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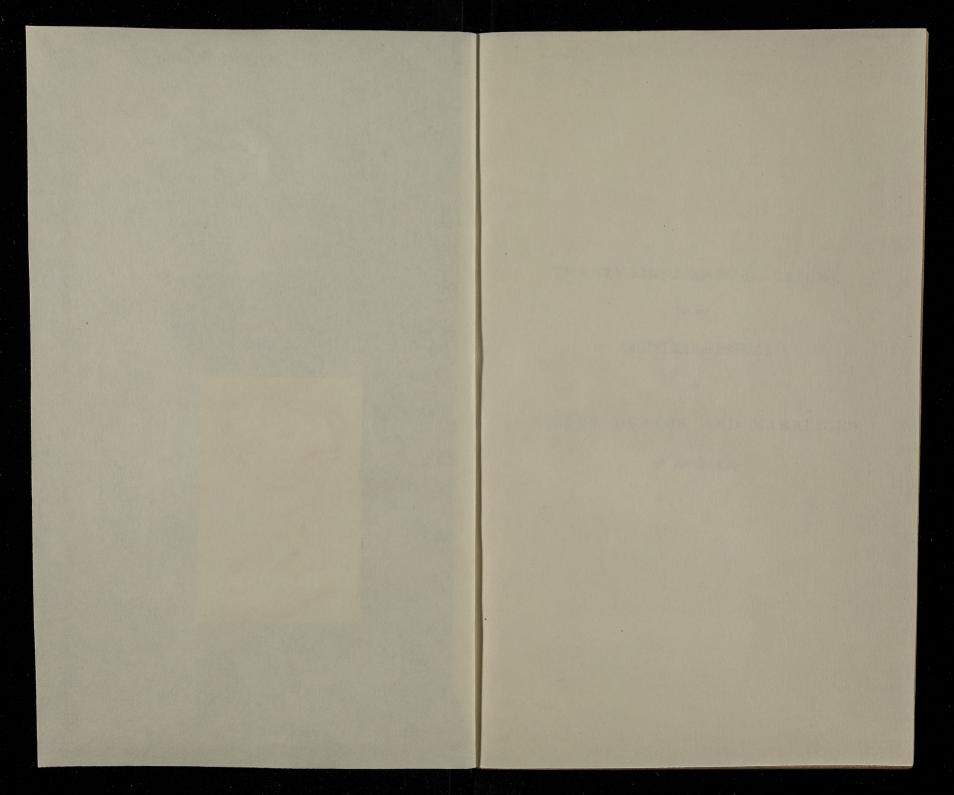
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TWENTY-FIRST ANNUAL REPORT

OF THE

REGISTRAR-GENERAL

BIRTHS, DEATHS, AND MARRIAGES

IN ENGLAND.

Paten 1832

Datest 1858

TWENTY-FIRST

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ANNUAL REPORT

OF THE

REGISTRAR-GENERAL

OF

BIRTHS, DEATHS, AND MARRIAGES

IN ENGLAND.

Presented to both Houses of Parliament by Command of Her Majesty:



LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
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FOR HER MAJESTY'S STATIONERY OFFICE.

1860.

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REPORT

TO

The Right Honourable Sir George Cornewall Lewis, Bart., M.P., Her Majesty's Principal Secretary of State for the Home Department, &c. &c.

> General Register Office, Somerset House, 30th June 1860.

I HAVE the honour to submit to you my Annual Report for the year 1858.

One million four hundred and seventeen thousand two hundred and seventy-seven names were inscribed on the National Registers during the year.

SIR,

Three hundred and twelve thousand one hundred and forty persons married.

The names of six hundred and fifty-five thousand four hundred and eighty-one children were recorded in the Birth Registers.

The deaths of four hundred and forty-nine thousand six hundred and fifty-six were registered during the same twelve months.

The recorded natural increase of the population—that is, the excess of the number of births over the number of deaths—was two hundred and five thousand eight hundred and twenty-five.

Table I.—Estimated Population, with the Number of Marriages, Births, and Deaths registered in England in each Year from 1838 to 1858.

Years ended Dec. 31st	Estimated POPULATION in England in the Middle of the Years.†	MARRIAGES.	Persons Married.	BIRTHS (exclusive of Still-born).	DEATHS.	Excess of Births over Deaths.
1838	15,312,256	118067	236134	463787	342760	121027
1839	15,515,296	123166	246332	492574	338984	158590
1840	15,721,029	122665	245330	502303	359687	142616
1841	15,929,492	122496	.244992	512158	343847	168311
1842	16,123,793	118825	237650	517739	349519	168220
1843	16,320,479	123818	247636	527325	346445	180880
1844	16,519,565	132249	264498	540763	356933	183830
1845	16,721,081	143743	287486	543521	349366	194155
1846	16,925,051	145664	291328	572625	390315	182310
1847	17,131,512	135845	271690	539965	423304	116661
1848	17,340,492	138230	276460	563059	399833	163226
1849	17,552,020	141883	283766	578159	440839	137320
1850	17,766,129	152744	305488	593422	368995	224427
1851	17,982,849	154206	308412	615865	395396	220469
1852	18,205,627	158782	317564	624012	407135	216877
1853	18,403,313	164520	329040	612391	421097	191294
1854	18,618,760	159727	319454	634405	437905	196500
1855	18,786,914	152113	304226	635043	425703	209340
1856	19,045,187	159337	318674	657453	390506	266947
1857	19,304,897	159097	318194	663071	419815	243256
1858	19,523,103	156070	312140	655481	449656	205825

† The Population has been deduced on the assumption that the annual rate of increase was uniform; viz. 1 220 per cent. in each of the 10 years 1841-51, and 1 326 per cent. in each of the 3 years 1838-40. For 1852-58 the increase of Population has been obtained by taking the excess of births over deaths in the four quarters ending June 30th, in each year.

Thus the daily average numbers were, marriages 428; persons married 856; births 1796; deaths 1232; excess of births over deaths 564.

The number of persons who married was less by 6054, and the number of births less by 7590, than the persons that married, and the births of the previous year.

As it was seven years after the Census was taken, the population cannot be given with certainty for the year 1858, but it may be estimated at 19,523,103.

Consequently upon this number it follows that to 100,000 persons living 1598 married, 3357 children were born, and 2303 persons died. The marriage-rate per cent. was 1.598, the birth-rate 3.357, and the death-rate 2.303. The mean rates of the twenty-one years were, marriage 1.632, birth 3.296, and death 2.236. The marriage-rate in the year was below the average; both the birth and death rates exceeded the average.

Upon an average of twenty-one years, 1 in 61 persons living married annually, the birth of one child was registered to 30 persons living, and I in 45 living died annually. The birth-rate is somewhat understated, as registration is not enforced by penalty, and a certain number of births escape registration.

The decline of the marriage-rate indicates a somewhat depressed state of a part of the population. The higher rate of mortality is explained by the Tables showing the causes of death.

MARRIAGES.

128,082 marriages were performed according to the rites of the Established Church; and 27,988 otherwise. The decrease in the marriages was chiefly among those who married by banns in the Established Church; among the Roman Catholics and the Jews.

The marriage of Dissenters has been facilitated by the Act 19 & 20 Vict. c. 119., which first came into operation in 1857. This accounts for the increase of marriages not according to the rites of the Established

The annexed Table shows the relative proportions of the marriages by licence and by banns in different years. The marriages of the higher

TABLE II.—Proportion of MARRIAGES, BIRTHS, and DEATHS to the Population of

ears ended		To 100 Persons	s living.		The Number of Persons living						
Dec. 31st	MARRIAGES.	PERSONS MARRIED.	BIRTHS.	DEATHS.	To one Marriage.	To one Person Married.	To one Birth.	To one Death.			
1838	•771	1:542	3.029	2·238	130	65	33	45			
1839	•794	1:588	3.175	2·185	126	63	31	46			
1840	•780	1:560	3.195	2·288	128	64	31	44			
1841	•769	1:538	3:215	2.159	130	65	31	46			
1842	•737	1:474	3:211	2.168	136	68	31	46			
1843	•759	1:518	3:231	2.123	132	66	31	47			
1844	•801	1:602	3:273	2.161	125	62	31	46			
1845	•860	1:720	3:251	2.089	116	58	31	48			
1846	*861	1.722	3:383	2.306	116	58	30	43			
1847	*793	1.586	3:152	2.471	126	63	32	40			
1848	*797	1.594	3:247	2.306	125	63	31	43			
1849	*808	1.616	3:294	2.512	124	62	30	40			
1850	*860	1.720	3:340	2.077	116	58	30	48			
1851	*858	1.716	3:425	2·199	117	58	29	45			
1852	*872	1.744	3:428	2·236	115	57	29	45			
1853	*894	1.788	3:328	2·288	112	56	30	44			
1854	*858	1.716	3:407	2·352	117	58	29	43			
1855	*810	1.620	3:380	2·266	123	62	30	44			
1856	*837	1.674	3.452	2.050	119	60	29	49			
1857	*824	1.648	3.435	2.175	121	61	29	46			
1858	*799	1.598	3.357	2.303	125	63	30	43			
Mean	*816	1.632	3.296	2.236	123	61	30	45			

Note. - The Table may be read thus: - In the year 1838 to every 100,000 persons living there were 771 marriages or 1542 persons married, 3029 births, 2238 deaths; the number of persons living to every marriage, person married, birth or death, was 130, 65, 33, and 45 respectively. A correction for increase of population has been made in calculating the above results.

classes marrying by licence are rather more numerous when the prices of wheat are higher than in the other years; and the marriages of artizans and labourers marrying by banns are most numerous when the prices of wheat are moderate or low.

Marriages of minors.—Of 10,000 males married, 586 were under 21 years of age; of 10,000 females married, 1837 were under 21 years of age; consequently of 5000 males and 5000 females marrying, 1212 were minors. The proportional number of marriages by minors has increased from 885 in the year 1843 to 1212 in the past year.

In the Midland Counties, around the North of London, in Nottinghamshire, and in the West Riding of Yorkshire, more than 8 in 100 men marrying are minors; in Bedfordshire 12 in 100 men are minors. In Kent, Surrey, Sussex, Hants, and Berks the proportion of minors in 100 men marrying scarcely exceeds 4 in 100.

Of 100 women marrying in each of the following counties, 23 are minors in Hertfordshire, 21 in Buckinghamshire, 24 in Northamptonshire, 26 in Huntingdonshire, 24 in Bedfordshire, 24 in Cambridgeshire,

TABLE	Ш.	—Mai	A STATE OF THE PARTY OF THE PAR	NO PER LITTLE DESCRIPTION	CONTRACTOR OF STREET	THE RESERVED	-			ear fr	om 18	841 to	185	8.
			A	ccording	g to the	Rites of	the Est	ablished	l No	t accor Est	ding to	the Ri	tes of ch.	the
		AGES.				Regis-	19.272	Established	Estab-	tered	Regis- Places	Regis-		1
YEAR ending 31st Decem		TOTAL MARRIAGES		Licence.	Banns.	Superintendent Registrar's Certificate.	Not stated.	Total in Esta Church.	Total not in Estab- lished Church.	Roman Catholics	Other Christian Denominations.	Superintendent trar's Office.	Quakers.	Jews.
1841 1842 1843	-	1224 1188 1238	25	3 1579 9 1493 8 1454	5 7574	4 944	19579 18415 18014	114371 110047 113637	8125 8778 10181	62	882 200 .52	2064 2357 2817	66 58 61	113 163 151
1844 1845 1846	-	1322 1437	43 1	1601	3 92867	7 1706	18335 18919	120009 129515	12240 14228	2280 2816	6284	3446 3977	55 74	175 180
1846 1847 1848 1849 1850	11111	14566 13584 13828 14188 15274	15 14 30 13 33 18	17053 16896 16697	2 84868 6 86519 7 90644	3 1968 9 2170 4 2593	18503 16979 15871 13230 11733	130509 120876 121469 123182 130959	15155 14969 16761 18701 21785	3027 2961 3658 4199 5623	7669 7483 8060 8662 9626	4167 4258 4790 5558	68 83 67 53	224 184 186 229
1851 1852 1853 1854 1855	11111	15420 15878 16452 15972 15211	2 8 20 8 7 15	19461 20624 21048	1 106497 1 109166 1 105050	3351 3610 3814 3811	10412 4306 4430 4185 4001	130958, 133882 138042 134109	23248 24900 26478 25618	6570 7479 8375 7813	9540 10017 10149 9873	6207 6813 7100 7598 7593	69 65 57 68 52	260 260 247 288 287
1856 1857 1858		15933 15909 15607	7 9	21336 21250	104280	4045	3949 3962	127751 133619 131031 128082	24362 25718 28066 27988	7344 7527 7360 6643	9296 9710 10686 11094	7441 8097 9642 9952	57 72 67 79	224 312 311 220
		Ma	rriage bet	s contrac	eted	Re-m	Re-married. Unde			Signe	ed the I	Marria;	ge Reg	gister
YEARS ending 31st December	er	Bachelors and Spinsters.	Bachelors and Widows.	Widowers and Spinsters.	Widowers and Widows.	Widowers.	Widows.	Men.	Women.	Men.	Women.	Marriages in which both	Signed.	which one Signed.
1841 1842 1843 1844 1845	11111	119539	6028	11835	- - - 6341	15619 16305 16941 18176	10579 10811 11183 12369	5362 5387 5511 5515 6287	16285 16003 16403 17410 19376	39954 38031 40520 42912 47665	59680 56965 60715 65073 71229			
1847 1848 1849 1850		121324 112576 113284 116134 124031	5997 5705 5920 6102 6575	12212 11667 12702 13155 14558	6131 5897 6324 6492 7580	18343 17564 19026 19647 22138	12128 11602 12244 12594 14155	6313 5556 6092 6650 7453	20001 18118 19436 21105 23109	47488 42429 43166 44027 47572	70145 61877 62771 65135 70606	326: 329		9962 9989 —
1851 1852 1853 1854 1855	11111	126018 130672 135023 131141 123398	6625 6696 7139 6826 6775	14313 14044 14739 14189 14280	7250 7370 7619 7571 7660	21563 21414 22358 21760 21940	13875 14066 14758 14397 14435	7737 8551 9131 9210 8386	24286 26978 29219 28797 27207	47439 48421 49983 47843 44846	69812 70772 72204 68175 62672	3618 3668 3734 3528 3218	36 4 45 4 55 4	4879 5921 7497 5508 3240
1856 1857 1858	-	129960 130317 127165	7163 6908 6711	14462 14293 14547	7752 7579 7644	22214 21872 22191	14915 14487 14355	9120 8885 9145	29218 28798 28664	45900 44013 42141	64133 61765 58733	3223 3051 2878	8 4	5557 4742 8312

Marriages.

22 in Essex, 20 in Cornwall, 26 in Staffordshire, 20 in Nottinghamshire and Derbyshire, 25 in the West and 21 in the East Riding of Yorkshire, 27 in Durham, and 20 in Monmouthshire.

Re-marriages.—Of 10,000 men marrying, 1422 were widowers; of 10,000 women, 920 were widows: or one in seven of the men was a widower, and one in eleven of the women was a widow. These proportions depend on two classes of facts,—the mortality of married couples, and the facilities for, as well as the disposition to, re-marriage. The proportion of widows in 100 women marrying was greatest in Hampshire, Berkshire, Wiltshire, Gloucestershire, Staffordshire, Warwickshire, Lancashire, Durham, and Monmouthshire: in the latter county 11.51 were widows to 100 women marrying. That was the highest proportion in any county. The highest proportion of widowers (17.77) was observed in Wilts.

127,165 bachelors married spinsters, and 6711 bachelors married widows; 14,547 widowers married spinsters, and 7644 widowers married widows. Thus in the aggregate 22,191 widowers and 14,355 widows were re-married.

Signatures of Persons married.—There are two kinds of statistics which are employed to show the state of elementary education in a country. The people are asked whether they can read or write, and the results are recorded; or when they are called upon to sign a public

TABLE III. a.

	MAR	RIAGES.	Estimated to 1	00 persons living.	Price of Wheat
YEARS.	To 100 persons living.	By Banns to one Marriage by Licence.	Marriages of the higher and middle Classes.	Marriages of the Artizans and Labourers and other Classes.	per Quarter.
1	2	3	4	5	6
Average: Of 6 years of				•666	s. d.
highest prices -	} .801*	4.959	•134		
Of 6 years of ntermediate prices	} .840	5.358	•132	.707	52 10
Of 6 years of lowest prices -	} .826	5.451	•128	•698	43 0
1855	•810	4.883	•138	•672	74 8
1854	•858	4.991	143	•660	69 9
1847	·793 ·837	4.977	142	• 695	69 2
1856 1841	• 769	4.940	129	•640	64 4
1842	-737	5.072	•121	.616	57 3
1857	.824	4.803	•142	•682	56 5
1846	861	5.427	*134	•727	54 8
1853	-894	5.293	142	·752 ·682	53 3
1844	.801	5.705	.110	734	51 3
1845	*860	5.799	126	•667	50 6
1848	*797	5.121	*130		
1843	-759	5.490	1117	•642	50 1
1849	*808	5.429	126	•667	44 3
1858	*799	5.028	132	1 737	40 9
1852	*872	5.472	135	•731	40 3
1850	*860	5.201	•130	•728	38 6
1851	050	5 591			THE RESERVE OF THE PERSON NAMED IN

^{*} Disregarding the decimal point, this will read 804 marriages were celebrated to every 100,000 of the population; 135 were marriages by licence, 669 were marriages by banns. It may be assumed that these two groups represent the whole of the corresponding classes of society, whether belonging to the Church or not.

document—their own marriage register, for instance—the signatures by marks and by writing are counted. Upon the latter method facts only are recorded; and the people are taken indiscriminately from all classes of the population. The interpretation of the facts is a subsequent operation. Some women who can write badly sign with a cross; and great numbers of those who write their names write indifferently, and scarcely intelligibly. The line which separates the two classes is often indefinite; but it is drawn by the people themselves, and is drawn under the influence of the same feelings in different parts of the kingdom. The error may be regarded as a constant quantity; consequently the proportions writing in successive years, and in the several counties, indicate clearly the state and the progress of that important branch of elementary education.

It is gratifying to find that the numbers signing the marriage registers with marks have rapidly decreased since 1841: in that year 41 in 100 persons married signed with marks; in the year 1858 the proportion was 32 in 100. The proportion who wrote their names has consequently increased from 59 to 68 in 100. The improvement is most striking in the women.

In the last year 73 in 100 men, and 62 in 100 women, wrote their names; so 27 men and 38 women in 100 of each sex made their marks in signing their names. Seventeen years ago 33 in 100 men, and 49 in 100 women, made marks in signing the marriage registers. The signatures, it should be borne in mind, represent the state of education some years previous to the marriage, as the average at marriage was—men, 28 years; women, 21 years.

The men of London are the best writers (89 in 100); and then come the men of Westmorland (83), Northumberland (82), and Cumberland (82), Yorkshire (East and North Ridings, 82); in strong contrast, the men of the counties of Hertford (57), Bedford (59), Suffolk (59), Stafford (58), and Monmouthshire are extraordinarily illiterate.

The women of London (81) and Middlesex also stand nearly at the head of the list of writers; but they are excelled by the women of Westmorland (83). It is worthy of remark that the women and men of Westmorland write equally well. The counties in which the fewest women write their names are Bedford (52), Huntingdon (60), Cambridge (60), Cornwall (54), Salop (59), Stafford (45), Lancaster (45), Monmouth (47), South Wales (41), and North Wales (45).

Table IV.—Marriages. The Proportion per Cent. of Minors of each Sex, of Males and Females who signed the Register with Marks, and of Persons who were Widowers or Widows.

				To	100 Mar	ried.					
YEARS ended 31st December	The P	roportion u ears of Ag	nder 21 e.	signed ti	Proportion the Marriage with Marks	Register	The Proportion who were				
Olst December	Males.		Males. Females. Mean.		Males.	Females.	Mean.	Widowers.	Widows.	Mean.	
1841 - 1842 - 1843 - 1845 - 1845 - 1847 - 1849 - 1850 - 1851 - 1854 - 1855 - 1856 - 1856 - 1857 - 1856 - 1857 - 1856 - 1857 - 1856 - 1857 - 1858 - 1858 - 1857 - 1858 - 18	4 '38 4 '53 4 '45 4 '17 4 '37 4 '33 4 '09 4 '41 4 '69 4 '85 5 '55 5 5 '77 5 '51 5 '78 5 '86	13·29 13·47 13·25 13·16 13·48 13·73 13·34 14·06 14·88 15·13 15·75 16·99 17·76 18·03 17·89 18·34 18·10 18·37	8:83 9:00 8:85 8:67 8:93 9:03 8:72 9:24 9:79 10:01 10:03 11:19 11:66 11:90 11:70 12:03 11:84 12:12	32·7 32·0 32·7 32·1 33·2 33·2 31·2 31·0 31·1 30·8 30·5 30·4 30·5 28·8 27·7 27·0	48.8 47.9 49.0 49.2 49.6 48.2 45.5 45.4 45.9 46.2 45.3 44.6 43.9 42.7 41.2 40.2 38.8 37.6	40.8 40.0 40.9 40.8 41.4 40.4 38.4 38.3 38.5 38.7 88.1 37.6 37.2 36.4 35.4 35.4	†12°90 13°14 18°17 12°81 12°64 12°59 12°59 13°76 13°85 14°49 13°98 13°49 13°59 13°62 14°42 13°94 13°75 14°42	†8:99 8:90 8:73 8:46 8:60 8:33 8:54 8:86 8:88 9:27 9:00 8:86 8:97 9:01 9:49 9:36 9:11	†10°90° 11°02° 10°93° 10°63° 10°63° 10°63° 10°64° 10°74° 11°31° 11°38° 11°49° 11°58° 11°56° 11°65° 11°43° 1		

[†] The proportion of Widowers and Widows in the Year 1841 is for the September and December quarters only.

Births.

It would be useful to the inhabitants of these counties if they would inquire into the causes which interfere with education, and if they would more especially ascertain what system is pursued, with comparative success, in the northern counties. If education is so conducted that 83 in 100 women who marry in Westmorland can write, how is it that only 54 in 100

TABLE V.—ENGLAND. MARRIAGES.—PROPORTIONAL Number of MARRIAGES in the several Counties of England during the Year 1858; of Persons who signed their Names; of Persons not of full Age; and of the Re-marriages of Widowers and Widows.

	Angeletina kanasanan	100	Signe	d their	Person	s not of	Re-marriages.			
	A PARTY AND	ss to		mes riting.		Age.	Widowers.	Widows.		
	REGISTRATION COUNTIES.	Marriages to Inhabitants.	Of 100 Men Married.	Of 100 Women Married.	In 100 Men Married.	In 100 Women Married.	In 100 Men Married.	In 100 Women Married.		
1	ENGLAND	•799	73.0	62*4	5.86	18.37	14.22	9.20		
	I.—London	•947	89.1	81*0	3.12	12.86	14.45	9.28		
No. 1 2 3 4 5	II.—South Eastern Counties. Surrey (extra-metropolitan) Kent (extra-metropolitan) Sussex Hampshire Berkshire	*672 *694 *650 *774 *640	74·8 75·3 76·3 75·6 65·5	79.8 75.4 79.7 76.0 69.5	3·45 3·27 4·07 3·21 4·09	15.61 18.57 17.88 15.88 16.36	11.55 12.57 13.97 13.57 15.19	9:46 8:64 7:90 10:10 10:23		
6 7 8 9 10 11 12 13	III.—SOUTH MIDLAND COUNTIES. Middlesex (extra-metropolitan) — Hertfordshire — — — — Buckinghamshire — — — — Oxfordshire — — — — Northamptonshire — — — — Huntingdonshire — — — — Bedfordshire — — — — Cambridgeshire — — —	*523 *566 *683 *695 *771 *631 *697 *668	75·3 57·4 63·6 68·6 70·9 60·3 58·9 60·2	80.5 60.0 60.9 70.6 63.3 59.8 52.1 59.5	3·92 8·37 8·17 6·33 10·21 11·72 12·06 8·83	13.66 23.35 21.03 16.88 24.17 26.32 24.02 24.48	13:90 13:12 16:15 15:47 14:79 12:68 15:98 12:56	9:74 7:72 8:17 9:30 8:33 9:81 6:93 8:97		
14 15 16	IV.—EASTERN COUNTIES. Essex	*637 *708 *710	61.4 58.6 61.6	67·9 63·9 65·0	6°43 7°66 6°64	22·23 19·54 17·79	13.40 14.55 14.74	9°37 8°05 8°55		
17 18 19 20 21	V.—South Western Counties. Wiltshire	*625 *735 *722 *679 *660	65°6 68°6 75°7 64°4 67°8	67:3 67:4 70:6 54:4 64:8	6.35 6.30 4.52 7.63 7.01	15·30 14·72 14·52 20·68 13·99	17:77 14:65 12:69 11:85 16:80	10.78 6.44 9.17 6.88 8.52		
22 23 24 25 26 27	VI.—WEST MIDLAND COUNTIES. Gloucestershire	*856 *701 *689 *869 *839 *840	73.6 64.5 62.1 57.9 67.0 72.3	69'7 64'5 59'4 45'3 61'0 62'6	5.92 3.52 4.26 8.84 6.81 7.06	14.92 12.47 14.12 26.26 19.82 19.67	15.86 12.74 12.29 12.83 13.46 15.28	10°25 9°35 8°64 10°40 9°49 10°35		
28 29 30 31 32	VII.—NORTH MIDLAND COUNTIES. Leicestershire	*717 *497 *668 *793 *730	73.9 78.0 72.5 74.1 75.6	64.5 75.8 68.5 61.1 63.0	7.56 4.55 3.95 8.86 7.03	19°85 10°61 18°79 20°37 20°86	14.08 14.39 13.18 14.75 15.79	8:10 7:58 8:10 8:35 8:85		
33 34	VIII.—NORTH WESTERN COUNTIES. Cheshire Lancashire	•757 •922	71:4 70:8	53°4 45°0	5.64 7.05	16.00	15·26 15·27	9·73 10′14		
35 36 37	IX.—YORKSHIRE. West Riding East Riding (with York) North Riding	*810 *905 *707	73.6 82.0 82.2			25.54 21.42 17.38		9.85		
38 39 40 41	X.—NORTHERN COUNTIES. Durham	•651	81.7	66.1	4.69	14.07 16.25	12:41	6.78		
42 43 44	XI.—MONMOUTHSHIRE AND WALES. Monmouthshire South Wales North Wales	*819	61.2	41.3	5.62	15.05	12.69	8.58		

The Table may be read thus by omitting the decimal points:—In England, among every 100,000 persons living 799 marriages took place; of 1,000 men married 730, of 1,000 women 624, signed the marriage register by writing their names; of 10,000 men married 586 were not of full age, of 10,000 women married 1837 were not of full age; of 10,000 men married 1422 were widowers, of the same number of women married 920 were widows.

women in Cornwall can write their names? The people of Cornwall have evidently something to learn from the people of the Northern Counties.

Buildings registered for the solemnization of Marriages.—The number of places of public worship registered for the solemnization of Marriages, and on the register on 31st December 1858, was 4072, being an increase of 147 during the year. It will be seen from the Table, p. viii., that 1375 of these places of worship belonged to the Independents, 914 to the Baptists, 739 to various sects of Wesleyan Methodists, and 505 to the Roman Catholics. Of the modern sects, the New Church had 22, and the Catholic and Apostolic Church 17. In London there were 273 registered buildings, in Lancashire 450 (of which number the Roman Catholics had 116), and in Monmouthshire and Wales, where Dissenters are more numerous than in any other division, 620. Including 12,350 churches and chapels belonging to the Church of England, the Places of Worship wherein marriages might be solemnized amounted at the end of 1858 to 16,422, besides the Jewish Synagogues and Quakers' Meeting Houses. There were in addition 630 Superintendent Registrars' Offices for the celebration of civil marriages.

BIRTHS.

The births were less numerous in 1858 than in either of the two previous years. 655,481 births were registered. There were 3357 births to every 100,000 of the population; consequently the birth-rate was 3.357 per cent. per annum; the mean of twenty-one years being 3.285. The birth-rate of 1857 was 3.435.

The birth-rate was highest in Durham (4.410) and Staffordshire (4.250); lowest in Westmorland (2.688), North Wales (2.753), Rutland (2.822), Devon (2.825), Somerset (2.828), Hertfordshire (2.856), Herefordshire (2.869), Berkshire (2.873), Wiltshire (2.879), Sussex (2.888).

Sex.—The births of 334,989 boys and of 320,492 girls were registered; so to every 1000 girls 1045 boys were born. The proportions to 1000 girls were 1160 boys in Westmorland, 1096 in Suffolk, 1089 in Oxfordshire, and 1086 in Cheshire; in Middlesex out of London, in Buckinghamshire, in Rutland, and in the North Riding of Yorkshire, the proportion of boys was less than 1000.

Table VI.—ENGLAND. Number and Annual Rate per Cent. of Marriages in each Quarter of the Years 1838-58.

			MARRIAGI	es registered		ANNUAL RATE per Cent. of MARRIAGES							
YEARS		In the	Quarters en	nding the las	t day of	In the Quarters ending the last day of							
		March.	June.	Sept.	Dec.	March.	June.	Sept.	Dec.				
1838 1839 1840		23,201 24,679 26,395	29,801 31,339 30,786	27,764 29,887 29,221	37,301 37,261 36,263	·618 ·649 ·677	*783 *812 *787	·719 ·764 ·737	963				
1841 1842 1843 1844 1845	1111	24,447 25,860 25,285 26,387 29,551	32,551 30,048 31,113 34,268 35,300	29,397 27,288 28,847 31,675 35,003	36,101 35,629 38,573 39,919 43,889	*626 *654 *632 *644 *721	*822 *749 *767 *834 *849	731 671 701 760 830	'911 '895 '874 '934 '955 1'038				
1846 1847 1848 1849 1850		31,417 27,480 28,398 28,429 30,567	37,111 35,197 34,721 35,844 39,204	35,070 32,439 32,995 33,874 37,636	42,066 40,729 42,116 43,736 45,337	757 655 661 661 702	*882 *826 *805 *822 *888	*822 *751 *755 *766 *840	983 940 961 986 1.010				
1852 1853 1854 1855		32,724 32,977 35,149 33,234 29,186	38,635 40,092 40,446 40,518 38,549	37,316 38,400 39,899 38,182 37,308	45,531 47,313 49,026 47,793 47,070	.742 .730 .778 .728 .633	*864 *885 *883 *875 *824	*822 *836 *859 *813 *787	1:000 1:027 1:053 1:015				
1856 1857 1858	-	33,427 33,321 29,918	38,820 41,267 39,890	39,089 38,669 38,599	48,001 45,840 47,663	*708 *704 *624	*819 *859 *821	*813 *794	·989 ·995 ·938				

These proportions are subject to considerable fluctuations; and the fluctuations bear some proportion to the number of facts. Thus, only

TABLE VII.—Showing the Number of Buildings registered for the Solemnization of Marriages, and on the Register on 31st December 1858.

		-	Sce	OTTI RESB'	Y-			1			WE	ESLE	YAN	ME	тно	DIST	s.	CALVIN	DISTS.		lie	
REG	ENGLAND: DIVISIONS AND SISTRATION COUNTIES.	Total.	Church of Scotland.		Presbyterian Church in England.	Independents.	Baptists.	United Brethren or Mo- ravians.	Roman Catholies.	Unitarians.	Original Connexion.	New Connexion.	Primitive Methodists.	Bible Christians.	Wesleyan Methodist Association.	Reform	Other Wesleyan Methodists.	Weish Calvinistic	Countess of Hunting-don's Connexion.		Catholic and Apostolic Church.	All others.
-	ENGLAND	4072	14	51	53	1375	914	6	505	148	467	53	103	24	50	24	18	116	40	22	17	72
1 2 3 4 5 6 7 8 9 10	DIVISIONS. LONDON	273 333 324 238 445 432 260 536 372 239 620	4 4 - 6 -	4 - - - 6 2 39 -	5 - - - 5 - 13 2 28 -	97 127 129 98 154 132 74 141 125 40 258	57 84 129 67 95 96 74 60 53 12 187	- 2 - 2 1 - 1 -	80 26	9 15 4 7 27 16 10 37 13 2 8	18 40 30 26 75 48 40 58 71 32 29	1 - 1 12 5 17 13 4 -	1 3 5 6 9 17 15 14 17 11 5	- 5 - 18 - 1 - -	2 1 - 13 2 2 17 8 5	- - 4 3 - 5 1 6 4 1	1 2 - 5 5 2 3 -	2 1 - 5 108	3 15 2 - 1 13 1 4 - 1	3 1 1 1 1 1 10 3 1	6 3 1 3 1 1 1 -	22 2 9 13 5 1 13 2 3
	I.—London. Middlesex (part of) Surrey (part of) Kent (part of)	193 54 26	4	4 -	3 - 2	66 22 9	34 15 8	1 1 1	27 7 4	7 2 -	14 3 1	- 1 -	1 -		2 -		1 -	2 -	3 -	3 -	5 1 -	17 3 2
1 2 3 4 5	II.—SOUTH EASTERN DIV. Surrey (extra-metropolitan) Kent (extra-metropolitan) - Sussex Hampshire Berkshire	29 106 64 89 45	11111		11111	16 33 25 38 15	3 32 17 22 10	11111	5 11 4 10 7	1 4 5 3 2	2 18 6 8 6	11111	- - 1 2	1 1 3 -	1	11111		= = = = = = = = = = = = = = = = = = = =	1 6 4 1 3	1 - 1 -	1 1 1 -	- 1 1
6 7 8 9 10 11 12 13	III.—SOUTH MIDLAND DIV Middlesex (extra-metropol.) Hertfordshire Buckinghamshire Oxfordshire Northamptonshire Huntingdonshire Bedfordshire Cambridgeshire	32 46 39 37 60 22 41 47	111111	1111111	1111111	19 29 19 11 24 4 9 14	7 14 14 11 24 15 21 23	1 1 -	4 1 2 8 3 - 1 1	1 1 1 - 1	1 3 6 6 3 7 4	1111111	- 1 - - 2 2	1111111	1111111	111111	1111111	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	1 1	111111	1	1 - 1
14 15 16	IV.—EASTERN DIVISION. Essex Suffolk Norfolk	85 70 83				44 35 19	17 24 26		8 3 8	- 3 4	10 3 13	- - 1	24			- 4		=	=	1 -		5 - 4
17 18 19 20 21	V.—South Western Div. Wiltshire Dorsetshire Devonshire Cornwall Somersetshire	68 43 152 60 122	=	11111	11111	26 20 56 7 45	25 4 32 6 28	2	3 8 8 6 6	2 4 14 - 7	6 6 19 23 21			-	- 2 10 1	1 -	- 2	=======================================	1	1		8 - 5
22 23 24 25 26 27	VI.—WEST MIDLAND DIV Gloucestershire Herefordshire Shropshire Staffordshire Worcestershire Warwickshire	107 19 52 117 49 88		-	- - 3 1 1	41 420 29 10 28	12 11		8	3 4	7 2 2 2 20 9 8	1	1 4 6 5 1 -		111	-	-	1	7 1 1 1 2 1			1 1
28 29 30 31 32	Rutlandshire	- 66 - 77 - 52 - 58	-		90 20020000	21 3 17 14 19	20 17	-	6 4	3 2	7 16 9 8	2	8 1		-	1	4		1		1 - 1	
38 34		86 - 450		1 5	2 11			1			12 46		3 1		13			3	-4	li		
38 36 37	IX.—York Division. West Riding East Riding (with York) North Riding —	- 27' - 5' - 3	7 -	- 1		96	3 8	3 -	32 10 12) 2	52 9 10	2	2 (0 -	7		-]	-	=======================================		3]	SOUTH RESIDENCE OF
38 - 39 40 41	O Cumberland -	- 9 3	8		3 4 3 21 4 3 1 -		9 6	3 -	- 16	3 1	67		1	5 - 3 1	-	2 3	2 2 -	- -	= = = = = = = = = = = = = = = = = = = =		1 -	1 1 - 1
4 4	XI.—WELSH DIVISION. Monmouthshire South Wales	1	95 50 75	_			0 12	1 -	- 8	$\begin{bmatrix} 9 \\ 8 \\ 6 \end{bmatrix} \begin{bmatrix} -7 \\ 1 \end{bmatrix}$	111111111111111111111111111111111111111				000 9700		1 -	$\begin{bmatrix} 2\\31\\75 \end{bmatrix}$	1 -	1		

913 boys and 787 girls were registered in Westmorland; and the fluctuations in the proportions are great. Thus in 1857 the boys were to the girls as 986 to 1000; in 1858 as 1160 to 1000. In Lancashire 43,146 boys and 41,136 girls were registered in the year 1858, or 1049 boys to 1000 girls. In the preceding year the proportion was 1053 boys to 1000 girls.

M. Quetelet has recently called the attention of statists to the necessity of attending to the laws by which these fluctuations are governed.

Table VIII.—ENGLAND. BIRTHS, 1858.—Number and Proportion of Male and Female Children born in and out of Wedlock.

-		1								4.000	
	PEGISTRATIVA	ren born.	ldren born.	DE NOMBRESSESSE	orn in edlock.		out o	to every	born in Wed- o every 100	n out of every 100	orn out of every 100
-	REGISTRATION COUNTIES.	Male Children born,	Female Children born	Males.	Females.	Males.	Females.	MALES born to every 100 FEMALES born.	MALES born lock to e	MALES born out of Wedlock to every 100 FEMALES so born.	CHILDREN born out of Wedlock to every 10 Births.
	ENGLAND	334989	320492	31268	5 299491	22304	21001	104.5	104.4	1	6.6
	I,—London	45347	43665	43442	41818	1905	1847	103.9	103.9	103.1	4.2
No. 1 2 3 4 5	II.—South Eastern Counties. Surrey (extra-metropolitan) — — Kent (extra-metropolitan) — — Sussex — — — — — Hampshire — — — — — Berkshire — — — —	3690 8605 5480 7032 3078	3669 7881 5198 6732 3067	3539 8095 5093 6638 2859	7421 4842	510 387	167 460 356 396 211	100.6 109.2 105.4 104.5 100.4	109·1 105·2 104·8	90·4 110·9 108·7 99·5 103·8	4·3 5·9 7·0 5·7 7·0
6 7 8 9 10 11 12 13	III.—South Midland Counties. Middlesex (extra-metropolitan) — Hertfordshire — — — —— Oxfordshire — — — —— Northamptonshire — — — —— Huntingdonshire — — — —— Bedfordshire — — — —— Cambridgeshire — — — ——	2596 2766 2306 2834 3990 1026 2367 3124	2609 2659 2378 2603 3927 974 2221 2960	2469 2567 2158 2616 3740 978 2165 2891	2501 2467 2207 2409 3671 921 2029 2739	127 199 148 218 250 48 202 233	108 192 171 194 256 53 192 221	99.5 104.0 97.0 108.9 101.6 105.3 106.6 105.5	98·7 104·1 97·8 108·6 101·9 106·2 106·7 105·5	117.6 103.6 86.5 112.4 97.7 90.6 105.2 105.4	4·5 7·2 6·8 7·6 6·4 5·1 8·6 7·5
14 15 16	IV.—EASTERN COUNTIES. Essex	5935 5677	5659 5179	5577 5199	5351 4774	358 478	308 405	104·9 109·6	104.2	116.2	5.7 8.1
17 18 19 20 21	V.—South Western Counties. Wiltshire	3831 2936 8926 6271 6964	3633 2750 8407 5954 6913	3580 2741 8429 5901 6512	3385 2577 7915 5635 6471	251 195 497 370 452	248 173 492 319	106·1 106·8 106·2 105·3	105·2 105·8 106·4 106·5 104·7	101:2 112:7 101:0 116:0	6.7 6.5 5.7 5.6
22 23 24 25 26 27	VI.—WEST MIDLAND COUNTIES. Gloucestershire	6925 1555 4043 15367 4833 10055	6791 1466 3829 14817 4783 9555	6527 1399 3645 14401 4488 9497	6423 1339 3484 13881 4472 9001	398 156 398 966 345 558	368 127 345 936 311 554	100·7 102·0 106·1 105·6 103·7 101·0 105·2	100.6 101.6 104.5 104.6 103.7 100.4 105.5	108·2 122·8 115·4 103·2 110·9 100·7	5·6 9·4 9·4 6·3 6·8
29 30 31	VII.—NORTH MIDLAND COUNTIES. Leicestershire	4082 372 6699 5623 4919	3864 377 6407 5344 4686	3724 340 6179 5098 4541	3541 345 5905 4849 4312	358 32 520 525 378	323 32 502 495	105.6 98.7 104.6 105.2 105.0	105·2 98·6 104·6 105·1 105·3	110.8 100.0 103.6 106.1 101.1	5·7 8·6 8·5 7·8 9·3 7·8
33	VIII.—NORTH WESTERN COUNTIES. Cheshire Lancashire IX.—YORKSHIRE.	7941 43146	7309 41136	7282 40135	6717 38296	659 3011		108.6 104.9	108·4 104·8	111:3	8·2 6·9
36	West Riding East Riding (with York) North Riding	27036 4550 3408	26158 4504 3418	25015 4205 3095	24306 4167 3105	2021 345 313		103·4 101·0 99·7	102.9 100.9 99.7	109·1 102·4 100·0	7·3 7·5 9·2
39 1	X.—Northern Counties. Durham	10570 5890 3328 913	10088 5581 3247 787	10008 5425 2942 825	9551 5162 2843 719	562 465 386 88	419 404	104·8 105·5 102·5 116·0	104.8 105.1 103.5 114.7	104·7 111·0 95·5 129·4	5·3 7·7 12·0· 9·2
42 I 43 S	Monmouthshire	3658 12167 6088	3475 11403 5791	3473 11387 5585	3311 10603 5364	185 780 503	164 800	105·3 106·7 105·1	104·9 107·4	112·8 97·5 117·8	4·9 6·7 7·8

X

Deaths.

Seasons.—The births are registered in the highest proportion in the first half of the year; and the corrected proportions in the four quarters of the year were 1057, 1034, 953, and 956; or as 2091 to 1909 in the two half-years.

Children born out of wedlock .- 43,305 children were born out of wedlock; or one in fifteen of the total children born alive.

TABLE IX.—BIRTHS to 100 Persons living in each County, during each of the Years 1850-58.

	The sale of the sale of the first of the sale of the s				Births	to 100 J	Persons	living.		THY.	San E
	COUNTIES.	1850.	1851.	1852.	18 5 3.	1854.	1855.	1856.	1857.	1858.	Average Annual Rate. 1850-58.
	ENGLAND	3:340	3.425	3.428	3:328	3.407	3.380	3.452	3*435	3*357	3*395
	I.—London	3.202	3.300	3.357	3 · 334	3.374	3.334	3*342	3.358	3.272	3.320
No. 1 2 3 4 5	II.—South Eastern Counties. Surrey (extra-metropolitan) Kent (extra-metropolitan) Sussex	2.866 3.196 3.036 3.169 3.087	3·324 3·149 3·180	2.987 3.253 3.186 3.150 3.111	2·995 3·095 2·995 3·155 2·891	3.027 3.159 3.034 3.089 2.922	2.995 3.101 2.883 2.950 2.832	3·230 3·219 3·043 3·230 2·974	3°267 3°337 2°978 3°264 2°961	3°344 3°120 2°888 3°164 2°873	3.073 3.200 3.021 3.150 2.974
6 7 8 9 10 11 12 13	Middlesex (extra-metropolitan) Hertfordshire	3·267 3·425 3·677	2·921 3·388 3·410 3·254 3·500 3·557 3·655 3·418	3·035 3·150 3·335 3·313 3·419 3·277 3·583 3·388	3.010 2.974 3.068 2.957 3.230 3.117 3.271 3.020	3·136 2·934 3·101 3·045 3·280 3·049 3·318 3·018	3.044 2.839 3.052 2.850 3.381 3.004 3.252 2.954	3·198 2·995 3·064 3·080 3·439 3·150 3·371 3·066	3·192 3·040 3·171 3·053 3·445 3·149 3·453 2·971	3·230 2·856 3·002 2·951 3·367 3·021 3·214 2·917	3.083 3.057 3.176 3.086 3.387 3.222 3.414 3.151
14 15 16	IV.—EASTERN COUNTIES. Essex	3·262 3·333 3·207	3·277 3·369 3·298	3·199 3·212 3·188	3·054 3·002 2·914	3·072 3·016 3·066	3·109 2·941 2·887	3·199 3·073 3·029	3:222 3:069 2:957	3·101 2·975 2·983	3·166 3·110 3·053
17 18 19 20 21	V.—SOUTH WESTERN COUNTIES. Wiltshire	3.020	3.361	3·144 3·121 3·035 3·355 3·084	2·859 2·987 2·915 3·310 2·862	3·059 2·948 2·862 3·344 2·980	2.886 2.886 2.732 3.181 2.836	3:005 2:911 2:827 3:253 2:884	2:924 2:920 2:792 3:165 2:795	2·825 3·122	3·018 3·017 2·891 3·257 2·933
22 23 24 25 26 27	Herefordshire	3·047 2·860 2·770 3·777 3·247 3·564	2.799 2.859 3.942 3.309	3·148 2·921 2·852 4·032 3·338 3·832	3:007 2:752 2:774 3:984 3:264 3:647	3·098 2·960 2·987 4·199 3·466 3·800		3:026 2:931 3:042 4:303 3:422 3:784	4·225 3·346	2.869 3.001 4.250 3.372	3.058 2.855 2.910 4.113 3.344 3.718
28 29 30 31 32	Lincolnshire	3·42 - 3·42 2·788 - 3·388 - 3·343 - 3·418	3 · 068 3 · 315 3 · 3407	3·467 2·825 3·213 3·446 3·470	3.376	2.949 3.053 3.494	2·778 3·064 3·430		2 · 847 2 · 3 · 094 3 · 619	2·822 2·982 3·393	3.447
33 34		s. - 3·32 3·75									
38 36 37	East Riding (with York)	- 3.66 - 3.23 - 3.18	3 3.581	3.223	3.223	3 3.296	3 3.292	3.420	6 3.34	3 3.279	3.288
38 38 40 4	X.—NORTHERN COUNTIES. Durham	- 3.72 - 3.35 - 3.29 - 2.97	8 3.486	3:386	3 3 240	$\begin{bmatrix} 3 \cdot 29 \\ 5 & 3 \cdot 20 \end{bmatrix}$	$\begin{vmatrix} 3.46 \\ 9 & 3.11 \end{vmatrix}$	3.57	8 3.42	8 3.466	3.41
4 4	XI.—MONMOUTHSHIRE AND WALL 2 Monmouthshire	ES. - 3.40 - 3.25 - 2.80	27 3.24	5 3.28	6 3.25	6 3.38	5 3.39	5 3.54	8 3.60	00 3.24	7 3.38

Note.—In deducing the results given in this Table a correction has been made for increase of population, based on the numbers enumerated in 1841 and 1851, on the assumption that the increase was uniform in each year to 1851.

Since the Census of 1851, as no satisfactory data exist for ascertaining the progress of the population, which has been much interfered with by emigration and other causes, the increase has been taken to be approximately represented by the excess of births over deaths registered in each year. The proportions must be taken as provisional; until the next census the absolute numbers cannot be determined.

This subject was discussed at some length in my last Report;* and some of the circumstances by which the proportions in the various counties are modified, independently of the morality of the population, were pointed out.

106.2 males were born to every 100 illegitimate females; while the proportions among children born in wedlock were 104.4 males to 100

DEATHS.

449,656 deaths were registered in the year; or 29,841 deaths in excess of the deaths in the previous year. The mortality was unusually low in the year 1856, and unusually high in 1858; so the deaths in the latter

Table X.—Proportional Number of Births in each Quarter to 1000 Births in the Average Quarter of each Year, 1838-58.

		Number of Births	•	Proportiona	l Number o	f Births	
	YEARS.	in the Average Quarter.	In the average Quarter (assumed to be 1000).	First Quarter ending March 31.	Second Quarter ending June 30.	Third Quarter ending Sept. 30.	Fourth Quarter ending Dec. 31.
	1838 1839 1840	115947 123144 125576	1000 1000 1000	995 1017 1059	1053 1049 1033	981 967 949	971 967
	1841 1842 1843 1844 1845	128040 129435 131831 135191 135880	1000 1000 1000 1000 1000	1059 1062 1052 1068 1068	1017 1039 999 1018 1009	959 944 964 957 966	959 965 955 985 957 957
-	1846 1847 1848 1849 1850	143156 134991 140765 144540 148356	1000 1000 1000 1000 1000	1027 1099 998 1078 974	1047 1032 1070 1066 1051	961 934 991 927 990	965 935 941 929 985
	1851 1852 1853 1854 1855	153966 156003 153098 158601 158761	1900 1000 1000 1000 1000	1022 1037 1056 1026 1060	1033 1019 1037 1090 1044	978 969 964 968 966	967 974 943 916 930
	1856 1857 1858	164363 165790 163870	1000 1000 1000	1035 1042 1057	1060 1031 1034	952 964 953	953 963 956

TABLE XI.—ENGLAND. BIRTHS and DEATHS registered in each Quarter of the Years 1838 to 1858.

		of the D	BIRTHS			DE	ATHS	
YEARS.	In th	ne Quarters	ending the last	t day of	In the	Quarters en	nding the last	day of
	March.	June.	September.	December.	March.	June.	September.	December
1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849	113815 123543 132305 133720 135615 136837 143578 143080 145108 146453 139736 153772	121781 128806 129059 129884 134096 131279 136941 136853 149450 139072 149760 153693	114784 120115 119822 123868 123296 128161 130078 132369 138718 127173 140359 135223	113457 120110 121117 124686 124732 131048 130166 131219 139349 127267 133204 135471	98152 89740 98896 99069 96314 94926 101024 104664 89484 119672 120032 105870	90877 87969 90339 86134 86538 87234 85337 89149 90230 106718 99727 102153	72877 76280 80822 75440 82339 76792 79708 74872 101664 93435 87638	80854 84995 89630 83204 84328 87493 90864 80681 108937 103479 92436
1850 1851 1852 1853 1854 1855 1856 1857 1858	144551 157286 161803 161729 160785 166225 169250 170430 170959	155865 159073 159031 158697 172457 165277 173263 170444 169115	146911 150594 151222 147602 154724 154700 157462 161181 157445	146095 148912 151956 144363 146439 148841 157478 161016 157962	98430 105359 106358 118119 111843 134542 103014 108665 125819	92871 99458 100625 107647 102586 106493 100099 100046 107142	135227 85849 91499 100382 92201 113843 87646 91155 100528 98142	97589 91845 99080 99770 103130 109633 97022 96238 110576 118553

^{*} Reg. Gen. Twentieth Report, pp. xiv.—xvi.

Deaths.

xiii

exceeded those in the former year by 59,150. The mortality was at the rate of 2.050; 2.175; and 2.303 annually in the three years 1856-7-8; the average annual rate for 21 years being 2.236 per cent. per annum. That is nearly at the rate of 22 in 1000; or 1 in 45 annually.

Sex.—The mortality of males was at the rate of 2.365, the mortality of females at the rate of 2.243 in the year; the average rates of twenty-one years being 2.315 for males, and 2.158 for females.

The deaths of males in the year were as 102 to 100 deaths of females; the average being 103 to 100.

TABLE XII.—ENGLAND. Proportion of Births to 100 Women living at the Age 15-45, in each of the Years 1841-58.

Middle of the Years	Women living at the Age 15-45 (estimated).	Births registered.	Births to 100 Women living at the Age 15-45.	Women bearing Children to 100 Women living.*
1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1857	3,811,614 3,853,121 3,895,081 3,937,497 3,980,376 4,023,721 4,067,533 4,111,833 4,156,610 4,201,875 4,247,632 4,293,888 4,340,647 4,387,916 4,485,699 4,484,003 4,532,832 4,582,194	512,158 517,739 527,325 540,763 543,521 572,625 539,965 563,059 578,159 593,422 615,865 624,012 612,391 634,405 635,043 657,453 663,071 655,481	13·4 13·4 13·4 13·5 13·7 13·7 14·2 13·3 13·7 13·9 14·1 14·5 14·5 14·5 14·5 14·3 14·7 14·6 14·3	13.7 13.7 13.8 14.0 13.9 14.5 14.0 14.2 14.4 14.8 14.8 14.8 14.4 14.7 14.6 15.0 14.9 14.6
1	2	3	4 1	5

*The number of children born alive is to the number of women bearing children (including those who bear still-born children) nearly as 100 to 102. See the data of this estimate in the 17th Annual Report, Appendix, p. 72. The figures in col. 5. are deduced by multiplying the figures in col. 4. by 1.02.

TABLE XIII.—ENGLAND. DEATHS.—ANNUAL RATE of MORTALITY of Males and of Females, 1838-58.

W 18 18 18 18 18 18 18 18 18 18 18 18 18	DEA	тнѕ	Deaths of Males	Of equal Numbers living, the Number
YEARS.	Of Males to 100 Males living.	Of Females to 100 Females living.	to 100 Deaths of Females.	of Male Deaths
1838 - 1839 -	- 2:335 - 2:275 - 2:372	2·133 2·090 2·203	105 104 103	109 109 108
1840 - 1841 - 1842 - 1843 - 1844 -	- 2·238 - 2·241 - 2·202 - 2·242	2.083 2.098 2.047 2.083 2.012	103 102 103 103 103	107 107 108 108 108
1845 - 1846 - 1847 - 1848 - 1849 -	2·170 2·395 2·546 2·391 2·581	2·221 2·380 2·224 2·445 2·013	103 103 103 101 102	108 107 108 106 106
1850 - 1851 - 1852 - 1853 - 1854 -	- 2·143 - 2·276 - 2·320 - 2·379 - 2·434	2·124 2·156 2·201 2·273	103 103 104 103 104	107 108 108 107 107
1855 - 1856 - 1857 - 1858 -	- 2.348 - 2.125 - 2.237 - 2.365	2·187 1·978 2·114 2·243	104 102 102	107 106 105
Average of 21 yes	ars, } 2.315	2.158	103	107

The Table may be read thus:—In the year 1838 to every 100 males living there were 2°335 deaths of males; to every 100 females living there were 2°133 deaths of females; and to every 100 females who died there were 105 deaths of males. The last column shows the *relative* mortality of *males* and *females*; and that out of *equal* numbers living the deaths of males were 109 to every 100 deaths of females in 1838.

There is an excess of females living in England over males; and the deaths out of an equal number of both sexes living were in the proportion of 107 deaths of males to 100 deaths of females.

TABLE XIV.—Annual Rate of Mortality per Cent. in each County during each of the Years 1848-1858.

		A CONTRACTOR OF THE PERSON NAMED IN									D	11		19 /2	200	200		
					-	1		1		- 1	Dea	ths to	100	Person	as livin	g.	70 11	rough.
		COUNT	IES.		18	348	1849	185	0 18	51	1852	185	3 18	54 18	355 18	56 183	rag	ual 1858
		ENGLAN	ND .		- 2:	306 2	•512	2.07	7 2.1	99	2.236	2.28	8 2:	352 2	266 2.	050 2.1	75 2.2	46 2.303
		I.—Lon			- 2.	582 3	.014	2.10	4 2.3	39 2	2.258	2.43	5 2.8	929 2.	414 2.	189 2.2	15 2.4	18 2.356
	No.	Coun	TIES.															
	1 2 3 4 5	Surrey (extra-me Kent (extra-me Sussex - Hampshire - Berkshire -	metropolic etropolita 	n) - 	$-\begin{vmatrix} 2 \cdot 1 \\ 1 \cdot 9 \\ 2 \cdot 1 \end{vmatrix}$	07 2	018 523	1.838	5 1.9	$ \begin{array}{c c} 16 & 1 \\ 01 & 1 \\ 48 & 2 \\ \end{array} $.915 .820	2.028	3 2·1 5 1·8	73 2· 77 1· 91 2·	077 1 · 9 947 1 · 7 318 1 · 9	07 1·70 46 2·0	$ \begin{array}{c cccc} 72 & 2.03 \\ 06 & 1.85 \\ 14 & 2.10 \end{array} $	8 2·120 1 2·019 1 2·097
	10	III.—South Coun	TIES.											00 2	22 1.7	99 1.79	2.01	6 2.035
]	6 7 8 9 10 11 12 13	Middlesex(extru- Hertfordshire Buckinghamshi Oxfordshire – Northamptonshi Huntingdonshire Bedfordshire Cambridgeshire	a-metropo	olitan	2·4 2·2 2·3 2·3 2·2 2·4	05 2· 39 2· 35 2· 56 2·	124 219 211 211 061	2·104 2·099 2·023 2·296	2·06 2·14 1·95	39 1 36 2 4 1 33 2 18 1	·802 ·010 ·978 ·101 ·940 ·057	1.777 2.144 2.038 2.156 1.993	1.75 2.00 2.10 2.15 1.75	96 1.8 02 2.1 09 2.0 93 2.1 34 1.9 32 2.5	90 1.7 67 1.8 24 1.6 96 1.9 15 1.7 62 1.9	23 1.88 32 1.92 83 1.90 00 1.97 14 1.91 34 2.04	32 1.89 25 2.07 03 2.04 6 2.10 9 1.97 9 2.10	7 1.801 8 1.991 4 2.088 7 2.011 4 1.841 4 1.911
,	4	IV.—EASTERN Essex	COUNT	IES.					1						65 1.7.	54 1.85	6 2.07	1 1.776
1	5 6	Suffolk Norfolk	= =		1 1 270	18 2·1 1 2·1 14 2·1	14411	.485	1.88 2.02 2.15	6 2	011	1.989 2.000 2.019	7.01	6 1.9	98 1.89	35 1.86	1 1.968	1.951
		V.—South Count	WESTER	N								2 013	2 00	3 2.1	05 1.79	03 1.95	9 2.06	2.201
111111111111111111111111111111111111111	8 9 0	Wiltshire - Dorsetshire - Devonshire - Cornwall - Somersetshire		11111	1.80	0 2.0	03 1	.868	2.083 1.877 1.938 2.123 2.062	2 2.	100	1.952	1.90	$\begin{array}{c c} 9 & 2.01 \\ 9 & 1.97 \end{array}$	12 1.57 7 1.68 1.79	4 1.80 8 1.87 9 1.88	1 · 888 2 1 · 980	2.059
	1	VIWEST I	MIDLAND					001	2 002	1	304	1-997	1.79	7 2.08	1.67	0 1.760	1.955	2.032
25 24 25 26 27		COUNT: Gloucestershire Herefordshire Shropshire Staffordshire Worcestershire Warwickshire		111111	2·278 2·419 2·288	3 2·2 9 2·7 3 2·0	18 2 25 1 45 2 76 1	·953 ·297	2·187 1·890 2·054 2·507 2·066 2·464	1:	$ \begin{array}{c c} 061 & 2 \\ 911 & 2 \\ 379 & 2 \\ \hline 054 & 2 \\ \end{array} $	125 100 1576 1028	2.08 1.81 1.96 2.876 2.178	3 2·26 0 2·07 3 2·47 3 2·06	0 1.90 0 1.77 0 2.30 6 1.81	8 1.970 7 2.671 2 2.035	1.999 2.030 2.525 2.046	
		VIINORTH COUNTI	MIDLAN.	D				100	2 101		204 2	909	2.65]	2.22	9 2.09	2 2.427	2.353	2.452
28 29 30 31 32	I	Leicestershire Lutlandshire — Lincolnshire — Nottinghamshire Derbyshire —		-	2·168 2·233 2·190 2·225 2·278	2.00	99 1.	836		1.8	32 1	·765 ·790 ·405	2:075 1:581 2:009 2:331 2:215	1.87	9 1.661 1.575 2.090	1:405 1:694 2:147	1.753 1.876 2.153	2:316 1:843 1:940 2:404
33	1	VIII.—NORTH COUNTIL		200												- 0,0	2 101	2:330
34	L	heshire - ancashire -	= =	-	2·422 2·765	2·40 3·03	9 2.	103 2	2.244	2.4	38 2.		2·218 2·766			2·252 2·735	2.275	2·249 2·850
35 36 37	EN	IX.—YORKS Vest Riding - ast Riding (with orth Riding	York)	- 3	2·317 2·415 2·037	5 20	1 7.1	187 19	*994	9.00	00 00	TOOL	2·438 2·226 1·916	2.050	1.869	2·352 2·293	2·386 2·295 1·876	2·476 2·293 1·859
38 39 40 41	DNCW	C.—NORTHERN (urham — orthumberland umberland — festmorland		- 2 - 2 - 2 - 1	2·214 2·221 2·119 2·970	2.647	1.9	45 2	0008	2.35	3 2.7	750 2	2·569 2·087 2·128 2·739	2 164	2·454 2·044 1·890 1·517	2.526 2.175 1.914 1.590	2·391 2·240 2·039	2·569 2·197 1·974
42 43 44	M So No	MALES On MOUTHS WALES ON WALES OUTH Wales OF THE WALES		D 2 2 2 2 2	*334 *077 *224	2.542	2.15	29 2	061 2	:16:	2 2.4	15 2 17 2	·492 ·238	2·361 2·259 2·091	2.031 2.030 1.832	2·139 2·028 1·863	2·267 2·182 1·995	2·430 2·442 1·937

Note.—In deducing the results given in this Table a correction has been made for increase of population, based on the numbers enumerated in 1841 and 1851, on the assumption that the increase was uniform in each year (1841—1851). Since the Census of 1851, as no satisfactory data exist for ascertaining the progress of the population, which has been much interfered with by emigration and other causes, the increase has been taken to be approximatively represented by the excess of births over deaths registered in each respective year ending June 30th.

Ages.—The seven years which had elapsed since the year 1851, when the population was enumerated, forbid any exact reasoning on the relations of the deaths to the living at the respective ages. But it is evident that the great excess of deaths in the year over the deaths in the two previous years was the result of a general increase extending over several of the ages; but most striking in the first ten years of life.

The diseases which prevailed, and the fatality of the various causes, are set forth in Dr. Farr's Letter, which will be found at p. 203. in the

The various circumstances affecting the health of England and Wales, during each quarter of the year, are discussed in the following pages.

SUMMARY OF THE QUARTERLY REPORTS, 1858.

First Quarter.—January, February, March, 1858.

The return presents an unfavourable aspect. The marriages were much below the average number. The weather was severe, the people suffered, and the death-rate in the first quarter of the year was heavier

Table XV.—ENGLAND. Deaths.—Annual Rate of Mortality per Cent. of Males and Females at different Ages.

Years -	1848	† 1849	1850	1851	1852	1853	† 1854	1855	1856	1857	Average of the Rates of 10 Years 1848-57.	1858
ıll Ages -	2:391	2.581	2.143	2.276	2.320	2.379	2.434	2:348	2.125	2.237	2:323	2.365
	92		0.005	7.000	7.500	7:346	7.795	7.242	6.801	7.305	7.290	7.755
0-	7.401	7.513	6.695	7.298	•906	•847	•935	.819	•718	.775	*885	1.041
5-	1.043	1.124	•814	*869	•520	•506	•550	•499	•450	•462	•512	•492
10-	•530	•646	•467	•491	•799	*828	•835	•771	•725	.723	•798	•749
15-	*858	•951	•717	•776	•968	1.013	1.025	.958	•881	.887	•983	*889
25-	1.026	1.243	•879	•948	1.230	1.316	1.349	1.282	1.178	1.197	1.284	1.22
35-	1.303	1.281	1.165	1.236	1.816	1.958	1.962	1.898	1.695	1.763	1.872	1.80
45-	1.864	2.262	1.716	1.787		3.278	3.227	3.354	2.975	3.064	3.190	3.180
55-	3.266	3.655	2.980	3.031	3·073 6·284	6.912	6.665	7.109	6.107	6.357	6.617	6.648
65-	6.793	7.244	6.306	6.396	STREET, STREET	15.897	14.808	16.161	12.942	14.136	14.635	14.39
75-	14.986	15.187	14.019	14.055	14.161	31.297	28.003	32.778	26.347	27.913	29.202	28.93
85-	30.622	29.976	28.555	28.245	28.279	47.305	38.382	42.657	32.201	34.349	40.411	39.42
95 & upwds.	42.435	42.859	38.560	41.937	43.422	41 000	30 002				H	II .

2.243 2.172 2.114 2.273 2.187 1.978 2.201 2.013 2.124 2.156 2.224 2.445 All Ages 6.858 6:317 5.947 6:452 6.814 6:362 5.738 6.488 6.396 1.049 .870 .773 •737 *807 .878 .813 •924 .860 .810 1.102 •997 5-•528 •528 •450 .494 •540 •560 -527 •537 .653 •491 •566 10-*837 .806 .776 •747 .819 *861 *818 *834 1.000 •777 •878 15-1.050 •978 •934 .942 1.001 1.102 1.005 1.031 1.064 •988 1.347 1.090 25-1.220 1.268 1.181 1.160 1.262 1.214 1.251 1.328 1.193 1.169 1.301 1.617 1.510 35-1.583 1.429 1.489 1.663 1.564 1.596 1.514 1.473 1.519 1.589 1.998 45-2.758 2.807 2.716 2.950 2.527 2.852 2.845 2.625 2.679 2.660 3.355 55-2.860 6.155 5.979 5.927 6.414 5.979 5.708 6.133 5.854 5.717 6.072 6.596 13.656 65-13.325 14.816 11.971 13.046 13:358 14.106 13.177 12.818 14.028 12.684 75-27.185 28 . 201 26.412 30.743 23.443 26.925 28.968 27 • 623 | 28 • 028 | 25 • 922 | 26 • 357 | 27 • 427 85-45.770 40.268 41.822 34.086 41.578 46.816 43.323 42.927 45.017 40.676 95 & upwds.

The Table may be read thus:—Of 100 Males living of the age of 35 and under 45, 1 303 died in 1848, 1 581 in 1849, and so on for other years, a correction for increase of Population having been made for each Age in each Year; and the deaths of persons whose ages were not returned have been distributed proportionally over each age. The data upon which this Table is constructed appear in this or have appeared in the previous Reports, and in the Census Report. See Census Report 1851; and the Annual Reports of the Registrar General, particularly the 8th and 9th.

† Cholera epidemics.

than it is on an average; but the birth-rate in the same quarter, though lower than in the three previous winters, was above the average. The population of the country is still increasing.

Marriages.—29,918 marriages took place in the quarter that ended on March 31st; and consequently 59,836 persons married in the three months. The number is less by 6806 than the number of persons who married in the winter quarter of 1857, and less by 7018 than the number of persons married in the winter quarter of 1856, but is rather more than the number

Table XVI.—Proportional Number of Deaths in each Quarter to 1000 Deaths in the Average Quarter of each Year, 1838-58.

	Number		Proportiona	l Number of	Deaths	
YEARS.	of Deaths in the Average Quarter.	In the Average Quarter (assumed to be 1000).	First Quarter ending March 31.	Second Quarter ending June 30.	Third Quarter ending Sept. 30.	Fourth Quarter ending Dec. 31.
1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1887 1858	85690 84746 89922 85962 87380 86611 89233 87842 97579 105826 99953 110210 92249 93849 101784 105274 109476 106426 97627 104954 112414	1000 1000 1000 1000 1000 1000 1000 100	1145 1059 1100 1152 1102 1096 1182 1198 917 1181 1201 961 1067 1066 1045 1122 1036 1280	1061 1038 1005 1009 990 1007 956 1021 925 1008 998 927 1007 1006 989 1022 940 1001 1031 955 955	850 900 899 878 942 887 893 857 1042 883 877 1227 931 926 986 876 1031 816 928 950 865	944 1003 997 968 965 1010 1018 924 1116 978 925 885 996 1002 980 980 993 993 993

TABLE XVII.—ENGLAND. ANNUAL RATE per Cent. of Birth, and Death, during each Quarter of the Years 1838-1858.

		BIRT	H RATE			DEAT	H RATE	
YEARS.	In the	e Quarters e	nding the las	st day of	In the	Quarters en	ding the last	t day of
	March.	June.	Sept.	Dec.	March.	June.	Sept.	Dec.
1838 -	3·032	3·301	2:970	2.928	2.615	2·387	1.887	2.086
1839 -	3·248	3·338	3:069	3.059	2.359	2·280	1.949	2.164
1840 -	3·395	3·301	3:021	3.044	2.538	2·310	2.038	2.252
1841 -	3.424	3·278	3.082	3:092	2·537	2·174	1.877	2'063
1842 -	3.431	3·344	3.032	3:058	2·436	2·158	2.025	2'067
1843 -	3.420	3·234	3.114	3:174	2·373	2·149	1.866	2'119
1844 -	3.507	3·334	3.123	3:115	2·467	2·077	1.913	2'175
1845 -	3.491	3·291	3.140	3:103	2·554	2·144	1.776	1'908
1846 -	3·498	3·551	3·251	3·256	2·157	2·144	2:382	2·545
1847 -	3·488	3·265	2·945	2·938	2·850	2·506	2:163	2·389
1848 -	3·252	3·474	3·211	3·038	2·794	2·313	2:005	2·108
1849 -	3·575	3·523	3·056	3·053	2·462	2·341	3:057	2·199
1850 -	3·321	3·530	3·281	3·253	2·261	2·107	1:917	2·045
1851 -	3.567	3·557	3°317	3·270	2:388	2·224	2.015	2:176
1852 -	3.582	3·509	3°291	3·298	2:354	2·221	2.185	2:165
1853 -	3.578	3·464	3°177	3·100	2:613	2·355	1.985	2:214
1854 -	3.520	3·722	3°294	3·111	2:449	2·214	2.423	2:329
1855 -	3.603	3·534	3°261	3·128	2:916	2·277	1.848	2:039
1856 -	3*585	3.656	3·275	3·264	2·182	2·112	1.896	1.995
1857 -	3*600	3.548	3·308	3·295	2·295	2·083	2.063	2.263
1858 -	3*567	3.480	3·195	3·198	2·625	2·205	1.992	2.400
Mean -	3.461	3*435	3'163	3.135	2.487	2.228	2.060	2.176

The Table may be read thus, without reference to the decimal points:—In the March quarter of the year 1838, to 100,000 of the population of England there were 3,032 births, and 2,615 deaths registered. The three months January, February, March, contain 90, in Leap year 91 days; the three months April, May, June, 91 days; each of the two last quarters of the year 92 days. For this inequality a correction has been made in the calculation.

of persons who married in the hard war winter of 1855. The marriagerate of the quarter was 1.248 per cent. per annum; or at such a rate, if it continued uniform, that 1248 persons would marry in a year to every 100,000 persons living. The average rate is 1.410, and the rate of the quarter is such, that one out of every 9 marriages was deferred, or broken off. The stagnation of trade had cast a shadow over the prospects of the people, and they did not marry. The inhabitants of the manufacturing districts were under the greatest depression; and the number of marriages in Cheshire and Lancashire fell from 5815 to 4799, more than a thousand; but all the parts of England and Wales are so intimately associated in evil as well as in good fortune, that in every division the marriages declined.

Births.—The births of 170,959 children, born alive, were registered in the quarter that ended on March 31st; a number exceeding by 529 the births in the corresponding winter quarter of 1857; and the highest number that was ever registered within the same time and season. Children were born at the rate of 1900 a day.

The births in the quarter were at the rate of 3.567 annually to 100 of

the population; the average being 3.52.

The births fluctuate little in comparison with the marriages and the deaths in the several divisions of the kingdom; but the decrease of births in the Northern counties is worthy of note.

Increase of Population .- 170,959 births and 125,819 deaths were registered in the first ninety days of the year; and the natural increase of population in that period was therefore 45,140 or 502 daily. The natural increase in the winter quarter of 1857 was 686 daily. The falling off in the increase of population is referable to the excessively high rate of mortality during the past winter; for the births exceeded by 6 daily the births in the winter of 1857.

The daily natural increase of population in the United Kingdom was

probably about 753 daily.

19,146 emigrants sailed from the ports of the United Kingdom at which there are Government emigration agents; of whom 7230, or allowing for persons of undistinguished birthplace, 8142 were of English origin. On an average 90 English emigrants left our shores daily. 5683 of the English emigrants sailed to the Australian colonies; 2299 to the United States;

none to the North American colonies.

Nothing is more remarkable in the movement of our population than the decrease of emigration since the war. In the three months of 1849, January, February, and March, 60,626 emigrants sailed from our ports; 49,524 to the United States, 1337 to British North America, and 8627 to the Australian colonies; in the corresponding three months of 1858 only 19,146 emigrants sailed from the same ports, 8208 to the United States, 24 to British North America, and 9867 to the Australian colonies.

The Weather and the Price of Provisions.—The weather was colder and drier than usual during the three months, of which February was much the coldest. The mean temperature of that month at the Greenwich Observatory was 34°.6, or 3°.7 below the average (38°.3) of 87 years. Yet this February was not so cold by 5° 2 as the February of 1855, which froze our unfortunate troops in the Crimea. Setting down saturation of the air with aqueous vapour as 1.00, the degree of humidity was .83, thus wanting 17 of saturation. The average degree of humidity during 17 years was ·86. The rain-fall was 3 · 3 inches.

The price of provisions has undergone great fluctuations. The price

of wheat in the first three months of each of the three years 1856, 1857, and 1858, was on an average 72s. 4d.; 56s. 10d.; and 46s. 5d. a quarter. The fall of price since 1856 has been 36 per cent., and since 1857 it has been 18 per cent. Beef and mutton by the carcase at Leadenhall and Newgate markets were cheaper in the winter of 1858 than in the winter

of 1857. The price of beef fell from $5\frac{3}{4}d$. to $5\frac{1}{4}d$. a pound, of mutton from $6\frac{1}{4}d$. to $5\frac{7}{8}d$. a pound. Beef is at the same price, mutton is dearer than it was in the first three months of 1856.

Potatoes present an unfortunate exception; they attained an exorbitant price. The York Regents at the waterside market, Southwark, in the three winters of 1856, 1857, and 1858, sold respectively at 86s., 110s., and 152s. 6d. a ton. The price in 1858 was 39 per cent. higher than the price in 1857, and 77 per cent. higher than the price in 1856. The greengrocer's bill has thus increased; and the supply of vegetables for the poor population has been inadequate.

State of the Public Health .- 125,819 deaths were registered in the three months ending on March 31st. This number exceeds by 17,154 the deaths in the corresponding winter quarter of the previous year, and by 22,805 the deaths in the winter quarter of 1856. The rate of mortality in the three winter quarters was 2.182, 2.295, and 2.625 per cent. per annum; or about 22, 23, and 26 per 1000. As a general rule the mortality in England is highest in cold winters, lowest in winters of moderate temperature, and it has a tendency to rise when the temperature of the winter quarter exceeds forty degrees of Fahrenheit.

The mortality of the quarter was at the rate of 2.805 per cent. in the town districts, and at the rate of 2.399 per cent. in the country districts, thus exceeding the average in town districts by '217, and the average of country districts by 173. The cause of the increase, therefore, pervaded town and country; but its pressure was most severely felt in the

The deaths in the three months amounted to 125,819, and the mortality was at the rate of 26 deaths annually in 1000 of the population. Had the mortality been at the rate prevailing in 63 of the healthiest districts for the quarter ending March 31st (17.64 in 1000), the deaths would have amounted to 85,698. The excess of deaths over this number in the ninety days was 40,121, or 446 daily; which it was shown in the last quarterly report may be properly designated unnatural deaths.

The prevailing diseases which are mentioned by the Registrars in their notes are chiefly epidemics of the zymotic class; but diseases of nearly every class, and more particularly diseases of the respiratory organs, have

been unusually rife.

A disease, which is not new, but has been described afresh in France, has been fatal in several districts. It has been called "throat disease" in some of the returns, and from its having attacked English visitors in Boulogne the name of that town has been occasionally employed to qualify the affection. Diphtheria, its name in the statistical nosology, is adopted from the French writer who described the disease under the name of diphtherite, in reference to the characteristic membranous exudation in the throat.* The termination "itis," as in gastritis, is used in medical language to designate pure inflammation of the organ, which the root of the word expresses; hence ia has been substituted for ite, the French form of "itis," as this cannot with any propriety be placed after diphthera, designating a product of disease, and not an organ of the body.

Diphtheria, the registrar states, prevailed in Canterbury, and in many instances proved fatal. The deaths (129) exceeded the births (105) in Canterbury; and nearly equalled them in the contiguous district of

In Essex one case of diphtheria, and three of "putrid sore throat," probably the same disease, have been registered in the parish of Ramsden Bellhouse (Billericay), where affections of the throat have been prevalent. The three cases were in one family. The registrar was told that some

^{*} Diphtheria— $\delta\iota\phi\theta\epsilon\rho\alpha$ —a prepared hide, leather. $\delta\iota\phi\theta\epsilon\rho\alpha\iota$ were used for writing on in the east, like vellum or parchment. (Liddell and Scott.)

nuisances existed at the back of the cottages where the deaths occurred. "Putrid sore throat" still prevails in Bradwell (Maldon), also in Essex, and was the cause of 8 out of 21 deaths: upwards of 400 cases have been

attended by the registrar.

In the Bulmer sub-district (Sudbury) Suffolk, the deaths (57) exceeded the births (33); and the increase of deaths is owing to diphtheria amongst the children, bronchitis and influenza amongst the old. Diphtheria was a cause of the increase of deaths in Ludham and Bacton sub-districts in Norfolk. The mortality of Essex and of Suffolk was high during the quarter; and the mortality of the population of Norfolk was raised above its average nearly in the proportion of 3 to 2.

Diphtheria is again noticed by the registrar as the cause of a sixth of the deaths in Brewood sub-district, Staffordshire: three fatal cases occurred in one house. In Crick, one of the sub-districts of Rugby, two deaths occurred from diphtheria; two from acute laryngitis. The deaths exceed the births. The sub-district comprises eleven parishes, in none

of which are steps taken for the removal of nuisances.

No notice has been taken of the disease by the registrars either in the country north of Staffordshire or in Wales; and it has probably not prevailed there epidemically to any great extent. It is, however, allied to one of the forms of scarlatina, and is still confounded with that disease,

with croup, or with quinsy, by some practitioners.

Diphtheria, like Asiatic cholera, is probably only a more intense form of an old disease; but new intense spreading forms of disease deserve close attention, for with the increasing density of population, the intimate connexions between England and every unhealthy climate of the world, and the slow progress of sanitary improvement, we cannot consider ourselves absolutely safe from an eruption of some epidemics, which, like their predecessors, may open a new chapter not only of medical but of national history; for Niebuhr acutely remarks, that the great epochs of history are marked out by pestilences.

Epidemics, like new varities of animals, spring up under favourable circumstances. Each epidemic form has its congenial climate. The cholera epidemic is bred on the delta of the Ganges; yellow fever on the banks of the Mississippi; plague around the Nile in Lower Egypt; typhus in our towns; ague in our marshes; diphtheria, according to the popular theory in France-where the conditions are more favourable, on the whole, than they are in England—to the diffusion of putrid effluvia

over the fauces.

Every Englishman admires the works of art, the picture galleries, the houses, the furniture, the cultivated personal tastes which surround him on every side in Paris, or on a small scale in Boulogne; he admires some of these objects every day, others every week; but has every day to give up his admiration at the door of that inscrutable cabinet, where the light of French refinement never comes; where his throat is assailed by the poisonous distillations that engender disease, and explode-if you count well the victims-with much more fatal consequences than gunpowder or even than fulminating quicksilver. That men should lock up jewels in cabinets, keep their larders full of delicacies, or stock their cellars with wine, is natural; but it is a singular absurdity in civilized men to attempt to hoard for years this volatile essence, which bursts its chains, and, like an unclean spirit, enters not only every apartment in the house, but every channel of access to the living chambers of the body, leaving at times such traces of its passage as diphtheria in the throat. The disease once generated, wanders abroad, and destroys life under circumstances quite different from those in which it was born; but impurity is always its natural ally.

The Scotch threw these matters into the streets, and justly incurred the censure of the fastidious. In London, and even in the country mansions of England, retreats still exist which may rival the French

magazines of impurity; but it has of recent years been the practice to throw the guano compounds of London, with water, into the sewers; which, though not constructed for the reception of such matters, and consequently suffering their volative principles to escape into the streets, convey a portion of their elements to the Thames, and commit them to its flood of tidal waters.

Dr. Barker has recently performed an ingenious series of experiments on animals, to determine the effects of each of the noxious principles which arise from cesspools. He placed the animals in a close chamber by a cesspool, with which a tube opening into the chamber communicated; and a lamp was arranged so as to draw a current of cesspool air steadily over the creatures inside. With a pair of bellows Dr. Barker could draw the air from the chamber. A young dog in half an hour "became very " uneasy and restless; he vomited, and had a distinct rigor, and in the " course of a day was exhausted. When he was removed he soon re-" covered." " Another dog was subjected to the cesspool air during " twelve days:" in the first seven days he underwent a series of sufferings, not unlike the symptoms of the diseases of children in hot weather; on the ninth he was "very ill and miserable." After he was liberated, on the twelfth day, he remained "very thin and weak for six weeks." Dr. Barker then continued his experiments on the effects of definite doses of the gases in the sewers, and killed or poisoned several sparrows, linnets,

jackdaws, and dogs.*

Thus Dr. Barker has, for our instruction, imitated on a small scale, and on a few of the inferior animals, the vast experiment which is constantly going on, and destroys thousands of men, women, and children all over England. Instead of a few animals in a close chamber, more than two millions of people live in London over sewers and cesspools. The poison is generated in every house; it is distributed conveniently along all the lines of road, so as to throw up its vapours into the mouths, throats, and lungs of the people through innumerable gully-holes, which are either left untrapped, or trapped imperfectly, in order that the poisonous gases might escape. A variation in the pressure of the atmosphere draws up the stinking air from the sewers, like Dr. Barker's bellows. All the details of the experiment were as carefully contrived by the engineers of the old sewers' commissioners as if they were constructing an apparatus for passing currents of poisonous airs steadily over the people of London, with a view, like Dr. Barker, to ascertain their exact effects. The engineers of the new Board of Works have endeavoured to keep the apparatus in order.

It is now time that this cruel experiment should cease. Last year, when no epidemic prevailed, not less than 14,795 unnatural deaths were registered in London. This was the aggregate effect of the impure airs,

and of other sanitary defects.

Will the London Boards of Works stop the experiment? Are they, like Dr. Barker, convinced and satisfied? Will they bring their common sense to bear on this question? Gases are constantly generated in the sewers and cesspools, and these gases will escape. Their elasticity carries them-and perhaps still more poisonous organic compounds-through the gully-holes, so long as there is no other outlet. But what can be an easier engineering problem than to discharge into the atmosphere the sewer gases, through pipes running up, and at least as high as the chimneys? This is in partial operation, and if made universal would be a mitigation of the evil. There are many ways of getting entirely rid of these gases, and why should not the inexpensive work be at once done?

^{*} See paper on "The Influence of Sewer Emanations," by T. Herbert Barker, M.D., F.R.C.S., in Dr. Richardson's excellent Sanitary Review for April 1858, pp. 70-82. The London Sewers are only imperfectly represented by one cesspool; their emanations

XX

Second Quarter .- April, May, June.

The sweet odours that enter the country are taxed; and every one has witnessed the admirable zeal of Her Majesty's customs' officers in their searches for Eau de Cologne. If a tax could be levied upon odours of another description, bearing some proportion to the evil they do, it would be much more productive; and if it were levied through the agency of the Boards of Works in London, and the Sewers Commissions elsewhere. it might be more beneficial, as they would undoubtedly find it economical to substitute fountains of rose water for their present gully-holes.

Second Quarter.—April, May, June, 1858.

The gloomy appearance of the winter quarter is gradually giving place to a better state of things. The marriages and the births were slightly below the average. But the public health exhibited signs of improvement.

Marriages.-39,890 marriages were celebrated in the quarter ending June 30th; consequently 79,780 persons married in the three months. This is nearly 20,000 in excess of the numbers married in the previous quarter, but is somewhat less than the numbers in the corresponding quarter of last year. The people married at the annual rate of 164, the average rate of the season being 171 in 10,000. The rate of marriage is lowest in winter; and in the last winter it was 125, or 16 below the average of that season; so that the improvement of the prospects of the people in spring is evident. The agricultural counties of the south of England, the northern counties and London, were but slightly affected; Staffordshire and Lancashire experienced the greatest degree of depression, but that was not very considerable.

Births.—The births of 169,115 children were registered in the quarter ending on June 30th, 1858; and the birth-rate was 3:480 per cent. per annum. It was slightly below the average rate of the spring season. The births decreased, or were stationary in every division.

Increase of Population .- 169,115 births and 107,142 deaths were registered; and the natural increase of the population of England and Wales was 61,973 in 91 days; or 681 daily.

The probable natural increase of the population of the United Kingdom was 1021 daily. In the preceding winter quarter it was estimated at 753. 40,961 persons sailed from the ports of the United Kingdom at which there are Government emigration agents. After distributing proportionally 4084 of undistinguished birth place, it appears that 1930 were of foreign, while 20,077 were of Irish, 4702 of Scotch, and 14,252 of English origin. Of the English emigrants, 5717 sailed to the Australian colonies, 1543 to the North American colonies, 6218 to the United States, and 774 to other places.

The emigration is still decreasing; it was at the rate of 157 daily from England and Wales, 429 daily from the inhabitants of the United Kingdom. In the spring quarter of 1852, six years ago, 1375 of the people emigrated daily.

The Weather, and the Price of Provisions .- The mean temperature of April (46°) and May (52°) differed little from the average at Greenwich; June was hot throughout, and its temperature (65°) was 7° above the average. On the 16th of June the temperature near the sea rose as high as 88°, and reached the point 95° between the latitudes 51° and 52°. The mean temperature of the day was 77°; which is the highest temperature in June on record. Saturation being represented by 100, the degree of humidity in June was 67; so the air was dry, or 7° less humid than it was during 17 previous Junes. The rain-fall above the average in April and May was below the average in June. The rain-fall in the three months was 5.4 in. The air moves usually at the rate of 4 miles an hour on an average; it moved at the rate of less than a mile and half an hour in June. The mean temperature of the Thames from 55° in May rose to 67° in June.

The prices of the principal articles of food have followed different rates: the price of the quarter of wheat has regularly fallen in the three months of April, May, June of the years 1856, 1857, and 1858, from 68s. 8d. to 56s. 9d., and to 44s. 1d. a quarter; by the carcase at Leadenhall and Newgate Markets beef was $5\frac{2}{8}d$., $5\frac{3}{8}d$., and $5\frac{1}{8}d$.; and mutton $5\frac{7}{8}d.$, $5\frac{6}{8}d.$, and $5\frac{4}{8}d.$ a pound. While the price of wheat fell the price of potatoes (York Regents) rose from 80s. and 128s. to 163s. a ton, at the waterside market, Southwark. The prices of animal food declined, the price of wheat fell 36 per cent.; the price of potatoes rose more than 100 per cent. in the interval.

State of the Public Health.—107,142 persons died in the three months of April, May, and June; the deaths were at the rate of 1177 daily.

The mortality rate prevailing was 2 205 per cent. or 22 05 in 1000. This is slightly below the average rate, 22.25, of the ten preceding spring quarters.

The average death-rate of the sixty-three least unhealthy districts is 17 08 in 1000 for the quarter ending 30th June. The 23,867 deaths in excess of this rate are principally deaths from various kinds of poisons, and are therefore properly designated Unnatural Deaths.

Upon dividing the population into two portions, (1) the 8,247,017 people living in rather close proximity to each other, and (2) the 9,680,592 living much further apart, the result is that the mortality in the dense districts was at the rate of 24.80—nearly 25 in 1000; while in the other districts over which small towns and villages are distributed, the mortality was at the rate of 19 74, nearly 20 in 1000 of the population.

Now in England and Wales the town population is increasing much faster than the population of the rest of the country; and the question is therefore becoming every day graver :- How is the health of the nation to be sustained in the midst of the new dangers which millions of its people are encountering?

In the last spring quarter, while the mortality of the country districts decreased, the mortality of the town districts rose to 24.80, the average of the preceding ten years having been 23 94 in 1000. This was probably due partly to the reduced earnings in the towns, to the scarcity of potatoes, and to the intense heat, which accelerated the putrefaction of organic refuse in the houses, streets, ditches, and rivers.

Is the actual mortality of cities inevitable? The Turks reply in the affirmative. Many of the cities of Europe in which the death-rate ranges from 30 to 40 acquiesce quietly in their fate; and in England, where we have adopted another course, it has been, not without some show of reason, asserted that the unnatural deaths in towns are the penalties of civilization. But what is civilization? If it consists simply in the aggregation of families on limited areas, without arrangements to meet the exigencies of their new position, it will ever have heavy penalties to pay. Uncleanliness is, however, not a consequence of civilization; it is a relic of barbarism. The people of districts living in England wide apart experience generally a low mortality, and the mortality increases in proportion as their dwellings are brought into closer proximity. People remaining the same, and indulging in the same habits, collected from their scattered habitations into a camp, and kept in that camp for some months, suffer from diseases, and are ultimately decimated by epidemics. Our towns were no better than uncleansed camps in the middle ages; and London in the seventeenth century lost 50 in 1000, or, including the plague years, 80 in 1000 of its inhabitants annually. The black death, sweating sickness, and plague followed each other in succession. The mertality of London was reduced to the rate of 29 in 1000 at the

beginning of this century*; civilization advanced, and in the 15 years 1840-54, the rate further fell to 25 t, still remaining 10 in 1000 above the calculated healthy rate for London. As Athens in ancient story had to send seven of its youth, chosen by lot, to be devoured, so London has hitherto given up ten of every thousand of her inhabitants yearly to disease and untimely death. All the towns of the kingdom in the aggregate gave up proportionally this number of victims in the last three months. They were not destroyed openly. The poison by which they died was not purchased in chemists' shops. It was administered in the silence of the night, and in the streets at noonday, either with the air which they breathed, or with the water which they drank.

The poison is generated by the decomposition of effete organic matter, which gives off diffusible and dangerous products, wherever it is left beyond a day in the houses, streets, and neighbouring ditches or streams,

instead of being lodged in the disinfecting earth.

It can easily be shown that the mortality bears a certain proportion to the quantity of the poison which the people inhale; and that the quantity is greatest under the cesspool system, which formerly prevailed in London, and is now in use in the French, German, and Italian towns. The mortality has gradually fallen in London as the cesspools have been abolished; it is still high in foreign cities where the cesspools are in use. In Manchester, where the dirt is allowed to decay behind the houses, and is not thrown into sewers, the mortality was at the rate of 33, in the years 1841-50; in the foreign cesspooled cities the mortality ranges from 30

to 44 in 1000.

Of 1000 people in London, ten died unnatural deaths annually; and to make the view of the facts clear, let it be assumed for a moment that into the causes of four deaths no inquiry is now made, that three are killed by the poisonous emanations from cesspools, closets, and sinks in dwellinghouses, offices, and workshops, that two die of diseases induced by the emanations from dirty streets or gullies, and one from the vapours arising from the Thames. Here evidently a great step is gained by the water system superseding the cesspool, as the noxious matter is projected into the sewers under the streets, and is partially oxydized. If the cesspools, therefore, are everywhere abolished, and the house is purified, the mortality, on the above hypothesis, will be reduced to the extent of 3; while if the corrupt sewer air in the sewers be carried above the chimneys beyond the reach of the lungs, two more lives will be saved; and if the water and banks of the Thames are no longer the final repositories of the town guano, one more life will be saved. These numbers are adopted, not as expressing exact results, but to fix attention on the fact that the impurities of London are the main causes of its insalubrity; and that in their fatal effects they may be classed in this order, (1) impurities of dwellings, (2) impurities of streets and gullies, (3) impurities of the Thames.

The progress of sanitary measures in London has hitherto resulted in the removal of the impurities from the dwelling-houses into the sewers and the Thames, and this enables us to understand how the mortality has declined as the Thames has grown fouler. It also enables us to understand how the mortality of London is lower than the mortality of many

other cities. The wise policy of substituting streams of water for cesspools is fully confirmed; and experience has shown that the town guano is less hurtful

The people in early and middle life are so numerous in London, owing to the excess of births and immigration, that the mortality should be 15 in 1000 to be, at the several ages, at the same rate as it is in the healthy districts, where the mean lifetime is 49 years. The corrected rate of mortality is 20 in 1000, and the actual uncorrected rate in those districts is 17 in 1000.

* See M'Culloch's Statistics of the British Empire, Vol. 2., p. 613.

in the sewers and in the rivers than in the dwellings of the people. It is only when the supply of towns is drawn from the rivers saturated with foul organic matter that the people are poisoned in great numbers by water. The vapours of the Thames, noxious as everybody possessed of common sense has now learnt to consider them, are less heavily laden with poisonous exhalations than the vapours of cesspools and sewers. The practice of laying on water, and of abolishing cesspools should therefore be actively continued. At the same time steps should be taken to destroy or to deliver the exhalations of the sewers into the higher stratum of the atmosphere, where they would be partly destroyed, and would not be breathed, as they are now, undiluted. The Thames itself must be purified. Our present imperfect system of sewers admits of readjustment; but the country can never rest satisfied until the water which is distributed through its dwellings carries away all the town guano to fertilize the land, from which its materials were derived. Any other solution of

the sewage question is provisional.

Exact observation for twenty years in every district of England and Wales places the question fairly before the country. Impure air is destroying the health of the people. The atmosphere in which they live can be purified by restoring the town guano to the fields. This involves a large immediate outlay; but the expense is not beyond the means of England. It will not exhaust the resources of a nation which freely devoted eighty millions sterling to resist the encroachments of Russia on the Turkish Empire; which maintains a squadron on the coast of Africa in the hope of diminishing the slave trade; which proposes, after conquering, to govern, perhaps to civilise India; and which has now a fleet on the other side of the globe opening the Chinese Empire to the enterprise of the world. If capital is sunk freely on these vast distant objects in the hope of realising returns, it will not fail when it is required to purify the air Englishmen breathe at home; for the investment will be profitable to all living men, and will confer blessings on all future generations. And if the national honour was concerned on the shores of the Black Sea, in the Baltic, on the Coast of Africa, in India, in the Chinese waters, in the presence of the enemy, is not the honour of England also concerned when the lives of her children are in peril, and no arm is stretched out to save? Can our towns strike their colours to their own accumulating dirt, and avow that they are vanquished, without ignominy? England is in sanitary science and art taking the lead in Europe, and teaching important lessons to all nations. But the work must be consummated. The mortality must be reduced. The people must be animated anew by the energies of health. And public men will find that some glory may be gained by saving life,—by great sanitary works. Honour will crown those who rescue the English race from pain, sickness, and degeneracy. They will for ever enjoy the satisfaction of having done their duty.

The Legislature has, in the Acts of the present Session, given the inhabitants of every district of England and Wales the power to raise the money and to execute the great works which the country requires; and it may be sanguinely hoped that the new powers will be employed to their full extent by the people themselves, under the Public Health and the Local Government Acts. The results will in a few years be apparent in the public registers.

Third Quarter.—July, August, September, 1858.

The depression of the country diminished in the spring quarter of the year. The marriages nevertheless remained below the average number. The birth-rate was slightly below the average in the summer quarter. The mortality was less than the average of the summer season, and this is to some extent the result of sanitary improvements.

Marriages.—38,599 weddings were celebrated in the quarter that ended on September 30th; consequently 77,198 persons were married. The numbers were below the numbers of the married in the corresponding quarters of 1857 and 1856. The decrease since 1856 is observable in London, and in the divisions south of the Thames. The marriages in Lancashire, Yorkshire, and the Northern Division were nearly stationary; in the Welsh Division they decreased.

Births.—157,445 children were registered in the quarter that ended on September 30th, or 3736 less than the births in the corresponding quarter of the previous year. The birth-rate was 3°195, or slightly below the average rate of the season, 3°247.

Increase of Population.—157,445 births and 98,142 deaths were registered, consequently the natural increase of the population in the 92 days was 59,303, or 645 daily in England. The probable natural increase of population in the United Kingdom was 967 daily.

10,803, or, allowing for persons of undistinguished nationality, 12,844 English emigrants sailed from ports at which there are Government emigration agents in the last three months; 6859 to the Australian colonies, 692 to the North American colonies, 4877 to the United States, and 416 to all other places.

The emigrants from the United Kingdom amounted to 29,354; or to fewer, by fifteen thousand, than have emigrated in any corresponding quarter since 1847.

The Weather and the Prices of Provisions.—The prices of wheat fell progressively from 72s. 3d. a quarter in the months of July, August, September 1856, to 59s. 11d. in 1857, and to 44s. 7d. on an average in the corresponding three months of the present year; the decrease of price was thus 38 per cent. The price of beef by the carcase at Leadenhall and Newgate markets fell in the two years from $5\frac{1}{2}d$. to $5\frac{1}{4}d$. a pound; mutton from 6d. to $5\frac{1}{2}d$. a pound, or 8 per cent. in price. Potatoes (York Regents) were sold at 78s. a ton at the waterside market, Southwark; or 26 per cent. less than the prices of the same season in the previous year. In this year 30 lbs. were sold for a shilling; in the last year 21 lbs. only. The price of potatoes is now the same as the price was in 1856.

The weather during the three months presented some peculiarities; at Greenwich the temperature of the air in July was below, in August slightly above (1.5°), in September 4.0° above the average of 87 years. The humidity was below, the barometric pressure above the average. The rain-fall was 5.4 in. in the three months, or nearly two inches below the average. The rain-fall was not so scanty in the north; in latitude 52°-53° it was 7.1 in., in latitude 53°-54° it was 8.4 in. In the Isle of Wight, Devon, and Cornwall from 7 to 8 in. of rain fell.

State of the Public Health.—98,142 deaths were registered in 92 days; and the mortality was at the rate of 1'992 per cent. annually, or '147 below the average. The average rate of the season exceeded 21; the actual rate of the present quarter was less than 20 in 1000.

During the last summer the annual rate of mortality in the population of the country, of villages, and of small towns, was at the rate of 17 in 1000; the average rate being 18. And in the same time the town population died off at the annual rate of 24 in 1000; the average rate being 26.

The deaths in the ninety-two days amounted to 98,142. If the mortality had been at the standard rate deduced from sixty-three of the least unhealthy districts, the deaths would have amounted to 72,698; consequently the deaths in excess of the comparatively healthy average, or the unnatural deaths, amounted to 25,444.

Diphtheria, which is often called "throat disease," has prevailed in some districts of the south, and has now extended northwards; it has been fatal in the Horncastle district, Lincolnshire; prevalent in Newark; and several children have died of the disease in Sheffield. Districts of the East Riding and of the North Riding of Yorkshire have been visited by the epidemic diphtheria.

Typhoid fever, which a young physician, Dr. Murchison, proposes to call pythogenie* fever, to point at its origin from putrid animal effluvia, has been prevalent in some districts. Several deaths occurred from it in Daventry. All the cases were confined to a small space which was badly drained. The Regius Professor of Medicine in the University of Oxford has recently written an interesting report on this fever occurring in the parish of Great Horwood. The township contained a population of 704 in 1851; and 125 had been attacked, 18 killed by the fever up to July 9th, the date of his report. He shows how the village, on the ridge of a hill, in a parish pleasantly wooded, with fine pastures and fruitful corn fields, occupied by a population wholly agricultural, was attacked by the fever; how the first case, appearing about Michaelmas in last year, occurred in one of the best houses in the place. The patient had been at Buckingham, and there was much fever at the time. He then tells how the brothers and sisters of the servant, and the servant herself, finally fell ill in their home; how all the people of a room over filthy water, in the worst house in the parish, were attacked, and three of the family died ; and then how the inmates of a new row of houses and of old cottages were visited by the village plague. He sums up by ascribing the continuance of the disease during the last nine months in various degrees to contagion, overcrowded dwellings, putrescent matter, and an insufficient supply of fresh air, or, as it is called, bad ventilation. The evil is most grievous in the sleeping rooms. "We can do no more," said one woman, " than keep clean that which we have. We cannot get our landlord to "give us more air, or make the windows we have to open. 'Women,' he said, 'are best shut up.'" "I often awake stifled," said another woman, "and me and my husband go and sit at the window." The poor people, however, can remedy the other great evil from which they suffer; "accumulations of muck, filth, and piggeries close to human dwellings." Here is the type of fever and its causes in agricultural districts. Dr. Acland shows how the ravages of disease may be diminished. He sketches a model cottage, and refers for further information to the admirable volume by Roberts on the dwellings of the labouring classes. He tells how dwellings should be managed, and how nuisances should be

The greater part of the evils from which the country people are now suffering is the result of ignorance, which can only be dispersed by the diffusion of sanitary knowledge through its natural channels, the medical practitioners, the public writers, the lawyers, the clergy, and the gentry of the country. Dr. Acland, at one of the fountain heads of education, has great opportunities, which he has already turned to account in this direction, with the happiest effects.

Following the waters of the hills of Buckinghamshire down through the fens, we arrive at Ely. Here a remarkable example is found of the salutary effects of simple sanitary measures, of which every town in the kingdom may have the advantage. Ely stands, with its lofty cathedral, on one of the old fen islands. It is a small city of 6176 inhabitants (in 1851), and is in the neighbourhood of the low lands, where the great systems of modern embankments and draining were commenced by Ver-

^{*} πύθομαι, putresco.

[†] Fever in Agricultural Districts. By H. W. Acland, M. D., F. R. S., Regius Professor of Medicine in the University of Oxford. This pamphlet should be widely circulated through all the agricultural districts.

muyden, one of Cromwell's colonels of horse. The Bishop of Ely in ancient times went in his boat to Cambridge. And the country around, like all our old marshes, is still imperfectly drained. The atmosphere has therefore no natural advantages. The Public Health Act was introduced in 1851. The Ely Board of Health was founded. They set on foot two great works: one for supplying the town with water, the other for carrying off that water through every house clear out of the town. The public works were completed at the end of 1854; and the houses were gradually connected with the public sewers, leaving, however, at the end of 1857, 200 in 1200 houses out of connection. Mr. Marshall, the superintendent registrar of the district, in an able paper shows the results of this great experiment. In the seven years (1843-49) before the Public Health Act was in operation, the mortality was at the rate of 26 deaths annually to every 1000 living; in the seven subsequent years (1851-57), when the sanitary measures were only partially carried out, the mortality fell down to the rate of 19 deaths annually to every 1000 living. The mortality in the two last years (1856-57) was at the rate of 17 in 1000. In the same periods the surrounding rural parishes underwent some improvement; but the improvement of the city has advanced so much more rapidly that its mortality was in the last two years 4 in 1000 less than the mortality of the surrounding country. The young people under the age of 35 have enjoyed remarkable immunities from disease, and the benefit will be transmitted to succeeding generations. The two chief sanitary works which have been completed are the introduction of water taken from the river of inferior quality, and the destruction of four thousand cubic yards of cesspools,—nearly four yards to each house. The surveyor, Mr. Burns, exclaims, with justifiable pride, "There is still a " number of cesspools remaining, and the sooner they are done away " with the better. After this is done, I may truly say that I found Ely " a city of cesspools, filth, and sickness; but I shall leave it a city of " drains, health, and cleanliness, and that is something to be proud of." Yes, Mr. Burns, you may well be proud of your work. Pau, in the Pyrenees, to which British invalids still resort for health, experienced a mortality of 28 and 23, when you had reduced the mortality of Ely to

The citizens of Ely have sunk 15,000*l*. on their sanitary works, which appear to have been conducted in something like the same determined spirit as animated Cromwell's colonel of horse. Certain ratepayers who enjoy the benefits complain of the burthen of the rates.

We may now turn from this small resolute city in an agricultural district to Liverpool, the second city of the kingdom, where the great work

of sanitary improvement is also advancing.

Liverpool lies on the shore of the fresh, deep, wide Mersey, which is lined by her magnificient docks; and the houses rise from the river over the red sandstone heights in long stretching lines. Lancashire and Cheshire cover the plains and hills behind the queenly town; before her are Ireland, America, and the Ocean which her ships ride over, carrying foreign produce or the manufactures of the north, to and from the various regions of the world. The place is well chosen for health; and in Gough's Camden (ed. 1806) Liverpool is said to be celebrated for "her beauty and populousness." Yet it was found and published in the first Registration Report†, that the mortality of the population of this district was in the latter half of 1837 at the rate of 39 in 1000 annually; while the population of West Derby, containing, with other parishes, the outlying parts of the borough, died at the rate of 25 in 1000. The strong contrast between the contiguous places, and the subsequent discovery that

Liverpool was one of the unhealthiest parishes in the kingdom, excited surprise as well as regret in the public mind. A local association was formed of some of the best people; and the causes of the mortality were investigated and were afterwards made known by Dr. Sutherland in a series of lucid papers. Little, however, was done; the prophets had been crying in the desert; and in 1846 the mortality grew still more threatening. Cholera raged fearfully in the borough in 1849. Steps were now taken to carry out sanitary measures, under the direction of Dr. Duncan and the other able officers of the town. The sanitary school of Liverpool subsequently furnished some of the most efficient members of the commission, which did good service in the East. Still it is to be regretted that the health of the great bulk of the population of Liverpool has improved but slowly. Liverpool has a good supply of water; but it is still infested by cesspools, including under this name the filthy Lancashire midden; and the drains pour their contents into the dock basins, which exhale a malarious sickly air over the people. The mortality in the borough of Liverpool was at the rate of 29 in 1000 in the year 1857. Much good, therefore, has been done since 1837; thousands of lives have been saved. Still Liverpool has not yet, like Ely, taken the bull by the horns. Or why should not the mortality be as low as 19 or even 17 in 1000? What natural advantages has Ely, taking one thing with another, over Liverpool ?- If Ely has had thousands of cubic yards of dirt removed, Liverpool has hundreds of thousands of cubic yards to deal with; but her means are commensurate with her duty. Mr. Newlands can do for Liverpool what Mr. Burns has done for Ely. The cesspool, the midden, or call it what they may, for it is still the same, is the chief destroyer of the Lancashire population. Crowded dwellings, vice, want, do a part of the mischief: but in Liverpool the cesspool destroyed a large proportion of the 6418 people who last year perished in excess of the numbers who would have died at the rates prevailing in country districts. The tender-hearted may shed natural tears over them as they lie in the cemetery. Abolish the cesspools of Liverpool, and you immediately save the lives of thousands of people. Yet the parties who have exerted themselves to put a stop to capital punishments have not been roused by the ruthless destruction of men; and no Beccaria has written on these crimes and punishments. A living poet in one of his last poems, exclaims:

" Ah, it is the gallows tree!
" Breath of Christian Charity,
"Blow! and sweep it from the earth."

But what number of lives did the "gallows tree" take away in 1857? Thirteen in all England and Wales; two only in Lancashire. And these were the lives of murderers, who were put to death for their crimes after the most deliberate judicial inquiry. But the six thousand four hundred and eighteen men, women, and children of Liverpool were destroyed cruelly in that year without discrimination. Of the cesspool, rather than of the gallows tree, a wiser muse will sing,—Sweep it from the earth.

Fourth Quarter.—October, November, December.

The returns present an unfavourable aspect of the country. The marriages indicated some improvement in the prospects of the people; and the deaths in the quarter are much above the average number. On this account, and on account of the increase of population, it has never before happened that so many deaths were registered in any autumn quarter as were registered in the last three months of the year 1858. The birth-rate was slightly above the average of the season.

The returns of the *year* 1858 show an excess of mortality in the six cold months, while the mortality in spring and summer was below the XXI.

^{*} See Paper by Dr. Ottley in *Medical Gazette*, 23d October 1858. † Registrar-General's First Report, Appendix, p. 118. 1839.

Summary of the Quarterly Reports, 1858. average. 1858 was an unhealthy year; and the birth-rate was slightly

below the average.

47,663 weddings were celebrated in the three months that ended on the 31st of December, and consequently 95,326 persons were married. The marriage-rate in the quarter was 1.930 per cent. per annum; so if the rate prevailed a year, more than 19 persons would marry to every 1000 living. The increase on the marriages in the corresponding quarter of 1857 is observable in every division except in the northern counties and in Wales.

Births.—The births of 157,962 children were registered in the quarter that ended on December 31st; so the births were at the annual rate of 3'198 per cent. or '017 over the average of the quarter, but below the rates of the corresponding quarters of the two previous years.

655,481 births were registered in the year 1858, and the birth-rate

was 3 . 557.

Increase of Population.—As 157,962 births and 118,553 deaths were registered, the natural increase of the population was 39,409, or 428 souls daily. The probable natural increase of population of the United King-

dom was 642 daily.*

7973, or, allowing for the numbers of undistinguished origin, about 9516 English emigrants,-103 daily,-sailed from the chief ports of the United Kingdom in the last three months of the year 1858; namely, 2834 to the United States, 6392 to the Australian colonies, 289 to other places.

The natural increase of the population of England in the whole year

was 205,825, or 564 daily.

113,972 emigrants sailed from the ports of the United Kingdom in the year 1858. Of the number, about 45,726 were of English origin; on an average, 125 English men and women left our shores daily.

Prices, the Weather, and Pauperism .- The funds rose and the prices of wheat continued to fall in the year 1858. Wheat was sold at 41s.9d. a quarter on an average during the last thirteen weeks of the year; and the prices in the thirteen corresponding weeks of 1856 and 1857 were 63s. 4d. and 52s. od. The fall was 34 per cent. in two years. Beef by the carcase was $5\frac{2}{8}d$., $5\frac{3}{8}d$., and $5\frac{2}{8}d$. per pound in the same seasons at Leadenhall and Newgate markets; mutton $5\frac{6}{8}d.$, $5\frac{6}{8}d.$, and $5\frac{4}{8}d.$ The average prices of beef were stationary; but the average prices of the higher qualities fell from $6\frac{3}{4}d$. to $6\frac{1}{2}d$.; the prices of the lower qualities rose from $3\frac{3}{4}d$. to 4d. Again, the prices of the best mutton by the carcase was $6\frac{3}{4}d$. at the beginning and the end of the period; but the price of the inferior mutton fell a halfpenny in the pound. Potatoes, which are so important an article of food, were sold at the rate of 100s., 140s., and 87s. 6d. a ton at the waterside market, Southwark, in the three last quarters of the years 1856-7-8. Potatoes have been 37 per cent. cheaper than they were in the corresponding weeks of 1857, and 12 per cent. cheaper than they were in 1856.

The weather in the last quarter was peculiar, and had considerable effect on the mortality. The average temperature of the three months at Greenwich was 43.8°, differing little (0.2°) from the average of the corresponding months of 87 years. But November was very cold; the mean temperature was 39.6°, and on the 24th of November the lowest temperature recorded was at many stations below 20°, that is 12° below the freezing point of water. The mean temperature has been lower in only twelve out of 87 Novembers. October and December were above the average temperature of those months. October and November were

dry; December moist. The fall of rain was deficient in each month; for the fall was only 3 1 in., and the deficiency in the quarter amounted to 4.5 in. The rain-fall was in the four last years 1855-58 respectively 23.5 in.; 21.5 in.; 21.4 in.; and 17.2 in. The 17.2 in. of rain in 1858 is the lowest rain-fall since 1840: in that year the rain-fall was 16'4 in. The effect of this deficiency on the wells, and the water supply of the people generally, must be borne in mind; for when the springs fail, stagnant water is sometimes drunk and employed for domestic use.

The Poor Law Board has favoured the Registrar General with returns. which are of great interest, and throw much light on the condition of the people. They require little explanation. We learn from them that on an average during the quarter that ended on December 31st last, 115,751 in-door paupers and 710,904 out-door paupers were relieved under the Poor Law; or 826,655 persons in the aggregate were in the receipt of relief. The average number of out-door paupers in the last thirteen weeks of the years 1856, 1857, and 1858 were 720,003, 736,814, and 710,004. The number in the thirteen weeks of the last year is less than the numbers in the corresponding weeks of the two preceding years. In the year 1857 there were on an average 4.40 in-door and out-door paupers to 100 of the population; in 1858 the proportion was nearly the same (4.51). The average numbers, after corrections for places making no returns, were 869,027 and 882,498. The first quarter of 1858 was a season of evident distress; and the paupers then receiving relief amounted on a weekly average to nearly a million (974,017). The distress continued in spring, but diminished as summer advanced.

England thus under her system of Poor Laws bestows on I in 22 of her population, taking one day with another, relief to the extent of about 4d. a day, making in the aggregate about 6,000,000l. a year. This is perhaps not more than 2 per cent. on the income of all classes.

Some foreign writers occasionally speak of England as a country "eaten up" by pauperism; they do not seem to be aware of the fact that in other countries—as in Ireland formerly—the absence of a legally ordained system of relief implies aggravation and not absence of distress. It would be equally correct to look upon England as a country of wealthy ratepayers overflowing with Christian charity.

State of the Public Health.—118,553 deaths were registered in the three months that ended on December 31st. After correcting for increase of population, this implies that the mortality was at the annual rate of 2'400 per cent., or 24 in 1000.

The mortality of the quarter in town districts was at the rate of 20 in 1000 living; in the districts of the country, of villages, and of small towns, the mortality was at the rate of 20 in 1000 living. Upon taking the four quarters, of which the returns are now complete, the result is, that the deaths of 449,656 persons were registered in the year 1858, and the annual mortality was at the rate of 23 in 1000; in the large town districts the annual rate was 26.55; in the other districts, 20 in 1000

The population of England is only enumerated every ten years, and the difficulty arising from our ignorance of the exact population of the several parts of the country is now sensibly felt. It is nearly eight years since the census was taken; and the growth of the population of the whole country has undergone considerable fluctuations during this important period. Particular towns are necessarily exposed to greater fluctuations than the whole kingdom; as they are peopled partly by indigenous inhabitants and partly by immigrants from the country. This rate (26.55 in 1000) may be taken as an under-estimate of the mortality of the towns; as 20 in 1000 is rather an over-estimate of the mortality in the country.

^{*} The Scotch returns have not yet been received; Irish births and deaths are not registered. The excess of births over deaths in England and Wales is raised 50 per cent, to represent approximately the excess in the United Kingdom.

The population of England and Wales in the middle of 1858 probably did not exceed 19,576,950*; and, at the rates of comparatively healthy districts, the deaths in the year should not have exceeded 349,398; the actual deaths amounted to 449,656, and the excess of 100,258 deaths is due chiefly to the fatal neglect of the sanitary arrangements which are required in every district, and are indispensable in densely peopled cities. These 100,258 deaths may be called unnatural deaths. This is a sad reckoning; but it is an under-statement of the facts.†

The Lords of Her Majesty's Privy Council having under the Public Health Act the power to institute local sanitary inquiries, the registrars of every sub-district in the kingdom have been requested to give immediate information of any reigning epidemic, and to insert in their notes numerical statements of the deaths from certain leading zymotic diseases. After some revision their returns have been printed in the form of notes (see Quarterly Return, No. 40., pp. 30–48.), suggesting inquiries which will no doubt be zealously prosecuted by Mr. Simon, the able health officer of

It will be observed that different diseases have prevailed in different localities; each group of population all over the country suffering more

TABLE XVIII.—ENGLAND. Annual Rate of Mortality per Cent. in Town and Country Districts in each Quarter of the Years 1848-1858.

. Her could not		ATION erated.	Quarters	A	NNUAL	RATE	of Mo	RTAL	TY per	Cent.	in eacl	h Quar	ter of t	he Year	rs
	1841	1851	ending	1848	1849	1850	1851	1852	1853	1854	1855	1856	1857	Mean 1848-57	1858
In 125 Districts and 23 Sub- districts com- prising the CHIEF TOWNS	6,838,069	8,247,017	March June - Sept Dec	3.084 2.514 2.310 2.416 2.579	2.546 4.193 2.491	2·229 2·207 2·327	2·452 2·347 2·490	2:410 2:570 2:460	2.830 2.530 2.307 2.639 2.575	2·463 3·049 2·680	2·409 2·066 2·291	2·389 2·265 2·353	2·492 2·682	2·427 2·581 2·483	2.895 2.480 2.375 2.895 2.655
In the remaining Districts and Sub-districts of England and Wales comprising chiefly SMALL TOWNS and COUNTRY PARISHES -	9,076,079	9,680,592	Year - (March June - Sept Dec	2·075 2·553 2·148 1·752 1·853	2·111 2·222 2·170	1:900 2:139 1:995 1:670	1·948 2·128 2·028 1·734	1.986 2.124 2.059 1.852	2.033	2:176 1:985 1:857	2.063 2.710 2.136 1.634	1.771	1·877 2·016 1·875 1·701	2°241 2°046 1°759	2.006 2.399 1.974 1.668 1.982

In deducing the results given in this Table the population up to 1855 has been increased in the same ratio which was observed between 1841-51. For the years 1856, 1857, and 1858, the increase of population has been obtained by taking the excess of Births over Deaths.

Names of the 125 Districts and 23 Sub-districts comprising the chief towns:—All the Districts of London (36), and Kingston, Richmond, Gravesend, Medway, East and West Maidstone Sub-districts, Canterbury, Thanet, Hastings, Brighton, Portsea Island, Alverstoke (Gosport), Southampton, Winchester Sub-district, Reading, Brentford, Edmonton, St. Clement Sub-district, Headington, Oxford, Northampton, Cambridge, West Ham, Colchester, Bury St. Edmunds, Ipswich, Yarmouth, Norwich, King's Lynn, Melksham, Salisbury, Exeter, Plymouth, East Stonehouse, Stoke Damerel (Devonport), Redruth, Bath, Bedminster Sub-district, Bristol, Clifton, St. Nicholas Gloucester, and St. John the Baptist Gloucester Sub-districts, Cheltenham, Hereford City Sub-district, Shrewsbury, Wolstanton, Stoke-upon-Trent, Wolverhampton, Walsall, West Bromwich, Dudley, Stourbridge, Worcester, Birmingham, Aston, Coventry, Leicester, Lincoln Home Sub-district, Radford, Nottingham, Derby, Stockport, East Macclesfield, West Macclesfield, and Sutton Sub-districts, Chester Castle and Chester Cathedral Sub-districts (Great Boughton), Liverpool, West Derby, Wigan, Warrington, Leigh, Bolton, Bury, Barton-upon-Irwell, Chorlton, Salford, Manchester, Ashton, Oldham, Rochdale, Haslingden, Burnley, Blackburn, Preston, Todmorden, Huddersfield, Halifax, Bradford, Hunslet, Leeds, Dewsbury, Wakefield, Ecclesall Bierlow, Sheffield, Bootham, Micklegate, and Walmgate Sub-districts (York), Sculcoates, Hull, St. Oswald and St. Nicholas Sub-districts (Durham). Houghton-le-Spring, Sunderland, South Shields, Gateshead, Newcastle-upon-Tyne, Tynemouth, St. Cuthbert and St. Mary Sub-districts (Carlisle), Merthyr Tydfil, and Llangafelach and Swansea Sub-districts (Swansea).

The three months January, February, March, contain 90, in leap year 91 days; the three months April, May, June, 91 days; each of the last two quarters of the year, 92 days. For this inequality a correction has been made in the calculations, also for the difference between 365 and 365 25636 days, and 366 and 365 25636 days in leap year.

or less from its local disease, or enjoying unusual exemption. The excess of the mortality is most frequently referred to scarlatina and to the epidemic of diphtheria, which began on the southern coast, and has during the year spread over the North Midland and the Northern Counties. Some districts exhibit no increase of mortality. Thus in North Devon, among 105,692 people only 465 deaths took place in three months, and the mortality was at the annual rate of only 18 in 1000. In the sixty-three healthy districts the mortality of the quarter was at the rate of 19 in 1000 annually. In Glendale 39 in 14,348 people died in the quarter, and the mortality was generally low in the surrounding districts of

TABLE XIX.—The AVERAGE PRICES of CONSOLS, of WHEAT, of MEAT, and of POTATOES; also the AVERAGE QUANTITY of WHEAT sold and imported Weekly, in each of the Years, and in each Quarter of the Years 1852-1858.

	Average	Average	WHEAT sold in the	WHEAT and Wheat Flour			Average	Prices	of	
_	Price of	Price of WHEAT per	290 Cities and Towns in England and Wales making	entered for Home Consumption at Chief Ports	at Le Mark	MEAT adenhal tets (by	per lb. l and New the Carca	gate se).	POTAT (York Reper I at Water	gents)
	CONSOLS	Quarter in	Returns.	of Great Britain.	ВЕ	EF.	Mur	TON.	Mark Southv	et,
	(for Money).	England and Wales.	Average N Quarters		Range of Prices.	Mean.	Range of Prices.	Mean.	Range of Prices.	Mean.
YEARS.	£	s. d.	Qrs.	Qrs.	d.	d.	d.	d.	8.	s. d.
1852 - 1853 - 1854 - 1855 - 1856 - 1857 - 1858 -	99\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	40 10 52 11 72 5 74 8 69 2 56 5 44 3	93,354 86,191 75,259 101,057 97,055 100,866 100,076	55,749 89,450 68,625 46,190 83,062 61,115 71,997	$\begin{array}{c} 3\frac{1}{4} - 5 \\ 4 - 5\frac{3}{4} \\ 4\frac{1}{2} - 6\frac{1}{2} \\ 4\frac{6}{8} - 6\frac{5}{8} \\ 4\frac{1}{4} - 6\frac{1}{2} \\ 4\frac{1}{4} - 6\frac{1}{4} \\ 4\frac{1}{4} - 6\frac{1}{4} \end{array}$	4 4 5 5 5 5 5 5 5 5	$\begin{array}{c} 4 & -5\frac{3}{4} \\ 4\frac{3}{4} & 7 \\ 4\frac{3}{4} & 7 \\ 4\frac{3}{4} & 6\frac{3}{4} \\ 4\frac{3}{4} & 6\frac{3}{4} \\ 4\frac{3}{4} & 7 \\ 4\frac{1}{2} & 6\frac{3}{4} \end{array}$	4 5 5 5 5 5 5 5 5	79—103 116—145 107—131 94—107 78— 93 108—134 104—136	91 130.6 119 100.6 85.6 120.8 120
QUARTERS ending										
1852: March June Sept Dec	$\begin{array}{c} 97\frac{1}{4} \\ 99\frac{5}{8} \\ 100 \\ 100\frac{5}{8} \end{array}$	40 10 40 10 41 2 40 5	95,532 87,949 78,712 111,224	27,540 54,675 67,912 72,870	$ 3\frac{1}{4} - 5 \\ 3\frac{1}{4} - 4\frac{3}{4} \\ 3\frac{1}{4} - 5 \\ 3 - 5 $	4 1 8 4 4 1 8 4	$ 3\frac{3}{4} - 5\frac{3}{4} \\ 3\frac{3}{4} - 5\frac{1}{4} \\ 4 - 6 \\ 4\frac{1}{4} - 6\frac{1}{4} $	4 ³ / ₄ 4 ¹ / ₂ 5 5 ¹ / ₄	60— 80 85—110 80—100 90—120	70 97·6- 90 105
1853 : March - June - Sept Dec	$99\frac{5}{8}$ $100\frac{4}{8}$ 97 $93\frac{6}{8}$	45 7 44 6 51 10 69 10	95,115 84,559 86,087 79,002	63,530 82,623 120,020 91,627	$ 3\frac{3}{4} - 5\frac{1}{4} \\ 4 - 5\frac{3}{4} \\ 4\frac{1}{4} - 6 \\ 4 - 6 $	4 ¹ / ₂ 4 ⁷ / ₈ 1 5 5	$4\frac{3}{4} - 6\frac{3}{4}$ $5 - 6\frac{3}{4}$ $5 - 7\frac{1}{4}$ $4\frac{1}{4} - 7$	5 5 6 5 5 6 5 5	110—145 110—145 110—125 135—165	127.6 127.6 117.6 150
1854:— March - June - Sept Dec	91 885 937 938 938	79 6 78 4 63 10 68 0	60,022 55,842 56,389 128,783	103,519 103,831 48,135 19,513	$4\frac{1}{4} - 6\frac{1}{4}$ $4\frac{1}{2} - 6\frac{1}{4}$ $4\frac{3}{4} - 6\frac{3}{4}$ $4\frac{1}{2} - 6\frac{3}{4}$	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	$\begin{array}{c} 4\frac{1}{2} - 7 \\ 4\frac{3}{4} - 6\frac{3}{4} \\ 5 - 7 \\ 5 - 7 \end{array}$	53	120—160 137—172 75— 85 95—105	140 155 80 100
1855:— March - June - Sept Dec	$\begin{array}{c} 91\frac{7}{8} \\ 90\frac{6}{8} \\ 90\frac{6}{8} \\ 88\frac{1}{4} \end{array}$	69 11 73 4 76 1 79 4	88,000 94,791 94,545 126,893	33,821 57,068 51,511 42,358	$4\frac{3}{4} - 6\frac{1}{2}$ $4\frac{1}{2} - 6\frac{1}{2}$ $5 - 6\frac{3}{4}$ $4\frac{3}{4} - 6\frac{3}{4}$	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	$4\frac{3}{4} - 6\frac{1}{2}$ $4\frac{3}{4} - 6\frac{3}{4}$ $5 - 7$ $4\frac{3}{4} - 6\frac{3}{4}$		105—120 110—130 69— 79 90—100	112.6 120 74 95
1856:— March - June - Sept Dec	$\begin{array}{c} 90\frac{6}{8} \\ 93\frac{3}{8} \\ 95 \\ 92\frac{6}{8} \end{array}$	72 4 68 8 72 3 63 4	92,152 104,952 78,208 112,909	48,018 63,093 117,807 103,328	$4\frac{1}{4} - 6\frac{1}{4}$ $4\frac{1}{4} - 6\frac{1}{4}$ $4\frac{1}{2} - 6\frac{1}{2}$ $3\frac{3}{4} - 6\frac{3}{4}$	514 514 514 514 514	$ 4\frac{1}{4} - 6\frac{1}{2} \\ 5 - 6\frac{3}{4} \\ 5 - 7 \\ 4\frac{3}{4} - 6\frac{3}{4} $	53878 578 6534	78— 93 70— 90 75— 80 90—110	86 80 78 100
1857:— March - June - Sept Dec	$\begin{array}{c} 93\frac{4}{8} \\ 93\frac{3}{8} \\ 90\frac{7}{8} \\ 89\frac{1}{2} \end{array}$	56 10 56 9 59 11 52 0	102,433 107,850 92,156 101,025	51,310 42,178 55,384 95,587	$4\frac{1}{2} - 6\frac{3}{4}$ $4\frac{1}{4} - 6\frac{1}{2}$ $4\frac{1}{4} - 6\frac{1}{2}$ $4\frac{1}{4} - 6\frac{1}{2}$	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	$\begin{array}{c} 5\frac{1}{4} - 7\frac{1}{4} \\ 4\frac{3}{4} - 6\frac{3}{4} \\ 4\frac{1}{2} - 7 \\ 4\frac{1}{2} - 7 \end{array}$	614 543 543 543	100—120 105—150 95—115 130—150	110 127·6 105 140
1858 :— March - June - Sept Dec	$\begin{array}{c} 96\frac{1}{8} \\ 97\frac{1}{8} \\ 96\frac{4}{8} \\ 98\frac{1}{4} \end{array}$	46 5 44 1 44 7 41 9	99,604 92,955 97,307 110,437	64,652 86,551 82,373 54,413	$\begin{array}{c} 4\frac{1}{4} - 6\frac{1}{4} \\ 4\frac{1}{4} - 6 \\ 4\frac{1}{4} - 6\frac{1}{4} \\ 4 - 6\frac{1}{2} \end{array}$	51415 51415 51415 51415	$\begin{array}{c} 4\frac{3}{4} - 7 \\ 4\frac{1}{2} - 6\frac{1}{2} \\ 4\frac{1}{2} - 6\frac{3}{4} \\ 4\frac{1}{4} - 6\frac{3}{4} \end{array}$	5 7 8	130—175 140—185 65— 90 80— 95	152.6 162.6 77.6 87.6

^{*} This result is obtained by assuming that the population has increased in the towns and in the country at the same rates since 1851 as in the ten previous years (1841-51); by taking the excess of births registered over deaths in the whole country, the population is 19,523,000.

[†] If the ages and the mortality of the population of England had been the same as the ages and the mortality of the 63 healthy districts, the annual death-rate of England would not exceed 17.85 in 1000 living.

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Northumberland. The Morpeth district is an exception; or rather the Bedlington sub-district of Morpeth, for there 96 of the deaths occurred leaving only 40 as the deaths in Morpeth itself. In Bedlington 15 persons died of fever; diarrhæa, bronchitis, and diphtheria prevailed. The mortality in Bedlington progressively rose from 23 in 1000 in the year 1856 to 27 in 1000 in 1857, and to 35 in 1000 in the year 1858, according to the calculation of Mr. Woodman, the clerk to the Board of Health. "From this it appears," he adds, "that at Bedlington the death-rate is "steadily increasing year by year; that the poison from filth and cess-"pools, and the want of water, are increasing, and producing their "certain results." Bedlington neglects sanitary measures, and sits tranquilly over its cesspools, which send up disease among the inhabitants. Morpeth has main sewers as well as a water supply; fever has nearly disappeared, and cholera has been averted, although yet much remains to be done to complete the sanitary defences of the place.

The mortality in many of the towns has been excessively high; and this has been notably the case in Brighton, Reading, Windsor, Great

TABLE XX.-MEAN ANNUAL VALUE OF METEOROLOGICAL ELEMENTS

***************************************	the		Baron	neter.		Т	hermo	meter.	400		Me. Temper	
NAMES OF STATIONS.	Elevation in feet above Sea level.	Latitude.	Mean Pressure reduced to the level of the Sea.	Mean Monthly Range.	Mean of the highest Monthly Readings.	Mean of the lowest Monthly Readings.	Mean Monthly Range of Readings.	Mean of all the highest Daily Readings.	Mean of all the lowest Daily Readings.	Mean Daily Range.	Of the Air.	Of the Dew-point.
Guernsey	123	0 / // 49 33 0 N.	in. 30.014	in. 0.966	o 64*4	o 40·2	o 24·2	o 56·3	0 47.4	0 8.9	o 50·7	o 45·1
Helston	106 55 69 150 34	50 7 0 50 17 0 50 32 0 50 34 0 50 35 0 50 0 0 50 45 0	30·035 29·967 30·007 30·009 30·063 30·023 30·007 30·008 30·006	1.027 1.013 1.052 1.005 1.030 1.016 0.981 	70·3 68·5 65·8 69·5 65·8 69·1 63·3 64·6 68·5 68·0	38.6 33.7 34.9 34.8 38.2 35.1 36.9 32.9 30.5 34.2	31·7 34·8 30·9 34·7 27·6 34·0 26·4 31·7 38·0 33·8	61.0 56.5 57.1 58.2 56.6 57.6 55.9 57.8 56.6 57.5	47.5 45.5 44.5 44.1 47.0 43.2 45.0 41.7 40.6 44.0	13.5 11.0 12.6 14.1 9.6 14.4 10.9 12.1 16.0 13.5	53.1 51.3 50.7 50.8 51.8 49.9 50.2 47.3 48.4 50.9	49·2 45·1 44·5 44·2 47·0 44·9 45·5 42·7 43·4 45·7
Clifton	228 159 10 126 250 290 370 	51 28 0 51 28 38 51 30 0 51 49 0 51 49 0 51 45 0 51 52 0	29·995 30·003 30·002 29·972 29·919 30·019 30·092 30·005 30·011 30·019 29·968 29·970 30·011 29·922	1.078 1.075 1.075 1.054 1.033 1.049 1.030 1.073 1.051 1.049 1.049 1.086 1.086 1.083 1.084	67.6 72.6 72.0 70.5 70.9 68.3 67.8 71.9 71.5 72.9 69.1 72.9 73.6 69.9 71.0	31.6 30.7 32.1 37.7 32.8 36.8 36.0 32.5 30.6 33.0 29.5 29.6 31.1 28.2 30.6	36·0 41·9 39·9 32·8 38·1 31·5 31·8 39·4 40·9 39·9 39·9 43·3 42·5 41·7 40·4	57·3 59·1 59·0 58·7 58·3 56·9 56·0 58·4 57·4 58·6 57·0 60·1 57·1 56·2 58·1	42·3 41·4 41·7 45·1 41·8 43·8 44·6 41·5 40·2 42·8 39·7 40·5 41·1 39·5 41·8	15.0 17.7 17.3 13.6 16.5 13.1 11.4 16.9 17.2 15.7 17.3 19.6 16.0 16.9 16.3	48.8 49.1 49.2 50.8 49.8 50.5 50.6 49.6 48.9 50.2 49.3 49.8 49.8 49.7	43·2 43·9 42·5 43·5 44·0 44·4 42·1 43·3 44·1 44·1 44·6 42·5 44·6 44·6 44·0
Royston	271 100 100 420 39 190 260 100 39 181	52 2 40 52 7 0 52 8 0 52 4 0 52 7 0 52 37 0 52 37 0 52 54 52 52 56 0 52 57 10 52 57 30	30·021 30·002 29·989 30·033 30·007 30·011 30·002 29·951 29·970 30·002 30·001	1.075 1.105 1.113 1.091 1.107 1.118 1.176 1.154 1.136 1.111 1.194	71.9 70.9 72.3 71.2 68.7 69.0 68.1 70.8 66.2 61.8 72.5	30°0 29°9 32°2 30°0 26°7 30°9 32°4 27°6 30°0 28°4 28°3	41.9 41.0 40.1 41.2 42.0 38.1 35.7 43.2 36.2 33.4 44.2	57.5 57.2 59.1 58.5 57.1 56.4 55.1 56.6 54.9 55.2 58.4	40°7 40°7 42°9 40°4 40°3 41°5 42°3 39°7 40°9 40°9 40°2	16.8 16.5 16.2 18.1 16.8 14.9 12.8 16.9 14.0 14.3 18.2	48·9 49·9 50·3 49·4 48·3 48·9 48·2 47·1 48·3 48·4 48·1	42.6 42.8 42.8 44.0 44.8 43.5 42.0 43.1 42.0 43.0 41.5
Hawarden	260 37 123 115 138 381 50	53 11 15 53 24 48 53 29 0 53 40 50 53 48 0 53 50 43 53 57 30	29.932 30.034 29.982 29.997 29.983 29.946 29.958	1.154 1.126 1.239 1.289 1.247 1.225 1.208	62.0 65.8 71.5 70.9 71.6 66.6 64.4	33·3 37·8 29·3 28·2 31·1 30·3 29·2	28.7 28.0 42.2 42.7 40.5 36.3 35.2	55°1 56°1 57°3 57°1 57°5 54°3 53°2	43.0 46.0 40.7 40.5 41.2 40.7 40.1	12.0 10.1 16.6 16.7 16.3 13.6 13.1	47.0 49.6 48.5 48.3 49.3 46.9 46.7	43·2 43·3 42·3 43·5 41·6 41·5 43·4
Scarborough Isle of Man Allenheads	91 103 74 1360	54 17 0 54 6 0 54 56 43 54 48 44	29.983 29.987 29.934 29.918	1:163 1:243 1:250 1:192	61.9 63.9 69.7 63.4	34.6 34.0 31.5 28.9	27·3 29·9 38·2 34·5	51·1 55·4 57·0 51·1	41.9 42.6 40.8 38.0	9·2 12·8 16·2 13·1	47.4 48.3 48.4 43.5	45.3 45.2 42.3 39.1
North Shields	124	55 0 7	30.035	1.270	64.0	30.4	33.6	52.3	40.2	12.1	46.1	42.2

Yarmouth, Melksham; Exeter, Plymouth, and the other towns of South Devon; Bath and the towns of Somersetshire; Bristol, Gloucester, and Cheltenham; Newcastle-under-Lyne and the Pottery Districts; Wolverhampton and Dudley; Birmingham and Stratford-on-Avon; Leicester, Lincoln, Nottingham, and Derby; Liverpool, Manchester, and the manufacturing towns of Lancashire; Keighley, Halifax, Bradford, and Leeds. In Sheffield 1018 persons died in 92 days, out of a population amounting in 1851 to 103,626. Certain sanitary works have been carried out in Lancaster, and only 178 persons died there in the same time, out of a population of 34,660. Multiplying the deaths and the population of Lancaster by three, it is seen that the deaths were in the proportion of 534 to 103,980, while in Sheffield the deaths were 1018 to 103,626! Can nothing be done to render the sanitary arrangements of Sheffield at least as satisfactory as those of Lancaster?

Upon examining all the facts, it is evident that the excessive mortality of the year 1858 may be traced, partly to the pressure in the early part of the year on the poor in the manufacturing districts, partly to the

for the Year 1858. By James Glaisher, Esq., F.R.S.

	Jo	r in	ght of Satu-	y of 00).	Cubic		,	Wind.	TARK!	10.042		Rai	n.	TOTAL SANDARDA DE SANDARDA
	Force o	Vapour Air.	Veig	fumidit tion=1	ಜ		Relat	ive Pr	oportio	on of	Cloud.	it fell.		eran of analysis
botto	Mean Elastic F Vapour.	Mean Weight of a Cubic Foot of	Mean additional V Vapour required ration.	Mean degree of Humidity of the Air (Saturation=100)	Mean Weight of Foot of Air.	Mean estimated Strength.	N.	Е.	s.	w.	Mean Amount of Cloud.	Number of Days i	Amount collected.	NAMES of STATIONS.
	in. 311	grs. 3·7	grs. 0.8	82	grs. 540	1.9	9	6	7	8	4.7	days. 143	in. 25.6	Guernsey.
	*344 *308 *302 *298 *338 *309 *319 *293 *292 *317	3.9 3.5 3.4 4.2 3.8 3.5 3.6 3.3 3.3	0.5 0.7 0.9 1.0 0.6 0.8 0.8 0.6 0.7	84 80 81 79 84 84 84 88 84 82	540 543 543 541 541 542 545 540 543	2.0 2.2 0.8 1.7 0.9 1.0 1.1 0.5 1.6	6 8 10 9 5 7 6 8 5	8 6 8 5 9 8 8 8 9	7 8 7 9 6 7 6 7 6 8	9 8 5 7 10 10 9 9 8 8	5.4 6.8 6.5 6.4 6.0 5.5 4.0	162 195 168 211 143 130 107 127 176 175	34.5 36.2 24.6 32.2 24.8 22.3 18.8 19.9 36.6 33.0	Helston. Truro. Teignmouth. Exeter. Ventnor. Osborne. Worthing. Fairlight. Little Bridy. Barnstaple.
	*291 *302 *285 *295 *301 *306 *280 *291 *313 *313 *283 *310 *285 *297	3·3 3·4 3·2 3·3 3·3 3·4 3·2 3·3 3·6 3·5 3·5 3·5 3·5 3·5 3·5 3·5 3·5 3·5 3·5	0.8 0.8 0.9 1.1 0.9 0.9 1.1 0.9 0.6 0.9 0.8 0.9	81 82 78 77 80 80 76 86 81 84 83 79 76 81	542 544 543 543 542 545 545 542 546 541 542 539 540 521 543	0.8 	7 6 7 10 6 7 8 6 8	7 7 6 7 6 8 8 8 5 7 9 6	6 6 8 6 5 .6 .6 .8 7 7	9 10 9 10 9 10 10 9 10 10 6 12	5.9 5.6 6.2 5.2 5.5 5.0 5.3 5.8 6.4	157 110 112 111 122 130 131 107 135 114 120 95 119 144 163	24.3 17.8 17.2 15.7 18.2 18.1 18.4 16.6 21.8 17.4 15.7 21.5	Clifton. Lewisham. Royal Observ., Greenwich. St. Thomas's Hospital. St. John's Wood. Guildhall. Whitehall. Camden Town. Battersea. Paddington. Rose Hill. Hartwell House. Hartwell Rectory. Great Berkhampstead. Gloucester.
	*277 *289 *289 *301 *309 *296 *267 *296 *275 *290 *272	3·2 3·2 3·4 3·4 3·3 3·1 3·1 3·1 3·3 3·0	0'9 0'9 1'1 0'8 0'4 0'8 0'8 0'9 0'9 0'8 1'0	74 79 76 82 88 73 91 81 79 82 77	541 544 542 541 539 545 543 541 542 547 543	0.9 0.6 2.0 i.8 i.2 0.3	6 9 4 4 6 5 7 7	8 6 8 8 7 8 3 5	7 6 8 9 10 9 8 	9 9 10 9 8 8 11 	5.5 5.6 6.3 6.3 6.1 5.4 6.3 5.3	213 125 130 136 179 111 143 123 	20.5 17.7 20.2 21.9 36.7 20.2 23.7 20.5 20.8 18.9 18.9	Royston. Cardington. Bedford. Hereford. Lampeter. Norwieh. Grantham. Belvoir Castle. Derby. Holkham. Nottingham.
	*290 *290 *278 *295 *272 *282 *293	3·3 3·3 3·2 3·3 3·1 3·2 3·3	0.6 0.9 0.9 0.7 1.1 0.6 0.5	84 79 81 84 75 84 89	541 545 544 545 543 540 547	1.8 i.7 1.6 1.0	 5 6 5 7 5	7 6 7 6 9	9 8 8 6 6	9 10 10 11 11	6.6 6.7 6.9 6.6 6.8 6.5	125 140 160 173 188 133	22.0 24.3 28.6 25.3 39.2 20.6	Hawarden. Liverpool. Manchester. Wakefield. Leeds. Stonyhurst. York.
	*303 *310 *281 *249	3·8 3·5 3·2 2·8	0°3 0°4 0°8 0°6	91 89 79 84	545 543 544 524	i:1	6 6 5 6	5 6 6 5	8 8 6 6	11 10 13 13	5·4 4·4 5·1	143 166 225	33.0 21.8 37.2	Scarborough. Isle of Man. Bywell. Allenheads.
	•278	3.1	0.5	87	545	1.7	7	4	7	10	5.4	144	40.9	North Shields.

Fourth Quarter .- October, November, December.

extreme cold of November, partly to defective supplies of pure water, and partly to the prevalence of the epidemic of diphtheria.

We must not shut our eyes to the fact, that one great nuisance perpetually increases as the population increases, and that no effectual provision has yet been made for getting rid of it from human dwellings. It is referred to several times in the notes of the registrars in towns which have been most heavily afflicted. To take one instance:—the deaths (386) exceeded the births (375) in St. Peter's, Brighton; the

"The inhabitants of this sub-district are chiefly artizans, mechanics, and the labouring poor. In many of their dwellings a very insufficient supply of water has been available to them, owing to the dryness of the weather in the first portion of the quarter, the water in the wells in use having been very low. There is no effectual drainage attached to their dwellings, and the cesspool system is in general use."

registrar enumerates the prevailing zymotic diseases, and then observes:—

Our towns have not had the advantage generally of being led by such enlightened and energetic men as the late Dean of Ely, and have consequently, notwithstanding some efforts, left the greatest nuisance of all still subsisting. Yet the removal of this nuisance is the one thing needful; in sanitary reform it is "the root of the matter."

Liebig, the great agricultural chemist of Europe, has recently reminded us of English guano as a substitute for foreign supplies. "I am firmly of opinion," he says, "that if English wishes to remain an agricultural "country she must use as manure the nightsoil and similar residues produced in large cities." Now England is a great agricultural country,

TABLE XXI.—MEAN ANNUAL VALUE OF METEOROLOGICAL ELEMENTS

		Baron	meter.			Therm	ometer.			Jo e
YEARS.	PARALLELS of LATITUDE.	Mean Reading reduced to Level of Sea.	Mean of Monthly Ranges.	Mean of the highest Monthly Readings.	Wean of the lowest Monthly Readings.	Mean Monthly Range of Readings.	Mean of all the highest Daily Readings.	Mean of all the lowest Daily Readings.	Mean Daily Range.	Mean Temperature the Air.
1856 -	Between the latitudes,— 49° and 50° 50° and 51° 51° and 52° 52° and 58° 54° and 55° 56° and 56° 56° and 56° 56° and 58° 57° and 58°	in. 29.947 29.944 29.937 29.930 29.919 29.855 29.879 29.873	in. 1.114 1.098 1.146 1.159 1.102 1.199 1.245 1.178 1.243	62·8 66·1 69·0 67·9 65·9 61·3 63·3 61·1 60·4	34.4 34.9 30.6 28.8 30.2 33.1 27.5 29.8 33.3	21·4 31·1 38·4 38·8 35·7 28·2 35·8 31·3 27·1	55.6 57.9 56.9 56.3 55.1 52.0 52.2 52.3 51.0	48·3 45·5 42·2 41·3 42·2 42·3 39·3 39·7 41·5	7·3 12·4 14·7 15·0 13·0 9·7 12·9 12·6 9·5	50·5 49·8 48·8 48·3 47·9 46·0 45·4 45·6 45·9
1857 -	49° and 50° 50° and 51° 51° and 52° 52° and 53° 55° and 54° 56° and 57° 56° and 57° 57° and 58° 58° and 59° 58° and 59°	29·977 30·017 29·992 29·972 29·968 29·944 29·870 29·899 29·742	1.044 1.075 1.093 1.122 1.179 1.147 1.228 1.235 1.220	64·5 66·8 69·9 69·0 67·2 63·6 62·9 62·5	42.5 36.4 33.2 30.9 32.4 33.3 32.6 31.3	22.0 30.4 36.7 38.1 34.8 30.3 30.3 31.2	57.6 58.9 59.2 58.2 57.2 54.0 54.1 52.9	49.0 46.4 43.8 42.5 44.0 43.4 42.5 41.8	8.6 12.5 15.4 15.7 13.2 10.6 11.6 11.1	51.9 52.1 50.8 49.9 49.9 47.6 48.0 46.9 47.8
1858 -	49° and 50° 50° and 51° 51° and 52° 52° and 53° 53° and 54° 54° and 55°	30°014 30°014 29°994 29°977 29°990 29°971	0.966 1.023 1.058 1.139 1.212 1.223	64·4 67·2 70·6 67·1 67·5 64·5	40·2 35·0 33·0 28·8 31·3 31·9	24·2 32·2 37·6 38·3 36·2 32·6	56·3 57·0 57·8 57·0 55·8 53·3	47·4 44·3 42·5 41·3 41·6 40·7	8.9 12.7 15.3 15.7 14.2 12.6	50°7 50°4 49°9 48°6 46°6 46°7
1856 -	Between the latitudes,—	29.937	1.136	65.5	33*2	32.3	55*6	43.6	12.0	48.6
1857 -	49° and 55°	29.985	1.100	67.2	35*2	32.0	58.0	45.2	12.8	50.8
1858 -	49° and 55°	29.993	1.104	66.9	33.4	33.5	56.5	43.0	13.5	48'8
1856 -		29.867	1.222	61.6	30.2	31.4	51.8	40.2	11.7	45'6
1857 -	55° and 58°	29.885	1.535	62.7	32.0	30.7	53.5	42.1	11.4	47.5

and she will remain a great agricultural country to the end of time. And before the supplies of Peruvian guano fail in our imports, she must bring the article which may be called English guano into the field. It is poison alike in the cesspool of large cities and in the middens of cottages in the country; it is manure in the soil. The land requires it; the houses must get rid of it.

Byron, to justify his plain speaking, quotes a sentence from Voltaire: "La pudeur s'est enfuite des cœurs, et s'est refugiée sur les lèvres." Without pleading guilty to this charge, it must be admitted that while the cesspool nuisance has been increasing every year in all the cities of Europe, from Petersburgh to Paris, from Vienna and Venice to London and Liverpool, it suggests ideas so disagreeable that it is rarely mentioned. The time has, however, come when the thing must be met. It cannot be evaded. Scientific research has traced the propagation of typhoid fever to this source. It is the great nidus of the cholera poison. The very aggravated disease, diphtheria, which infests this country, first assumed the epidemic form in France. And every traveller knows, that if the perfumery of France is exquisite; if her cuisine is the despair of English gourmands; if her arts are admirable; if her society is charming; her cabinets are everywhere detestable. They give an Englishman literally mal à la gorge. And French guano was apparently the slime on which the diphtheria,—whether it is a new or old form of disease,—whether it is a parasitic or a simple zymotic malady,—assumed its epidemic character. In England it has unhappily found a congenial home; and all

in the Years 1856, 1857, and 1858, for different Parallels of Latitude.

jo e	Jo e	Air.	ight	of Air.	ıbie	ngth	nd.	Ra	in.		
Mean Temperature the Dew-point.	Mean Elastic Force Vapour.	Mean Weight of Vapour in a Cubic Foot of Air.	Mean additional Weight of Vapour required for Saturation.	Mean Degree of Humidity of the A	Mean Weight of a Cubic Foot of Air.	MeanEstimatedStrength of Wind.	Mean Amount of Cloud	Number of Days it fell.	Amount collected.	PARALLELS of LATITUDE.	YEARS.
0 45.7 45.5 43.8 43.0 42.7 42.1 40.5 40.1 40.3	in. *315 *314 *293 *287 *293 *275 *258 *256 *256	grs. 3.6 3.6 3.4 3.3 3.2 3.1 3.0 3.0 2.9	grs. 0·7 0·9 0·8 0·8 0·7 0·5 0·7 0·7	84 82 83 83 83 87 84 81 82	grs. 541 542 540 543 543 544 543 546 546	2:0 1:5 1:0 1:0 1:4 1:9 1:1 1:5 0:8	5.0 3.4 6.6 6.7 7.4 6.6 7.1 5.9 7.0	days. 152 162 159 162 163 168 147 150 200	in. 34.0 33.7 24.4 26.7 28.9 38.2 27.2 31.0 26.3	Between the latitudes,— 49° and 50° — 50° and 51° 51° and 52° 52° and 53° 53° and 54° 54° and 55° 55° and 56° 56° and 57° 57° and 58°	1856.
46.1 47.8 45.3 45.0 44.2 44.1 42.5 40.9	*326 *344 *314 *311 *301 *299 *281 *268	3·7 3·9 3·5 3·5 3·4 3·4 3·2 3·0	0.8 0.7 0.9 0.7 0.8 0.5 0.7 0.8	82 86 83 84 84 88 82 81	539 540 540 542 543 537 543 539	1.6 1.0 1.1 0.9 1.2 1.8 1.6 0.7	4.7 5.5 6.4 6.5 7.2 6.4 5.8 6.6	151 166 155 164 171 192 135 206	31.7 33.7 25.0 26.7 32.2 38.9 22.2 29.2 29.2	49° and 50° 50° and 51° 51° and 52° 52° and 53° 53° and 54° 54° and 55° 56° and 57° 57° and 58° 58° and 59°	1857.
45·1 45·1 43·9 43·1 42·7 42·2	*301 *301 *287 *278 *274 *279	3.7 3.6 3.4 3.2 3.2 3.1	0.8 0.7 0.8 0.7 0.8 0.4	82 83 80 80 80 67	540 542 542 543 543 539	1·9 1·2 1·2 1·1 1·5 1·5	4·7 5·8 5·1 6·3 6·5 5·0	143 157 161 145 153 169	25.6 27.7 19.3 27.2 26.6 33.2	49° and 50° 50° and 51° 51° and 52° 52° and 53° 53° and 54° 54° and 55°	1858-
43.8	- 296	3.4	0.7	84	541	_	5.9	161	31.0	Between the latitudes,—	1856.
45.7	*319	3.6	0.8	84	540	_	6.0	161	27.4	49° and 55°	1857.
43.7	*287	3.4	0.7	79	542	-	5.6	155	26.6	49° and 55°	1858.
40°3 41°7	*257 *275	3·1 3·0	0.4	82 82	545 541	-	6.2	166 171	28°2 25°7	Between the latitudes,— 55° and 58° — — 55° and 58° — —	1856. 1857.

over the continent it spreads under still more favourable conditions. In Munich, whence Liebig warns England of her danger, adorned as the Bavarian capital is with a Glyptothek, a Pinacothek, and other wonders of Bavarian art, delicate ladies are persecuted in the hotels by ammoniacal emanations.

Science has demonstrated that fermenting human excrement is a poison in and near human dwellings; and chemistry has shown that the same elements in other states become grasses, grain, fruits, and flowers, by the natural magic of the earth. Why then, it may be asked, have none of the enlightened despotisms of the continent emptied the cesspools of their subjects by absolute decrees? Why have they not conferred this boon on the native agriculture which they so assiduously protect? Neither want of knowledge, nor probably of good-will, has paralyzed administrative action, but rather want of power. Despotism is only almighty in its powers of doing mischief. It can set the world in flames; it can shed torrents of blood; but it cannot regenerate nations. It cannot purify the people it has subjugated. Otherwise a few lines in the first Code Napoleon might have abolished French cesspools, and have directed the French guano to be deposited every day in the French soil, and by such a law have conferred more benefit on France than she derives from ninetenths of the articles in that famous Digest.

Ancient legislation did not shrink from plainly dealing with the most indelicate matters where human life was at stake, and where the physical purity of mankind was concerned. Thus, in the laws which we have been taught were delivered by Divine inspiration, the following passage is found:—"Thou shalt have a place also without the camp, whither thou "shalt go forth abroad: And thou shalt have a paddle upon thy weapon; and it shall be, cumque sederis thou shalt dig therewith, and shalt turn back and cover that which cometh from thee: For the Lord thy God walketh in the midst of thy camp, to deliver thee, and to give up thine enemies before thee; therefore shall thy camp be holy: that He see no unclean thing in thee, and turn away from thee." (Deuteronomy, xxiii. 12th, 13th, 14th.)

This is, mutatis mutandis, the true sanitary theory; all these matters, all dung, and all dirt, must be immediately placed under the soil, which is the best of all disinfectants; and modern invention can readily find the mechanism for effecting the purpose, in ways involving less than the Mosaic labour, and quite inoffensive to the refined sensibility of modern civilization. The air of our cities will then be sweet; our rivers will flow unpolluted; the foliage of trees and delicate odours of flowers will caress the senses in the country, in the cottage, and in the mansion.

In England, one of the free countries of the world, this might perhaps be immediately effected, with the consent of the people, expressed by their representatives, in an enactment somewhat to this effect: "Seeing "that English guano is a fertilizing manure in the soil, and is a loath-"some, shameful, and poisonous nuisance in or near dwelling-houses, be

TABLE XXII.—METEOROLOGY of GREENWICH in the Ten Years 1849-1858.

YEARS.	Mean Weekly Movement	Fall of Rain in	Mean Dryness of	Mean Temperature	in the	AN Tempero Quarters end	ture of the A	day of	
	of the Air in Miles.	Inches.	Atmosphere.	the Air.	March.	June.	Sept.	Dec.	
1849 - 1850 - 1851 - 1852 - 1853 - 1854 - 1855 - 1856 - 1857 - 1858 -	Miles. 735 761 684 724 596 687 638 713 568 609	Inches. 23.7 19.6 20.2 34.4 29.6 17.3 21.1 21.9 21.4 17.2	6:7 6:4 6:6 7:3 6:0 5:7 5:3 5:7 5:4 6:6	49.9 49.3 49.4 50.6 47.8 49.1 46.9 49.1 51.1 51.1	0 41'9 39'4 41'9 41'4 38'1 40'8 34'1 40'0 39'2 37'8	51.7 53.5 51.5 51.2 51.8 51.7 50.5 52.3 53.8 54.3	61.0 59.6 59.8 61.8 58.5 59.8 60.4 59.9 63.3 61.0	44.8 44.7 43.7 48.1 42.3 43.7 42.7 44.2 47.9 43.8	

"it enacted, that the retention of any such manure in cesspools, in privies,
"in middens, or in any other form whatsoever, in or near a dwelling"house, shall render the owner or occupier of the place in which it is
"found liable to a fine not exceeding shillings a day." If the municipal and parish authorities have the necessary powers to facilitate the working of the measure intrusted to the police for execution, it would speedily effect a revolution in the sanitary condition of England.

"For the Lord thy God walketh in the midst of thy camp,"—thy cities and thy fields, —"therefore shall thy camp be holy: that He see no "unclean thing in thee, and turn away from thee;" nor behold again a hundred thousand of thy children perish in any year to come for national

violations of His laws.

Vaccination Returns.—The Vaccination Extension Act of 1853 (16 & 17

Vict. cap. 100.) contained the following provision:-

"Sect. 4. Upon and immediately after the successful Vaccination of any Child the Medical Officer or Practitioner who shall have performed the Operation shall deliver to the Father or Mother of the said Child, or to the Person who shall have the Care, Nurture, or Custody of the said Child, a Certificate under his Hand, according to the Form of Schedule herein-after inserted marked (A.), that the said Child has been successfully vaccinated, and shall also transmit a Duplicate of the said Certificate to the Registrar of Births and Deaths of the Sub-district in which the Operation was performed; and such Certificate shall, without further Proof, be admissible as Evidence of the successful Vaccination of such Child in any Information or Complaint which shall be brought against the Father or Mother of the said Child, or against the Person who shall have had the Care, Nurture, or Custody of such Child, as aforesaid, for Noncompliance with the Provisions of this Act."

It appeared desirable to ascertain how this provision had worked; and accordingly each registrar was requested to fill up the annexed return:—

RETURN OF VACCINATION CERTIFICATES RECEIVED IN 1858.

Total Number of Duplicate Certificates of suc-	Total Number.
cessful Vaccination received by me from Medical Officers or Practitioners during the	
Year ended 31st December 1858.	

N.B.—Be careful to state only the number of Duplicate Certificates received by you, without regard to the number of "Entries" contained in your Register Book of successful Vaccinations.

The above is a true Return.

(Signed)	A SOUR PLANT BEAUTY IS SAID THE	Registra
, ,	ACTIVITIES OF THE PROPERTY OF	

The registrars received 376,798 vaccination certificates, although they registered the births of 655,481 children.

Persons vaccinated are not always children; and the children vaccinated are often born in previous years. But this consideration may probably be left out of account; and it may hence be inferred that the registrars will not receive more than 376,798 certificates relative to the

vaccination of these 655,481 children.

A certain number of children die before they can be vaccinated. If these are represented by the deaths in the first three months of life, they will not exceed 8 per cent., or about 52,400. There will remain 226,283 certificates unaccounted for. A certain proportion of the children must in spite of the law have remained unvaccinated; and in reference to another portion actually vaccinated, the medical practitioners must have neglected to forward the duplicate certificates to the registrars. That

Health of London in 1858.

the latter number is large is evident from the fact, that, according to the returns made to the Poor Law Board, 455,004 children in the year that ended on September 29th, 1858, were vaccinated successfully by the public vaccinators alone. In other words, their vaccination was paid for by the public. Of the number vaccinated successfully in the year 1858, by the public vaccinators, they must have neglected to send the duplicate certificates to the registrars in at least 78,000 instances; but as private practitioners sent a certain number of the 376,798 certificates, the public vaccinators must to that further extent have neglected to make the required returns.

The Act appears to work very unsatisfactorily in all its registration clauses, which evidently require revision.

HEALTH OF LONDON IN 1858.

The London Bills of Mortality date from an early period. They were commenced about the year 1502; were discontinued when the Plague ceased; and were resumed on 20th December 1603. Since then they form an uninterrupted series. The Bills of the London parish clerks, though imperfect, were of unquestionable utility; and the new Tables of Mortality carry out the ideas of the age of Elizabeth, by recording daily

the causes of all the deaths of the people of the metropolis.

The parishes first included within the London Bills did not contain a greater population than some of the provincial towns of the present day: the population of those parishes indeed only contained 261,233 inhabitants in the year 1801, and 338,489 in the year 1851. London has grown like a mighty tree, by extension rather than by the internal aggregation of constituent parts; and while foreign cities, girded round by walls, have grown denser, and have risen vertically, London has extended its boundaries freely all around, and covers now 78,029 acres=31,576 hectars, = 121 square miles = a square of 11 miles to the side. The population in this area amounted in the year 1801 to 958,863, and in the year 1851 to 2,362,236.

It is worthy of remark, that the population of London has increased with great steadiness; thus in the five decennial periods the rate of increase was 18 per cent. from the year 1801 to 1811; and 21, 20, 17, and 21 per cent. in each of the next four periods of ten years. We see evident reasons for believing that London has not stopped in its onward course; for its houses are continually invading the surrounding fields; so the growth of population, going on nearly at the same rate as in the years 1841-1851, the inhabitants must now amount to about 2,720,607, of

whom 1,274,432 are males, 1,446,175 are females.

The population of London increased at a faster rate (1.8 per cent. per annum) than the population of the United Kingdom; for it is the capital

Table XXIII.—LONDON.—Births and Deaths in the Eleven Years 1848 to 1858.

YEARS.	1848	1849	1850	1851	1852	1853	1854	1855	1856	1857	1858
BIRTHS	71380	72612	74564	78300	81250	82254	84885	85532	87430	89577	89012
DEATHS	57771	68756	48950	55488	54638	60069	73697	61942	57274	59103	64093
Excess of BIRTHS over DEATHS	13609	3856	25614	22812	26612	22185	11188	23590	30156	30474	24919
_ (Males	36371	37168	37907	40056	41388	42132	42988	43501	44410	45885	45347
BIRTHS - Females	35009	35444	36657	38244	39862	40122	41897	42031	43020	43692	43665
(Males	29413	34168	24634	28140	28063	30852	37151	31354	29076	29769	32579
DEATHS - Females	28358	34588	24316	27348	26575	29217	36546	30588	28198	29334	31514
ANNUAL MORTALITY per 100	25.83	30.08	20.94	23.40	22.47	24.41	29.38	24.06	21.78	22.20	23.56

of the British Empire, which in its commerce and in all circumstances affecting the population of its metropolis acquired immense development in the half century. The London of 1858 is equal to three Londons of

The extent of the population of London gives weight to the returns extending over short intervals of time, and enables the scientific inquirer to investigate the effects of atmospheric and of other conditions on the

mortality.

The registered births in London amounted to 89,012, the deaths amounted to 64,093, in the 52 weeks of 1858; and the increase of people in this way was 24,919. By the calculation, the increase from all causes was 52,690, or nearly 1000 a week, in the interval from the middle of the year 1857 to the middle of the year 1858. The registration of births, not being compulsory, is not complete in London; and a portion of the increase of 52,600 is thus accounted for. But, in round numbers, it may be stated that London increases at the rate of about 1000 people weekly, of whom about 500 are immigrants in excess of the native emigrants who bid adieu to the banks of the Thames.

45,347 boys and 43,665 girls were born in the year.

32,579 males and 31,514 females died in the year.

The mortality was at the annual rate of 2.356 per cent., or 23 and less than 24 in 1000. This rate exceeds the rates (22) of the two years 1856-7, and the rates of 1850-1-2, namely, 21, 23, 22; but it is below the rates 26 and 30 of 1848-9, as well as the rates 24, 29, and 24 of 1853-4-5. The average rate of the 17 years 1842-58 was 24.52, and the rate of the year 1858 was 23.56 in 1000. If we go back to the seven years 1838-44, before the two last epidemics of cholera, the annual rate of mortality in London was then 25:22 in 1000.

London is divided into five groups of districts; and the mortality to 1000 living was 21.8 in the West districts, 22.5 in the North districts. 23.2 in the Central districts, 24.3 in the South districts, and 25.3 in the East districts. In interpreting these facts it must be borne in mind that the calculated population of particular districts cannot be viewed with the same confidence as the calculated population of London; and that the population is often differently constituted in respect to age and occupation. The reduction in the mortality is greatest in the South districts.

10,004 persons died in the public institutions of London, 5535 in the workhouses, 57 in the prisons, and 4412 in hospitals and lunatic asylums. Of the latter number 317 belong to the Greenwich and the Chelsea Hospitals, 211 to the Military and Naval Hospitals. About one in six of the inhabitants of the metropolis dies in the public institutions; nearly one in eleven dies in the workhouses. The death of so many persons in the large workhouses demands inquiry. Of the 64,093 deaths in 1858,

TABLE XXIV.—LONDON.—DEATHS in Public Institutions, 1852-58.

	1852	1853	1854	1855	1856	1857	1858
TOTAL DEATHS IN PUBLIC INSTITUTIONS -	8479	10116	12046	11310	10381	10079	10004
In Workhouses	4890	5955	6812	6552	5797	5714	
PRISONS	105	106	155	71	81	71	5535
MILITARY AND NAVAL ASYLUMS	332	342	312	299	304	285	57 317
GENERAL HOSPITALS	2247	2675	3415	2956	2859	3008	3094
HOSPITALS FOR SPECIAL DISEASES	299	281	326	441	612	332	272
LYING-IN HOSPITALS - Women	7	13	20	27	14	11	11
Children	26	22	43	40	31	23	32
MILITARY AND NAVAL HOSPITALS	183	263	441	404	282	180	211
HOSPITALS AND ASYLUMS FOR FOREIGNERS -	31	59	57	64	61	63	53
LUNATIC ASYLUMS	359	400	465	456	340	392	422

the causes were specified in 63,407 instances. The fatal diseases were nearly all certified by the medical attendants, by the medical officers of

institutions, or by the coroners.

16,741 persons died by diseases of the zymotic class. These maladies exhibit great fluctuations, but they are not the less on that account under human control. Thus 242 persons, children chiefly, died of small-pox in the year 1858, 154 in 1857, 1024 in 1855, and 1617 in 1848. The deaths by small-pox fluctuate from year to year; the cause of the fluctuation we do not yet know; but we know well that if all the people were vaccinated there would be no deaths from small-pox at all, or very few. The deaths from cholera were 131 in 1858, 10,708 in 1854, and 14,125 in 1849. The cause of the difference is obscure; but it has been demonstrated that a large part of the mortality of cholera in London was due to the nightsoil in the air, in the cesspools, in the sewers, in the wells, and in the waters of the Thames; and it is probable that if the air and water of London are purified by the Boards of Works the mortality of London will never be again so high as it was in 1849. Indeed, when the sanitary defences of the metropolis are complete, and the medical health officers are in full activity, epidemics may assail, but they will, it is hoped, never destroy large numbers of the people. Of typhus 1865 persons died in 1858; and since 1844 the annual deaths have fluctuated from 3614 to 1333. The fever under this head is properly distinguished now by skilful practitioners as typus, typhoid fever, and relapsing fever. These descriptions rather than names may be advantageously replaced by real names, such as typhus, typhia, and typhinia. It has been shown that typhoid fever or typhia is propagated and sometimes generated by cesspool poison, typhus by crowding in dirty apartments, and typhinia by famine. Dr. Murchison proposes to call typhia on this account pythogenic fever. Diarrhea, fatal to 2035 persons, and dysentery to 185, have kindred causes. Measles (2369) and whooping cough (2708) caused an unusual number of deaths; but the mortality from these diseases declined during the year. It was otherwise with scarlatina and diphtheria, which in four successive periods of 13 weeks destroyed 481, 597, 1263, and 1843 lives, amounting to 4184 in the aggregate. The deaths from carbuncle were 61; fewer than in 1856, but ten times as many as the deaths from the disease in the earlier years. This troublesome plague of boils has been prevalent for some time. Syphilis is more fatal, or it is more accurately distinguished than it was formerly; 266 deaths were directly referred to it, and 48 to stricture of the urethra, in the year. Alcoholism killed 121 unhappy people by delirium tremens, 98 in other ways; it was also undoubtedly the cause of many fatal diseases. Of cancer 1147 persons died; of mortification 168.

Table XXV.—LONDON.—Deaths and Meteorology, 1848-58.

	Total	Mean	Dryness	Fall	Mean Weekly Amount		1	WEEKLY	AVERAG	E OF 1858	3.	
YEARS.	Number of Deaths.	Tem- perature of Air.	of Atmo- sphere.	of Rain in Inches.	of Hori- zontal Move- ment of the Air.	1858	Number of Deaths	Mean Tem- pera- ture	Average daily Range of	Dryness of Atmo-	Fall of Rain in	Amoun of Hori- zontal Move- ment of the
1848	57771	50.2	5.6	30.1	Miles. 1018 735	2	weekly.	of Air.	Tem-	sphere.	Inches.	Air in each Week
1849 1850 1851	68756 48950 55488	49.3	6.4	19.6	761 684	First Quarter	} 1331	38.0	0 13.7	5.1	0.56	699
1852 1853	54638 60069	50°6 47°8	7.8	84·4 29·6	724 596 687	Second Quarter		54.7	22.0	8.8	0.39	473
1854 1855 1856	73707 61942 57274	49·1 46·9 49·1	5.7 5.8 5.7	17:3 21:1 21:9	638	Third Quarter		61.0	21*4	8.8	0.41	672
1857 1858	59103 64093	51.1	5·4 6·6	21·4 17·2	568 609	Fourth Quarter		43.6	12.1	3.2	0.24	590

Of the class of diseases in which tubercles are generally deposited 10,234 persons died; namely, 464 by scrofula, 840 by tabes mesenterica, and 7414 by phthisis (consumption). Of 1516 deaths by hydrocephalus or water on the brain, a certain number were inflammations of the membranes and tissues of that great organ.

Of the 6571 deaths by diseases of the nervous system, 1428 were by

apoplexy, 1167 by paralysis, 2079 by convulsions.

Heart disease often exists without being fatal; yet 2487 deaths are recorded by pericarditis and other heart maladies; and 93 persons died of

aneurisms of the large vessels.

Bronchitis (6391) and pneumonia (4193) were unusually fatal; exclusive of phthisis, 11,978 persons died of diseases of the respiratory organs. The deaths were thus distributed through the four quarters: 4466, 2239, 1174, 4099. They vary in the inverse direction of the mean temperature, which was 38°, 54°, 61°, and 44°. The unusual degree of cold in November was the main cause of the increase in the last quarter. It will be observed that the mortality of consumption was nearly the same in three quarters; but that it was below the average in summer.

The 2580 deaths from diseases of the digestive organs were very equally distributed over the seasons; so were the 838 deaths by diseases of the urinary organs, except nephria (Bright's disease), which, like phthisis, is least fatal in the summer, but is nearly equally fatal in the other quarters.

Of ovarian dropsy, and of uterine and other diseases of the order, 195 persons died; of joint diseases, 176. Of skin diseases, 252 persons died, including 52 by ulcer. This gives no idea of the amount of disease and of disability among the labouring population of London by ulcer of the legs alone, which is, singularly enough, not treated to any extent in the hospitals.* 171 women died of metria; 262 of other diseases incidental to child-bearing; making 433 mothers dying to 89,012 children born alive; or, on an average, one mother died to 206 children born alive. The deaths from this cause will, we may hope, be greatly reduced in future years.

2613 deaths were referred to atrophy and debility; 2406 to old age.

without apparent disease.

1937 violent deaths happened in the year; 2 were public executions, 61 were homicides, 234 were suicides, and 1640 were returned as deaths by accident or negligence. The homicides were most numerous in summer. The suicides were least numerous in the first three months of the year; of the suicides, 8 were by gunshot wounds, 55 by other wounds, 34 by drowning, 75 by hanging, 46 by poison, and 16 in other ways.

Of the accidental deaths, 746 were by fractures, contusions, and wounds inflicted in various ways; 312 were by burns and scalds; 236 were by

drowning, and 242 by suffocation in bed and otherwise.

The violent deaths increased in London from 1528 in 1848 to 1937 in 1858, and it is desirable that every means should be adopted likely to lessen these calamities.

If the population of London at each respective period of age had experienced a mortality at the same rate as the population of 63 comparatively healthy districts of England, the deaths in London in 1858 would have been about 45,988; they actually amounted to 64,093, and consequently 18,105 unnatural deaths may be referred to causes which the Metropolitan Boards of Works have to investigate, and endeavour to remove or greatly mitigate. It is an important mission which the country expects them to fulfil.

As a preliminary condition of the improvements which may be expected to flow from the cultivation of sanitary science, three things are indis-

^{*} Persons suffering from this disease can with care and skill be effectually relieved; and it is satisfactory to find that a dispensary has recently been founded for the relief of the working classes by Mr. Westlake.

pensable: pure air for the people to breathe, pure water, and a healthy soil to live on.

Thus the cesspools of London, and collections of putrifying dirt, must be suppressed; the sewer air must be carried off or purified, so as not to poison people in the houses or streets; the method of burning coals must be adopted so as to consume the smoke, which is offensive to the senses and injurious to the lungs. Churches, chapels, theatres, and other public buildings, as well as crowded dwellings, where people drink each other's breath and draw in disease, must be purified. The pumps having shallow wells saturated with impurities should, as Dr. Thomson, Dr. Lankester, and other health officers have proposed, be suppressed, and the water supply by the companies should be still further improved. The streets should be cleansed every day; for it is evident that the cleansing arrangements of the Boards should keep pace with the increase of traffic and population.

To all this work the representative Metropolitan Boards will, we may hope, anxiously address themselves, as on their shoulders rest the responsibility of improving the health of the greatest city in the world,—the

metropolis of the British Empire.

When this and other work is done, much will remain to be accomplished. Sanitary science is yet in its infancy; it can be greatly advanced by bringing into the field the great medical profession of the kingdom, armed with all its science and art, and working under the most advantageous circumstances. There are more than two thousand medical men in London and its vicinity, but they are employed chiefly in treating disease. They are often paid only in proportion to the quantity of medicines that their patients take. The art of preventing disease is not cultivated; it is not taught in any of our medical schools; it is not formally the subject of examination in our universities. The father of a family does not go to the doctor and say to him plainly: "How can I preserve my health? "How can I make my children well and vigorous? How can I develop " all their faculties in harmony to the fullest extent? Constantly advise " us, and lead us in the way of a healthy life; preserve us, and I will " pay twice as much as I now pay for the plucking of us out of the fire " of disease, and the treatment of our sores." Instead of this, the common course is never to consult or to pay the medical man until the evil is nearly done; until consumption has set in, diphtheria is developed in the throat, small-pox is furrowing the skin, fever is racking the brain, and then there is a midnight rush to the great blue and red lights burning in the streets; or in some cases even to the nostrums of quackery. How vainly, the returns show. The utility of curative medicine is evident to every rational mind; the utility of preventive medicine is still more clear. Witness the health of the ships' crews in Anson's and then in Cook's voyages; witness the health of the British army in the Crimea, which Miss Nightingale has shown experienced an annual rate of mortality ranging from 1174 to 7 in 1000 of the force, according as the principles of preventive medicine were disregarded or observed. Imagine the two thousand members of the most enlightened profession in the country employed in instructing the public how to preserve their health. How many thousands of lives would then be saved every year in London! The population would also be happier and better.

A beginning of a movement has been made in the right direction under Sir Benjamin Hall's Act. Medical Health Officers are appointed in all the London districts, and many of them are working courageously in the midst of unhealthy places, and against ignorant opposition, with success. Their reports are replete with interesting facts, and contain many words in season of sanitary truth, well calculated to influence and direct the Boards. They have deserved the public approbation; for they have done quietly a great deal of good work, and it is probable have saved many

lives, and prevented much sickness.

GREAT BRITAIN.

THE return of the births, deaths, and marriages in Scotland, with which the Registrar General of Scotland supplies me, completes the Return for Great Britain.

The estimated population of Scotland in the middle of the year 1858 was 3,103,231, and the excess of births over deaths during the year was 40,663. The birth-rate was 33.58, and the death-rate 20.47 to 1000 living; and 12.64 persons married during the year to every 1000 living.

Table XXVI.—Estimated Population, Marriages, Births, and Deaths in Great Britain, 1858.

	Aı	ea.	Estimated Population in the middle of	Marriages.	Persons Married.	Births.	Deaths.
	Acres.	Hectars.	the Year 1858.				
England and Wales - Scotland	37,324,915 20,047,462	15,104,312 8,112,627	19,523,103 3,103,231	156,070 19,603	312,140 39,206	655,481 104,195	449,656 63,532
GREAT BRITAIN -	57,372,377 23,216,939		22,626,334	175,673	351,346	759,676	513,188

Note.—The population of England and Wales has been obtained by taking the excess of births over deaths in the 4 quarters ending June 30th in each year; the population of Scotland has been deduced on the assumption that it increased in 1857 at the same rate as it did in each of the 10 years 1841-51.

Proportion per Cent. of Marriages, Births, and Deaths to the Population of Great Britain, 1858.

Catalogue Catalo	Are	ality.		To 100 Persons living.					
The same of the sa	Acres	Hectars		Persons					
	to a I	Person.	Marriages.	Married.	Births.	Deaths.			
England and Wales	1.91	•77	*799	1.598	3*357	2.303			
Scotland	6.46	2.61	*632	1.264	3.358	2'047			
GREAT BRITAIN	2.24	1.03	•776	1.552	3.357	2.268			

The total area of a country, divided by its population, gives what is here called the "Areality;" it is the average area to each person. The reciprocal gives the "density" of the population, or the population to each acre, square mile, or other measure.

TABLE XXVII. — NUMBER OF DEATHS in the BRITISH ARMY during 1855, 1856, 1857, and 1858 (furnished to the Registrar-General by the Adjutant-General by direction of H.R.H. the Commander-in-Chief).

			18	355					18	856					18	857					18	358		
		REAT	IRE	LAND.	Аві	ROAD.	GI BRI	REAT	IRE	LAND.	Аві	ROAD.	Gi Bri	REAT	IRE	LAND.	Аві	ROAD.	Gi Bri	REAT	IRE	LAND.	ABF	ROAD.
-	Officers.	Non-commissioned Officers and Men.																						
Cavalry - Infantry -	3	70 854	6	32 383	8 229	731 17,958	2 14	69 672	- 8	37 396	2 64	2,243	27	482	7	175	163	2,921	13	696	5	221	127	6,671
Artillery - Engineers	3 2	199 30	-	17 -	12 14	1,184 179	1 4	132 21	1 1	25	1 5	131 23	7	53 12		14	4	118	2 3	153 16	- 1	20	7 3	98
Total -	19	1,153	6	432	263	20,052	21	794	10	458	72	2,508	35	547	7	189	168	3,052	18	865	5	241	137	7,226

Great Britain.

The excess of births over deaths in Great Britain was 246,488. The birth-rate was 33.57, and the death-rate 22.68 to 1000 living, while 15.52 persons married out of every 1000 living.

During the year 962 persons married, 2080 children were born, and 1405 persons died on an average every day in Great Britain; the average daily excess of births over deaths being 675, which number represents the recorded daily natural increase of population.

His Royal Highness the General-Commanding-in-Chief has favoured me with a return of the strength and the number of deaths in the army abroad, which during this year was larger than usual in consequence of

Table XXVIII.—Deaths of Officers and Men in the Army Abroad, and Estimated Numbers belonging to Great Britain and to England and Wales, in each of the five Years 1854, 1855, 1856, 1857, and 1858.

YEARS.	Deaths of Officers and Men	Estimated Numbers in Col. 2 belonging to				
TEARS.	in the Army Abroad.	Great Britain.	England and Wales.			
1,	2	3	4			
1854	7,383	4,287	3,496			
1855	20,315	11,794	9,619			
1856	2,580	1,498	1,222			
1857	3,220	1,869	1,525	N.		
1858	7,363	4,275	3,486			

The number of Deaths in the cols. 3 and 4 were estimated on the assumption that the soldiers abroad belonged to the different parts of the British Empire in the proportions indicated in the next Table derived from the Census Report, Occupations, Vol. I., Supplementary Tables, p. cccxlv., vi. See Table XXIX.

TABLE XXIX .- ARMY SERVING AT HOME AND ABROAD.

		<u> </u>					1851
	Officers and M	en born i	England	_	-	-	67,647
	**	,,	Scotland	-	-	-	15,300
	,,	,,	Ireland	-	-	-	53,169
	,,	,,	Foreign P	arts	-	-	6,754
-		Total		-	-	-	142,870

It was inferred also that the 76,446 officers and men abroad in the army in 1851 should be added to the population of the several parts of the United Kingdom, also in the proportions indicated in the above Table. Thus the population of England and Wales, at home in 1851 was 17,927,669; add the proportion of the army abroad (36,196) belonging to England and Wales and its population becomes 17,963,805. The estimated population at home in 1858 was 19,523,103, and the population, including its share of the army abroad, was deduced from the following proportion:—

17,927,609:17,963,805::19,523,103:x=19,562,523

Great Britain was dealt with on the same principles.

TABLE XXX.—Annual Rate of Mortality per Cent. per Annum, including the Deaths of Soldiers Abroad.

YEARS.	GREAT BRITAIN.	ENGLAND and WALES.	FRANCE.	
1855	2.287	2.312	2.594	
1856	2.035	2.053	2:306	
1857	2.157	2.178	2.323	
1858	2.282	2.316	2:398	

the Indian mutiny. I am enabled now to deduce the rate of mortality in the population of Great Britain, including its due share of the army abroad, and the mortality now admits of comparison with that of France.

The births to 1000 people living in the two countries are 27 in France and 34 in Great Britain; the deaths 24 in France, and 23 in Great Britain; while the people of the two countries marry at nearly the same rates.

BIRTHS AND DEATHS OF ENGLISH SUBJECTS AT SEA.

The captains of ships continue their imperfect compliance with the Registration Act; and while the accounts kept by the Registrar General of Seamen of the wages and effects of seamen dying before the termination of the voyage, show a total of 3486 deaths, or 19.6 in every 1000 living during the year, the number reported to me at this office was only 390. The mortality among this important body of men is higher than it should

TABLE XXXI.—RETURN showing the AVERAGE STRENGTH of the ARMY ABROAD, in the Years 1855, 1856, 1857, and 1858. Furnished to the Registrar-General by desire of H.R.H. the Commander-in-Chief.

		1	855	1	856	1	857	1858	
		Officers.	Non- commissioned Officers and Men.						
Cavalry -	-	245	5,676	137	3,614	126	2,757	313	6,661
Infantry -	-	3,003	95,440	2,682	85,257	2,327	65,361	3,106	90,907
Artillery -	-	307	9,067	240	7,694	246	5,402	356	8,262
Engineers -	-	130	1,388	106	1,434	107	1,350	125	2,000
Total	-	3,685	111,571	3,165	97,999	2,806	74,870	3,900	107,830

TABLE XXXII.—England and France. Estimated Population, Registered Marriages, Births, and Deaths, in each of the Years 1854, 1855, 1856, 1857, and 1858.

		Engla	ND and W	VALES.		France.				
	1854	1855	1856	1857	1858	1854	1855	1856	1857	1858
Estimated Population	18,618,760	18,786,914	19,045,187	19,304,897	19,523,103	36,155,682	36,118,408	36,205,792	36,292,663	36,387,679
Marriages Births Deaths	159,727 634,405 437,905	152,113 635,043 425,703	159,337 657,453 390,506	159,097 663,071 419,815	156,070 655,481 449,656	270,906 923,461 992,779	283,846 899,559 936,833	1952,116	290,349 929,832 842,961	307,218 967,638 872,622

The Population of England and Wales for 1854, 1855, 1856, 1857, and 1858 has been deduced by taking the excess of births over deaths since 1851, when the population was enumerated.

TABLE XXXIII.—Proportion per Cent. of Marriages, Births, and Deaths to the Population of England and Wales, and in France, 1854-8.

,		England and Wales.				FRANCE.				
	1854	1855	1856	1857	1858	1854	1855	1856	1857	1858
Persons married	- *858 - 1.716 - 3.407 - 2.352	*810 1*620 3*380 2*266	*837 1*674 3*452 2*050	*824 1*648 3*435 2*175	.799 1.598 3.357 2.303	•749 1•498 2•554 2•746	•786 1•572 2•491 2•594	.785 1.570 2.630 2.306	*800 1*600 2*562 2*323	*844 1 *688 2 * 659 2 *398

^{*}According to the official Enumeration this Population includes 166,428 men, being the Effective Strength of the Army of the East in the Crimea in the month of January 1856. M. Legoyt has favoured the Registrar General with the Returns of France for the years 1856, 1857, and 1858. The population for the year 1858 has been obtained by taking the excess of births over deaths. The Census is not taken on one day in France, as it is in England, and the date of the French Census is not stated.

be among men of their ages and physical advantages, and it is evident that a proper standard of cleanliness, ventilation, and good quality of food, has not yet been attained.

Of the births at sea 112 were reported to me.

The registers of the marriages of British subjects before Her Majesty's Consuls abroad, received by me, pursuant to the Statute, amounted to 171 in the year 1858.

The causes of deaths in the year 1858 are discussed in a letter addressed

to me by Dr. Farr, which will be found in the Appendix.

I have the honour to be,

Sir, Your faithful servant,

GEORGE GRAHAM,

Registrar-General.

Table XXXIV.—Number of Births and Deaths of English Subjects in British Vessels at Sea, reported by the Captains or Commanding Officers of Vessels, and entered in the "Marine Register," pursuant to Sections 21 and 26 of the Registration Act.

	TOTAL.	MALES.	FEMALES.
From 1st July 1837 to 31st Dec. 1858:— Births at Sea Deaths at Sea	862	430 3786	- 432 425
Whereof were reported during the years 1856, 1857, and 1858:— Births at Sea { 1857 -	72	37 50	35 51
Deaths at Sea \ \begin{pmatrix} 1858 & - & - & - \\ 1856 & - & - & - \\ 1857 & - & - & - \\ 1858 & - & - & - \\ 1858 & - & - & - \\ \end{pmatrix}	112 302 352 390	50 274 261 326	62 28 91 64

Table XXXV.—Mortality of Merchant Seamen at Sea, in the 7 Years 1852-58.*

				MORTALITY.	
	YEARS.	STRENGTH.	DEATHS.	To 1000 living.	
	1852	159,563	2,205	13.8	
	1853	172,525	3,276	19.0	
	1854	162,416	2,772	17.1	
	1855	168,537	3,318	19.7	
4 3 6 29 6 5	1856	173,918	3,549	20.4	
	1857	176,387	3,444	19.5	
	1858	177,832	3,486	19.6	
	In the 7 years \\ 1852-58.	1,191,178	22,050	18.2	

^{*} Deduced from a return of the number of accounts of wages and effects of seamen (exclusive of masters) dying before the termination of the voyage, received by the Registrar General of Merchant Seamen. This return does not include seamen dying ashore in foreign parts, whose wages and effects are delivered to the consuls or officers of the hospitals to which such men are sent; accounts of their effects are sent direct to the Board of Trade.