·71	14·41	11·82	4·01	3·15
V.	Bronchitis ..	4·02	2·86	2·96	2·15	4·63	3·44	11·61	8·45	4·22	2·82
V.	Laryngitis ..	0·05	0·05	0·04	0·04	0·14	0·08	0·23	0·17	0·22	0·19
V.	Pneumonia ..	2·17	1·81	2·67	2·24	6·46	5·70	11·30	9·75	5·45	4·71
V.	Suffocation ..	1·30	1·23	0·46	0·43	0·16	0·14	1·92	1·80	0·49	0·44
V.	Other Causes ..	3·12	2·74	1·66	1·29	3·73	2·82	8·51	6·85	3·90	3·24

* 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 Q (1).—ENGLAND and WALES. 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.
	Under 1 day.	1 day and under 1 week.	Weeks.			Months.								Under 1 year.	1 year.	2 years.	3 years.	4 years.	
			1—	2—	3—	Under 1 month.	1—	2—	3—	4—	5—	6—	7—	8—	9—	10—	11—						
I. COM. INFEC. DIS. .	—	0·00	0·01	0·04	0·08	**0·13**	0·42	0·44	0·41	0·41	0·47	0·54	0·62	0·81	0·87	0·96	1·00	**7·08**	9·34	4·78	3·69	2·77	**5·82**
II. DIARRHŒAL DIS.	0·00	0·07	0·31	0·66	0·68	**1·72**	3·34	3·76	4·05	3·65	3·34	2·92	2·47	2·24	1·97	1·66	1·51	**32·63**	7·04	1·06	0·42	0·19	**9·53**
III. WASTING DIS. ..	10·87	10·78	4·02	3·65	2·29	**31·62**	4·95	2·69	1·66	1·07	0·75	0·56	0·40	0·36	0·28	0·21	0·22	**44·77**	0·95	0·18	0·08	0·03	**10·87**
IV. TUBERC. DIS. ..	0·00	0·00	0·01	0·02	0·05	**0·08**	0·27	0·41	0·51	0·51	0·52	0·48	0·46	0·46	0·42	0·41	0·39	**4·92**	3·78	1·90	1·21	0·96	**2·75**
V. OTHER CAUSES ..	0·90	2·37	1·74	1·85	1·49	**8·35**	5·32	4·12	3·56	3·07	2·97	2·89	2·84	2·68	2·60	2·39	2·31	**43·10**	16·56	6·66	3·89	2·93	**16·30**
ALL CAUSES ..	11·77	13·22	6·09	6·23	4·59	**41·90**	14·30	11·42	10·19	8·71	8·05	7·39	6·79	6·55	6·14	5·63	5·43	**132·50**	37·67	14·58	9·29	6·88	**45·27**
I. Small-pox ..	—	—	0·00	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	0·01	0·01	0·00	0·01	0·01	0·01	0·01	**0·07**	0·03	0·01	0·01	0·00	**0·03**
I. Measles	—	—	0·00	0·01	0·01	**0·02**	0·02	0·02	0·03	0·05	0·09	0·15	0·23	0·35	0·39	0·44	0·47	**2·26**	4·84	1·94	1·02	0·60	**2·24**
I. Scarlet Fever ..	—	—	—	—	—	—	0·00	0·00	0·01	0·01	0·01	0·00	0·01	0·01	0·02	0·03	0·02	**0·12**	0·44	0·68	0·73	0·62	**0·51**
I. Diphtheria, Croup	—	0·00	0·00	0·00	0·00	**0·00**	0·01	0·01	0·01	0·01	0·02	0·03	0·03	0·04	0·05	0·07	0·09	**0·38**	1·02	1·04	1·29	1·22	**1·00**
I. Whooping Cough	—	0·00	0·01	0·03	0·07	**0·11**	0·39	0·41	0·36	0·33	0·34	0·35	0·35	0·40	0·39	0·41	0·41	**4·25**	3·01	1·11	0·64	0·33	**2·04**
II. Diarrhœa (all forms): Enteritis. Gastro-Enteritis, Gastritis, Gastro-Intestinal Catarrh.	0·00	0·07	0·31	0·66	0·68	**1·72**	3·34	3·76	4·05	3·65	3·34	2·92	2·47	2·24	1·97	1·66	1·51	**32·63**	7·04	1·06	0·42	0·19	**9·53**
III. Premature Birth	7·45	6·37	1·89	1·67	1·00	**18·38**	1·41	0·38	0·11	0·05	0·03	0·01	0·01	0·00	0·00	0·00	0·00	**20·38**	—	—	—	—	**4·83**
III. Congenital Defects.	1·17	1·90	0·90	0·55	0·30	**4·82**	0·64	0·34	0·17	0·14	0·11	0·07	0·07	0·06	0·04	0·05	0·05	**6·56**	0·18	0·06	0·05	0·02	**1·62**
III. Injury at Birth..	0·56	0·27	0·05	0·02	0·01	**0·91**	0·01	0·01	—	0·00	0·00	—	—	—	—	—	—	**0·93**	—	—	—	—	**0·22**
III. Want of Breast Milk, Starvation.	—	0·02	0·03	0·06	0·04	**0·15**	0·18	0·16	0·11	0·07	0·05	0·03	0·02	0·02	0·01	0·01	0·01	**0·82**	0·00	0·00	—	—	**0·20**
III. Atrophy, Debility, Marasmus.	1·69	2·22	1·15	1·36	0·94	**7·36**	2·71	1·80	1·27	0·81	0·56	0·45	0·30	0·28	0·23	0·15	0·16	**16·08**	0·77	0·12	0·03	0·01	**4·00**
IV. Tuberculous Meningitis.	—	0·00	0·00	0·00	0·01	**0·01**	0·04	0·07	0·12	0·12	0·14	0·17	0·18	0·17	0·15	0·16	0·14	**1·47**	1·47	0·87	0·62	0·45	**1·03**
IV. Tuberculous Peritonitis, Tabes Mesenterica.	—	0·00	0·00	0·01	0·03	**0·04**	0·16	0·21	0·27	0·24	0·23	0·19	0·16	0·16	0·15	0·12	0·12	**2·05**	1·10	0·40	0·22	0·17	**0·87**
IV. Other Tuberculous Diseases.	0·00	0·00	0·01	0·01	0·01	**0·03**	0·07	0·13	0·12	0·15	0·15	0·12	0·12	0·13	0·12	0·13	0·13	**1·40**	1·21	0·63	0·37	0·34	**0·85**
V. Erysipelas ..	—	—	0·01	0·03	0·03	**0·07**	0·07	0·04	0·03	0·02	0·02	0·01	0·01	0·01	0·00	0·00	0·00	**0·28**	0·02	0·01	0·00	—	**0·07**
V. Syphilis	0·02	0·04	0·09	0·09	0·09	**0·33**	0·29	0·21	0·13	0·10	0·08	0·03	0·02	0·03	0·03	0·02	0·01	**1·28**	0·07	0·02	0·00	0·01	**0·32**
V. Rickets	—	0·00	—	—	0·00	**0·00**	0·02	0·02	0·04	0·03	0·06	0·04	0·06	0·08	0·09	0·08	0·08	**0·60**	0·67	0·22	0·06	0·03	**0·34**
V. Meningitis (not Tuberculous).	—	0·01	0·02	0·02	0·03	**0·08**	0·11	0·12	0·16	0·18	0·23	0·22	0·23	0·18	0·22	0·19	0·18	**2·10**	1·22	0·67	0·40	0·31	**1·02**
V. Convulsions ..	0·43	1·78	0·96	0·81	0·57	**4·55**	1·86	1·33	1·01	0·75	0·61	0·44	0·38	0·27	0·24	0·21	0·17	**11·82**	1·15	0·37	0·15	0·07	**3·15**
V. Bronchitis .	0·00	0·07	0·18	0·25	0·27	**0·77**	1·18	0·91	0·84	0·67	0·64	0·65	0·61	0·61	0·55	0·53	0·49	**8·45**	2·78	0·70	0·31	0·18	**2·82**
V. Laryngitis ..	—	0·01	0·01	0·00	0·00	**0·02**	0·02	0·01	0·01	0·02	0·01	0·01	0·01	0·01	0·02	0·01	0·02	**0·17**	0·20	0·17	0·18	0·17	**0·19**
V. Pneumonia ..	0·00	0·04	0·09	0·14	0·13	**0·40**	0·66	0·75	0·72	0·76	0·76	0·92	1·01	0·97	0·96	0·91	0·93	**9·75**	7·06	2·62	1·33	0·78	**4·71**
V. Suffocation ..	0·11	0·20	0·06	0·08	0·08	**0·53**	0·41	0·29	0·22	0·13	0·08	0·05	0·03	0·02	0·02	0·01	0·01	**1·80**	0·05	0·01	0·01	0·01	**0·44**
V. Other Causes ..	0·34	0·22	0·32	0·43	0·29	**1·60**	0·70	0·44	0·40	0·41	0·48	0·52	0·48	0·50	0·47	0·43	0·42	**6·85**	3·34	1·87	1·45	1·37	**3·24**

MORTALITY under 5 Years of Age, 1906.

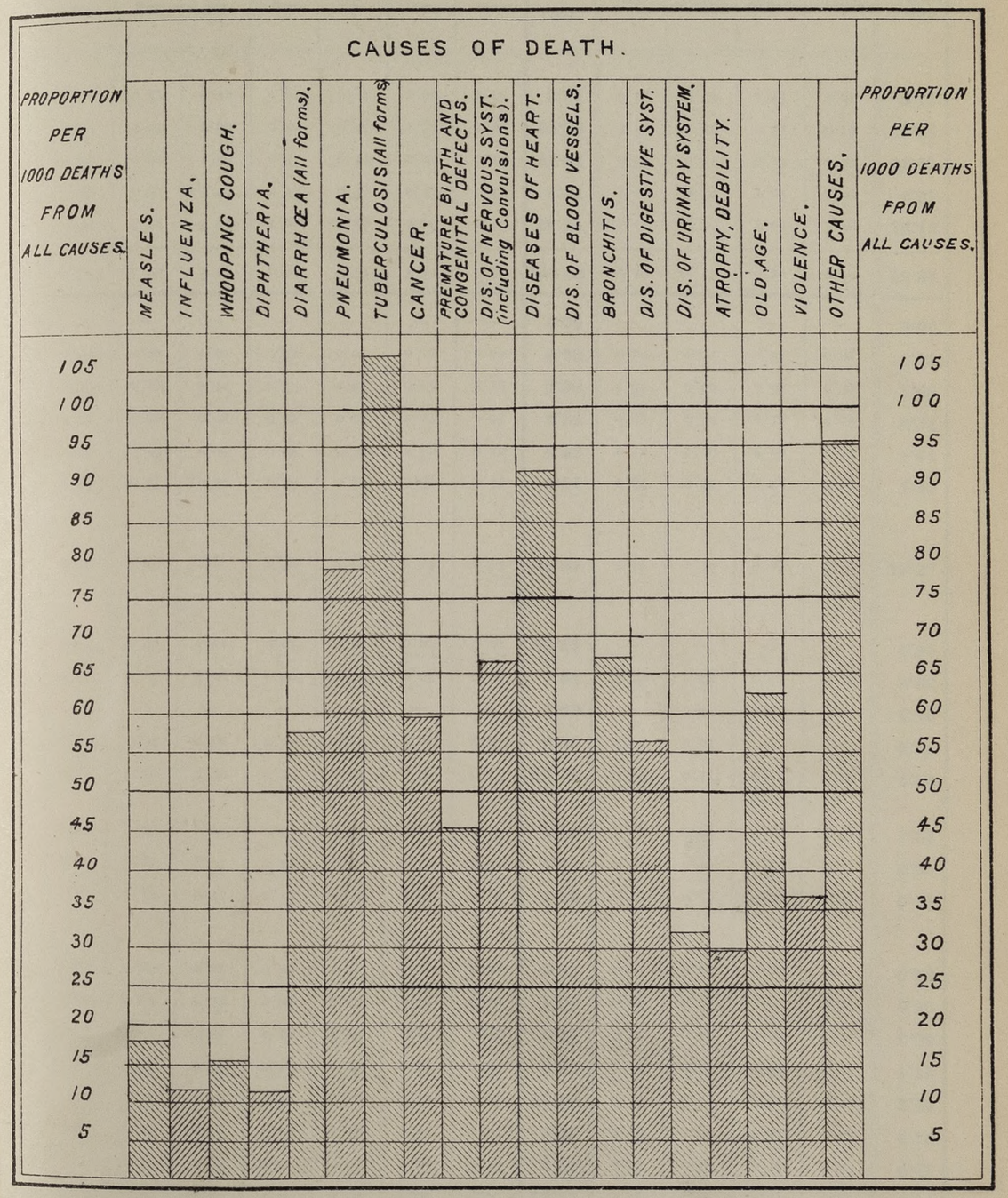
TABLE Q (2).—ENGLAND and WALES. MALES.

Cause of Death.	Proportion of Deaths									
	Under 1 day.	1 day and under 1 week.	Weeks. 1—	2—	3—	Months. Under 1 month.	1—	2—	3—	4—
I. COM. INFEC. DIS...	—	—	0·01	0·03	0·07	**0·11**	0·40	0·40	0·44	0·38
II. DIARRHŒAL DIS.	—	0·08	0·38	0·74	0·78	**1·98**	3·86	4·02	4·36	3·81
III. WASTING DIS. ..	12·32	12·01	4·36	4·09	2·62	**35·10**	5·58	3·03	1·69	1·06
IV. TUBERC. DIS. ..	0·00	0·01	0·01	0·03	0·07	**0·12**	0·32	0·46	0·56	0·55
V. OTHER CAUSES ..	0·97	2·86	2·03	2·06	1·73	**9·65**	6·08	4·62	3·90	3·36
ALL CAUSES ..	13·29	14·96	6·79	6·95	5·27	**47·26**	16·24	12·53	10·95	9·16
I. Small-pox ..	—	—	0·00	0·00	—	**0·00**	0·00	—	—	—
I. Chicken-pox ..	—	—	—	—	0·00	**0·00**	0·00	0·00	—	0·01
I. Measles	—	—	0·00	0·01	0·01	**0·02**	0·02	0·01	0·03	0·05
I. Scarlet Fever ..	—	—	—	—	—	—	0·01	0·00	0·01	0·01
I. Diphtheria, Croup	—	—	—	0·00	0·00	**0·00**	0·01	0·01	0·01	0·01
I. Whooping Cough	—	—	0·01	0·02	0·06	**0·09**	0·36	0·38	0·39	0·30
II. Diarrhœa (all forms): Enteritis, Gastro-Enteritis, Gastritis, Gastro-Intestinal Catarrh.	—	0·08	0·38	0·74	0·78	**1·98**	3·86	4·02	4·36	3·81
III. Premature Birth	8·56	6·92	2·02	1·86	1·10	**20·46**	1·51	0·41	0·09	0·04
III. Congenital Defects.	1·26	2·19	0·99	0·59	0·35	**5·38**	0·69	0·39	0·18	0·15
III. Injury at Birth ..	0·62	0·34	0·06	0·03	0·02	**1·07**	0·01	0·01	—	0·00
III. Want of Breast Milk, Starvation.	—	0·02	0·04	0·07	0·04	**0·17**	0·22	0·18	0·11	0·07
III. Atrophy, Debility, Marasmus.	1·88	2·54	1·25	1·54	1·11	**8·32**	3·15	2·04	1·31	0·80
IV. Tuberculous Meningitis.	—	0·01	—	0·00	0·01	**0·02**	0·05	0·07	0·14	0·13
IV. Tuberculous Peritonitis, Tabes Mesenterica.	—	0·00	0·00	0·02	0·04	**0·06**	0·19	0·26	0·28	0·25
IV. Other Tuberculous Diseases.	0·00	0·00	0·01	0·01	0·02	**0·04**	0·08	0·13	0·14	0·17
V. Erysipelas ..	—	—	0·02	0·04	0·04	**0·10**	0·07	0·04	0·02	0·03
V. Syphilis	0·02	0·03	0·09	0·11	0·10	**0·35**	0·35	0·23	0·15	0·09
V. Rickets	—	0·00	—	—	—	**0·00**	0·02	0·03	0·05	0·04
V. Meningitis (not Tuberculous).	—	0·02	0·03	0·03	0·02	**0·10**	0·13	0·13	0·16	0·23
V. Convulsions ..	0·48	2·18	1·12	0·92	0·66	**5·36**	2·13	1·45	0·99	0·80
V. Bronchitis ..	0·00	0·07	0·22	0·27	0·31	**0·87**	1·34	1·02	0·97	0·72
V. Laryngitis.. ..	—	0·01	0·01	—	—	**0·02**	0·02	0·01	0·02	0·01
V. Pneumonia ..	0·00	0·05	0·10	0·14	0·17	**0·46**	0·78	0·93	0·83	0·84
V. Suffocation ..	0·10	0·24	0·07	0·07	0·07	**0·55**	0·41	0·28	0·24	0·14
V. Other Causes ..	0·37	0·26	0·37	0·48	0·36	**1·84**	0·83	0·50	0·47	0·46

ENGLAND & WALES.

CAUSES OF DEATH.

DIAGRAM VII:— DEATHS FROM THE PRINCIPAL CAUSES TO 1000 DEATHS FROM ALL CAUSES: 1906.



The total shaded portion represents the total deaths and is equal to a single column 40 inches in height.

1560. .. 08

Weiler & Graham Ltd. Lithc. London

MORTALITY under 5 YEARS of Age, 1906.

to 1000 Births.								Deaths per 1000 Survivors.				Death-rate per 1000 living under 5 years of age.
Months.							Under 1 year.	1 year.	2 years.	3 years.	4 years.	
5—	6—	7—	8—	9—	10—	11—						
0·48	0·52	0·58	0·81	0·84	0·95	1·00	**6·91**	9·17	4·72	3·43	2·61	**5·71**
3·55	3·03	2·60	2·30	2·08	1·74	1·55	**34·88**	7·15	1·10	0·37	0·19	**10·27**
0·77	0·60	0·39	0·37	0·31	0·22	0·19	**49·61**	0·94	0·20	0·09	0·03	**12·28**
0·56	0·51	0·49	0·47	0·46	0·40	0·41	**5·31**	4·01	2·04	1·25	1·00	**2·97**
3·41	3·24	3·07	2·88	2·86	2·60	2·44	**48·11**	17·51	7·09	4·09	3·08	**18·13**
8·77	7·90	7·13	6·83	6·55	5·91	5·59	**144·82**	38·78	15·15	9·23	6·91	**49·36**
—	—	—	—	—	—	—	**0·00**	—	—	—	—	**0·00**
0·01	0·02	0·01	0·01	0·01	0·01	0·01	**0·09**	0·04	0·01	0·01	0·01	**0·03**
0·09	0·16	0·22	0·35	0·41	0·45	0·51	**2·32**	4·91	2·00	0·97	0·56	**2·29**
0·01	0·00	0·01	0·01	0·02	0·03	0·03	**0·14**	0·47	0·69	0·78	0·63	**0·54**
0·02	0·03	0·03	0·05	0·07	0·08	0·10	**0·42**	1·11	1·09	1·19	1·15	**1·01**
0·35	0·31	0·31	0·39	0·33	0·38	0·35	**3·94**	2·64	0·93	0·48	0·26	**1·84**
3·55	3·03	2·60	2·30	2·08	1·74	1·55	**34·88**	7·15	1·10	0·37	0·19	**10·27**
0·03	0·01	0·01	0·01	0·01	0·00	0·00	**22·58**	—	—	—	—	**5·47**
0·12	0·07	0·06	0·06	0·03	0·05	0·04	**7·22**	0·19	0·08	0·06	0·02	**1·82**
—	—	—	—	—	—	—	**1·09**	—	—	—	—	**0·26**
0·06	0·04	0·02	0·01	0·02	0·01	0·02	**0·93**	0·01	0·01	–	—	**0·23**
0·56	0·48	0·30	0·29	0·25	0·16	0·13	**17·79**	0·74	0·11	0·03	0·01	**4·50**
0·16	0·17	0·20	0·18	0·15	0·15	0·14	**1·56**	1·58	0·92	0·63	0·48	**1·11**
0·24	0·22	0·17	0·14	0·17	0·11	0·13	**2·22**	1·15	0·46	0·25	0·17	**0·95**
0·16	0·12	0·12	0·15	0·14	0·14	0·14	**1·53**	1·28	0·66	0·37	0·35	**0·91**
0·02	0·01	0·01	0·00	0·00	0·00	0·01	**0·31**	0·03	0·01	0·01	—	**0·08**
0·07	0·03	0·03	0·03	0·03	0·01	0·01	**1·38**	0·06	0·02	—	0·01	**0·35**
0·08	0·04	0·07	0·10	0·11	0·11	0·09	**0·74**	0·70	0·23	0·06	0·02	**0·39**
0·25	0·27	0·25	0·18	0·22	0·21	0·20	**2·33**	1·39	0·73	0·46	0·33	**1·15**
0·71	0·47	0·42	0·32	0·26	0·21	0·17	**13·29**	1·17	0·38	0·16	0·07	**3·59**
0·74	0·75	0·67	0·65	0·58	0·55	0·50	**9·36**	2·86	0·74	0·31	0·16	**3·10**
0·01	0·01	0·02	0·02	0·02	0·02	0·02	**0·20**	0·22	0·19	0·18	0·19	**0·21**
0·90	1·03	1·03	1·00	1·10	0·98	0·99	**10·87**	7·46	2·65	1·34	0·80	**5·14**
0·07	0·05	0·04	0·01	0·01	0·01	0·00	**1·81**	0·06	0·02	0·01	0·01	**0·46**
0·56	0·58	0·53	0·57	0·53	0·50	0·45	**7·82**	3·56	2·12	1·56	1·49	**3·66**

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

Cause of Death.	Proportion of Deaths									
			Weeks.			Months.				
	Under 1 day.	1 day and under 1 week.	1—	2—	3—	Under 1 month.	1—	2—	3—	4—
I. COM. INFEC. DIS..	—	0·00	0·00	0·04	0·09	**0·13**	0·46	0·47	0·35	0·44
II. DIARRHŒAL DIS.	0·00	0·06	0·25	0·58	0·56	**1·45**	2·80	3·49	3·73	3·48
III. WASTING DIS. ..	9·35	9·49	3·67	3·21	1·96	**27·68**	4·28	2·35	1·64	1·08
IV. TUBERC. DIS. ..	—	0·00	0·01	0·01	0·02	**0·04**	0·20	0·37	0·47	0·47
V. OTHER CAUSES ..	0·84	1·86	1·44	1·64	1·24	**7·02**	4·55	3·59	3·21	2·77
ALL CAUSES ..	10·19	11·41	5·37	5·48	3·87	**36·32**	12·29	10·27	9·40	8·24
I. Small-pox.. ..	—	—	—	0·00	—	**0·00**	—	—	—	—
I. Chicken-pox ..	—	—	—	—	—	—	0·co	—	0·00	0·00
I. Measles	—	—	—	0·01	0·00	**0·01**	0·03	0·02	0·02	0·04
I. Scarlet Fever ..	—	—	—	—	—	—	—	0·00	0·00	0·01
I. Diphtheria, Croup	—	0·00	0·00	0·00	—	**0·00**	0·01	0·01	0·00	0·02
I. Whooping Cough	—	0·00	0·00	0·03	0·09	**0·12**	0·42	0·44	0·33	0·37
II. Diarrhœa (all forms): Enteritis, Gastro-Enteritis, Gastritis, Gastro-Intestinal Catarrh.	0·00	0·06	0·25	0·58	0·56	**1·45**	2·80	3·49	3·73	3·48
III. Premature Birth	6·30	5·77	1·77	1·48	0·90	**16·22**	1·30	0·36	0·12	0·05
III. Congenital Defects.	1·07	1·62	0·79	0·51	0·25	**4·24**	0·59	0·29	0·17	0·14
III. Injury at Birth ..	0·50	0·19	0·03	0·01	0·01	**0·74**	0·01	0·00	—	—
III. Want of Breast Milk, Starvation.	—	0·01	0·03	0·04	0·04	**0·12**	0·14	0·12	0·12	0·07
III. Atrophy, Debility, Marasmus.	1·48	1·90	1·05	1·17	0·76	**6·36**	2·24	1·58	1·23	0·82
IV. Tuberculous Meningitis.	—	—	0·00	0·00	—	**0·00**	0·03	0·07	0·10	0·12
IV. Tuberculous Peritonitis, Tabes Mesenterica.	—	—	—	0·00	0·01	**0·01**	0·12	0·17	0·26	0·22
IV. Other Tuberculous Diseases.	—	0·00	0·01	0·01	0·01	**0·03**	0·05	0·13	0·11	0·13
V. Erysipelas ..	—	—	0·00	0·02	0·02	**0·04**	0·06	0·03	0·04	0·02
V. Syphilis	0·02	0·04	0·08	0·08	0·07	**0·29**	0·25	0·20	0 11	0·10
V. Rickets	—	0·00	—	—	0·00	**0·00**	0·02	0·01	0·03	0·03
V. Meningitis (not Tuberculous).	—	0·01	0·02	0·01	0·02	**0·06**	0·09	0·11	0·15	0·14
V. Convulsions ..	0·37	1·36	0·79	0·69	0·49	**3·70**	1·60	1·20	1·03	0·70
V. Bronchitis.. ..	—	0·07	0·15	0·22	0·23	**0·67**	1·00	0·80	0·70	0·62
V. Laryngitis.. ..	—	0·00	0·00	0·00	0·00	**0·00**	0·02	0·00	0·01	0·01
V. Pneumonia ..	0·00	0·03	0·08	0·14	0·10	**0·35**	0·55	0·56	0·61	0·68
V. Suffocation ..	0·12	0·16	0·05	0·09	0·10	**0·52**	0·39	0·30	0·20	0·12
V. Other Causes ..	0·33	0·19	0·27	0·39	0·21	**1·39**	0·57	0·38	0·33	0·35

MORTALITY under 5 Years of Age, 1906.

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.
0·48	0·55	0·66	0·80	0·91	0·97	1·01	**7·23**	9·52	4·82	3·94	2·93	**5·94**
3·12	2·81	2·34	2·18	1·84	1·58	1·47	**30·29**	6·93	1·02	0·48	0·20	**8·78**
0·72	0·50	0·42	0·34	0·28	0·20	0·24	**39·73**	0·96	0·17	0·07	0·03	**9·44**
0·47	0·45	0·44	0·44	0·38	0·42	0·36	**4·51**	3·56	1·77	1·15	0·91	**2·53**
2·50	2·54	2·58	2·49	2·31	2·16	2·19	**37·91**	15·59	6·24	3·70	2·78	**14·50**
7·29	6·85	6·44	6·25	5·72	5·33	5·27	**119·67**	36·56	14·02	9·34	6·85	**41·19**
—	—	—	—	—	—	—	**0·00**	—	—	—	—	**0·00**
0·00	0·01	0·00	0·00	0·01	0·01	0·01	**0·04**	0·02	0·01	0·01	—	**0·02**
0·10	0·14	0·24	0·34	0·37	0·44	0·44	**2·19**	4·77	1·89	1·06	0·64	**2·20**
—	0·00	0·01	0·01	0·03	0·02	0·01	**0·09**	0·42	0·63	0·68	0·61	**0·49**
0·02	0·02	0·02	0·04	0·05	0·c6	0·08	**0·33**	0·93	1·00	1·40	1·27	**0·98**
0·36	0·38	0·39	0·41	0·45	0·44	0·47	**4·58**	3·38	1·29	0·79	0·41	**2·25**
3·12	2·81	2·34	2·18	1·84	1·58	1·47	**30·29**	6·93	1·02	0·48	0·20	**8·78**
0·03	0·00	0·01	—	0·01	—	—	**18·10**	—	—	—	—	**4·19**
0·10	0·07	0·08	0·05	0·05	0·04	0·05	**5·87**	0·17	0·05	0·03	0·02	**1·41**
0·00	—	—	—	—	—	—	**0·75**	—	—	—	—	**0·17**
0·05	0·02	0·02	0·03	0·01	0·01	0·00	**0·71**	—	0·00	—	—	**0·16**
0·54	0·41	0·31	0·26	0·21	0·15	0·19	**14·30**	0·79	0·12	0·04	0·01	**3·51**
0·13	0·16	0·17	0·15	0·15	0·17	0·13	**1·38**	1·35	0·83	0·60	0·42	**0·96**
0·21	0·17	0·15	0·17	0·13	0·14	0·11	**1·86**	1·06	0·34	0·18	0·17	**0·79**
0·13	0·12	0·12	0·12	0·10	0·11	0·12	**1·27**	1·15	0·60	0·37	0·32	**0·78**
0·02	0·01	0·02	0·01	0·00	0·00	0·00	**0·25**	0·01	0·01	—	—	**0·06**
0·08	0·04	0·02	0·03	0·02	0·02	0·02	**1·18**	0·09	0·01	0·00	0·01	**0·30**
0·03	0·04	0·05	0·06	0·07	0·05	0·06	**0·45**	0·64	0·21	0·06	0·03	**0·30**
0·21	0·17	0·20	0·18	0·21	0·17	0·16	**1·85**	1·06	0·62	0·33	0·30	**0·89**
0·50	0·40	0·34	0·23	0·22	0·20	0·17	**10·29**	1·13	c·35	0·13	0·06	**2·72**
0·55	0·55	0·55	0·57	0·52	0·51	0·47	**7·51**	2·71	0·66	0·31	0·21	**2·53**
0·01	0·01	0·01	0·01	0·02	0·01	0·02	**0·13**	0·19	0·16	0·18	0·16	**0·17**
0·62	0·81	0·96	0·94	0·82	0·83	0·87	**8·60**	6·65	2·58	1·32	0·75	**4·28**
0·09	0·05	0·02	0·02	0·03	0·02	0·02	**1·78**	0·05	0·01	0·00	0·01	**0·42**
0·39	0·46	0·41	0·44	0·40	0·35	0·40	**5·87**	3·06	1·63	1·37	1·25	**2·83**

TABLE R.—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.
	Under 1 Day.	1 day and under 1 week.	Weeks.			Months.								Under 1 year.	1 year.	2 years.	3 years.	4 years.	
			1—	2—	3—	Under 1 month.	1—	2—	3—	4—	5—	6—	7—	8—	9—	10—	11—						
I. COM. INFEC. DIS. ..	—	0·00	0·01	0·04	0·08	**0·13**	0·43	0·45	0·40	0·41	0·53	0·61	0·73	0·96	1·06	1·13	1·14	**7·93**	11·93	5·88	4·29	3·07	**7·09**
II. DIARRHŒAL DIS. .	—	0·07	0·33	0·74	0·77	**1·91**	3·87	4·34	4·68	4·24	3·88	3·34	2·91	2·57	2·23	1·94	1·72	**37·63**	8·77	1·30	0·46	0·22	**11·41**
III. WASTING DIS. ..	10·73	10·67	4·14	3·77	2·30	**31·61**	5·05	2·86	1·72	1·09	0·78	0·60	0·45	0·39	0·32	0·24	0·22	**45·33**	1·04	0·21	0·09	0·03	**11·30**
IV. TUBERC. DIS. ..	—	0·00	0·01	0·03	0·05	**0·09**	0·25	0·44	0·58	0·52	0·58	0·53	0·51	0·48	0·43	0·45	0·46	**5·32**	4·23	2·22	1·41	1·08	**3·13**
V. OTHER CAUSES ..	0·99	2·42	1·87	2·08	1·67	**9·03**	5·80	4·47	3·90	3·40	3·23	3·17	3·14	2·93	2·87	2·58	2·58	**47·10**	19·01	7·70	4·41	3·31	**18·53**
ALL CAUSES ..	11·72	13·16	6·36	6·66	4·87	**42·77**	15·40	12·56	11·28	9·66	9·00	8·25	7·74	7·33	6·91	6·34	6·12	**143·36**	44·98	17·31	10·66	7·71	**51·46**
I. Small-pox ..	—	—	0·00	—	—	**0·00**	—	—	—	—	—	—	—	—	—	—	—	**0·00**	—	—	—	—	**0·00**
I. Chicken-pox ..	—	—	—	—	0·00	**0·00**	0·00	0·00	0·00	0·00	0·01	0·01	0·01	0·01	0·02	0·02	0·01	**0·09**	0·05	0·01	0·00	0·00	**0·04**
I. Measles	—	—	0·01	0·01	0·00	**0·02**	0·03	0·03	0·03	0·06	0·11	0·21	0·33	0·48	0·53	0·59	0·60	**3·02**	6·64	2·57	1·29	0·78	**3·06**
I. Scarlet Fever ..	—	—	—	—	—	—	0·00	0·01	0·01	0·01	0·01	0·01	0·01	0·01	0·02	0·03	0·02	**0·14**	0·60	0·85	0·96	0·78	**0·67**
I. Diphtheria, Croup	—	—	0·00	0·00	0·00	**0·00**	0·01	0·01	0·01	0·01	0·02	0·04	0·04	0·06	0·07	0·08	0·10	**0·45**	1·20	1·20	1·36	1·15	**1·10**
I. Whooping Cough	—	0·00	0·00	0·03	0·08	**0·11**	0·39	0·40	0·35	0·33	0·38	0·34	0·34	0·40	0·42	0·41	0·41	**4·28**	3·44	1·25	0·68	0·36	**2·22**
II. Diarrhœa (all forms): Enteritis, Gastro-Enteritis, Gastritis, Gastro-Intestinal Catarrh.	—	0·07	0·33	0·74	0·77	**1·91**	3·87	4·34	4·68	4·24	3·88	3·34	2·91	2·57	2·23	1·94	1·72	**37·63**	8·77	1·30	0·46	0·22	**11·41**
III. Premature Birth	7·36	6·32	1·94	1·78	1·01	**18·41**	1·45	0·43	0·09	0·04	0·02	0·01	0·01	0·01	0·01	0·00	—	**20·48**	—	—	—	—	**4·98**
III. Congenital Defects.	1·20	1·92	0·92	0·53	0·33	**4·90**	0·68	0·39	0·18	0·14	0·12	0·07	0·08	0·07	0·04	0·05	0·05	**6·77**	0·19	0·06	0·04	0·02	**1·71**
III. Injury at Birth ..	0·53	0·29	0·05	0·02	0·02	**0·91**	0·01	0·00	—	—	—	—	—	—	—	—	—	**0·92**	—	—	—	—	**0·22**
III. Want of Breast Milk, Starvation.	—	0·02	0·04	0·07	0·04	**0·17**	0·20	0·16	0·13	0·07	0·06	0·04	0·02	0·02	0·02	0·01	0·01	**0·91**	0·00	0·00	—	—	**0·22**
III. Atrophy, Debility, Marasmus.	1·64	2·12	1·19	1·37	0·90	**7·22**	2·71	1·88	1·32	0·84	0·58	0·48	0·34	0·29	0·25	0·18	0·16	**16·25**	0·85	0·15	0·05	0·01	**4·17**
IV. Tuberculous Meningitis	—	0·00	—	0·00	0·01	**0·01**	0·04	0·08	0·11	0·14	0·17	0·18	0·20	0·19	0·15	0·17	0·17	**1·61**	1·60	1·00	0·72	0·48	**1·17**
IV. Tuberculous Peritonitis, Tabes Mesenterica.	—	—	0·00	0·02	0·02	**0·04**	0·15	0·23	0·32	0·24	0·25	0·22	0·18	0·18	0·16	0·14	0·13	**2·24**	1·24	0·48	0·25	0·18	**0·99**
IV. Other Tuberculous Diseases.	—	—	0·01	0·01	0·02	**0·04**	0·06	0·13	0·15	0·14	0·16	0·13	0·13	0·11	0·12	0·14	0·16	**1·47**	1·39	0·74	0·44	0·42	**0·97**
V. Erysipelas ..	—	—	0·01	0·03	0·04	**0·08**	0·08	0·05	0·03	0·02	0·02	0·01	0·01	—	0·00	0·01	0·00	**0·31**	0·03	0·01	—	—	**0·08**
V. Syphilis	0·02	0·04	0·10	0·11	0·10	**0·37**	0·33	0·25	0·15	0·12	0·07	0·04	0·03	0·04	0·03	0·02	0·02	**1·47**	0·09	0·02	0·00	0·01	**0·38**
V. Rickets	—	0·00	—	—	0·00	**0·00**	0·02	0·02	0·04	0·04	0·07	0·04	0·06	0·06	0·09	0·09	0·06	**0·59**	0·69	0·24	0·06	0·02	**0·35**
V. Meningitis (not Tuberculous).	—	0·02	0·03	0·02	0·02	**0·09**	0·14	0·13	0·18	0·22	0·29	0·26	0·27	0·22	0·27	0·23	0·22	**2·52**	1·49	0·80	0·45	0·36	**1·25**
V. Convulsions ..	0·47	1·77	1·00	0·93	0·64	**4·81**	1·99	1·43	1·07	0·78	0·62	0·48	0·38	0·28	0·25	0·20	0·19	**12·48**	1·16	0·40	0·16	0·08	**3·41**
V. Bronchitis ..	0·00	0·08	0·20	0·29	0·31	**0·88**	1·27	1·03	0·93	0·79	0·69	0·73	0·66	0·67	0·60	0·58	0·54	**9·37**	3·13	0·77	0·32	0·20	**3·20**
V. Laryngitis ..	—	0·01	0·01	0·00	—	**0·02**	0·02	0·00	0·01	0·02	0·01	0·01	0·02	0·02	0·02	0·01	0·02	**0·18**	0·23	0·20	0·20	0·18	**0·21**
V. Pneumonia ..	0·01	0·04	0·12	0·14	0·14	**0·45**	0·75	0·81	0·82	0·82	0·88	1·01	1·16	1·11	1·11	0·99	1·08	**10·99**	8·50	3·13	1·56	0·92	**5·58**
V. Suffocation ..	0·14	0·25	0·07	0·11	0·10	**0·67**	0·51	0·35	0·28	0·16	0·09	0·07	0·03	0·02	0·02	0·02	0·00	**2·22**	0·06	0·01	0·01	0·00	**0·56**
V. Other Causes ..	0·35	0·21	0·33	0·45	0·32	**1·66**	0·69	0·40	0·39	0·43	0·49	0·52	0·52	0·51	0·48	0·43	0·45	**6·97**	3·63	2·12	1·65	1·54	**3·51**

MORTALITY under 5 Years of Age, 1906.

TABLE S.—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.
		Under 1 day.	1 day and under 1 week.	Weeks.			Months.								Under 1 year.	1 year.	2 years.	3 years.	4 years.	
				1—	2—	3—	Under 1 month.	1—	2—	3—	4—	5—	6—	7—	8—	9—	10—	11—						
	I. COM. INFEC. DIS...	—	—	0·02	0·05	0·07	**0·14**	0·46	0·47	0·40	0·40	0·42	0·44	0·32	0·51	0·58	0·62	0·77	**5·53**	4·66	2·50	2·20	2·01	**3·52**
	II. DIARRHŒAL DIS...	0·01	0·08	0·24	0·56	0·51	**1·40**	2·17	2·10	2·31	1·72	1·73	1·55	1·29	1·05	1·06	0·74	0·96	**18·08**	2·76	0·45	0·24	0·13	**4·79**
	III WASTING DIS. ..	9·98	10·87	3·68	3·28	2·31	**30·12**	4·73	2·49	1·66	0·94	0·72	0·53	0·40	0·38	0·35	0·20	0·17	**42·69**	0·70	0·15	0·06	0·01	**9·78**
	IV. TUBERC. DIS. ..	0·01	0·02	0·02	0·03	0·03	**0·11**	0·29	0·32	0·37	0·40	0·30	0·36	0·29	0·44	0·31	0·37	0·30	**3·86**	2·32	1·05	0·68	0·72	**1·82**
	V. OTHER CAUSES ..	0·90	2·46	1·43	1·75	1·22	**7·76**	5·12	3·89	3·15	2·63	2·53	2·46	2·41	2·15	2·30	2·16	2·08	**38·64**	12·03	4·73	2·79	2·25	**13·05**
	ALL CAUSES ..	10·90	13·43	5·39	5·67	4·14	**39·53**	12·77	9·27	7·89	6·09	5·70	5·34	4·71	4·53	4·60	4·09	4·28	**108·80**	22·47	8·88	5·97	5·12	**32·96**
I.	Small-pox ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
I.	Chicken-pox ..	—	—	—	—	—	—	—	—	0·01	—	—	—	0·01	—	0·01	—	—	**0·03**	—	—	—	0·01	**0·01**
I.	Measles	—	—	—	—	0·01	**0·01**	0·01	0·01	0·03	0·02	0·09	0·07	0·05	0·11	0·19	0·27	0·25	**1·11**	1·89	0·86	0·41	0·34	**0·95**
I.	Scarlet Fever ..	—	—	—	—	—	—	0·01	0·01	0·01	0·02	—	—	—	0·02	0·02	—	0·02	**0·11**	0·23	0·41	0·31	0·33	**0·28**
I.	Diphtheria, Croup	—	—	—	—	0·01	**0·01**	0·01	—	—	0·02	—	0·01	0·03	0·02	0·04	0·01	0·07	**0·22**	0·54	0·62	1·08	1·09	**0·71**
I.	Whooping Cough	—	—	0·02	0·05	0·05	**0·12**	0·43	0·45	0·35	0·34	0·33	0·36	0·23	0·36	0·32	0·34	0·43	**4·06**	2·00	0·61	0·40	0·24	**1·57**
II.	Diarrhœa (all forms): Enteritis, Gastro-Enteritis, Gastritis, Gastro-Intestinal Catarrh.	0·01	0·08	0·24	0·56	0·51	**1·40**	2·17	2·10	2·31	1·72	1·73	1·55	1·29	1·05	1·06	0·74	0·96	**18·08**	2·76	0·45	0·24	0·13	**4·79**
III.	Premature Birth	6·72	6·18	1·59	1·48	0·95	**16·92**	1·23	0·34	0·11	0·06	0·04	—	0·02	—	0·01	—	—	**18·73**	—	—	—	—	**4·21**
III.	Congenital Defects.	1·08	1·74	0·76	0·51	0·26	**4·35**	0·53	0·23	0·14	0·14	0·15	0·08	0·08	0·06	0·08	0·03	0·06	**5·93**	0·13	0·07	0·06	0·01	**1·39**
III.	Injury at Birth ..	0·45	0·24	0·03	0·02	—	**0·74**	0·01	—	—	0·01	0·01	—	—	—	—	—	—	**0·77**	—	—	—	—	**0·17**
III.	Want of Breast Milk, Starvation.	—	0·01	0·06	0·04	0·07	**0·18**	0·18	0·18	0·05	0·05	0·05	—	0·02	0·01	0·01	0·01	0·01	**0·75**	-	0·01	—	—	**0·17**
III.	Atrophy, Debility, Marasmus.	1·73	2·70	1·24	1·23	1·03	**7·93**	2·78	1·74	1·36	0·68	0·47	0·45	0·28	0·31	0·25	0·16	0·10	**16·51**	0·57	0·07	—	—	**3·84**
IV.	Tuberculous Meningitis.	—	0·01	—	—	—	**0·01**	0·05	0·02	0·11	0·09	0·10	0·11	0·09	0·10	0·13	0·18	0·08	**1·07**	0·84	0·43	0·36	0·37	**0·64**
IV.	Tuberculous Peritonitis, Tabes Mesenterica.	—	—	—	0·02	0·01	**0·03**	0·16	0·21	0·17	0·18	0·11	0·19	0·08	0·09	0·08	0·07	0·07	**1·44**	0·63	0·20	0·09	0·11	**0·53**
IV.	Other Tuberculous Diseases.	0·01	0·01	0·02	0·01	0·02	**0·07**	0·08	0·09	0·09	0·13	0·09	0·06	0·12	0·25	0·10	0·12	0·15	**1·35**	0·85	0·42	0·23	0·24	**0·65**
V.	Erysipelas ..	—	—	—	0·03	0·01	**0·04**	0·07	0·02	0·04	0·04	0·02	0·01	0·02	0·02	—	—	—	**0·28**	0·04	0·01	—	—	**0·07**
V.	Syphilis	0·02	0·03	0·06	0·02	0·02	**0·15**	0·13	0·10	0·06	0·04	0·07	0·02	0·01	0·03	—	0·02	0·01	**0·64**	0·03	0·01	—	—	**0·15**
V.	Rickets	—	0·01	—	—	—	**0·01**	0·02	0·01	0·05	0·07	0·01	0·03	0·04	0·04	0·04	0·06	0·10	**0·48**	0·49	0·16	0·05	0·03	**0·25**
V.	Meningitis (not Tuberculous).	—	0·02	—	—	0·03	**0·05**	0·03	0·08	0·13	0·09	0·17	0·13	0·15	0·11	0·14	0·13	0·10	**1·31**	0·60	0·41	0·25	0·26	**0·60**
V.	Convulsions ..	0·50	1·92	0·89	0·83	0·58	**4·72**	2·32	1·52	1·11	0·76	0·55	0·39	0·36	0·21	0·28	0·23	0·21	**12·66**	1·27	0·31	0·18	0·03	**3·21**
V.	Bronchitis ..	—	0·07	0·13	0·25	0·16	**0·61**	0·95	0·72	0·66	0·37	0·55	0·46	0·50	0·45	0·60	0·49	0·48	**6·84**	2·04	0·49	0·20	0·17	**2·13**
V.	Laryngitis ..	—	—	—	0·01	—	**0·01**	0·02	0·02	—	—	0·03	—	0·03	0·01	0·04	0·03	0·05	**0·24**	0·15	0·12	0·20	0·19	**0·18**
V.	Pneumonia ..	—	0·03	0·02	0·14	0·11	**0·30**	0·55	0·72	0·59	0·74	0·61	0·82	0·78	0·74	0·70	0·85	0·72	**8·12**	4·59	1·57	0·92	0·49	**3·35**
V.	Suffocation ..	0·08	0·10	0·02	0·03	0·03	**0·26**	0·19	0·15	0·13	0·11	0·04	0·04	0·01	0·01	0·01	0·01	0·01	**0·97**	0·08	—	—	0·01	**0·23**
V.	Other Causes ..	0·30	0·28	0·31	0·44	0·28	**1·61**	0·84	0·55	0·38	0·41	0·48	0·56	0·51	0·53	0·49	0·34	0·40	**7·10**	2·74	1·65	0·99	1·07	**2·88**

MORTALITY under 5 Years of Age, 1906.

TABLE T.—MORTALITY OF ILLEGITIMATE AS COMPARED WITH

—	Cause of Death.	Proportion of Deaths among to 1000			
		Under 1 Week.	Weeks. 1—	2—	3—
ENGLAND AND WALES.	*Illegitimate.*				
Both Sexes.. ..	I. Common Infectious Diseases	—	—	0·06	0·13
	II. Diarrhœal Diseases	0·10	0·62	1·63	1·90
	III. Wasting Diseases	31·43	8·26	8·10	5·60
	IV. Tuberculous Diseases	—	0·05	0·08	0·11
	V. Other Causes	10·06	3·05	3·88	3·13
	ALL CAUSES Illegitimate ..	41·59	11·98	13·75	10·27
	ALL CAUSES *Legitimate* ..	*24·29*	*5·85*	*5·92*	*4·35*
	Illegitimate.				
Males	I. Common Infectious Diseases	—	—	0·05	0·16
	II. Diarrhœal Diseases	0·11	0·74	1·53	2·22
	III. Wasting Diseases	35·39	8·72	9·40	5·86
	IV. Tuberculous Diseases	—	0·11	—	0·21
	V. Other causes	11·35	3·80	4·92	3·33
	ALL CAUSES Illegitimate ..	46·85	13·37	15·90	11·78
	ALL CAUSES *Legitimate* ..	*27·48*	*6·51*	*6·59*	*5·00*
	Illegitimate.				
Females	I. Common Infectious Diseases	—	—	0·05	0·11
	II. Diarrhœal Diseases	0·11	0·49	1·73	1·57
	III. Wasting Diseases	27·36	7·80	6·77	4·12
	IV. Tuberculous Diseases	—	—	0·16	—
	V. Other Causes	8·72	2·27	2·83	2·92
	ALL CAUSES Illegitimate ..	36·19	10·56	11·54	8·72
	ALL CAUSES *Legitimate* ..	*20·99*	*5·16*	*5·23*	*3·67*
URBAN COUNTIES.	*Illegitimate.*				
Both Sexes.. ..	I. Common Infectious Diseases	—	—	0·05	0·05
	II. Diarrhœal Diseases	0·10	0·74	1·49	1·98
	III. Wasting Diseases	31·91	8·18	8·62	4·86
	IV. Tuberculous Diseases	—	—	0·15	0·05
	V. Other Causes	10·81	3·22	3·96	3·17
	ALL CAUSES Illegitimate ..	42·82	12·14	14·27	10·11
	ALL CAUSES *Legitimate* ..	*24·17*	*6·13*	*6·36*	*4·66*
RURAL COUNTIES.	*Illegitimate.*				
Both Sexes.. ..	I. Common Infectious Diseases	—	—	—	0·55
	II. Diarrhœal Diseases	—	0·18	1·27	1·45
	III. Wasting Diseases	24·18	6·91	7·45	4·73
	IV. Tuberculous Diseases	—	0·36	—	0·18
	V. Other Causes	8·36	1·27	3·64	2·36
	ALL CAUSES Illegitimate ..	32·54	8·72	12·36	9·27
	ALL CAUSES *Legitimate* ..	*23·88*	*5·21*	*5·30*	*3·86*

LEGITIMATE INFANTS UNDER ONE YEAR OF AGE, 1906.

Illegitimate Infants to 1000 Illegitimate Births, and among Legitimate Infants Legitimate Births.

Under 1 Month.	Months. 1—	2—	3—	4—	5—	6—	7—	8—	9—	10—	11—	Total under 1 Year.
0·19	0·24	0·27	0·29	0·59	0·48	0·91	0·83	0·96	1·02	1·02	1·12	7·92
4·25	9·01	10·67	9·41	8·45	5·86	5·46	4·47	3·93	3·10	2·41	2·70	69·72
52·79	13·11	8·21	4·95	3·29	1·77	1·65	1·04	1·18	0·99	0·83	0·72	90·53
0·24	0·83	0·86	1·12	1·02	1·07	0·67	0·91	0·64	0·53	0·59	0·80	9·28
20·12	11·18	9·01	6·54	6·31	5·50	5·16	4·49	4·17	4·23	3·44	3·75	83·90
77·59	34·37	29·02	22·31	19·66	14·68	13·85	11·74	10·88	9·87	8·29	9·09	261·35
40·41	*13·47*	*10·69*	*9·68*	*8·25*	*7·77*	*7·12*	*6·59*	*6·37*	*5·99*	*5·51*	*5·28*	*127·13*
0·21	0·26	0·26	0·26	0·53	0·53	1·00	0·95	0·63	0·74	0·85	1·21	7·43
4·60	10·19	11·09	9·77	8·93	6·50	6·02	5·34	3·59	2·75	2·22	2·69	73·69
59·37	15·37	9·61	5·23	3·75	1·64	1·64	1·00	1·27	0·85	0·95	0·58	101·26
0·32	0·90	1·06	1·37	1·00	0·95	1·06	0·90	0·79	0·69	0·53	0·69	10·26
23·40	12·63	9·41	7·03	6·50	6·39	5·23	5·02	4·44	4·53	3·74	3·60	91·92
87·90	39·35	31·43	23·66	20·71	16·01	14·95	13·21	10·72	9·56	8·29	8·77	284·56
45·58	*15·28*	*11·74*	*10·42*	*8·69*	*8·48*	*7·60*	*6·88*	*6·67*	*6·43*	*5·81*	*5·46*	*139·04*
0·16	0·22	0·27	0·33	0·66	0·43	0·81	0·70	1·30	1·30	1·19	1·03	8·40
3·90	7·80	10·24	9·04	7·96	5·20	4·88	3·58	4·28	3·47	2·60	2·71	65·66
46·05	10·78	6·77	4·66	2·81	1·91	1·68	1·08	1·08	1·14	0·70	0·87	79·53
0·16	0·76	0·65	0·87	1·03	1·19	0·27	0·92	0·49	0·38	0·65	0·92	8·29
16·74	9·69	8·62	6·01	6·12	4·60	5·09	3·96	3·90	3·89	3·15	3·90	75·67
67·01	29·25	26·55	20·91	18·58	13·33	12·73	10·24	11·05	10·18	8·29	9·43	237·55
35·05	*11·58*	*9·57*	*8·92*	*7·80*	*7·03*	*6·61*	*6·28*	*6·05*	*5·54*	*5·20*	*5·09*	*114·72*
0·10	0·20	0·40	0·30	0·59	0·59	1·20	0·84	1·09	1·24	0·94	1·78	9·27
4·31	10·91	12·93	11·45	9·96	7·09	6·39	5·65	4·71	3·62	2·82	3·27	83·11
53·57	13·03	8·03	5·06	2·98	1·59	1·88	0·99	1·29	1·04	1·14	0·74	91·34
0·20	0·84	0·99	1·34	0·94	1·19	0·69	1·10	0·74	0·55	0·74	0·89	10·21
21·16	11·99	9·86	7·58	7·63	5·84	5·65	5·45	4·41	4·21	3·58	4·12	91·48
79·34	36·97	32·21	25·73	22·10	16·30	15·81	14·03	12·24	10·66	9·22	10·80	285·41
41·32	*14·54*	*11·78*	*10·71*	*9·16*	*8·72*	*7·95*	*7·49*	*7·14*	*6·76*	*6·23*	*5·93*	*137·73*
0·55	0·73	0·18	0·18	0·55	0·18	0·36	0·36	0·73	0·36	0·91	0·18	5·27
2·90	4·91	3·09	2·36	3·09	2·36	2·55	1·64	0·91	2·36	0·36	1·09	27·62
43·27	11·64	7·82	2·91	4·36	2·36	0·91	0·73	0·91	0·91	0·73	0·18	76·73
0·54	0·73	0·55	0·91	0·73	0·55	0·91	0·18	0·73	0·36	—	0·55	6·74
15·63	8·35	7·81	3·82	4·72	2·91	4·72	3·27	3·26	3·64	3·27	3·63	65·03
62·89	26·36	19·45	10·18	13·45	8·36	9·45	6·18	6·54	7·63	5·27	5·63	181·39
38·25	*12·01*	*8·71*	*7·77*	*5·69*	*5·56*	*5·11*	*4·63*	*4·43*	*4·44*	*4·03*	*4·20*	*104·83*

TABLE U.—MORTALITY of ILLEGITIMATE as compared with LEGITIMATE INFANTS under one YEAR of AGE, 1906.

Cause of Death.	Proportion of Deaths among Illegitimate Infants to 1000 Illegitimate Births, and among Legitimate Infants to 1000 Legitimate Births.									
	England and Wales.						Urban Counties.		Rural Counties.	
	Both Sexes.		Males.		Females.		Both Sexes.		Both Sexes.	
	Illegitimate.	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.	Legitimate.
I. COM. INFEC. DIS.	7·92	7·04	7·43	6·89	8·40	7·20	9·27	7·93	5·27	5·55
II. DIARRHŒAL DIS.	69·72	31·09	73·69	33·27	65·66	28·81	83·11	35·83	27·62	17·56
III. WASTING DIS. ..	90·53	42·86	101·26	47·47	79·53	38·06	91·34	43·51	76·73	40·83
IV. TUBERC. DIS. ..	9·28	4·74	10·26	5·11	8·29	4·35	10·21	5·12	6·74	3·70
V. OTHER CAUSES..	83·90	41·40	91·92	46·30	75·67	36·30	91·48	45·34	65·03	37·19
ALL CAUSES ..	261·35	127·13	284·56	139·04	237·55	114·72	285·41	137·73	181·39	104·83
I. Small-pox ..	0·03	0·00	0·05	0·00	—	0·00	—	0·00	—	—
I. Chicken-pox ..	0·27	0·06	0·32	0·07	0·22	0·05	0·40	0·08	—	0·03
I. Measles	2·94	2·23	2·91	2·30	2·98	2·16	4·01	2·98	1·09	1·11
I. Scarlet Fever ..	0·05	0·12	0·05	0·14	0·05	0·10	0·05	0·14	—	0·11
I. Diphtheria, Croup	0·27	0·38	0·16	0·43	0·38	0·33	0·30	0·45	—	0·23
I. Whooping Cough	4·36	4·25	3·94	3·95	4·77	4·56	4·51	4·28	4·18	4·07
II. Diarrhœa (all forms): Enteritis, Gastro-Enteritis, Gastritis, Gastro-Intestinal Catarrh.	69·72	31·09	73·69	33·27	65·66	28·81	83·11	35·83	27·62	17·56
III. Premature Birth	31·45	19·92	34·70	22·07	28·12	17·69	31·92	20·03	25·09	18·39
III. Congenital Defects.	9·14	6·45	10·35	7·09	7·91	5·78	9·07	6·68	8·54	5·80
III. Injury at Birth ..	2·78	0·85	3·17	1·01	2·38	0·68	2·58	0·85	1·82	0·71
III. Want of Breast Milk, Starvation.	3·16	0·72	3·75	0·81	2·55	0·63	3·52	0·81	2·73	0·63
III. Atrophy, Debility, Marasmus.	44·00	14·92	49·29	16·49	38·57	13·28	44·25	15·14	38·55	15·30
IV. Tuberculous Meningitis.	1·66	1·46	1·74	1·55	1·57	1·37	1·78	1·60	0·55	1·09
IV. Tuberculous Peritonitis, Tabes Mesenterica.	4·68	1·94	5·19	2·10	4·17	1·77	5·36	2·12	3·46	1·33
IV. Other Tuberculous Diseases.	2·94	1·34	3·33	1·46	2·55	1·21	3·07	1·40	2·73	1·28
V. Erysipelas ..	0·32	0·28	0·42	0·30	0·22	0·25	0·45	0·30	—	0·29
V. Syphilis	9·71	0·93	9·83	1·03	9·59	0·82	11·00	1·10	4·36	0·43
V. Rickets	1·31	0·57	1·27	0·72	1·35	0·41	1·39	0·56	1·09	0·44
V. Meningitis (not Tuberculous).	2·67	2·07	2·75	2·31	2·60	1·82	3·62	2·48	1·45	1·31
V. Convulsions ..	23·78	11·32	25·78	12·77	21·72	9·81	24·14	12·01	21·97	12·18
V. Bronchitis.. ..	13·85	8·23	15·64	9·10	12·03	7·32	16·80	9·07	10·36	6·65
V. Laryngitis ..	0·21	0·17	0·21	0·21	0·22	0·12	0·20	0·18	—	0·24
V. Pneumonia ..	13·85	9·58	15·16	10·69	12·51	8·43	15·21	10·82	12·71	7·87
V. Suffocation ..	3·90	1·71	3·86	1·74	3·95	1·69	4·81	2·12	2·00	0·90
V. Other Causes ..	14·30	6·54	17·00	7·43	11·48	5·63	13·86	6·70	11·09	6·88

causes of mortality of infants whose life-time was less than a day, and also those of infants from one to seven days old. From the first column we learn that, of the total deaths within the first year of life about 9 per cent. occur within twenty-four hours of birth. Of these deaths about nine-tenths are from "wasting diseases"—the greater part of which are referred to premature birth, and most of the remainder, either to congenital defects, or to atrophy or marasmus. By adding together the first two columns of Table Q, we see that of the total deaths occurring under one year, nearly one-fifth part take place within the first week. Nearly all these deaths are returned either under the indefinite term convulsions, or under one or other of the forms of wasting disease; very few of the deaths appear by the registers to have been caused by any of the definite diseases enumerated in Table Q. In the remaining weeks of the first month the mortality falls considerably, being, in each subsequent week, less than a quarter of that occurring in the first: wasting diseases still continue to exact a heavy death-toll throughout the first month. In the second and succeeding months of the first year wasting diseases become progressively less fatal; the principal causes of death being diarrhœal diseases, bronchitis, pneumonia and convulsions. Throughout the first year diarrhœal diseases contribute largely to infant mortality, being particularly fatal from the second month onwards to the end of that period. Among other common infectious diseases of childhood both scarlet fever and diphtheria show a higher fatality in the latter than in the earlier months of the first year, and a still higher fatality in each of the four succeeding years. Tuberculous diseases in the aggregate are more destructive in the first year than in any of the four years immediately following. Of the total deaths from suffocation under one year, one-sixth part occur within a week of birth. According to the experience of each of the last two years, both bronchitis and pneumonia show exceptional fatality throughout the first year of life; but, whereas bronchitis levies the heaviest death toll in the earlier months of that period, pneumonia is most destructive in its later months.

In my letter to you on the causes of death in 1905 it was stated that the total mortality among infants under one year, and also among children under five years, was the lowest recorded up to that date. Table P on page cxvii of the present report shows that, as compared with the respective quinquennial averages, there has been, in both cases, a considerable reduction in the year 1906.

On comparing this table with the corresponding table in the last report we see that the slight increase of mortality in the more recent period was mainly due to the greater fatality of diarrhœal diseases, which were in excess of the quinquennial average by 28 per cent. in infants under one, and likewise in excess by 25 per cent. in children under five years. The deaths referred to congenital defects, to "injury at birth," and to "want of breast milk" were also relatively more numerous in 1906 than the average in the previous quinquennium. With these and some other slight exceptions the mortality in the year under notice, from each of the diseases, or groups of diseases, in the table was below the average.

For the purpose of comparing infantile mortality in the towns with that in the country it has been deemed sufficient to exhibit the rates for both sexes together. As in the previous report the data are here given for two groups of counties, selected in 1901 as representing urban and rural England respectively.

In the selected urban counties infantile mortality last year averaged 143 per thousand births, or 31 per cent. above that of the selected rural counties, which averaged 109 per thousand. The urban excess was least at the earlier, and greatest at the later ages included in the tables. In the urban area the mortality under one year from most of the diseases specified in the list was above and that in the rural area, was below that of England and Wales taken as a standard. From all save one of the definite diseases mentioned in the accompanying tables the urban rates were higher than the rural.

ILL-DEFINED OR NOT SPECIFIED CAUSES OF DEATH.

In the year 1906 the deaths of 50,529 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 4,103 answers to letters of inquiry were received at this office. The 709 inquiries relating to deaths from peritonitis resulted in the transference of 36 deaths to puerperal sepsis, 59 to tuberculous peritonitis, 4 to enteric fever, 12 to venereal diseases, 4 to Bright's disease, 16 to malignant disease, 3 to intemperance, 38 to generative diseases, 54 to gastric ulcer, 46 to ulceration of the intestines, 130 to appendicitis, 50 to other specified diseases of the digestive organs, and 33 to other definite causes. The 711 inquiries regarding tumours of various organs led to the transference of 406 deaths to malignant disease, 18 to syphilis, 37 to tuberculous diseases, 14 to ovarian and uterine affections, and 18 to other definite causes. The 218 inquiries concerning deaths referred to septicæmia, pyæmia, and other septic diseases resulted in the transference of 27 deaths to puerperal sepsis, 7 to venereal diseases, 4 to diphtheria, 3 to tuberculosis, 1 to malignant disease, and 21 to other specified causes. The 260 inquiries relating to hydrocephalus resulted in the addition of 80 deaths to tuberculous meningitis and 143 to congenital defects. The 131 inquiries concerning paralysis led to the transference of 64 deaths to cerebral hæmorrhage, 40 to diseases of the spinal cord, 5 to intemperance, and 15 to other definite causes. The inquiries relating to cerebro-spinal meningitis numbered 169; they resulted in the addition of 48 deaths to cerebro-spinal fever and of 83 deaths to tuberculous meningitis. The 185 inquiries regarding strictures of the œsophagus and pylorus led to the transference of 111 deaths to malignant disease and 13 to gastric ulcer. The inquiries relating to hæmoptysis numbered 155; they resulted in the addition of 80 deaths to tuberculous phthisis. The 63 inquiries concerning

membranous laryngitis led to the transference of 43 deaths to diphtheria. The 61 inquiries relating to eclampsia and convulsions resulted in the addition of 38 deaths to puerperal convulsions. The inquiries regarding hæmatemesis and melæna numbered 89 and led to the addition of 12 deaths to alcoholism, 31 to gastric ulcer, 11 to cancer, and 15 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 524; as the result of inquiries this information was supplied in 500 cases.

The total additions to certain definite headings resulting from these inquiries were as follows:—To malignant disease 603 deaths, to puerperal septic diseases 111, to venereal diseases 52, to intemperance 39, to tuberculous diseases 567, to gastric ulcer 106, to appendicitis 138, and to diphtheria 52. In nine instances the condition stated in the certificate was found to be due to violence, whilst in four 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.

The different forms of *accident or negligence* will be found in the abstracts on pages 292 and 293, and also in the special Tables relating to violent deaths on pages 408 to 421. These Tables show that to this heading 15,828 deaths were referred during the year 1906, corresponding to a rate of 458 per million living. Among males the deaths numbered 10,866, and were equal to a rate of 651 per million; the deaths of females numbered 4,962, and were equal to 278 per million.

Of the 10,866 deaths of males, 2,133 were stated to be caused by vehicles and horses, 1,970 by drowning, 1,372 by falls, 1,079 by burns, scalds, and explosions, and 1,075 by accidents in mines, quarries and excavations.

Of the deaths of females due to accident, 1,527 were caused by burns, scalds, and explosions, and 1,190 by falls.

It will be seen that, as in previous years, the deaths of males exceeded those of females under every heading except that of "burns, scalds, and explosions."

The deaths caused by "vehicles other than railway" numbered 1,520, being 1,232 males and 288 females.

The different kinds of vehicles are described on pages 410 and 417, together with the number of deaths caused by each.

The coroners' certificates do not in all cases give a full description of the vehicles, but simply state that death was caused by "tramcar," "omnibus," "wagon, &c." In the absence of definite information these deaths have been included with those caused by horse drawn vehicles under the heading "others" or "not defined": 265 deaths were caused by vehicles propelled by mechanical power, and 1,255 deaths were caused by horse-drawn vehicles or by vehicles not otherwise defined.

The deaths of infants under one month numbered 375 males, and 323 females. Of the 698 deaths, the number described as due to suffocation in bed was 431, to other forms of suffocation 69, and to neglect 134. The number of infants at this age returned as "found drowned" was 25.

In the case of 15,377 out of the 15,828 deaths stated to be due to accident or negligence, coroners' inquests were held; the causes of 396 deaths were certified by medical practitioners, and in 55 cases the causes remained uncertified, but of these, three only were not reported to the coroner.

The deaths of 2,655 men, and 797 women were attributed to *suicide*, details of which will be found on pages 422 and 423.

Of the deaths by *homicide*, 140 were males and 144 females. The Tables on pages 424 to 427 show that 161 of these were returned by coroners' juries as murder, and 123 as manslaughter. The 284 deaths due to homicide include 55 of infants under one month, 47 of these were described as murder and 8 as manslaughter.

There were eight executions (all of males), during the year, the numbers in the preceding three years having been 25, 18 and 17 respectively.

I am, Sir,

Your obedient Servant,

JOHN TATHAM.

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

METEOROLOGY OF THE YEAR 1906.

REMARKS ON THE CONSPICUOUS METEOROLOGICAL OCCURRENCES IN THE BRITISH ISLES IN 1906.

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

The following brief notes on the more interesting meteorological features of the year 1906 are based mainly on the official daily and weekly weather reports :—

1. *Gales.*—There was during the year a singular absence, except in some isolated situations, of very severe gales, even with cyclonic disturbances in which the barometric gradients were unusually steep. It frequently happened that when the gradients were considered to indicate strong gales many of the land stations experienced little, if anything, more than a fresh or strong breeze. The anemometrical records from 19 stations show that a wind velocity of 50 or more statute miles in an hour was attained at only six stations and, of the 25 instances of such velocities, 15 were registered at the mouth of the English Channel—Scilly and Pendennis Castle. At ten stations there was not an instance of a mean velocity exceeding 43 miles in an hour. The extreme hourly rates are appended—

January 1st–2nd, Pendennis Castle, 50, Roche's Point, 51, Scilly, 52 ; 6th, Scilly, 59, Pendennis Castle, 65 ; 11th–12th, Pendennis Castle 52 ; 15th, Pendennis Castle, 51 ; 18th, Scilly, 55, Pendennis Castle, 56.

February 8th–9th, Fleetwood, 52 ; 10th, Scilly, 50 ; 11th, Scilly, 51.

March 11th–12th, Scilly and Roche's Point, 50, Deerness, 51, and Pendennis Castle, 53.

October 2nd, Pendennis Castle, 50.

November 15th, Holyhead, 52 ; 30th, Fleetwood, 52.

December 3rd, Fleetwood, 52 ; 5th–6th, Holyhead, 55, Scilly, 62 ; 12th, Fleetwood. 51 ; 26th, Scilly, 51, Deerness, 62.

In gusts of short duration the highest equivalent velocities per hour were 81 miles at Scilly, and 85 at Pendennis Castle on January 6th, 85 at Scilly on December 5th–6th, and 86 on December 12th.

As usual, our weather was to a very large extent under the influence of Atlantic disturbances following a general north-easterly course at varying distances outside our western coasts.

2. *Rainfall.*—There was unusual irregularity in the distribution of precipitation over the country. Nearly every station in Scotland returned an excess; in the eastern and south-eastern counties of England nearly as many stations had a deficiency as had an excess; in the western half of England and in the north-eastern counties two-thirds of the stations, in Ireland nearly all, and in the English Channel all stations had a deficiency. The gain or loss exceeded 5 ins. in numerous instances—Glencarron having an excess of 12·8 ins., and Arlington of 11 ins., while Waterford had a deficiency of 10·3 ins., Killarney of 10·5 ins., and Roche's Point of 16·8 ins. The aggregate totals for the entire year ranged from 102 ins. at Glencarron, 85 ins. at Fort William, 80 ins. at Laudale, and 64 ins. at Arlington to 20 ins. at Clacton-on-Sea, 19 ins. at Spurn Head, and 18 ins. at Saltburn-by-the-Sea. Measurable quantities of rain or other forms of precipitation were registered on 286 days at Blacksod Point, 283 at Glencarron, 278 at Sumburgh Head, and 275 at Valencia, against 151 at Westminster, 147 at Reading, 139 at Shoeburyness, and 124 at Southend-on-Sea. Falls of an inch or more in one day occurred at all save a few stations, and in the following cases the amounts were 2 ins. and upwards: January 27th, Glencarron, 2·54 ins.; May 5th, Port Talbot, 2·50 ins.; 19th, Seaham, 2·23 ins., Alnwick Castle, 2·40 ins., and Shields, 2·53 ins.; June 28th, Westminster, 2·07 ins., Rothamsted, 2·19 ins., and Kew, 2·36 ins.; July 17th, Glencarron, 2·95 ins. and Fort William, 3·29 ins.; October 18th, Alnwick Castle, 2·00 ins., 19th, Balmoral, 2·10 ins.; November 8th, Arlington, 2·04 ins.; 19th, Balmoral, 2·50 ins.; and December 2nd, Glencarron, 3·65 ins. The rainstorm of May 19th was general over the northern half of England and of Ireland and southern Scotland; that of June 28th–29th over the southern half of England. Both of them were North-East wind rains, characterised by a steady downpour of tropical intensity through several successive hours, unaccompanied by thunderstorms. The fall of more than 2 ins. in London was distributed fairly equally over eight hours.

3. *Snowstorms.*—Although snow fell on numerous occasions in the early and late months, the only fairly general snowstorms were those on March 11th–14th and December 25–31st. The former was comparatively light, but there were considerable accumulations in drifts from this and previous falls in western Scotland, and the sudden thaw produced by a warm South-Westerly wind and a heavy fall of rain on March 16th resulted in destructive floods on the 17th. The snowfall at the close of the year was very widespread. It atttained its greatest intensity in the east of Scotland and the north-east of England. In parts of Aberdeenshire the total depth of snow exceeded two feet.

4. *Thunderstorms.*—With one exception the thunderstorms of the summer half of the year demand no special comment, they were about normal in frequency and rarely of much violence. The storm on the evening of August 2nd was, however, a very singular one. The display of lightning was in many ways remarkable, the flashes being mostly above the clouds, and they were so brilliant and so incessant that the whole atmosphere was in an illuminated state for a considerable time. The heavy squalls which accompanied the storm did great damage to trees in parts of Surrey and Hampshire, and very heavy hail was precipitated over several of the inland counties, proving exceptionally destructive to the crops.

The thunderstorms of the winter portions of the year were of more than usual interest, for they were abnormally frequent and severe for the season. That of January 9th, experienced in many localities, was marked by exceptional violence, heavy squalls of rain and hail accompanying it. An even more severe one occurred on February 8th over the greater part of England, travelling from north-west to south-east attended by very violent squalls of rain, hail, or snow, and in the eastern counties some observers reported "fireballs." Considerable damage was caused in places. The snowstorms of Christmas week were accompanied by sharp thunderstorms in many parts of the country.

5. *Droughts.*—Between the middle of March and the end of September there were several periods of very dry weather, in which there was either no rain at all, or only one or two unimportant falls. An absolute drought of fourteen or more consecutive rainless days affected a considerable portion of England after the middle of March, exceeding 20 days in some localities, while at Isleworth the duration was 26 days, and at Plymouth 35 days, in both places ending with April 22nd. The first three weeks of June and of July were dry over the country generally. For nearly three weeks, between August 25th and September 12th, no rain fell at a number of stations in the eastern half of England, and on September 16th an absolute drought set in over all the northern and western portions of the kingdom, lasting 18 days in the Orkneys, to October 3rd. So unusually dry were the summer months in southern Ireland, that by the beginning of September the water in the Lakes of Killarney was several feet below the ordinary level. In many parts of the kingdom during the summer there was a serious shortage of water for domestic and manufacturing purposes.

6. *Temperature.*—The *highest* temperatures of the year occurred at a much later period than usual. Although the summer generally was very fine and bright, and the solar radiation thermometer frequently ascended to between 130° and 140°, it was only on very rare occasions that the shade temperature rose many degrees above the normal afternoon maximum, so that readings of 80° and upwards were far less common than might have been inferred from the apparently very favourable conditions. It was not until the close of August that a decided increase in the shade temperature took place. On the 30th there was a sudden rise from a moderate level for the period to above 80°, and on the following day 90° was passed in many English districts. The maximum values occurred within the three days, August 31st to September 2nd, in England, 96° at Bawtry (2nd), 95° at Colly Weston and Maidenhead (1st) and Epsom, and 94° at Fulbeck, Nottingham, and Whitby (2nd); in Scotland 89°, at Dumfries, Lairg, and Strathpeffer (2nd), and 88° at Balmoral (1st); in Ireland 85° at Dublin, Phœnix Park (31st), and 84° at Clongowes Wood College (1st). This exceptional heat only lasted five days, and on September 4th the maxima everywhere showed a considerable reduction. At the commencement of March there was a spell of remarkably mild weather, and on the 7th temperature rose to 65° or 67° at numerous stations in

England. Exceptionally high readings were also recorded during the four days November 21st to 24th, Strathpeffer mounting to 66°, and Lairg to 68°. On the other hand the almost annually recurring cold period in May was again experienced, night frosts occurring until late in the month, and afternoon maxima well below 50° were commonly recorded, from 40° to 45° in some places.

The *lowest* temperatures were in nearly all cases registered in the closing days of the year—in England, 3° at Swarraton (December 28th), 12° at Folkestone (30th), 13° at Wokingham (24th), Woburn (29th), Lowestoft (30th), and Llangammarch Wells (29th and 30th); in Scotland, 4° at Crathes (30th), 8° at Lairg (31st) and Fort Augustus (March 14th), and 9° at Nairn (December 31st); in Ireland, 8° at Markree Castle, 11° at Birr Castle, 14° at Kilkenny (29th) and Clongowes Wood College (30th). The only station where no frost occurred was Scilly, with a shade minimum of 33° on March 28th and 29th.

The annual range of temperature was generally very large, amounting to 86° at Swarraton, 82° at Bawtry, 81° at Crathes, 80° at Lairg, and exceeding 70° at a large number of stations. The coast Stations with a range of less than 50° were Deerness, 49°, Roche's Point, 46°, Holyhead, 45°, Falmouth and Pembroke, 44°, and Scilly, 36°.

7. *Bright Sunshine.*—One of the most singular characteristics of the year was the persistency of bright sunshine in all conditions of weather, in eleven months out of the twelve, May, which is the normally sunniest month, was one of the dullest on record, the sunshine deficiency over the country being from one to four hours per day. All the other months were favoured with frequent and abundant sunshine, with the result that for the whole year the aggregate totals were, with the exception of Stornoway and Valencia, appreciably is excess of the average, to the extent of 370 hours in Westminster, 364 at Tunbridge Wells, 331 at Margate, 312 at Eastbourne, and 300 at Rothamsted. The largest totals were 2,065 hours at Felixstowe, and 2,051 hours at Eastbourne, equal to 47 per cent. of the possible duration ; the smallest, 1,077 hours, or 24 per cent., at Newcastle-on-Tyne, and 950 hours, or 22 per cent. at Fort Agustus.

8. *Fog.*—Speaking generally there was a notable reduction in both the frequency and the density of fogs over the inland parts of the kingdom. In Westminster there were only 16 days on which fog was recorded, less than one-third of the normal frequency, the smallest numbers in previous years being 13 in 1900, and 26 in 1903. Sea fogs, however, were often experienced on the coasts, more especially in the south and west during the summer and autumn months, from May onwards, and mainly during the prevalence of south-westerly winds. At Dungeness the days with fog numbered 41, at Deerness and Scilly 44, at Plymouth and Holyhead 47, and at Southampton and Roche's Point 64. Some of these fogs were maintained for two or more days, and in several instances they were exceedingly dense, occasioning considerable delay to shipping, and some serious casualties.

9. *Barometer.*—In the absence of any anticyclones of exceptional intensity, the range of pressure for the year was only moderate,

amounting to 2·3 ins. at Donaghadee, Malin Head and Leith, and exceeding 2 ins. over the northern half of the Kingdom, diminishing to 1·6 in. at Scilly. The highest pressure was attained in an anticyclone which covered the whole country on April 9th, when the barometer rose to 30·7 ins. and above in many localities, to 30·74 ins. at Donaghadee and Shields. The only other instance of 30·7 ins. being reached was at Valencia, on January 19th. The lowest pressure occurred on February 10th, during the passage of a depression eastward across the south of Scotland. At all stations except Jersey and Scilly the barometer fell below 29 ins., below 28·5 ins. at some northern stations, 28·40 ins. at Malin Head. In the other disturbances of the year there were several with readings below 29 ins., but very rarely did the mercury sink as low as 28·75 in.

During the passage of a depression across England in the night of January 5th–6th there was a very rapid fall of the barometer at stations near the central line of progression. At Pembroke the fall amounted to 0·86 in. in seven hours, and at Scilly 0·58 in. in six hours. Some of the thunderstorms of the year were marked by very abrupt oscillations of the barometer. At Kew Observatory there was a rise of 0·04 in. in five minutes on January 9th ; 0·08 in. in five minutes on February 8th ; and 0·10 in. in seven minutes on August 2nd, followed by a fall of 0·035 in. in 13 minutes.

10. *High Tide.*—A deep cyclonic system which crossed the North of England to the North Sea in the night of March 11th–12th, barometer sinking to 28·64 ins. at Shields, set up a North-Westerly gale, and it being the time of Spring tide, the combination of circumstances resulted in serious floods along the east coast, down to the Thames Estuary, the country being inundated by what was locally described as the highest tide in 30 years. The circumstances and the consequences were very similar to those of January 7th 1905.

11. *Earthquake Shocks.*—The only relatively sharp shock of earthquake was experienced over nearly the whole of South Wales and some of the Western and south-western counties of England on the morning of June 27th, and it caused a good deal of structural damage of a minor character. The other seismic disturbances belonged to the slight class usually felt in this country—May 7th, at Fort William ; 8th and 14th, Guernsey ; June 15th, Maxwelltown ; 29th, Croydon and Carnarvonshire ; August 22nd, North Donegal ; and October 8th, Stirling.

12. *Aurora Borealis.*—The displays of aurora were few and unimportant. On September 16th and December 8th in the north of Scotland ; 22nd, in Scotland and the north of England ; November 27th at Stokesay ; and on the 29th at Epsom.

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 Barnet 95·3° ; the Royal Observatory, Greenwich, 94·3° ; and at Camden Square 94·0°.

The lowest temperatures were at Carlisle 7·8° ; Buxton, Belvoir Castle, and Llangammarch Wells 13·0° ; and at Hillington 13·8°.

The heaviest falls of rain at any of the stations were at Llangammarch Wells 50·2 ins.; Stonyhurst 49·7 ins.; and at Buxton 45·6 ins.

The least falls of rain were at Spurn Head 19·4 ins.; Clacton-on-Sea 19·6 ins.; and at Shrewsbury 20·6 ins.

The greatest number of days of rain were at Buxton 244; Llangammarch Wells 241; and at Barnstaple 224.

The least number of days of rain were at Westminster 151; Clacton-on-Sea 153; and at Tealby 155.

The highest temperatures in the sun were at the Royal Observatory, Greenwich, 154°, 152°, and 147°.

The lowest temperatures on the grass were at Belvoir Castle 7°; Birmingham 9°; and at Carlisle 10°.

The greatest number of days of temperature on the grass at 30° or below were Stokesay 27; Cockle Park, Durham, and Stonyhurst 25; and Coventry and Hull 24.