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APPENDIX.

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LETTER to the REGISTRAR GENERAL on the CAUSES of DEATH in ENGLAND, by WILLIAM FARR, Esq., M.D., F.R.S.

YEAR 1857.

SIR,

I BEG to submit to you the result of the inquiry into the causes of the deaths which were registered in England and Wales during the year 1857.

In conformity with the Act of Parliament the causes of death were specified in 414,835 instances, more or less distinctly, more or less correctly; in 4980 cases no cause was assigned.

The mortality of the year 1856 was unusually low; the slight increase in 1857 was chiefly due to diarrhoea and to bronchitis, induced probably by influenza.

The meteorology of the seasons of the year 1857 was distinguished by a general elevation of temperature at all the stations. The Greenwich observations show a temperature of 51·1°, or an excess of 2° above the average of the preceding 17 years; and the mean temperature, ranging from 53·7° at Helston on the southern coast to 47·6° at North Shields (lat. 55°), was probably every year above the average. The heat was intense in June, and the 28th day of that month was the hottest day observed since 1846. August was the hottest month on record. The air over London, and probably over other parts, was unusually stagnant; it passed over Greenwich at the rate of 3½ miles an hour, whereas the average in preceding years was 4½ miles an hour. The wind is an important sanitary element; as it is capable of bringing and of carrying away the organic elements which are the seeds sometimes of zymotic diseases. The high temperature and the stagnancy of the air over cities, are both calculated to favour the prevalence of the diarrhoeas, which were unusually fatal; and perhaps also to diffuse, if not to develop, the new variety of disease which was often called "sore throat," "croup," and "scarlatina," on its first appearance, but is now known as diphtheria. The rain-fall varied from 21·4 in. in Greenwich, and 21·3 in. in Whitehall, where the least was collected, to 41 and 42 in. in the higher regions of Stonyhurst and Allenheads. The rain-fall at Greenwich varied little in the last three years; and in 1857 was below the average (24 in.) Rain fell on 161 days. The mean dew point was higher, and the mean degree of humidity was lower, than it was in the two previous years.

The average price of wheat was 56s. 5d. a quarter. It fell to that figure from 69s. 2d. in 1856. Beef was slightly dearer, mutton cheaper, in the London markets. The potato crop was injured by the disease, and the price of potatoes rose; the York regents were 120s. a ton on an average at the waterside market, Southwark, while they had been 86s. in the previous year. I refer to the Tables in the quarterly summaries for further information on this subject.

I. CAUSES OF DEATH.

Besides 4980 deaths of which no causes were assigned, 3403 deaths were registered indefinitely as sudden deaths, on which inquests were generally held. The deaths classified under more definite heads amounted to 411,432.

(I.) Zymotic diseases.

90,414 persons died of zymotic diseases; and the mortality by them was at the rate of more than 4 deaths in the year to every 1000 living; the mortality by all causes being at the rate of 22 nearly in 1000. Of every 100 deaths 22 were by zymotic diseases.

Of small-pox 3936 persons died; or more by 1659 than died of this disease in the previous year. The Vaccination Act undoubtedly contributed to reduce the mortality by small-pox in the four previous years; but it is still imperfect in several of its provisions, and requires amendment. Measles was less fatal than usual; whooping-cough destroyed 10,138

TABLE (1).—CAUSES OF DEATH registered in ENGLAND in each of the Eight Years 1850—1857.

CAUSES OF DEATH.	1850	1851	1852	1853	1854	1855	1856	1857
ALL CAUSES - - - - -	338,995	395,396	407,185	421,097	437,905	425,703	390,506	419,815
SPECIFIED CAUSES - - - - -	331,536	388,675	400,439	414,197	432,242	419,798	385,840	414,835
1 ZYMOTIC DISEASES (Z.) - - - - -	74,835	86,600	92,412	85,600	113,576	84,596	78,047	90,414
CONSTITUTIONAL DISEASES (C.):								
2 Diseases of uncertain or variable seat - - - - -	19,341	19,421	19,655	20,383	19,791	20,267	19,024	18,696
3 Tubercular Diseases - - - - -	60,395	64,075	66,163	70,915	67,145	67,520	63,832	65,762
LOCAL DISEASES (L.):								
4 Diseases of the Nervous System - - - - -	47,447	49,854	50,733	52,017	52,036	52,901	50,535	52,103
5 Diseases of the Organs of Circulation - - - - -	11,376	11,817	12,517	13,740	13,488	14,552	13,672	14,784
6 Diseases of the Respiratory Organs - - - - -	43,827	48,759	47,400	56,436	52,484	63,742	52,908	58,320
7 Diseases of the Digestive Organs - - - - -	22,313	23,218	23,741	23,558	23,599	23,091	22,620	23,532
8 Diseases of the Urinary Organs - - - - -	3,331	3,416	3,689	3,893	4,026	4,196	4,327	4,313
9 Childbirth and Diseases of the Organs of Generation - - - - -	3,187	3,326	3,250	3,343	3,139	3,003	2,917	3,072
10 Diseases of the Organs of Locomotion - - - - -	2,368	2,412	2,615	2,670	2,479	2,552	2,260	2,028
11 Diseases of the Integumentary System - - - - -	725	840	830	766	797	775	672	747
DISEASES OF GROWTH, NUTRITION, AND DECAY (D.):								
12 Malformations - - - - -	781	786	861	865	944	916	1,000	1,035
13 Premature Birth and Debility - - - - -	18,051	18,943	19,075	18,968	18,680	17,818	17,997	19,144
14 Atrophy - - - - -	10,470	12,211	13,056	13,083	14,412	14,724	13,712	15,608
15 Age - - - - -	25,567	25,980	26,376	29,130	26,466	29,714	23,931	26,847
16 Sudden Deaths (Causes unascertained) - - - - -	3,560	3,458	3,591	4,018	3,993	4,189	3,474	3,403
17 VIOLENT CAUSES (V.) - - - - -	13,982	13,559	14,475	14,812	15,187	15,292	14,912	15,027
1 Small-pox - - - - -	4,665	6,907	7,320	3,151	2,808	2,525	2,277	3,936
2 Measles - - - - -	7,082	9,370	5,846	4,895	9,277	7,354	7,124	5,939
3 Scarlatina - - - - -	13,371	13,634	18,887	15,639	18,528	17,314	14,160	14,229
4 Whooping-cough - - - - -	7,770	7,905	8,022	11,200	9,770	10,185	9,225	10,138
5 Croup - - - - -	4,322	4,180	4,058	3,660	3,968	4,419	5,207	5,279
6 Thrush - - - - -	1,114	1,175	1,237	1,202	1,190	1,149	1,094	1,170
7 Diarrhoea - - - - -	11,468	14,728	17,317	14,192	20,052	12,770	13,815	21,189
8 Dysentery - - - - -	2,036	2,185	2,756	1,891	1,943	1,437	1,335	1,698
9 Cholera - - - - -	887	1,132	1,381	4,419	20,097	1,437	762	1,150
10 Influenza - - - - -	1,380	2,152	1,359	1,789	1,061	3,568	1,029	1,393
11 Purpura and Scurvy - - - - -	266	248	234	236	282	324	227	246
12 Ague - - - - -	154	167	151	183	192	124	195	195
13 Remittent Fever - - - - -	548	607	666	709	646	575	784	767
14 Infantile Fever - - - - -	1,080	808	796	539	561	438	15,398	18,219
15 Typhus - - - - -	14,294	17,122	17,845	18,015	18,332	16,032	1,067	836
16 Metria (or Puerperal Fever) - - - - -	1,113	1,009	972	792	954	1,079	1,076	966
17 Rheumatic Fever - - - - -	389	465	454	452	832	1,046	2,133	1,576
18 Erysipelas - - - - -	2,206	1,998	2,075	1,813	1,937	2,256	879	977
19 Syphilis - - - - -	554	598	623	934	947	947	164	193
20 Noma (or Canker) - - - - -	123	95	98	100	136	178	5	3
21 Hydrophobia - - - - -	13	25	15	11	16	14		
22 Hemorrhage - - - - -	1,405	1,376	1,447	1,374	1,330	1,431	1,699	1,215
23 Dropsy - - - - -	9,980	9,873	9,788	10,302	9,396	9,362	8,213	8,452
24 Abscess - - - - -	912	973	1,044	1,053	1,274	1,525	1,459	1,074
25 Ulcer - - - - -	340	317	296	351	358	278	289	300
26 Fistula - - - - -	92	121	94	104	117	86	73	98
27 Mortification - - - - -	1,421	1,329	1,291	1,319	1,244	1,282	1,172	1,133
28 Cancer - - - - -	4,967	5,218	5,477	5,663	5,826	6,016	5,859	6,201
29 Gout - - - - -	224	214	218	217	246	287	260	223
30 Scrofula - - - - -	2,484	2,592	2,580	2,727	2,613	2,985	2,831	2,781
31 Tabes Mesenterica - - - - -	4,012	4,510	4,700	4,965	5,638	4,762	4,752	5,380
32 Phthisis (or Consumption) - - - - -	46,618	49,166	50,594	54,918	51,284	52,290	48,950	50,106
33 Hydrocephalus - - - - -	7,281	7,807	8,289	8,005	7,310	7,483	7,299	7,495
4 Cephalitis - - - - -	3,198	3,628	3,618	3,752	3,466	3,414	3,414	3,392
5 Apoplexy - - - - -	8,094	7,946	7,896	8,496	8,366	8,645	8,278	8,378
6 Paralysis - - - - -	7,317	7,587	7,911	8,378	8,353	8,905	8,497	8,714
7 Delirium Tremens - - - - -	540	593	487	508	551	536	451	484
8 Chorea - - - - -	60	77	73	67	48	69	59	44
9 Epilepsy - - - - -	1,631	1,760	1,935	2,120	2,052	2,136	2,096	2,193
40 Tetanus - - - - -	108	118	145	116	180	153	120	102
41 Insanity - - - - -	529	542	535	472	541	494	370	403
42 Convulsions - - - - -	23,000	24,532	24,558	24,798	24,579	23,946	23,946	24,532
43 Disease of Brain, &c. - - - - -	2,970	3,101	3,507	3,444	3,614	3,580	3,304	3,361

children. Of all infantile zymotic diseases, except one, scarlatina was the most fatal; 13,831 persons died of that disease, including cynanche maligna. The mortality from croup also exceeds the average. Diphtheria on its first appearance was confounded with these two diseases; under which several cases of that malady were evidently registered. 53 males and 35 females died of mumps, and like diphtheria were only temporarily classed under scarlatina, as is explained in the supplementary Table p. 124.

Diarrhoea was fatal to 21,189 persons, dysentery to 1698, and cholera to 1150. Thus the deaths from diarrhoea were more numerous than the deaths from that disease in 1854, when the cholera was epidemic. The

TABLE (1).—CAUSES OF DEATH registered in ENGLAND in each of the Eight Years 1850—1857—continued.

CAUSES OF DEATH.	1850	1851	1852	1853	1854	1855	1856	1857
5 44 Pericarditis - - - - -	620	563	589	561	594	588	531	573
45 Aneurism - - - - -	286	289	286	315	308	312	338	326
46 Disease of Heart, &c. - - - - -	10,450	10,965	11,662	12,864	12,586	13,652	12,803	13,885
6 47 Laryngitis - - - - -	1,053	939	1,083	1,097	1,145	1,155	1,204	1,359
48 Bronchitis - - - - -	14,611	17,284	17,073	22,391	20,062	27,182	21,528	25,588
49 Pleurisy - - - - -	877	984	945	855	955	1,153	886	870
50 Pneumonia - - - - -	20,303	22,001	21,421	24,098	23,523	26,052	22,653	23,457
51 Asthma - - - - -	4,574	4,896	4,309	5,143	4,271	5,454	4,103	4,339
52 Disease of Lungs, &c. - - - - -	2,409	2,645	2,569	2,852	2,528	2,746	2,444	2,707
7 53 Teething - - - - -	4,086	4,408	4,413	4,676	4,369	4,057	3,660	3,992
54 Quinsy - - - - -	473	369	391	421	345	374	416	485
55 Gastritis - - - - -	519	721	685	676	755	810	816	816
56 Enteritis - - - - -	3,733	3,854	3,901	3,659	3,614	3,225	3,234	3,412
57 Peritonitis - - - - -	1,248	1,250	1,304	1,269	1,432	1,388	1,310	1,411
58 Ascites - - - - -	664	684	638	753	748	836	760	750
59 Ulceration of Intestines - - - - -	791	856	976	1,022	911	876	946	893
60 Hernia - - - - -	704	708	683	779	828	874	848	814
61 Ileus - - - - -	1,149	1,107	1,088	1,147	1,224	1,188	1,190	1,133
62 Intussusception - - - - -	222	268	250	244	258	243	280	254
63 Stricture of the Intestinal Canal - - - - -	248	240	291	241	257	233	242	278
64 Disease of Stomach, &c. - - - - -	2,247	2,235	2,159	2,000	2,018	2,362	2,357	2,438
65 Disease of Pancreas - - - - -	17	8	5	9	13	5	12	15
66 Hepatitis - - - - -	1,436	1,453	1,594	1,520	1,500	1,446	1,437	1,444
67 Jaundice - - - - -	1,166	1,282	1,281	1,289	1,264	1,300	1,446	1,448
68 Disease of Liver - - - - -	3,553	3,709	3,948	4,139	3,992	3,820	3,615	3,881
69 Disease of Spleen - - - - -	57	66	74	64	71	54	51	73
8 70 Nephritis - - - - -	178	183	197	237	205	244	269	263
71 Nephria (or Bright's Disease) - - - - -	430	477	570	641	776	793	954	933
72 Ischuria - - - - -	91	100	106	109	118	120	83	97
73 Diabetes - - - - -	422	403	402	412	436	448	433	482
74 Stone - - - - -	249	204	208	224	183	234	233	182
75 Cystitis - - - - -	214	212	231	236	276	278	270	258
76 Stricture of the Urethra - - - - -	207	244	251	241	256	218	177	184
77 Disease of Kidneys, &c. - - - - -	1,540	1,593	1,724	1,793	1,776	1,861	1,908	1,959
9 78 Paramenia - - - - -	127	87	98	115	70	61	57	52
79 Ovarian Dropsy - - - - -	219	196	178	217	220	208	211	237
80 Childbirth (see Metria) - - - - -	2,139	2,281	2,275	2,268	2,055	1,900	1,821	1,951
81 Disease of Uterus and Organs of Generation - - - - -	702	762	699	743	794	834	828	832
10 82 Arthritis - - - - -	54	72	84	81	101	80	71	62
83 Rheumatism - - - - -	1,360	1,320	1,476	1,443	979	1,124	931	722
84 Disease of Joints, &c. - - - - -	954	1,020	1,055	1,146	1,399	1,348	1,258	1,244
11 85 Carbuncle - -								

influence of a high temperature in producing this disease is as evident as its influence in accelerating the decomposition of organic matter.

Of the 1576 deaths under erysipelas, 69 died of phlebitis, 1 of hospital gangrene, 2 of necrosis (dissection wound), 3 of glanders, 13 of erythema, one of irritation from a blister, 9 from porrigo; leaving 1478 deaths from erysipelas, supervening in many cases under unfavourable sanitary conditions on wounds and injuries.

TABLE (2).—ENGLAND. CAUSES OF DEATH. To 1,000,000 PERSONS LIVING, the DEATHS from each Class of Causes, and from each Cause, in the Years 1855, 1856, and 1857.

CAUSES OF DEATH.	Deaths to 1,000,000 Persons living.			CAUSES OF DEATH.	Deaths to 1,000,000 Persons living.		
	1855	1856	1857		1855	1856	1857
ALL CAUSES	22,659	20,504	21,745	544 Pericarditis	32	28	30
1 ZYMOTIC DISEASES (Z.)	4,567	4,148	4,739	45 Aneurism	17	18	17
CONSTITUTIONAL DISEASES (C.):				46 Disease of Heart, &c.	737	680	728
2 Diseases of uncertain or variable Seat	1,093	1,010	980	647 Laryngitis	62	69	71
3 Tubercular Diseases	3,644	3,392	3,448	48 Bronchitis	1,467	1,144	1,341
LOCAL DISEASES (L.):				49 Pleurisy	62	47	46
4 Diseases of the Nervous System	2,856	2,686	2,730	50 Pneumonia	1,406	1,204	1,230
5 Diseases of the Organs of Circulation	786	726	775	51 Asthma	294	218	227
6 Diseases of the Respiratory Organs	3,439	2,812	3,057	52 Disease of Lungs, &c.	148	180	142
7 Diseases of the Digestive Organs	1,245	1,204	1,234	753 Teething	219	194	209
8 Diseases of the Urinary Organs	226	228	227	54 Quinsy	20	22	25
9 Childbirth and Diseases of the Organs of Generation	162	155	161	55 Gastritis	44	43	43
10 Diseases of the Organs of Locomotion	137	120	106	56 Enteritis	174	172	179
11 Diseases of the Integumentary System	42	36	39	57 Peritonitis	75	70	74
DISEASES OF GROWTH, NUTRITION, AND DECAY (D.):				58 Ascites	45	40	39
12 Malformations	49	53	54	59 Ulceration of Intestines	47	50	47
13 Premature Birth, and Debility	964	956	1,004	60 Hernia	47	50	45
14 Atrophy	795	729	818	61 Ileus	64	63	59
15 Age	1,606	1,271	1,409	62 Intussusception	13	15	13
16 Sudden Deaths (Causes unascertained)	223	185	178	63 Stricture of the Intestinal Canal	13	13	15
17 VIOLENT CAUSES (V.)	825	793	786	64 Disease of Stomach, &c.	127	125	128
1 Small-pox	136	121	206	65 Disease of Pancreas	3	6	1
2 Measles	397	379	313	66 Hepatitis	78	76	76
3 Scarlatina	935	752	746	67 Jaundice	70	76	76
4 Whooping-cough	550	490	531	68 Disease of Liver	206	192	203
5 Croup	239	277	277	69 Disease of Spleen	3	3	4
6 Thrush	62	58	61	870 Nephritis	13	14	14
7 Diarrhoea	689	734	1111	71 Nephria (or Bright's Disease)	43	51	52
8 Dysentery	78	71	89	72 Ischuria	6	4	5
9 Cholera	45	40	60	73 Diabetes	24	23	25
10 Influenza	193	55	73	74 Stone	13	12	10
11 Purpura and Scurvy	17	12	13	75 Cystitis	15	14	14
12 Ague	8	7	10	76 Stricture of the Urethra	12	9	10
13 Remittent Fever	31	9	14	77 Disease of Kidneys, &c.	100	101	97
14 Infantile Fever	24	42	40	978 Paramenia	3	3	3
15 Typhus	865	818	957	79 Ovarian Dropsy	11	11	12
16 Metria (or Puerperal Fever)	58	57	44	80 Childbirth (see Metria)	103	97	102
17 Rheumatic Fever	56	57	83	81 Disease of Uterus and Organs of Generation	45	44	44
18 Erysipelas	122	113	88	1185 Carbuncle	4	4	3
19 Syphilis	51	47	50	86 Phlegmon	61	49	38
20 Noma (or Canker)	10	9	10	87 Disease of Skin, &c.	72	67	65
21 Hydrophobia	1	3	2	1288 Cyanosis	14	13	13
22 Hæmorrhage	77	90	64	89 Spina Bifida	14	7	9
23 Dropsy	505	436	443	90 Other Malformations	14	16	17
24 Abscess	82	78	56	13-16 (See above.)			
25 Ulcer	15	15	16	1795 Intemperance	15	13	15
26 Fistula	4	4	5	96 Privation of Food	5	4	3
27 Mortification	69	62	59	97 Want of Breast-milk	46	37	43
28 Cancer	325	311	325	98 Neglect	2	2	2
29 Gout	15	14	12	99 Cold	11	5	2
30 Scrofula	161	150	146	100 Poison	21	23	22
31 Tabes Mesenterica	257	253	282	101 Burns and Scalds	171	155	142
32 Phthisis (or Consumption)	2,822	2,601	2,627	102 Hanging and Suffocation	71	70	73
33 Hydrocephalus	404	388	393	103 Drowning	133	142	147
34 Cephalitis	187	181	178	104 Fractures and Contusions	295	289	280
35 Apoplexy	467	440	439	105 Wounds	33	32	32
36 Paralysis	481	452	457	106 Other Violence	22	21	25
37 Delirium Tremens	29	24	25				
38 Chorea	4	3	2				
39 Epilepsy	115	111	115				
40 Tetanus	8	6	5				
41 Insanity	27	20	21				
42 Convulsions	1,345	1,273	1,286				
43 Disease of Brain, &c.	193	176	202				

The Table may be read thus:—In 1856 to every 1,000,000 Persons living there were 20,504 deaths from All Causes (rather more than 20 in 1000); 121 deaths from small-pox; 379 from measles; 752 from scarlatina, and so on.

The reported deaths by syphilis have been more numerous in the last four years than they were previously.

Typhus, typhoid fever (typhia) and relapsing fever (typhina) are not accurately distinguished in the returns; in the aggregate 18,249 persons died of these fevers.

Only three persons died of hydrophobia in all England. The number of deaths from this fearful disease was 5 in the previous year; 14 in the year 1855, and in some of the previous years as many as 25.

TABLE (3).—ENGLAND. CAUSES OF DEATH. To every 1,000,000 Deaths from All Causes, the proportional Numbers from each Class of Causes, and from each Cause, in the Years 1855, 1856, and 1857.

CAUSES OF DEATH.	Proportional Number to 1,000,000 Deaths.			CAUSES OF DEATH.	Proportional Number to 1,000,000 Deaths.		
	1855	1856	1857		1855	1856	1857
ALL CAUSES	1,000,000	1,000,000	1,000,000	544 Pericarditis	1,401	1,376	1,381
1 ZYMOTIC DISEASES (Z.)	201,516	202,278	217,951	45 Aneurism	743	876	786
CONSTITUTIONAL DISEASES (C.):				46 Disease of Heart, &c.	32,520	33,182	33,471
2 Diseases of uncertain or variable Seat	48,279	49,305	45,068	647 Laryngitis	2,751	3,354	3,276
3 Tubercular Diseases	160,840	165,436	158,525	48 Bronchitis	64,750	55,795	61,683
LOCAL DISEASES (L.):				49 Pleurisy	2,747	2,296	2,097
4 Diseases of the Nervous System	126,015	130,973	125,599	50 Pneumonia	62,058	58,711	56,545
5 Diseases of the Organs of Circulation	34,664	35,434	35,638	51 Asthma	12,992	10,634	10,460
6 Diseases of the Respiratory Organs	151,839	137,124	140,586	52 Disease of Lungs, &c.	6,541	6,334	6,525
7 Diseases of the Digestive Organs	55,066	53,626	56,726	753 Teething	9,664	9,486	9,623
8 Diseases of the Urinary Organs	9,994	11,215	10,398	54 Quinsy	891	1,078	1,169
9 Childbirth and Diseases of the Organs of Generation	7,153	7,561	7,405	55 Gastritis	1,929	2,115	1,967
10 Diseases of the Organs of Locomotion	6,079	5,857	4,888	56 Enteritis	7,682	8,382	8,226
11 Diseases of the Integumentary System	1,845	1,742	1,800	57 Peritonitis	3,306	3,395	3,401
DISEASES OF GROWTH, NUTRITION, AND DECAY (D.):				58 Ascites	1,991	1,970	1,808
12 Malformations	2,182	2,592	2,495	59 Ulceration of Intestines	2,087	2,452	2,153
13 Premature Birth and Debility	42,444	46,644	46,148	60 Hernia	2,082	2,198	1,962
14 Atrophy	35,074	35,538	37,626	61 Ileus	2,880	3,084	2,731
15 Age	70,782	62,023	64,719	62 Intussusception	579	726	612
16 Sudden Deaths (Causes unascertained)	9,860	9,003	8,203	63 Stricture of the Intestinal Canal	555	627	670
17 VIOLENT CAUSES (V.)	36,428	38,649	36,225	64 Disease of Stomach, &c.	5,627	6,109	5,877
1 Small-pox	6,015	5,902	9,488	65 Disease of Pancreas	12	31	36
2 Measles	17,518	18,464	14,389	66 Hepatitis	3,445	3,724	3,481
3 Scarlatina	41,244	36,699	34,300	67 Jaundice	3,097	3,748	3,478
4 Whooping-cough	24,262	23,909	24,439	68 Disease of Liver	9,100	9,369	9,356
5 Croup	10,526	13,495	12,736	69 Disease of Spleen	129	132	176
6 Thrush	2,737	2,835	2,820	870 Nephritis	581	697	646
7 Diarrhoea	30,419	35,805	51,078	71 Nephria (or Bright's Disease)	1,889	2,473	2,370
8 Dysentery	3,423	3,460	4,093	72 Ischuria	286	215	234
9 Cholera	1,994	1,975	2,772	73 Diabetes	1,067	1,122	1,162
10 Influenza	8,499	2,667	3,358	74 Stone	557	604	439
11 Purpura and Scurvy	772	588	593	75 Cystitis	662	700	622
12 Ague	355	321	470	76 Stricture of the Urethra	619	459	444
13 Remittent Fever	1,370	420	651	77 Disease of Kidneys, &c.	4,433	4,945	4,481
14 Infantile Fever	1,043	2,032	1,849	978 Paramenia	145	148	125
15 Typhus	38,190	39,908	43,991	79 Ovarian Dropsy	495	547	571
16 Metria (or Puerperal Fever)	2,570	2,765	2,015	80 Childbirth (see Metria)	4,526	4,720	4,703
17 Rheumatic Fever	2,492	2,789	2,329	81 Disease of Uterus and Organs of Generation	1,987	2,146	2,006
18 Erysipelas	5,374	5,528	3,799	1185 Carbuncle	191	184	149
19 Syphilis	2,256	2,278	2,807	83 Rheumatism	2,677	2,413	1,740
20 Noma (or Canker)	424	425	477	84 Disease of Joints, &c.	3,211	3,260	2,999
21 Hydrophobia	33	13	7	1288 Cyanosis	607	656	607
22 Hæmorrhage	3,409	4,403	2,929	86 Phlegmon	607	327	398
23 Dropsy	22,301	21,286	20,374	87 Disease of Skin, &c.	631	759	795
24 Abscess	3,633	3,781	2,589	1288 Cyanosis	715	884	844
25 Ulcer	662	749	723	89 Spina Bifida	588	775	783
26 Fistula	205	189	236	90 Other Malformations	879	933	868
27 Mortification	3,054	3,038	2,731	13-16 (See above.)			
28 Cancer	14,331	15,185	14,948	1795 Intemperance	681	614	709
29 Gout	684	674	538	96 Privation of Food	217	179	125
30 Scrofula	7,111	7,337	6,704	97 Want of Breast-milk	2,025	1,825	1,998
31 Tabes Mesenterica	11,344	12,316	12,969	98 Neglect	86	83	75
32 Phthisis (or Consumption)	124,560	126,866	120,735	99 Cold	465	223	108
33 Hydrocephalus	17,825	18,917	18,067	100 Poison	905	1,120	1,032
34 Cephalitis	8,256	8,848	8,177	101 Burns and Scalds	7,568	7,565	6,550
35 Apoplexy	20,593	21,454	20,196	102 Hanging and Suffocation	3,130	3,406	3,380
36 Paralysis	21,213	22,022	21,006	103 Drowning	5,889	6,948	6,767
37 Delirium Tremens	1,277	1,169	1,167	104 Fractures and Contusions	13,025	14,081	12,868
38 Chorea	164	153	106	105 Wounds	1,470	1,563	1,458
39 Epilepsy	5,088	5,432	5,286	106 Other Violence	967	1,042	1,155
40 Tetanus							

(2.) Constitutional diseases.

84,458 persons died of the class of constitutional diseases; including 65,762 deaths by tubercular diseases, and 18,696 by diseases of uncertain and variable seat; the mortality by these maladies was 4.4 in 1000 of the living population. Of 100 deaths, 20, or one in 5, on an average were the result of constitutional diseases. The mortality from this class of diseases fluctuates little from year to year; but the mortality from consumption was rather less in the two last than it was in the two previous years.

(3.) Local diseases.

The human frame is so constructed, that certain diseases of its parts are fatal. 158,899 persons died of local diseases. The most important organs are naturally those of which the derangements are most fatal. Thus 52,103 persons died of diseases of the brain and of its appendages—

TABLE (4)—ENGLAND. CAUSES OF DEATH in the Year 1857, arranged in the order of Mortality.

CAUSES OF DEATH.	Number of Deaths registered in the Year 1857.	Proportional Number from each Cause to 1,000,000 Deaths from All Causes.*	CAUSES OF DEATH.	Number of Deaths registered in the Year 1857.	Proportional Number from each Cause to 1,000,000 Deaths from All Causes.*
Phthisis (or Consumption) -	50,106	120,785	Rheumatic Fever - - -	966	2,329
Age - - - - -	26,847	64,719	Syphilis - - - - -	957	2,307
Bronchitis - - - - -	25,588	61,683	Ulceration of Intestines - - -	893	2,153
Convulsions - - - - -	24,532	59,137	Pleurisy - - - - -	870	2,097
Pneumonia - - - - -	23,457	56,545	Disease of Uterus and Organs of Generation - - -	832	2,006
Diarrhoea - - - - -	21,189	51,078	Want of Breast Milk - - -	829	1,998
Premature Birth and Debility - - -	19,144	46,148	Gastritis - - - - -	816	1,967
Typhus - - - - -	18,249	43,991	Hernia - - - - -	814	1,962
Atrophy - - - - -	15,608	37,626	Infantile Fever - - -	767	1,849
Scarlatina - - - - -	14,229	34,300	Ascites - - - - -	750	1,808
Disease of Heart, &c. - - -	13,885	33,471	Rheumatism - - - - -	722	1,740
Whooping-cough - - - - -	10,138	24,439	Wounds - - - - -	605	1,458
Paralysis - - - - -	8,714	21,006	Pericarditis - - - - -	573	1,381
Dropsy - - - - -	8,452	20,374	Quinsy - - - - -	485	1,169
Apoplexy - - - - -	8,378	20,196	Delirium Tremens - - -	484	1,167
Hydrocephalus - - - - -	7,495	18,067	Diabetes - - - - -	482	1,162
Cancer - - - - -	6,201	14,948	Violent Deaths, not classified - - -	479	1,155
Measles - - - - -	5,969	14,389	Poison - - - - -	428	1,032
Tabes Mesenterica - - - - -	5,380	12,969	Insanity - - - - -	403	971
Fractures and Contusions - - -	5,338	12,868	Malformations, not otherwise distinguished - - -	360	868
Croup - - - - -	5,279	12,726	Cyanosis - - - - -	350	844
Asthma - - - - -	4,389	10,480	Disease of Skin, &c. - - -	330	795
Teething - - - - -	3,992	9,623	Aneurism - - - - -	326	786
Small-pox - - - - -	3,936	9,488	Spina Bifida - - - - -	325	783
Disease of Liver - - - - -	3,881	9,356	Ulcer - - - - -	300	723
Disease of Brain, &c. - - -	3,861	9,307	Intemperance - - - - -	294	709
Enteritis - - - - -	3,412	8,226	Stricture of the Intestinal Canal - - -	278	670
Sudden Deaths - - - - -	3,403	8,203	Remittent Fever - - - - -	270	651
Cephalitis - - - - -	3,392	8,177	Nephritis - - - - -	268	646
Drowning - - - - -	2,807	6,767	Cystitis - - - - -	258	622
Childbirth and Metria - - -	2,787	6,718	Intussusception - - - - -	254	612
Scrofula - - - - -	2,781	6,704	Carbuncle - - - - -	252	607
Burns and Scalds - - - - -	2,717	6,550	Purpura - - - - -	246	593
Disease of Lungs, &c. - - -	2,707	6,525	Ovarian Dropsy - - - - -	237	571
Disease of Stomach, &c. - - -	2,438	5,877	Gout - - - - -	223	538
Epilepsy - - - - -	2,193	5,286	Noma (or Canker) - - -	198	477
Disease of Kidneys, &c. - - -	1,859	4,481	Ague - - - - -	195	470
Dysentery - - - - -	1,608	4,093	Stricture of the Urethra - - -	184	444
Erysipelas - - - - -	1,576	3,799	Stone - - - - -	182	439
Hepatitis - - - - -	1,444	3,481	Phlegmon - - - - -	165	398
Jaundice - - - - -	1,443	3,478	Tetanus - - - - -	102	246
Peritonitis - - - - -	1,411	3,401	Fistula - - - - -	98	236
Hanging and Suffocation - - -	1,402	3,380	Ischuria - - - - -	97	234
Influenza - - - - -	1,393	3,358	Disease of Spleen - - - - -	73	176
Laryngitis - - - - -	1,359	3,276	Arthritis - - - - -	62	149
Disease of Joints, &c. - - -	1,244	2,999	Paramenia - - - - -	52	125
Hæmorrhage - - - - -	1,215	2,929	Privation of Food - - -	52	125
Thrush - - - - -	1,170	2,820	Cold - - - - -	45	108
Cholera - - - - -	1,150	2,772	Chorea - - - - -	44	106
Mortification - - - - -	1,133	2,731	Neglect - - - - -	31	75
Ileus - - - - -	1,133	2,731	Disease of Pancreas - - -	15	36
Abscess - - - - -	1,074	2,589	Hydrophobia - - - - -	3	7
Nephria (or Bright's Disease) - - -	933	2,370			

\* The causes of 4,980 deaths were not specified; in calculating the proportional numbers they have been distributed pro rata over all the causes in the Table.

the nervous system. Apoplexy and paralysis are generally the results of organic lesions; and they are nearly equally fatal. 2193 deaths were referred to epilepsy; 24,532 to convulsions. The 102 deaths by tetanus must have been indirectly the results of injuries; and the disease is rarely idiopathic.

14,784 deaths were the results of diseases of the heart and blood vessels. And the 8452 fatal dropsies in another class, were oftentimes the consequences of obstructed circulation.

Inflammation and other diseases of the respiratory organs were fatal to 58,320 persons. The diagnosis in young children and in old persons is not very certain; but in this year 25,588 deaths are referred to bronchitis, (inflammation of the air tubes), 23,457 to pneumonia, affecting the air cells and the substance of the lung. Seven years ago the proportions were reversed, and the absolute mortality by bronchitis was much below the present standard.

Of diseases of the digestive organs 23,532 persons died, including 3992 by teething, 3412 by enteritis, 1411 by peritonitis, and 814 by hernia, often from neglecting to wear a truss; 15 deaths were ascribed to disease of the pancreas, 6768 to diseases of the liver, and 73 to diseases of the spleen.

The diseases of the other organs are much less frequent and fatal. 4313 deaths were referred to the urinary organs. In few of these diseases is there any fluctuation except in nephria (Bright's disease), from which the deaths have increased progressively; they were 430, and rose to 983 in seven years.

3072 deaths were referred to the organs of generation, including 1951 by childbirth. Metria supervening on childbirth was fatal to 836 mothers; thus raising the total deaths by childbirths to 2787. The happy decrease of the danger of childbearing continues; 42 mothers died to every 10,000 children born alive in 1857; in 1847 the proportion was 60; in 1848 it was 61; and since that date the mortality has regularly declined year by year, leaving the average loss in the ten years, 51 mothers to every 10,000 children born alive.

Death in childbirth happens in many ways, and different causes operate with variable force at different ages. Thus flooding increases rapidly with age, so does rupture of the uterus. The organ wears out. Puerperal

TABLE (5).—MORTALITY OF WOMEN BEARING CHILDREN at different Ages in the Three Years 1855, 1856, and 1857.

Age of Mother.	Estimated Number of Women bearing Children, 1851.	Deaths distinguished in the Three Years 1855, 1856, and 1857.				Annual Rate of Mortality.			
		Placenta Prævia and Flooding.	Puerperal Mania.	Puerperal Convulsions.	Rupture of Uterus.	Placenta Prævia and Flooding.	Puerperal Mania.	Puerperal Convulsions.	Rupture of Uterus.
15-25	107,440	127	52	295	10	.063	.023	.158	.005
25-35	328,720	458	119	213	44	.091	.024	.042	.009
35-45	166,140	561	42	106	46	.222	.017	.042	.018
45-55	7,545	35	4	6	2	.282	.032	.048	.016
15-55	609,845	1181	217	620	102	.123	.023	.065	.011

In calculating the annual mortality a correction has been made for increase of population. The annual rate of increase (females aged 15-55) 1841-51, was .01200, and it has been assumed that the number of women bearing children increased at a uniform rate at each of the ages in the Table. At the age 15-55 there were 5,672 deaths from childbirth and 2,982 from metria in the 3 years 1855-57. Of the 5,672 deaths from childbirth (only 2,801 were designated under any of the definite headings of the class (see Supplemental Table of Causes of Death); and the deaths under each of the headings in the above Table are assumed to have been understated in the same ratio, and raised accordingly in calculating the mortality. A similar correction has been made for each age in the Table.

convulsions are much more fatal in the first period (all 15-25), when the muscular irritability is greatest. Puerperal mania is probably of most frequent occurrence in the first period, but it is most fatal in the last period. *Metria* (or childbirth fever) is much more fatal in the first periods of life, and in this respect it resembles fever.\*

The organs of locomotion, if we exclude the scrofulous and cancerous diseases of the bones, are seldom the seats of fatal diseases; the body, in fact, can live on after its limbs are lost; and the superiority of the brain over muscular power, renders life desirable even under these losses. The diseases of this class were fatal in 2028 instances.

The diseases of the integumentary system are less common than they were in the middle ages, when England was covered with hospitals for lepers. The people, however, still neglect the skin; and its excretions frequently absorbed, undoubtedly give rise to some forms of zymotic disease. The shower bath with warm, tepid, or cold water, according to circumstances, is not used by people who wash their hands and faces every day more than once.

The deaths from carbuncle were 252, and have varied little in number since 1852.

TABLE (6).—MORTALITY FROM METRIA at different AGES, in the 3 Years 1855, 1856, and 1857.

Ages of Mothers.	Estimated Number of Women bearing Children 1851.	Deaths from Metria in 1855-57.	Annual Number of Deaths from Metria to 100 Mothers living.
15-25	107,440	841	·246
25-35	328,720	1,302	·124
35-45	166,140	797	·151
45-55	7,545	42	·175
15-55	609,845	2,982	·154

In calculating the annual rate of mortality, a correction has been made for increase of population.

TABLE (7).—DEATHS OF WOMEN IN CHILDBIRTH in the Ten Years 1847-57.

YEARS.	Number of Deaths from			Deaths of Mothers to 10,000 Children born alive.
	Metria and Childbirth.	Metria.	Accidents of Childbirth.	
1847 - -	3226	784	2442	60
1848 - -	3445	1365	2080	61
1849 - -	3339	1165	2174	58
1850 - -	3252	1113	2139	55
1851 - -	3290	1009	2281	53
1852 - -	3247	972	2275	52
1853 - -	3063	795	2268	50
1854 - -	3009	954	2055	47
1855 - -	2979	1079	1900	47
1856 - -	2888	1067	1821	44
1857 - -	2787	836	1951	42
11 years 1847-57 -	34525	11139	23386	51

\* This branch of medicine is cultivated in the present day with extraordinary zeal—by men of superior ability; and a society has been recently formed for the cultivation of this important art.

(4.) *Diseases of Growth, Nutrition, and Decay, or Developmental Diseases.*

1035 persons, chiefly children, died from the imperfect development of parts of their structure; 350 of the blue disease (cyanosis); 325 from non-closure (spina bifida) of the spine; and 360 from other malformations. 26,847 deaths, or 65 in every 1000, were referred to *old age*.

(5.) *Violent Deaths.*

15,027 deaths were referred directly to external causes. The action of all these causes is not attended with any violence, but it is equally fatal when it attains a certain degree of intensity. Thus intemperance in drink and in food acts as a slow poison; and the 294 deaths so registered, as well as 484 deaths by delirium tremens, together exceed in number the deaths from all other poisons. But intemperance induces various diseases which appear under other heads; and it is difficult to over-estimate the injury to the public health arising directly and indirectly from this cause. Privation, to which 52 deaths were ascribed, was happily less fatal than in previous years. The want of breast milk is always fatal to many infants, who cannot be deprived of their natural food with impunity.

The deaths by cold may serve almost to measure the temperature of the year: thus the temperature of 1855 was low, and the deaths by cold were 195; the temperature of 1857 was high, and the deaths by cold were 45.

The deaths by burns and scalds followed the same order; in the cold year they amounted to 3177, and in the warm year to 2717. In the four years out of nine, when the annual deaths by cold exceeded 100, the deaths by burns and scalds were 2826 on an average; in the four years when the annual deaths by cold were less than 100, the deaths by burns and scalds were 2710 on an average.

The additional fires in cold weather, and the disposition to approach them without due precaution, accounts for the apparent anomaly.

The deaths by poisons are not always discovered under our imperfect system of police; yet 428 deaths were ascertained to be by poison. 2807 persons were drowned. It exceeds the number in previous years. The deaths by drowning at sea are not registered. 1402 persons died by hanging or suffocation; 605 lost their lives by wounds; 5338 died of fractures and contusions from mechanical injuries of various kinds. The number of deaths of this class reached the highest point in the year 1854; and since that year the decline has been progressive. A large proportion of these deaths is due to negligence, and to the absence of precautions against the dangers which the new mechanical agency of steam has introduced.

*Prevalence of Epidemics.*

It is a peculiarity of zymotic diseases that they are distributed irregularly over time and space. The recurrence of cholera as an epidemic is an example of the first, the Table (pp. 148-159) offers many examples of the second irregularity. Thus in the West Midland Counties (Gloucester, Hereford, Salop, Stafford, Worcester, and Warwick), 1434 persons died of small-pox; in London 156; in the West Midland Counties, on the other hand, 784 persons died of whooping-cough, in London 2527. The small-pox was fatal to 86 persons in the three counties of Gloucester, Hereford, and Salop, and to 1348 in the three counties of Stafford, Worcester, and Warwick adjacent. Whooping-cough was not diffused equally; its ravages were visible in a few districts of Gloucester, Stafford, and Warwick; few children died from the disease in Hereford, Salop, and Worcester. We may conceive the different kinds of zymotic matter distributed in clouds over the country, sometimes stretching over the whole atmosphere of the island, at other times brooding over isolated but generally dense populations, in unfavourable sanitary conditions. Scarletine is found in one place, varioline in another; rubeoline,

pertussine, enterine, choleric, influenzine, typhine, and the other organic elements being developed, and prevailing, seldom simultaneously, but in recurring successions.

A series of tables, such as that at page 148-159, will perhaps supply the means of determining the laws of epidemic succession; in the meantime they serve to express the facts as they were observed.

It may be useful to indicate some of the localities in which the principal epidemic diseases found their victims in the greatest numbers, in the year 1857.

*Small-pox* was extremely prevalent and fatal in several districts in South Staffordshire, and in contiguous parts of Worcestershire; it caused 276 deaths in Wolverhampton\*, 69 in Walsall, 171 in West Bromwich, 251 in Dudley, and 74 in Stourbridge. In Birmingham and Aston, where the neglect of vaccination has been reported by the registrars, it was fatal in 285 cases; in Liverpool and West Derby the deaths ascribed to small-pox were 188, in Prescot 118, in Manchester and Salford 113, in Sheffield and Ecclesall Bierlow 235, in York 76, in Whitehaven 75. In Cardiff, where the efficient drainage of the town has been effected, and the mortality from other epidemic diseases was light, 215 deaths were caused by small-pox.

The mortality from *measles* in the whole country was less than in the previous year, but the disease was more fatal in Hants, Devon, Salop, Stafford, Warwick, Northumberland, and a few other counties. Measles caused 1341 deaths in London, 33 in Portsea Island, 49 in Southampton, 43 in Bridport, 33 in Plymouth, 39 in Tavistock, 48 in Tiverton, 46 in Barnstaple, 42 in Penzance, 35 in Madeley (Salop), 107 in Wolverhampton, 105 in Walsall, 101 in West Bromwich, 164 in Dudley, 183 in Birmingham and Aston, 70 in Coventry, 77 in Leicester. The disease was fatal to 122 in Liverpool and West Derby, 71 in Manchester, 50 in Blackburn, 63 in Dewsbury, 103 in Sheffield and Ecclesall Bierlow, 165 in Hull and Sculcoates, 92 in Gateshead, and 133 in Newcastle-upon-Tyne.

The deaths from *scarlatina* (14,229) were nearly the same in 1857 as in the previous year (14,160). In classifying the fatal diseases diphtheria is referred to this head, and its prevalence as an epidemic was reported early in the year by the registrars in various parts of the country, who usually described it as "throat disease," "malignant sore throat," and by other like terms. Scarlatina, including diphtheria, caused 1599 deaths in the districts of London, 31 in Farnham (which includes part of the Aldershot camp), 33 in Tunbridge, 60 in Eastry (including Deal and Sandwich), 40 in Uckfield, 32 in Brighton, 122 in Southampton, 66 in Oxford and Headington, and 50 in Huntingdon. In the Eastern Counties several districts suffered. In Maldon, where, in the words of the registrar, "there was a terrible epidemic of typhus and of malignant sore throat," 51 fatal cases occurred; in Norwich 215, in Forehoe 65, and in Depwade 46. Few districts in the South Western Counties escaped; and the disease was very prevalent in Weymouth, where it caused 146 deaths, in Bridport (58 deaths), Plymouth (107), Barnstaple (83), Bideford (115), Liskeard (80), Truro (43), and Yeovil (48). In Bristol and Clifton there were 123 deaths; in Madeley 40, in Leek 93, in Wolverhampton 107, in Walsall 123, in West Bromwich 110, in Dudley 76, and in Birmingham and Aston 229. Leicester suffered to the extent of 109 deaths; and in the Hayfield district, Derbyshire, there was a severe epidemic, which proved fatal in no less than 208 cases. Every district in Cheshire and Lancashire was visited by this disease; Liverpool and West Derby lost 805 lives, Manchester and Salford 383, Ashton-under-Lyme 163, and Blackburn 231. In Yorkshire several districts suffered; there were 171 fatal cases in Skipton, 164 in Huddersfield, 193 in Halifax, 146 in Bradford, and 169 in Hull and Scul-

\* The Superintendent Registrar's district is in all cases referred to except where otherwise stated.

coates. In the Northern Counties, Durham had 70 deaths, Sunderland 105, Newcastle-upon-Tyne 67, and Tynemouth 100; in Wales, St. Asaph had 62 deaths, Llanrwst 77, Festiniog 65, Bangor 51, and Anglesey 73.

*Whooping-cough*, which was more fatal than in 1856, caused 10,138 deaths. The principal visitations of this epidemical disease were in Brighton (58 deaths), Southampton (56), Bedford (46), Redruth (116) and Chard (53), Bristol and Clifton (102), Wolverhampton (102), Dudley (60), Birmingham and Aston (123), Liverpool and West Derby (664), Manchester and Salford (395), and Sheffield (112). The districts of the Northern Counties and Wales were, with a few exceptions, exempt from severe attacks of the disease.

*Diarrhœa* began to prevail in London early in July with more force than usual at that period of the year; several cases of cholera and choleraic diarrhœa also occurred. In the week ending July 25th, 259 deaths from diarrhœa were registered in London, and the number rose to 302 in the following week, after which it slowly declined. The disease was fatal in London in the year to 3115 persons. In the South Eastern Counties it was prevalent in Kingston (40 deaths), Dartford (41), Medway (80), Maidstone (52), Thanet (49), Brighton (107), Portsea Island (96), Southampton (52). In the South Midland Counties, there were 72 deaths in Brentford, 78 in Northampton, 50 in Bedford, 50 in Biggleswade, 98 in Luton. In the Eastern Counties, West Ham lost 81, Ipswich 51, Yarmouth 75, and Norwich 138. The districts of the South Western Counties were comparatively exempt, excepting Plymouth (79 deaths), Stoke Damerel (55), Penzance (47), and Bath (65). In South Staffordshire diarrhœa held its place with other epidemics, and proved fatal in 280 cases in Wolverhampton, 130 in Walsall, 137 in West Bromwich, and 326 in Dudley. No less than 795 persons succumbed under this disease in Birmingham and Aston; 145 in Coventry, 201 in Leicester, 187 in Nottingham, 233 in Stockport, 954 in Liverpool and West Derby, 866 in Manchester and Salford, 243 in Ashton, and 234 in Oldham. Amongst the Yorkshire districts, those which suffered most severely were Bradford (256 deaths), Leeds and Hunslet (440), Sheffield (282), Hull and Sculcoates (180). In the Northern counties the disease prevailed most in Stockton (117 deaths), Sunderland (165), and Newcastle-upon-Tyne (169). Of 368 deaths in North and South Wales, 201 occurred in Glamorganshire.

Not one of the 629 districts escaped without any deaths from *typhoid*, or some of the other forms of continued fever. There were 2096 fatal cases in London, 119 in Portsea Island, 91 in Chelmsford, 83 in Sudbury, 113 in Norwich, 142 in Bristol and Clifton, 198 in Wolverhampton\*, 84 in Walsall, 156 in West Bromwich, 179 in Dudley, 300 in Birmingham and

\* The unsatisfactory sanitary condition of the principal districts in South Staffordshire is forcibly shown by the following table of the deaths from certain zymotic diseases in Wolverhampton, Walsall, West Bromwich, and Dudley, which contained in 1851 a population of 323,461; and in all the other districts of Staffordshire, with a population of 307,084:—

DISTRICTS.	Population, 1851.	Small-pox.		Measles.		Scarlatina.		Whooping-cough.		Diarrhœa, Dysentery, and Cholera.		Typhus.	
		1856.	1857.	1856.	1857.	1856.	1857.	1856.	1857.	1856.	1857.	1856.	1857.
WOLVERHAMPTON - -	104,158	5	276	189	107	23	107	42	102	199	285	133	198
WALSALL - - -	43,044	80	69	41	105	24	123	11	18	70	130	69	84
WEST BROMWICH - -	69,729	30	171	55	101	81	110	46	14	52	153	98	156
DUDLEY - - - -	106,530	31	251	34	164	23	76	68	60	208	348	162	179
TOTAL of the Four DISTRICTS - - -	323,461	146	767	319	477	151	416	167	194	529	925	462	617
Other DISTRICTS of STAFF- ORDSHIRE - - -	307,084	7	124	89	100	207	225	108	73	293	371	214	293

Aston, and 140 in Leicester. The mortality from this disease was generally high in the districts of Cheshire and Lancashire. In Yorkshire, 131 fatal cases occurred in Huddersfield, 204 in Bradford, 211 in Leeds and Hunslet, 171 in Sheffield, and 154 in Hull and Sculcoates. Sunderland lost 98, Newcastle-upon-Tyne 108, Abergavenny 116, and Merthyr Tydfil 176 lives.

*Method of comparing the Local Rates of Mortality with the Standard Rate.*

We have no means of ascertaining what the rate of mortality would be among men living in the most favourable sanitary conditions; otherwise observations for a term of years on a considerable number of such persons would supply a standard rate with which other rates could be compared.

In the absence of such a standard, the districts of England in which the mortality rate did not exceed 17 annual deaths in 1000 living, have been selected as the basis of a new life table, which will shortly be published, as the nearest approximation we can obtain to a table representing the human race in the normal state.

The 5th column in the annexed table shows the rates of mortality at 12 different ages in the districts of England which we call, for the sake of distinction, healthy. The sanitary conditions are often defective, but

TABLE showing the Method to be employed in comparing the RATES of MORTALITY in the HEALTHY DISTRICTS of ENGLAND, with the Rates prevailing in other Districts. LONDON is given as an example.

LONDON.					
AGES.	Population estimated to the middle of 1851.	Average Annual Deaths in the 5 Years 1849-53.	Average Annual Rate of Mortality in the 5 Years 1849-53.	Average Annual Mortality in Healthy Districts (1849-53).	Average Annual Deaths which would have occurred if the Mortality had been the same as in Healthy Districts.
1	2	3	4	5	6
MALES.					
0-	147390	12156	·08247	·04348	6367
5-	121977	1274	·01045	·00874	817
10-	107745	569	·00528	·00384	412
15-	208028	1669	·00802	·00691	1432
25-	195983	2178	·01111	·00818	1596
35-	145165	2504	·01725	·00928	1341
45-	96559	2542	·02632	·01273	1223
55-	54479	2396	·04398	·02294	1243
65-	26514	2299	·08670	·05486	1446
75-	7387	1294	·17522	·12817	942
85-	794	272	·34247	·28350	225
95 and upwards	48	19	·40047	·40000	19
All Ages -	1112069	29172	·02623	*·01534	17063
FEMALES.					
0-	147969	10635	·07187	·03720	5473
5-	123082	1220	·00991	·00702	859
10-	109701	540	·00492	·00480	524
15-	248763	1619	·00651	·00765	1896
25-	233846	2213	·00947	·00894	2082
35-	165265	2345	·01419	·00998	1642
45-	113007	2241	·01983	·01192	1338
55-	69308	2460	·03549	·02162	1487
65-	36496	2645	·07247	·04992	1809
75-	12582	1936	·15384	·11866	1483
85-	1793	514	·28685	·26711	477
95 and upwards	102	42	·41611	·45000	46
All Ages -	1261914	28410	·02251	*·01515	19116
Persons -	2,373,983	57,582	·02425	*·01524	36,179

The Table may be read thus:—The number of persons living in London in the middle of 1851 at the age 15–25 was 208,028, and the average annual deaths in the 5 years 1849–53 were 1669, the average annual rate of mortality being ·00802, or rather more than 8 in 1000; the average annual mortality in the Healthy Districts at those ages in the 5 years 1849–53 was ·00691, or nearly 7 in 1000; the average annual deaths in London at that rate would have amounted to 1432.

\* This is the rate of mortality that would prevail in the healthy districts at all ages if the distribution of the ages were the same as they were in London in 1851.

the defects are counterbalanced; so that the districts being much less unhealthy than the average, may be so designated.

It will be observed that if the population (2,373,983) be multiplied by 17, and the product be divided by 1000, the resulting number (40,358) will represent the annual deaths that would take place in London if the mortality were at the rate of 17 in 1000 annually. The actual rate of mortality in those districts was 17·72 in 1000 males, and 17·33 in 1000 females.

But the population experienced very different rates of mortality at different ages, and the proportional numbers living in London at the various periods of life is not the same as it is in the country districts, which send out emigrants. London is supported partly by immigrants and partly by births. It has hence an excessive number of people in the prime of life. Accordingly, it is found that with the population as it was distributed in 1851 the annual deaths in London would not exceed 36,179, or the annual mortality would be 15 in 1000 if the rates of mortality at each of the 12 periods of life were the same as those prevailing in the healthy districts.

Example: The number of boys under 5 years of age was 147,390; the annual rate of mortality in the healthy districts was ·04348; and multiplying these two fractions together, 147,390 × ·04348 = 6367 deaths which would have happened at London had the mortality been at the same rate as it was in the healthy districts.

By continuing the process, the numbers in column 6 are obtained, amounting in the aggregate to 36,179; the mortality in London should therefore have been  $\frac{36,179}{2,373,983} = \cdot0152$  or 15 in 1000.

All towns like Liverpool, Glasgow, and Manchester, have an excess of that part of the population which experiences, on account of age, less than the average rate of mortality. A part of the mortality of the towns is therefore marked by this circumstance.

And the effect of a correction for age such as has been employed in the Registrar General's reports shows that the number of *unnatural deaths* is always understated by comparing the total deaths with the deaths which would take place at the rate of 17 in 1000.

It is shown in the table that, on an average, 57,582 persons died in London annually during the five years 1849–53, whereas the deaths should not, at rates of mortality then prevailing in certain districts of England, have exceeded 36,179; consequently 21,403 unnatural deaths took place every year in London. It will be the office of the Boards of Works to reduce this dreadful sacrifice of life to the lowest point, and thus to deserve well of their country.

In Liverpool, by the same method, it is found that 6418 lives were lost in the year 1857, in excess of the deaths at the healthy rates.\* In Manchester the sickness and mortality are also excessive.

\* DEATHS in 1857 in the Borough of LIVERPOOL, and the Number that would have happened if the Rate of Mortality had been the same as in Healthy Districts of England.

	Deaths registered in 1857.	Deaths that would have happened at the Rates prevailing in 63 Healthy Districts.	Excess of Deaths over the Deaths that would have happened at the Rates prevailing in 63 Healthy Districts.
LIVERPOOL BOROUGH - - -	12,895	6,477	6,418
West Derby, Everton, and Toxteth } Park Sub-districts - - -	3,778†	2,529	1,249
Liverpool District - - -	9,117	3,948	5,169

† The deaths actually registered in the three sub-districts were 4,176. To allow for the population included in the sub-districts, but not belonging to the borough; this number has been reduced to 3,778, by assuming that the deaths which occurred beyond the limits of the borough bore the same proportion to population as the total deaths bore to the total population of the three sub-districts.



We may hope that speedy measures will be adopted to heal the sicknesses of the large central cities, so that the smaller towns, and the country itself, may learn sanitary lessons from their improvements. Instead of being sickly, they will then be justly famed for salubrity and for their piety in observing the divine laws.

THE NEW FEMALE LIFE TABLE.

A male *Life Table* for England was prepared some time ago, and was published in the Appendix to the Registrar General's 12th Report, with formulas and remarks on its properties and applications.

A similar FEMALE LIFE TABLE for England has been computed, and will be found in the Appendix.

The chief facts on which the two tables are founded have been transcribed from the Registrar General's 9th Report, pp. 176-7. On the construction of Life Tables, see the Appendices to the 5th and to the 6th Reports. I have prepared another paper expressly on that subject, and it was read recently before the Royal Society.

The new Female Life Table is accompanied by a Table (p. 204.), showing in juxtaposition the mortality of males and females at each year of age.

The whole of the Tables (pp. 178-203), were calculated independently in duplicate by Mr. W. Clode and Mr. F. J. Williams. The results were afterwards compared and corrected. The proofs, after having been carefully read, were returned to the printers (Messrs. Eyre and Spottiswoode); and the corrected proofs were read a second time before they were sent to press.

I have the honour to remain,

Sir,

Your very faithful servant,

WILLIAM FARR.

To

The Registrar-General.

ENGLISH LIFE TABLE, No. 2.

FEMALES.

(Corresponding Tables for Males appeared in the Appendix to the Twelfth Annual Report.)

Note.—The ANNUITY TABLES (pp. 194-197) are calculated for Three Rates of Interest (3, 4, and 5 per cent.)

$$v = \frac{1}{1.03} = .97087379; \lambda \bar{1}.9871628$$

$$v = \frac{1}{1.04} = .96153846; \lambda \bar{1}.9829667$$

$$v = \frac{1}{1.05} = .95238095; \lambda \bar{1}.9788107$$

Interest 3 per cent. ;  $1 - v = d = .02912621$  and  $\lambda d = \bar{2}.4642840$

Interest 4 per cent. ;  $1 - v = d = .03846154$  and  $\lambda d = \bar{2}.5350267$

Interest 5 per cent. ;  $1 - v = d = .04761905$  and  $\lambda d = \bar{2}.6777803$

TABLE 1. SUMMARY of RESULTS deduced from the ENGLISH LIFE TABLE—No. 2. FEMALES.—(See note.)

(In the Calculations which involve the Value of Money, the Interest allowed is 3 per Cent. per Annum.)

Age (or Birthday).	TO 1000 CHILDREN BORN ALIVE, the number of FEMALES LIVING on each Birthday.	FEMALES DYING in the Year following each Birthday.	Afterlifetime (or Expectation of Life). In Years.	FEMALES.		TO INSURE £100 ON THE LIFE OF A FEMALE.		PRESENT VALUE OF A LIFE ANNUITY OF £1.	LIFE ANNUITY WHICH £100 WILL PURCHASE.
				D.	N.	Uniform Annual Premiums.	Premium for a Single Year.		
								(First Payment at the beginning of each Year.)	
0	487	64	42	487	9696	£ 2 2 3	12 15 7	19 17 11	5 0 6
1	423	26	47	411	9209	1 11 0	5 17 7	22 8 3	4 9 3
2	398	15	49	375	8798	1 6 11	3 11 4	23 9 6	4 5 2
3	383	10	50	350	8423	1 5 0	2 10 0	24 0 8	4 3 3
4	373	7	51	332	8072	1 3 11	1 17 1	24 7 0	4 2 2
5	366	5	51	316	7741	1 3 4	1 7 4	24 10 4	4 1 7
6	361	4	50	302	7425	1 3 2	1 0 2	24 11 5	4 1 5
7	357	3	50	290	7123	1 3 3	0 16 5	24 10 8	4 1 6
8	354	2	49	280	6833	1 3 7	0 13 7	24 8 11	4 1 10
9	352	2	49	269	6553	1 4 0	0 12 11	24 6 4	4 2 3
10	349	2	48	260	6284	1 4 6	0 9 11	24 3 7	4 2 9
11	347	2	47	251	6024	1 5 1	0 9 8	23 19 11	4 3 4
12	346	2	46	243	5773	1 5 9	0 9 7	23 16 1	4 4 0
13	344	2	46	234	5530	1 6 6	0 10 0	23 12 1	4 4 9
14	342	2	45	226	5296	1 7 2	0 11 6	23 8 1	4 5 5
15	340	2	44	218	5070	1 7 11	0 11 4	23 4 3	4 6 2
16	338	3	43	211	4851	1 8 8	0 14 6	23 0 4	4 6 11
17	336	3	43	203	4641	1 9 4	0 15 5	22 16 11	4 7 7
18	333	3	42	196	4437	1 9 11	0 15 9	22 13 8	4 8 2
19	330	3	41	188	4242	1 10 7	0 16 0	22 10 3	4 8 10
20	328	3	41	181	4053	1 11 3	0 16 3	22 6 10	4 9 6
21	325	3	40	175	3872	1 12 0	0 16 7	22 3 5	4 10 3
22	322	3	39	168	3697	1 12 8	0 16 10	21 19 10	4 10 11
23	319	3	39	162	3529	1 13 5	0 17 2	21 16 3	4 11 8
24	317	3	38	156	3367	1 14 3	0 17 6	21 12 7	4 12 6
25	314	3	37	150	3212	1 15 0	0 17 10	21 8 9	4 13 3
26	311	3	37	144	3062	1 15 10	0 18 2	21 4 11	4 14 2
27	308	3	36	139	2918	1 16 9	0 18 6	21 1 1	4 15 0
28	305	3	35	133	2779	1 17 8	0 18 11	20 17 1	4 15 11
29	302	3	35	128	2646	1 18 7	0 19 3	20 13 0	4 16 10
30	299	3	34	123	2518	1 19 7	0 19 8	20 8 10	4 17 10
31	296	3	33	118	2395	2 0 7	1 0 1	20 4 7	4 18 10
32	293	3	33	114	2276	2 1 8	1 0 6	20 0 3	4 19 11
33	290	3	32	109	2162	2 2 10	1 0 11	19 15 10	5 1 1
34	287	3	31	105	2053	2 4 0	1 1 4	19 11 4	5 2 3
35	284	3	31	101	1948	2 5 2	1 1 9	19 6 9	5 3 5
36	280	3	30	97	1848	2 6 5	1 2 3	19 2 0	5 4 8
37	277	3	29	93	1751	2 7 9	1 2 9	18 17 3	5 6 0
38	274	3	29	89	1658	2 9 2	1 3 3	18 12 3	5 7 5
39	271	3	28	85	1569	2 10 8	1 3 9	18 7 3	5 8 11
40	267	3	28	82	1483	2 12 3	1 4 3	18 2 1	5 10 6
41	264	3	27	79	1402	2 13 10	1 4 9	17 16 10	5 12 1
42	261	3	26	75	1323	2 15 7	1 5 4	17 11 5	5 13 10
43	257	3	26	72	1248	2 17 5	1 5 10	17 5 10	5 15 8
44	254	3	25	69	1176	2 19 4	1 6 5	17 0 2	5 17 7
45	250	3	24	66	1106	3 1 5	1 7 0	16 14 3	5 19 8
46	247	4	24	63	1040	3 3 7	1 7 7	16 8 3	6 1 10
47	243	4	23	61	977	3 5 11	1 8 3	16 2 1	6 4 2
48	240	4	22	58	916	3 8 5	1 8 10	15 15 9	6 6 8
49	236	4	22	56	858	3 11 1	1 9 6	15 9 3	6 9 4

NOTE.—Dr. Farr's letter to the Registrar General on the "FINANCE OF LIFE ASSURANCE," and on the PROPERTIES and APPLICATIONS of the ENGLISH LIFE TABLE, No. 2., as well as the series of LIFE ANNUITIES and INSURANCE TABLES for MALES,

corresponding with this and the following Tables for FEMALES, were published in the Appendix to the Twelfth Annual Report (8vo.) of the Registrar General, pp. i.—xlv., and pp. 1—52.

SUMMARY of RESULTS deduced from the ENGLISH LIFE TABLE—No. 2. FEMALES—cont.

(In the Calculations which involve the Value of Money, the Interest allowed is 3 per Cent. per Annum.)

Age (or Birthday).	TO 1000 CHILDREN BORN ALIVE, the number of FEMALES LIVING on each Birthday.	FEMALES DYING in the Year following each Birthday.	Afterlifetime (or Expectation of Life). In Years.	FEMALES.		TO INSURE £100 ON THE LIFE OF A FEMALE.		PRESENT VALUE OF A LIFE ANNUITY OF £1.	LIFE ANNUITY WHICH £100 WILL PURCHASE.
				D.	N.	Uniform Annual Premiums.	Premium for a Single Year.		
								(First Payment at the beginning of each Year.)	
50	233	4	21	53	803	£ 3 14 0	1 10 11	15 2 6	6 12 3
51	229	4	20	51	750	3 17 0	1 12 10	14 15 8	6 15 3
52	225	4	20	48	699	4 0 3	1 14 10	14 8 10	6 18 6
53	221	4	19	46	650	4 3 7	1 16 10	14 2 0	7 1 10
54	217	4	18	44	604	4 7 2	1 18 11	13 15 1	7 5 5
55	212	4	18	42	560	4 11 0	2 1 0	13 8 1	7 9 3
56	208	5	17	40	519	4 15 0	2 3 4	13 1 0	7 13 3
57	203	5	16	38	479	4 19 3	2 5 10	12 13 11	7 17 6
58	199	5	16	36	441	5 3 10	2 8 7	12 6 9	8 2 1
59	194	5	15	34	405	5 8 9	2 11 8	11 19 7	8 7 0
60	188	5	14	32	372	5 13 11	2 15 0	11 12 4	8 12 2
61	183	6	14	30	340	5 19 5	2 18 9	11 5 1	8 17 9
62	178	6	13	28	309	6 5 5	3 2 10	10 17 10	9 3 8
63	172	6	13	27	281	6 11 8	3 7 5	10 10 7	9 9 11
64	166	6	12	25	254	6 18 5	3 12 6	10 3 4	9 16 8
65	160	6	12	23	229	7 5 8	3 18 2	9 16 2	10 3 11
66	153	7	11	22	206	7 13 4	4 4 4	9 9 1	10 11 7
67	147	7	11	20	184	8 1 5	4 11 2	9 2 1	10 19 8
68	140	7	10	19	164	8 10 1	4 18 7	8 15 2	11 8 5
69	133	7	10	17	145	8 19 4	5 6 8	8 8 4	11 17 7
70	125	7	9	16	128	9 9 2	5 15 6	8 1 8	12 7 5
71	118	8	9	14	112	9 19 6	6 5 1	7 15 2	12 17 9
72	110	8	8	13	98	10 10 7	6 15 6	7 8 10	13 8 10
73	103	8	8	12	85	11 2 2	7 6 8	7 2 8	14 0 5
74	95	8	7	11	73	11 14 6	7 18 8	6 16 7	14 12 9
75	87	8	7	9	62	12 7 6	8 11 6	6 10 10	15 5 9
76	79	8	7	8	53	13 1 3	9 5 3	6 5 2	15 19 6
77	72	7	6	7	44	13 15 9	9 19 10	5 19 9	16 14 0
78	64	7	6	6	37	14 10 11	10 15 5	5 14 7	17 9 2
79	57	7	6	6	30	15 6 11	11 11 11	5 9 7	18 5 2
80	50	6	5	5	25	16 3 7	12 9 4	5 4 9	19 1 10
81	44	6	5	4	20	17 1 2	13 7 8	5 0 2	19 19 5
82	38	6	5	3	16	17 19 6	14 7 0	4 15 9	20 17 9
83	32	5	5	3	13	18 18 8	15 7 3	4 11 7	21 16 11
84	27	5	4	2	10	19 18 8	16 8 5	4 7 7	22 16 11
85	23	4	4	2	8	20 19 5	17 10 7	4 3 9	23 17 8
86	19	4	4	1	6	22 1 1	18 13 8	4 0 1	24 19 4
87	15	3	4	1	4	23 3 6	19 17 8	3 16 8	26 1 9
88	12	3	3	1	3	24 6 8	21 2 6	3 13 5	27 5 0
89	9	2	3	1	2	25 10 9	22 8 4	3 10 4	28 9 0
90	7	2	3	1	2	26 15 7	23 15 0	3 7 4	29 13 10
91	5	1	3	0	1	..	..	3 4 7	30 19 5
92	4	1	3	..	1	..	..	3 1 11	32 5 9
93	3	1	3	..	1	..	..	2 19 5	33 12 10
94	2	1	3	..	0	..	..	2 17 1	35 0 9
95	1	0	2	..	..	..	..	2 14 10	36 9 3
96	1	..	2	..	..	..	..	2 12 9	37 18 5
97	1	..	2	..	..	..	..	2 10 9	39 8 3
98	0	..	2	..	..	..	..	2 8 10	40 18 8
99	..	..	2	..	..	..	..	2 7 0	42 10 11
100	..	..	2	..	..	..	..	2 5 4	44 2 8

TABLE 2. ENGLISH LIFE TABLE.—No. 2. FEMALES.

Age (or Birth-day).	DYING in each Year of Age, 0-1, 1-2, to 110-111.	BORN and LIVING at each Age (or at each Birthday).	SUM of the NUMBERS BORN and LIVING at each Age (x) from x to the last Age in the Table.	POPULATION or the LIVING in each Year of Age 0-1, 1-2, &c.	SUM of the LIVING in every Year: and of the LIVING of every Age (x) and upwards to the last Age in the Table; also the YEARS which the Females D <sub>x</sub> WILL LIVE.	The YEARS which the Females at the Age x and upwards WILL LIVE also the YEARS which they HAVE LIVED over x.
x	C <sub>x</sub>	D <sub>x</sub>	N <sub>x</sub>	P <sub>x</sub>	Q <sub>x</sub>	Y <sub>x</sub>
0	641 426	4 873 765	207 435 032	4 463 676	204 908 774	6 646 270 977
1	256 346	4 232 339	202 561 267	4 104 166	200 445 098	6 443 594 041
2	146 049	3 975 993	198 328 928	3 902 969	196 340 932	6 245 201 026
3	98 599	3 829 944	194 352 935	3 780 644	192 437 963	6 050 811 578
4	71 254	3 731 345	190 522 991	3 695 718	188 657 319	5 860 263 937
5	51 534	3 660 091	186 791 646	3 634 324	184 961 601	5 673 454 477
6	37 479	3 608 557	183 131 555	3 589 818	181 327 277	5 490 310 038
7	30 154	3 571 078	179 522 998	3 556 001	177 737 459	5 310 777 670
8	24 840	3 540 924	175 951 920	3 528 504	174 181 458	5 134 818 212
9	23 410	3 516 084	172 410 996	3 504 379	170 652 954	4 962 401 006
10	17 837	3 492 674	168 894 912	3 483 755	167 148 575	4 793 500 241
11	17 261	3 474 837	165 402 238	3 466 207	163 664 820	4 628 093 544
12	17 107	3 457 576	161 927 401	3 449 022	160 198 613	4 466 161 827
13	17 776	3 440 469	158 469 825	3 431 581	156 749 591	4 307 687 725
14	20 339	3 422 693	155 029 356	3 412 524	153 318 010	4 152 653 925
15	19 812	3 402 354	151 606 663	3 392 448	149 905 486	4 001 042 177
16	25 207	3 382 542	148 204 309	3 369 938	146 513 038	3 852 832 915
17	26 700	3 357 335	144 821 767	3 343 985	143 143 100	3 708 004 846
18	26 946	3 330 635	141 464 432	3 317 162	139 799 115	3 566 533 738
19	27 198	3 303 689	138 133 797	3 290 090	136 481 953	3 428 393 204
20	27 455	3 276 491	134 830 108	3 262 764	133 191 863	3 293 556 296
21	27 719	3 249 036	131 553 617	3 235 176	129 929 099	3 161 995 815
22	27 985	3 221 317	128 304 581	3 207 325	126 693 923	3 033 684 304
23	28 258	3 193 332	125 083 264	3 179 203	123 486 598	2 908 594 044
24	28 536	3 165 074	121 889 932	3 150 806	120 307 395	2 786 697 047
25	28 819	3 136 538	118 724 858	3 122 128	117 156 589	2 667 965 055
26	29 104	3 107 719	115 588 320	3 093 167	114 034 461	2 552 369 530
27	29 395	3 078 615	112 480 601	3 063 918	110 941 294	2 439 881 653
28	29 688	3 049 220	109 401 986	3 034 376	107 877 376	2 330 472 318
29	29 987	3 019 532	106 352 766	3 004 538	104 843 000	2 224 112 130
30	30 285	2 989 545	103 333 234	2 974 403	101 838 462	2 120 771 399
31	30 589	2 959 260	100 343 689	2 943 965	98 864 059	2 020 420 138
32	30 893	2 928 671	97 384 429	2 913 225	95 920 094	1 923 028 062
33	31 199	2 897 778	94 455 758	2 882 178	93 006 869	1 828 564 580
34	31 508	2 866 579	91 557 980	2 850 825	90 124 691	1 736 998 800
35	31 816	2 835 071	88 691 401	2 819 163	87 273 866	1 648 299 522
36	32 124	2 803 255	85 856 330	2 787 193	84 454 703	1 562 435 237
37	32 433	2 771 131	83 053 075	2 754 915	81 667 510	1 479 374 131
38	32 739	2 738 698	80 281 944	2 722 328	78 912 595	1 399 084 078
39	33 045	2 705 959	77 543 246	2 689 437	76 190 267	1 321 532 647
40	33 350	2 672 914	74 837 287	2 656 239	73 500 830	1 246 687 099
41	33 650	2 639 564	72 164 373	2 622 739	70 844 591	1 174 514 388
42	33 949	2 605 914	69 524 809	2 588 939	68 221 852	1 104 981 167
43	34 242	2 571 965	66 918 895	2 554 844	65 632 913	1 038 053 784
44	34 532	2 537 723	64 346 930	2 520 457	63 078 069	973 698 293
45	34 816	2 503 191	61 809 207	2 485 783	60 557 612	911 880 453
46	35 095	2 468 375	59 306 016	2 450 828	58 071 829	852 565 732
47	35 367	2 433 280	56 837 641	2 415 596	55 621 001	795 719 317
48	35 630	2 397 913	54 404 361	2 380 098	53 205 405	741 306 114
49	35 887	2 362 283	52 006 448	2 344 340	50 825 307	689 290 758
50	37 047	2 326 396	49 644 165	2 307 872	48 480 967	639 637 621
51	38 753	2 289 349	47 317 769	2 269 973	46 173 095	592 310 590
52	40 368	2 250 596	45 028 420	2 230 412	43 903 122	547 272 482
53	41 912	2 210 228	42 777 824	2 189 272	41 672 710	504 484 566
54	43 412	2 168 316	40 567 596	2 146 610	39 483 438	463 906 492

ENGLISH LIFE TABLE.—No. 2. FEMALES—continued.

x	C <sub>x</sub>	D <sub>x</sub>	N <sub>x</sub>	$\frac{1}{2}(D_x + D_{x+1}) = D_{x+1} + \frac{1}{2}C_x$	$\sum P_x$	$\sum \frac{1}{2}(Q_x + Q_{x+1}) = Y_{x+1} + (Q_{x+1} + \frac{1}{2}P_x)$
55	44 909	2 124 904	38 399 280	2 102 449	37 336 828	425 496 359
56	46 439	2 079 995	36 274 376	2 056 776	35 234 379	389 210 755
57	48 030	2 033 556	34 194 381	2 009 541	33 177 603	355 004 764
58	49 706	1 985 526	32 160 825	1 960 673	31 168 062	322 831 932
59	51 484	1 935 820	30 175 299	1 910 078	29 207 389	292 644 206
60	53 373	1 884 336	28 239 479	1 857 649	27 297 311	264 391 856
61	55 375	1 830 963	26 355 143	1 803 276	25 439 662	238 023 370
62	57 483	1 775 588	24 524 180	1 746 846	23 636 386	213 485 346
63	59 683	1 718 105	22 748 592	1 688 264	21 889 540	190 722 383
64	61 951	1 658 422	21 030 487	1 627 446	20 201 276	169 676 975
65	64 253	1 596 471	19 372 065	1 564 345	18 573 830	150 289 422
66	66 549	1 532 218	17 775 594	1 498 943	17 009 485	132 497 764
67	68 787	1 465 669	16 243 376	1 431 276	15 510 542	116 237 751
68	70 913	1 396 882	14 777 707	1 361 425	14 079 266	101 442 847
69	72 860	1 325 969	13 380 825	1 289 539	12 717 841	88 044 293
70	74 560	1 253 109	12 054 856	1 215 829	11 428 302	75 971 222
71	75 941	1 178 549	10 801 747	1 140 579	10 212 473	65 150 834
72	76 933	1 102 608	9 623 198	1 064 141	9 071 894	55 508 651
73	77 463	1 025 675	8 520 590	986 944	8 007 753	46 968 827
74	77 473	948 212	7 494 915	909 475	7 020 809	39 454 546
75	76 909	870 739	6 546 703	832 285	6 111 334	32 888 475
76	75 730	793 830	5 675 964	755 965	5 279 049	27 193 283
77	73 917	718 100	4 882 134	681 141	4 523 084	22 292 217
78	71 466	644 183	4 164 034	608 450	3 841 943	18 109 703
79	68 395	572 717	3 519 851	538 520	3 233 493	14 571 985
80	64 749	504 322	2 947 134	471 947	2 694 973	11 607 752
81	60 592	439 573	2 442 812	409 277	2 223 026	9 148 753
82	56 007	378 981	2 003 239	350 978	1 813 749	7 130 365
83	51 099	322 974	1 624 258	297 424	1 462 771	5 492 105
84	45 983	271 875	1 301 284	248 884	1 165 347	4 178 046
85	40 782	225 892	1 029 409	205 501	916 463	3 137 141
86	35 619	185 110	803 517	167 300	710 962	2 323 429
87	30 613	149 491	618 407	134 185	543 662	1 696 117
88	25 868	118 878	468 916	105 944	409 477	1 219 547
89	21 474	93 010	350 038	82 273	303 533	863 042
90	17 498	71 536	257 028	62 787	221 260	600 646
91	13 982	54 038	185 492	47 047	158 473	410 779
92	10 947	40 056	131 454	34 582	111 426	275 830
93	8 391	29 109	91 398	24 914	76 844	181 695
94	6 289	20 718	62 289	17 573	51 930	117 308
95	4 606	14 429	41 571	12 126	34 357	74 164
96	3 293	9 823	27 142	8 177	22 231	45 870
97	2 296	6 530	17 319	5 382	14 054	27 728
98	1 559	4 234	10 789	3 454	8 672	16 365
99	1 030	2 675	6 555	2 160	5 218	9 420
100	661	1 645	3 880	1 315	3 058	5 282
101	413	984	2 235	777	1 743	2 881
102	249	571	1 251	447	966	1 527
103	146	322	680	249	519	784
104	83	176	358	134	270	390
105	46	93	182	70	136	187
106	24	47	89	35	66	86
107	12	23	42	17	31	37
108	6	11	19	8	14	15
109	3	5	8	4	6	5
110	1	2	3	2	2	1
111	1	1	1	0	0	0

TABLE 3. ENGLISH LIFE TABLE—No. 2. FEMALES.

Age $x$	$D_x$	$Q_x$	$Y_x$	$\lambda D_x$	$\lambda Q_x$	$\lambda Y_x$
0	4 873 765	204 908 774	6 646 270 977	6.687 8644	8.311 5607	9.822 5781
1	4 232 339	200 445 098	6 443 594 041	6.626 5804	8.301 9955	9.809 1282
2	3 975 993	196 340 932	6 245 201 026	6.599 4456	8.293 0108	9.795 5465
3	3 829 944	192 437 963	6 050 811 578	6.583 1924	8.284 2908	9.781 8136
4	3 731 345	188 657 319	5 860 263 937	6.571 8654	8.275 6736	9.767 9171
5	3 660 091	184 961 601	5 673 454 477	6.563 4919	8.267 0816	9.753 8476
6	3 608 557	181 327 277	5 490 310 038	6.557 3335	8.258 4632	9.739 5969
7	3 571 078	177 737 459	5 310 777 670	6.552 7994	8.249 7791	9.725 1582
8	3 540 924	174 181 458	5 134 818 212	6.549 1166	8.241 0021	9.710 5251
9	3 516 084	170 652 954	4 962 401 006	6.546 0592	8.232 1139	9.695 6919
10	3 492 674	167 148 575	4 793 500 241	6.543 1581	8.223 1028	9.680 6527
11	3 474 837	163 664 820	4 628 093 544	6.540 9345	8.213 9552	9.665 4022
12	3 457 576	160 198 613	4 466 161 827	6.538 7717	8.204 6587	9.649 9345
13	3 440 469	156 749 591	4 307 687 725	6.536 6176	8.195 2064	9.634 2443
14	3 422 693	153 318 010	4 152 653 925	6.534 3679	8.185 5931	9.618 3258
15	3 402 354	149 905 486	4 001 042 177	6.531 7795	8.175 8176	9.602 1731
16	3 382 542	146 513 038	3 852 832 915	6.529 2432	8.165 8762	9.585 7802
17	3 357 335	143 143 100	3 708 004 846	6.525 9947	8.155 7704	9.569 1403
18	3 330 635	139 799 115	3 566 533 738	6.522 5271	8.145 5044	9.552 2404
19	3 303 689	136 481 953	3 428 393 204	6.518 9992	8.135 0754	9.535 0906
20	3 276 491	133 191 863	3 293 556 296	6.515 4090	8.124 4778	9.517 6651
21	3 249 036	129 929 099	3 161 995 815	6.511 7545	8.113 7064	9.499 9613
22	3 221 317	126 693 923	3 033 684 304	6.508 0336	8.102 7557	9.481 9703
23	3 193 332	123 486 598	2 908 594 044	6.504 2441	8.091 6199	9.463 6831
24	3 165 074	120 307 395	2 786 697 047	6.500 3838	8.080 2923	9.445 0897
25	3 136 538	117 156 589	2 667 965 055	6.496 4505	8.068 7668	9.426 1801
26	3 107 719	114 034 461	2 552 369 530	6.492 4418	8.057 0362	9.406 9436
27	3 078 615	110 941 294	2 439 881 653	6.488 3554	8.045 0933	9.387 3688
28	3 049 220	107 877 376	2 330 472 318	6.484 1888	8.032 9305	9.367 4439
29	3 019 532	104 843 000	2 224 112 130	6.479 9396	8.020 5395	9.347 1567
30	2 989 545	101 838 462	2 120 771 399	6.475 6052	8.007 9120	9.326 4938
31	2 959 260	98 864 059	2 020 420 138	6.471 1831	7.995 0385	9.305 4417
32	2 928 671	95 920 094	1 923 028 062	6.466 6706	7.981 9096	9.283 9856
33	2 897 778	93 006 869	1 828 564 580	6.462 0651	7.968 5150	9.262 1104
34	2 866 579	90 124 691	1 736 998 800	6.457 3638	7.954 8438	9.239 7996
35	2 835 071	87 273 866	1 648 299 522	6.452 5639	7.940 8843	9.217 0363
36	2 803 255	84 454 703	1 562 435 237	6.447 6626	7.926 6238	9.193 8019
37	2 771 131	81 667 510	1 479 374 131	6.442 6570	7.912 0494	9.170 0780
38	2 738 698	78 912 595	1 399 084 078	6.437 5442	7.897 1464	9.145 8438
39	2 705 959	76 190 267	1 321 532 647	6.432 3212	7.881 8995	9.121 0780
40	2 672 914	73 500 830	1 246 687 099	6.426 9849	7.866 2922	9.095 7574
41	2 639 564	70 844 591	1 174 514 388	6.421 5322	7.850 3068	9.069 8582
42	2 605 914	68 221 852	1 104 981 167	6.415 9600	7.833 9234	9.043 3548
43	2 571 965	65 632 913	1 038 053 784	6.410 2651	7.817 1217	9.016 2201
44	2 537 723	63 078 069	973 698 293	6.404 4442	7.799 8784	8.988 4244
45	2 503 191	60 557 612	911 880 453	6.398 4940	7.782 1688	8.959 9379
46	2 468 375	58 071 829	852 565 732	6.392 4111	7.763 9655	8.930 7279
47	2 433 280	55 621 001	795 719 317	6.386 1921	7.745 2388	8.900 7600
48	2 397 913	53 205 405	741 306 114	6.379 8335	7.725 9558	8.869 9976
49	2 362 283	50 825 307	689 290 758	6.373 3319	7.706 0801	8.838 4025
50	2 326 396	48 480 967	639 637 621	6.366 6836	7.685 5713	8.805 9340
51	2 289 349	46 173 095	592 310 590	6.359 7121	7.664 3890	8.772 5495
52	2 250 596	43 903 122	547 272 482	6.352 2976	7.642 4954	8.738 2036
53	2 210 228	41 672 710	504 484 566	6.344 4371	7.619 8518	8.702 8479
54	2 168 316	39 483 438	463 906 492	6.336 1226	7.596 4149	8.666 4305

ENGLISH LIFE TABLE—No. 2. FEMALES—continued.

Age $x$	$D_x$	$Q_x$	$Y_x$	$\lambda D_x$	$\lambda Q_x$	$\lambda Y_x$
55	2 124 904	37 336 828	425 496 359	6.327 3393	7.572 1375	8.628 8959
56	2 079 995	35 234 379	389 210 755	6.318 0622	7.546 9667	8.590 1849
57	2 033 556	33 177 603	355 004 764	6.308 2561	7.520 8450	8.550 2343
58	1 985 526	31 168 062	322 831 932	6.297 8756	7.493 7097	8.508 9764
59	1 935 820	29 207 389	292 644 206	6.286 8650	7.465 4927	8.466 3399
60	1 884 336	27 297 311	264 391 856	6.275 1584	7.436 1199	8.422 2482
61	1 830 963	25 439 662	238 023 370	6.262 6796	7.405 5113	8.376 6197
62	1 775 588	23 636 386	213 485 346	6.249 3422	7.373 5812	8.329 3680
63	1 718 105	21 889 540	190 722 383	6.235 0496	7.340 2367	8.280 4017
64	1 658 422	20 201 276	169 676 975	6.219 6949	7.305 3789	8.229 6230
65	1 596 471	18 573 830	150 289 422	6.203 1610	7.268 9014	8.176 9284
66	1 532 218	17 009 485	132 497 764	6.185 3206	7.230 6913	8.122 2087
67	1 465 669	15 510 542	116 237 751	6.166 0361	7.190 6269	8.065 3475
68	1 396 882	14 079 266	101 442 847	6.145 1597	7.148 5802	8.006 2212
69	1 325 969	12 717 841	88 044 293	6.122 5334	7.104 4134	7.944 7012
70	1 253 109	11 428 302	75 971 222	6.097 9889	7.057 9816	7.880 6491
71	1 178 549	10 212 473	65 150 834	6.071 3477	7.009 1308	7.813 9200
72	1 102 608	9 071 894	55 508 651	6.042 4211	6.957 6980	7.744 3607
73	1 025 675	8 007 753	46 968 827	6.011 0101	6.903 5107	7.671 8098
74	948 212	7 020 809	39 454 546	5.976 9055	6.846 3872	7.596 0971
75	870 739	6 111 334	32 888 475	5.939 8879	6.786 1360	7.517 0439
76	793 830	5 279 049	27 193 283	5.899 7276	6.722 5557	7.434 4616
77	718 100	4 523 084	22 292 217	5.856 1847	6.655 4347	7.348 1533
78	644 183	3 841 943	18 109 703	5.809 0091	6.584 5509	7.257 9113
79	572 717	3 233 493	14 571 985	5.757 9403	6.509 6720	7.163 5189
80	504 322	2 694 973	11 607 752	5.702 7078	6.430 5545	7.064 7482
81	439 573	2 223 026	9 148 753	5.643 0307	6.346 9446	6.961 3619
82	378 981	1 813 749	7 130 365	5.578 6179	6.258 5773	6.853 1118
83	322 974	1 462 771	5 492 105	5.509 1681	6.165 1764	6.739 7388
84	271 875	1 165 347	4 178 046	5.434 3697	6.066 4552	6.620 9732
85	225 892	916 463	3 137 141	5.353 9009	5.962 1149	6.496 5340
86	185 110	710 962	2 323 429	5.267 4297	5.851 8464	6.366 1294
87	149 491	543 662	1 696 117	5.174 6138	5.735 3290	6.229 4559
88	118 878	409 477	1 219 547	5.075 1008	5.612 2295	6.086 1986
89	93 010	303 533	863 042	4.968 5279	5.482 2059	5.936 0319
90	71 536	221 260	600 646	4.854 5222	5.344 9029	5.778 6186
91	54 038	158 473	410 779	4.732 7005	5.199 9553	5.613 6082
92	40 056	111 426	275 830	4.602 6693	5.046 9865	5.440 6415
93	29 109	76 844	181 695	4.464 0250	4.885 6100	5.259 3430
94	20 718	51 930	117 308	4.316 3537	4.715 4183	5.069 3277
95	14 429	34 357	74 164	4.159 2312	4.536 0152	4.870 1931
96	9 823	22 231	45 870	3.992 2231	4.346 9590	4.661 5287
97	6 530	14 054	27 728	3.814 8848	4.147 7999	4.442 9185
98	4 234	8 672	16 365	3.626 7615	3.938 1193	4.213 9160
99	2 675	5 218	9 420	3.427 3881	3.717 5041	3.974 9509
100	1 645	3 058	5 282	3.216 2893	3.485 4375	3.722 7984
101	984	1 743	2 881	2.992 9795	3.241 2974	3.459 5433
102	571	966	1 527	2.756 9630	2.984 9771	3.183 8390
103	322	519	784	2.507 7337	2.715 1674	2.894 3161
104	176	270	390	2.244 7754	2.431 3638	2.591 0646
105	93	136	187	1.967 5616	2.133 5389	2.271 8416
106	47	66	86	1.675 5556	1.819 5439	1.934 4985
107	23	31	37	1.368 2104	1.491 3617	1.568 2017
108	11	14	15	1.044 9688	1.146 1280	1.176 0913
109	5	6	5	0.705 2634	0.778 1513	0.698 9700
110	2	2	1	0.348 5166	0.301 0300	0.000 0000
111	1	0	0	1.974 1405		
112	0	0	0	1.581 5369		

TABLE 4.—MORTALITY of MALES and FEMALES in ENGLAND.

Age (x)	ANNUAL MORTALITY per Cent. at the Age x.		MALES and FEMALES LIVING at Age x to ONE DEATH ANNUALLY.		The LIVING of the Age x and upwards to ONE DEATH ANNUALLY.	
	Males.	Females.	Males.	Females.	Males.	Females.
0	17.815	14.370	6	7	40.36	42.04
1	6.753	6.246	15	16	46.95	47.36
2	3.675	3.742	27	27	49.20	49.38
3	2.498	2.608	40	38	50.03	50.25
4	1.851	1.928	54	52	50.28	50.56
5	1.356	1.418	74	71	50.21	50.53
6	1.005	1.044	100	96	49.89	50.25
7	.867	.848	115	118	49.39	49.77
8	.726	.704	138	142	48.81	49.19
9	.645	.668	155	150	48.16	48.53
10	.544	.512	184	195	47.47	47.86
11	.481	.498	208	201	46.73	47.10
12	.476	.496	210	202	45.95	46.33
13	.473	.518	211	193	45.17	45.56
14	.549	.596	182	168	44.38	44.79
15	.498	.584	201	171	43.62	44.06
16	.569	.748	176	134	42.84	43.31
17	.664	.798	151	125	42.08	42.64
18	.761	.812	131	123	41.35	41.97
19	.799	.827	125	121	40.67	41.31
20	.813	.841	123	119	39.99	40.65
21	.828	.857	121	117	39.31	39.99
22	.842	.873	119	115	38.63	39.33
23	.857	.889	117	113	37.96	38.67
24	.872	.906	115	110	37.28	38.01
25	.888	.923	113	108	36.60	37.35
26	.904	.941	111	106	35.92	36.69
27	.921	.959	109	104	35.24	36.04
28	.939	.978	106	102	34.57	35.38
29	.958	.998	104	100	33.89	34.72
30	.978	1.018	102	98	33.21	34.06
31	1.000	1.039	100	96	32.53	33.41
32	1.023	1.060	98	94	31.85	32.75
33	1.047	1.082	96	92	31.17	32.10
34	1.073	1.105	93	90	30.50	31.44
35	1.100	1.129	91	89	29.82	30.78
36	1.130	1.153	88	87	29.15	30.13
37	1.162	1.177	86	85	28.47	29.47
38	1.195	1.203	84	83	27.80	28.81
39	1.231	1.229	81	81	27.13	28.16
40	1.270	1.256	79	80	26.46	27.50
41	1.310	1.283	76	78	25.79	26.84
42	1.354	1.311	74	76	25.12	26.18
43	1.400	1.340	71	75	24.46	25.52
44	1.449	1.370	69	73	23.79	24.86
45	1.501	1.401	67	71	23.13	24.19
46	1.556	1.432	64	70	22.48	23.53
47	1.615	1.464	62	68	21.82	22.86
48	1.677	1.497	60	67	21.17	22.19
49	1.742	1.531	57	65	20.52	21.52

The Table may be read thus:—To 100,000 men living of the age of 20 and under 21 there are 813 deaths annually; to 100,000 females living

841 deaths annually; or 1 in 123 men and 1 in 119 women of that age die annually. And of men of the age of 20 and upwards 1 in 39.99 die

MORTALITY of MALES and FEMALES in ENGLAND—continued.

Age (x)	ANNUAL MORTALITY per Cent. at the Age x.		MALES and FEMALES LIVING at Age x to ONE DEATH ANNUALLY.		The LIVING of the Age x and upwards to ONE DEATH ANNUALLY.	
	Males.	Females.	Males.	Females.	Males.	Females.
50	1.811	1.605	55	62	19.87	20.84
51	1.884	1.707	53	59	19.22	20.17
52	1.960	1.810	51	55	18.58	19.51
53	2.041	1.914	49	52	17.94	18.85
54	2.125	2.022	47	49	17.30	18.21
55	2.213	2.136	45	47	16.66	17.57
56	2.337	2.258	43	44	16.02	16.94
57	2.563	2.390	39	42	15.39	16.32
58	2.790	2.535	36	39	14.77	15.70
59	3.023	2.695	33	37	14.18	15.09
60	3.264	2.873	31	35	13.60	14.49
61	3.517	3.071	28	33	13.03	13.89
62	3.785	3.291	26	30	12.48	13.31
63	4.071	3.535	25	28	11.94	12.74
64	4.380	3.807	23	26	11.42	12.18
65	4.713	4.107	21	24	10.90	11.63
66	5.075	4.440	20	23	10.41	11.10
67	5.469	4.806	18	21	9.92	10.58
68	5.897	5.209	17	19	9.45	10.08
69	6.364	5.650	16	18	9.00	9.59
70	6.872	6.132	15	16	8.55	9.12
71	7.426	6.658	13	15	8.13	8.67
72	8.027	7.230	12	14	7.72	8.23
73	8.681	7.849	12	13	7.32	7.81
74	9.389	8.518	11	12	6.94	7.40
75	10.155	9.241	10	11	6.57	7.02
76	10.983	10.018	9	10	6.22	6.65
77	11.876	10.852	8	9	5.89	6.30
78	12.837	11.746	8	9	5.57	5.96
79	13.870	12.701	7	8	5.26	5.65
80	14.977	13.720	7	7	4.97	5.34
81	16.163	14.805	6	7	4.70	5.06
82	17.431	15.957	6	6	4.44	4.79
83	18.784	17.181	5	6	4.19	4.53
84	20.226	18.476	5	5	3.96	4.29
85	21.761	19.845	5	5	3.74	4.06
86	23.390	21.290	4	5	3.53	3.84
87	25.120	22.814	4	4	3.33	3.64
88	26.953	24.417	4	4	3.14	3.44
89	28.893	26.101	3	4	2.97	3.26
90	30.944	27.869	3	4	2.80	3.09
91	33.109	29.719	3	3	2.65	2.93
92	35.393	31.655	3	3	2.50	2.78
93	37.804	33.680	3	3	2.36	2.64
94	40.338	35.788	2	3	2.23	2.51
95	43.016	37.984	2	3	2.11	2.38
96	45.805	40.271	2	2	2.00	2.26
97	48.766	42.661	2	2	1.89	2.15
98	51.837	45.136	2	2	1.79	2.05
99	55.091	47.685	2	2	1.69	1.95
100	58.474	50.266	2	2	..	1.86

annually; of women of the age of 20 and upwards 1 in 40.65 dies annually. The mean afterlives at these ages are 39.99 and 40.65. The

mean afterlives at other ages are shown by the corresponding figures.

ENGLISH LIFE TABLE—No. 2. FEMALES.

TABLE 5. The MEAN AFTERLIFETIME (or the Expectation of Life) of FEMALES of the Age  $x$ , and of FEMALES of the Age  $x$  and upwards; also the MEAN AGES of the LIVING and the MEAN AGE at DEATH.

Age (or past Life-time).	MEAN AFTERLIFETIME of FEMALES of the Age $x$ .	MEAN AFTERLIFETIME of FEMALES of the Age $x$ and upwards.	MEAN AGE of FEMALES LIVING of the Age $x$ and upwards.	MEAN AGE at DEATH.	
				Of FEMALES ACTUALLY LIVING at the Age $x$ .	Of FEMALES ACTUALLY LIVING at the Age $x$ and upwards.
1	2	3	4	5	6
$x$	$A_x = \frac{Q_x}{D_x}$	$A'_x = \frac{Y_x}{Q_x}$	$x + A'_x$	$x + A_x$	$x + 2 A'_x$
	Years.	Years.	Years.	Years.	Years.
0	42.04	32.44	32.44	42.04	64.88
1	47.36	32.15	33.15	48.36	65.30
2	49.38	31.81	33.81	51.38	65.62
3	50.25	31.44	34.44	53.25	65.88
4	50.56	31.06	35.06	54.56	66.12
5	50.53	30.67	35.67	55.53	66.34
6	50.25	30.28	36.28	56.25	66.56
7	49.77	29.88	36.88	56.77	66.76
8	49.19	29.48	37.48	57.19	66.96
9	48.53	29.08	38.08	57.53	67.16
10	47.86	28.68	38.68	57.86	67.36
11	47.10	28.28	39.28	58.10	67.56
12	46.33	27.88	39.88	58.33	67.76
13	45.56	27.48	40.48	58.56	67.96
14	44.79	27.09	41.09	58.79	68.18
15	44.06	26.69	41.69	59.06	68.38
16	43.31	26.30	42.30	59.31	68.60
17	42.64	25.90	42.90	59.64	68.80
18	41.97	25.51	43.51	59.97	69.02
19	41.31	25.12	44.12	60.31	69.24
20	40.65	24.73	44.73	60.65	69.46
21	39.99	24.34	45.34	60.99	69.68
22	39.33	23.94	45.94	61.33	69.88
23	38.67	23.55	46.55	61.67	70.10
24	38.01	23.16	47.16	62.01	70.32
25	37.35	22.77	47.77	62.35	70.54
26	36.69	22.38	48.38	62.69	70.76
27	36.04	21.99	48.99	63.04	70.98
28	35.38	21.60	49.60	63.38	71.20
29	34.72	21.21	50.21	63.72	71.42
30	34.06	20.82	50.82	64.06	71.64
31	33.41	20.44	51.44	64.41	71.88
32	32.75	20.05	52.05	64.75	72.10
33	32.10	19.66	52.66	65.10	72.32
34	31.44	19.27	53.27	65.44	72.54
35	30.78	18.89	53.89	65.78	72.78
36	30.13	18.50	54.50	66.13	73.00
37	29.47	18.11	55.11	66.47	73.22
38	28.81	17.73	55.73	66.81	73.46
39	28.16	17.35	56.35	67.16	73.70
40	27.50	16.96	56.96	67.50	73.92
41	26.84	16.58	57.58	67.84	74.16
42	26.18	16.20	58.20	68.18	74.40
43	25.52	15.82	58.82	68.52	74.64
44	24.86	15.44	59.44	68.86	74.88
45	24.19	15.06	60.06	69.19	75.12
46	23.53	14.68	60.68	69.53	75.36
47	22.86	14.31	61.31	69.86	75.62
48	22.19	13.93	61.93	70.19	75.86
49	21.52	13.56	62.56	70.52	76.12

ENGLISH LIFE TABLE—No. 2. FEMALES.

The MEAN AFTERLIFETIME (or the Expectation of Life) of FEMALES of the Age  $x$ , and of FEMALES of the Age  $x$  and upwards; also the MEAN AGES of the LIVING and the MEAN AGE at DEATH—cont.

Age (or past Life-time).	MEAN AFTERLIFETIME of FEMALES of the Age $x$ .	MEAN AFTERLIFETIME of FEMALES of the Age $x$ and upwards.	MEAN AGE of FEMALES LIVING of the Age $x$ and upwards.	MEAN AGE at DEATH.	
				Of FEMALES ACTUALLY LIVING at the Age $x$ .	Of FEMALES ACTUALLY LIVING at the Age $x$ and upwards.
1	2	3	4	5	6
$x$	$A_x = \frac{Q_x}{D_x}$	$A'_x = \frac{Y_x}{Q_x}$	$x + A'_x$	$x + A_x$	$x + 2 A'_x$
	Years.	Years.	Years.	Years.	Years.
50	20.84	13.19	63.19	70.84	76.38
51	20.17	12.83	63.83	71.17	76.66
52	19.51	12.47	64.47	71.51	76.94
53	18.85	12.11	65.11	71.85	77.22
54	18.21	11.75	65.75	72.21	77.50
55	17.57	11.40	66.40	72.57	77.80
56	16.94	11.05	67.05	72.94	78.10
57	16.32	10.70	67.70	73.32	78.40
58	15.70	10.36	68.36	73.70	78.72
59	15.09	10.02	69.02	74.09	79.04
60	14.49	9.69	69.69	74.49	79.38
61	13.89	9.36	70.36	74.89	79.72
62	13.31	9.03	71.03	75.31	80.06
63	12.74	8.71	71.71	75.74	80.42
64	12.18	8.40	72.40	76.18	80.80
65	11.63	8.09	73.09	76.63	81.18
66	11.10	7.79	73.79	77.10	81.58
67	10.58	7.49	74.49	77.58	81.98
68	10.08	7.21	75.21	78.08	82.42
69	9.59	6.92	75.92	78.59	82.84
70	9.12	6.65	76.65	79.12	83.30
71	8.67	6.38	77.38	79.67	83.76
72	8.23	6.12	78.12	80.23	84.24
73	7.81	5.87	78.87	80.81	84.74
74	7.40	5.62	79.62	81.40	85.24
75	7.02	5.38	80.38	82.02	85.76
76	6.65	5.15	81.15	82.65	86.30
77	6.30	4.93	81.93	83.30	86.86
78	5.96	4.71	82.71	83.96	87.42
79	5.65	4.51	83.51	84.65	88.02
80	5.34	4.31	84.31	85.34	88.62
81	5.06	4.12	85.12	86.06	89.24
82	4.79	3.93	85.93	86.79	89.86
83	4.53	3.75	86.75	87.53	90.50
84	4.29	3.59	87.59	88.29	91.18
85	4.06	3.42	88.42	89.06	91.84
86	3.84	3.27	89.27	89.84	92.54
87	3.64	3.12	90.12	90.64	93.24
88	3.44	2.98	90.98	91.44	93.96
89	3.26	2.84	91.84	92.26	94.68
90	3.09	2.71	92.71	93.09	95.42
91	2.93	2.59	93.59	93.93	96.18
92	2.78	2.48	94.48	94.78	96.96
93	2.64	2.36	95.36	95.64	97.72
94	2.51	2.26	96.26	96.51	98.52
95	2.38	2.16	97.16	97.38	99.32
96	2.26	2.06	98.06	98.26	100.12
97	2.15	1.97	98.97	99.15	100.94
98	2.05	1.89	99.89	100.05	101.78
99	1.95	1.81	100.81	100.95	102.62
100	1.86	1.73	101.73	101.86	103.46

TABLE 6. Deduced from the ENGLISH LIFE TABLE—No. 2., for determining the VALUE OF ANNUITIES, INSURANCES, &c. on the Lives of Females, when the Interest of Money is 3 per Cent.

FEMALES.—3 per Cent.							
Age. <i>x</i>	<i>D<sub>x</sub></i>	<i>N<sub>x</sub></i>	<i>S<sub>x</sub></i>	<i>C<sub>x</sub></i>	<i>M<sub>x</sub></i>	<i>R<sub>x</sub></i>	Age. <i>x</i>
0	4 873 765	96 960 363	2 060 898 385	622 743 73	2 049 676 65	36 934 187 71	0
1	4 109 067	92 086 598	1 963 938 022	241 630 67	1 426 932 92	34 884 511 06	1
2	3 747 755	87 977 531	1 871 851 424	133 655 49	1 185 302 25	33 457 578 14	2
3	3 504 941	84 229 776	1 783 873 893	87 603 94	1 051 646 76	32 272 275 89	3
4	3 315 252	80 724 835	1 699 644 117	61 464 33	964 042 82	31 220 629 13	4
5	3 157 227	77 409 583	1 618 919 282	43 158 92	902 578 49	30 256 586 31	5
6	3 022 110	74 252 356	1 541 509 699	30 473 86	859 419 57	29 354 007 82	6
7	2 903 613	71 230 246	1 467 257 343	23 803 84	828 945 71	28 494 588 25	7
8	2 795 238	68 326 633	1 396 027 097	19 037 79	805 141 87	27 665 642 54	8
9	2 694 786	65 531 395	1 327 700 464	17 419 24	786 104 08	26 860 500 67	9
10	2 598 878	62 836 609	1 262 169 069	12 885 83	768 684 84	26 074 396 59	10
11	2 510 296	60 237 731	1 199 332 460	12 106 52	755 799 01	25 305 711 75	11
12	2 425 074	57 727 435	1 139 094 729	11 649 04	743 692 49	24 549 912 74	12
13	2 342 792	55 302 361	1 081 267 294	11 752 03	732 043 45	23 806 220 25	13
14	2 262 803	52 959 569	1 026 064 933	13 054 83	720 291 42	23 074 176 80	14
15	2 183 842	50 696 766	973 105 364	12 346 18	707 236 59	22 353 885 38	15
16	2 107 888	48 512 924	922 408 598	15 250 65	694 890 41	21 646 648 79	16
17	2 031 243	46 405 036	873 895 674	15 683 44	679 639 76	20 951 758 38	17
18	1 956 397	44 373 793	827 490 638	15 366 92	663 956 32	20 272 118 62	18
19	1 884 048	42 417 396	783 116 845	15 058 88	648 589 40	19 608 162 30	19
20	1 814 114	40 533 348	740 699 449	14 758 41	633 530 52	18 959 572 90	20
21	1 746 517	38 719 234	700 166 101	14 466 34	618 772 11	18 326 042 38	21
22	1 681 182	36 972 717	661 446 867	14 179 77	604 305 77	17 707 270 27	22
23	1 618 035	35 291 535	624 474 150	13 901 06	590 126 00	17 102 964 50	23
24	1 557 006	33 673 500	589 182 615	13 628 95	576 224 94	16 512 838 50	24
25	1 498 028	32 116 494	555 509 115	13 363 22	562 595 99	15 936 613 56	25
26	1 441 033	30 618 466	523 392 621	13 102 30	549 232 77	15 374 017 57	26
27	1 385 959	29 177 433	492 774 155	12 847 87	536 130 47	14 824 784 80	27
28	1 332 743	27 791 474	463 596 722	12 597 99	523 282 60	14 288 654 33	28
29	1 281 327	26 458 731	435 805 248	12 354 25	510 684 61	13 765 371 73	29
30	1 231 653	25 177 404	409 346 517	12 113 61	498 330 36	13 254 687 12	30
31	1 183 666	23 945 751	384 169 113	11 878 84	486 216 75	12 756 356 76	31
32	1 137 312	22 762 085	360 223 362	11 647 47	474 337 91	12 270 140 01	32
33	1 092 538	21 624 773	337 461 277	11 420 24	462 690 44	11 795 802 10	33
34	1 049 296	20 532 235	315 836 504	11 197 42	451 270 20	11 333 111 66	34
35	1 007 537	19 482 939	295 304 269	10 977 55	440 072 78	10 881 841 46	35
36	967 214	18 475 402	275 821 330	10 760 99	429 095 23	10 441 768 68	36
37	928 282	17 508 188	257 345 928	10 548 06	418 334 24	10 012 673 45	37
38	890 696	16 579 906	239 837 740	10 337 45	407 786 18	9 594 339 21	38
39	854 416	15 689 210	223 257 834	10 130 17	397 448 73	9 186 553 03	39
40	819 400	14 834 794	207 568 624	9 925 89	387 318 56	8 789 104 30	40
41	785 608	14 015 394	192 733 830	9 723 48	377 392 67	8 401 785 74	41
42	753 003	13 229 786	178 718 436	9 524 15	367 669 19	8 024 393 07	42
43	721 547	12 476 783	165 488 650	9 326 55	358 145 04	7 656 723 88	43
44	691 204	11 755 236	153 011 867	9 131 59	348 818 49	7 298 578 84	44
45	661 940	11 064 032	141 256 631	8 938 54	339 686 90	6 949 760 35	45
46	633 722	10 402 092	130 192 599	8 747 73	330 748 36	6 610 073 45	46
47	606 516	9 768 370	119 790 507	8 558 77	322 000 63	6 279 325 09	47
48	580 292	9 161 854	110 022 137	8 371 28	313 441 86	5 957 324 46	48
49	555 019	8 581 562	100 860 283	8 186 08	305 070 58	5 643 882 60	49
50	530 667	8 026 543	92 278 721	8 204 55	296 884 50	5 338 812 02	50
51	507 006	7 495 876	84 252 178	8 332 39	288 679 95	5 041 927 52	51
52	483 907	6 988 870	76 756 302	8 426 83	280 347 56	4 753 247 57	52
53	461 386	6 504 963	69 767 432	8 494 31	271 920 73	4 472 900 01	53
54	439 453	6 043 577	63 262 469	8 542 05	263 426 42	4 200 979 28	54

A Table deduced from the ENGLISH LIFE TABLE—No. 2, for determining the VALUE OF ANNUITIES, INSURANCES, &c. on the Lives of Females, when the Interest of Money is 3 per Cent.—continued.

FEMALES.—3 per Cent.							
Age. <i>x</i>	<i>D<sub>x</sub></i>	<i>N<sub>x</sub></i>	<i>S<sub>x</sub></i>	<i>C<sub>x</sub></i>	<i>M<sub>x</sub></i>	<i>R<sub>x</sub></i>	Age. <i>x</i>
55	418 111	5 604 124	57 218 892	8 579 24	254 884 37	3 937 552 86	55
56	397 354	5 186 013	51 614 768	8 613 13	246 305 13	3 682 668 49	56
57	377 168	4 788 659	46 428 755	8 648 75	237 692 00	3 436 363 36	57
58	357 533	4 411 491	41 640 096	8 689 85	229 043 25	3 198 671 36	58
59	338 430	4 053 958	37 228 605	8 738 54	220 353 40	2 969 628 11	59
60	319 834	3 715 528	33 174 647	8 795 30	211 614 86	2 749 274 71	60
61	301 723	3 395 694	29 459 119	8 859 43	202 819 56	2 537 659 85	61
62	284 076	3 093 971	26 063 425	8 928 82	193 960 13	2 334 840 29	62
63	266 873	2 809 895	22 969 454	9 000 53	185 031 31	2 140 880 16	63
64	250 099	2 543 022	20 159 559	9 070 45	176 030 78	1 955 848 85	64
65	233 745	2 292 923	17 616 537	9 133 49	166 960 33	1 779 818 07	65
66	217 803	2 059 178	15 323 614	9 184 33	157 826 84	1 612 857 74	66
67	202 275	1 841 375	13 264 436	9 216 69	148 642 51	1 455 030 90	67
68	187 167	1 639 100	11 423 061	9 224 81	139 425 82	1 306 388 39	68
69	172 490	1 451 933	9 783 961	9 202 03	130 201 01	1 166 962 57	69
70	158 264	1 279 443	8 332 028	9 142 46	120 998 98	1 036 761 56	70
71	144 512	1 121 179	7 052 585	9 040 57	111 856 52	915 762 58	71
72	131 263	976 667	5 931 406	8 891 91	102 815 95	803 906 06	72
73	118 548	845 404	4 954 739	8 692 40	93 924 04	701 090 11	73
74	106 402	726 856	4 109 335	8 440 31	85 231 64	607 166 07	74
75	94 863	620 454	3 382 479	8 134 82	76 791 33	521 934 43	75
76	83 905	525 591	2 762 025	7 776 81	68 656 51	445 143 10	76
77	73 743	441 626	2 236 434	7 369 55	60 879 70	376 486 59	77
78	64 225	367 883	1 794 808	6 917 65	53 510 15	315 606 89	78
79	55 437	303 658	1 426 925	6 427 56	46 592 50	262 096 74	79
80	47 395	248 221	1 123 267	5 907 69	40 164 94	215 504 24	80
81	40 107	200 826	875 046	5 367 39	34 257 25	175 339 30	81
82	33 571	160 719	674 220	4 816 73	28 889 86	141 082 05	82
83	27 777	127 148	513 501	4 266 63	24 073 13	112 192 19	83
84	22 701	99 371	386 353	3 727 63	19 806 50	88 119 06	84
85	18 312	76 670	286 982	3 209 72	16 078 87	68 312 56	85
86	14 509	58 358	210 312	2 721 72	12 869 15	52 233 69	86
87	11 423	43 789	151 954	2 271 07	10 147 43	39 364 54	87
88	8 819	32 366	108 165	1 863 16	7 876 36	29 217 11	88
89	6 699	23 547	75 799	1 501 63	6 013 20	21 340 75	89
90	5 002	16 848	52 252	1 187 96	4 511 57	15 327 55	90
91	3 669	11 846	35 404	921 60	3 323 61	10 815 98	91
92	2 640	8 177	23 558	700 54	2 402 01	7 492 37	92
93	1 863	5 537	15 381	521 33	1 701 47	5 090 36	93
94	1 287	3 674	9 844	379 35	1 180 14	3 388 89	94
95	870	2 387	6 170	269 74	800 79	2 208 75	95
96	575	1 517	3 783	187 23	531 05	1 407 96	96
97	371	942	2 266	126 74	343 82	876 91	97
98	234	571	1 324	83 55	217 08	533 09	98
99	143	337	753	53 59	133 53	316 01	99
100	86	194	416	33 39	79 94	182 48	100
101	50	108	222	20 26	46 55	102 54	101
102	28	58	114	11 86	26 29	55 99	102
103	15	30	56	6 75	14 43	29 70	103
104	8	15	26	3 73	7 68	15 27	104
105	4	7	11	2 00	3 95	7 59	105
106	2	3	4	1 02	1 95	3 64	106
107	1	1	1	.49	.93	1 69	107
108	0	..	..	.24	.44	.76	108
109	0	..	..	.12	.20	.32	109
110	..	..	..	.04	.08	.12	110
111	..	..	..	.04	.04	.04	111

In this Table  $N_x = D_x + D_{x+1} + \dots + D_{107}$   $M_x = C_x + C_{x+1} + \dots + C_{111}$   
 $S_x = N_x + N_{x+1} + \dots + N_{107}$   $R_x = M_x + M_{x+1} + \dots + M_{111}$

TABLE 7. ENGLISH LIFE TABLE.—No. 2. LOGARITHMS of the COLUMNS D, N, M

FEMALES.—3 per Cent.			
Age. <i>x</i>	$\lambda D_x$	$\lambda N_x$	$\lambda M_x$
0	6.687 8644	7.986 5943	6.311 6854
1	6.613 7432	7.964 1964	6.154 4036
2	6.573 7712	7.944 3718	6.073 8290
3	6.544 6807	7.925 4656	6.021 8700
4	6.520 5165	7.907 0072	5.984 0964
5	6.499 3058	7.888 7948	5.955 4849
6	6.480 3102	7.870 7103	5.934 2053
7	6.462 9388	7.852 6644	5.918 5261
8	6.446 4188	7.834 5900	5.905 8724
9	6.430 5242	7.816 4494	5.895 4801
10	6.414 7859	7.798 2127	5.885 7483
11	6.399 7250	7.779 8685	5.878 4063
12	6.384 7250	7.761 3823	5.871 3934
13	6.369 7337	7.742 7437	5.864 5369
14	6.354 6468	7.723 9445	5.857 5082
15	6.339 2211	7.704 9803	5.849 5648
16	6.323 8476	7.685 8574	5.841 9164
17	6.307 7619	7.666 5652	5.832 2788
18	6.291 4571	7.647 1266	5.822 1395
19	6.275 0919	7.627 5440	5.811 9698
20	6.258 6645	7.607 8124	5.801 7675
21	6.242 1728	7.587 9266	5.791 5307
22	6.225 6147	7.567 8814	5.781 2568
23	6.208 9879	7.547 6707	5.770 9447
24	6.192 2904	7.527 2883	5.760 5920
25	6.175 5199	7.506 7280	5.750 1966
26	6.158 6740	7.485 9835	5.739 7565
27	6.141 7503	7.465 0471	5.729 2705
28	6.124 7465	7.443 9115	5.718 7363
29	6.107 6601	7.422 5690	5.708 1527
30	6.090 4885	7.401 0109	5.697 5174
31	6.073 2291	7.379 2284	5.686 8299
32	6.055 8794	7.357 2121	5.676 0878
33	6.038 4307	7.334 9515	5.665 2905
34	6.020 8982	7.312 4363	5.654 4367
35	6.003 2610	7.289 6545	5.643 5246
36	5.985 5225	7.266 5938	5.632 5537
37	5.967 6797	7.243 2412	5.621 5234
38	5.949 7297	7.219 5822	5.610 4325
39	5.931 6694	7.195 6011	5.599 2811
40	5.913 4959	7.171 2814	5.588 0684
41	5.895 2060	7.146 6052	5.576 7935
42	5.876 7966	7.121 5530	5.565 4572
43	5.858 2644	7.096 1026	5.554 0589
44	5.839 6063	7.070 2315	5.542 5995
45	5.820 8189	7.043 9134	5.531 0789
46	5.801 8988	7.017 1206	5.519 4978
47	5.782 8425	6.989 8221	5.507 8567
48	5.763 6467	6.961 9834	5.496 1571
49	5.744 3079	6.933 5664	5.484 4004
50	5.724 8224	6.904 5286	5.472 5875
51	5.705 0136	6.874 8225	5.460 4167
52	5.684 7619	6.844 4069	5.447 6969
53	5.664 0642	6.813 2448	5.434 4423
54	5.642 9125	6.781 2940	5.420 6593

ENGLISH LIFE TABLE.—No. 2. LOGARITHMS of the COLUMNS D, N, M—continued.

FEMALES.—3 per Cent.			
Age. <i>x</i>	$\lambda D_x$	$\lambda N_x$	$\lambda M_x$
55	5.621 2919	6.748 5077	5.406 3433
56	5.599 1776	6.714 8336	5.391 4734
57	5.576 5343	6.680 2139	5.376 0146
58	5.553 3166	6.644 5854	5.359 9176
59	5.529 4687	6.607 8793	5.343 1198
60	5.504 9249	6.570 0205	5.325 5463
61	5.479 6089	6.530 9285	5.307 1100
62	5.453 4343	6.490 5162	5.287 7124
63	5.426 3044	6.448 6902	5.267 2452
64	5.398 1125	6.405 3501	5.245 5887
65	5.368 7414	6.360 3895	5.222 6132
66	5.338 0638	6.313 6939	5.198 1808
67	5.305 9420	6.265 1423	5.172 1430
68	5.272 2284	6.214 6055	5.144 3432
69	5.236 7649	6.161 9466	5.114 6143
70	5.199 3832	6.107 0209	5.082 7818
71	5.159 9047	6.049 6750	5.048 6613
72	5.118 1409	5.989 7465	5.012 0608
73	5.073 8927	5.927 0643	4.972 7768
74	5.026 9509	5.861 4484	4.930 6009
75	4.977 0960	5.792 7096	4.885 3122
76	4.924 0985	5.720 6479	4.836 6818
77	4.867 7184	5.645 0546	4.784 4725
78	4.807 7056	5.565 7097	4.728 4362
79	4.743 7995	5.482 3847	4.668 3161
80	4.675 7298	5.394 8386	4.603 8471
81	4.603 2155	5.302 8200	4.534 7524
82	4.525 9655	5.206 0672	4.460 7454
83	4.443 6784	5.104 3096	4.381 5325
84	4.356 0428	4.997 2597	4.296 8078
85	4.262 7368	4.884 6255	4.206 2555
86	4.163 4284	4.766 1004	4.109 5499
87	4.057 7753	4.641 3650	4.006 3562
88	3.945 4250	4.510 0890	3.896 3256
89	3.826 0149	4.371 9356	3.779 1056
90	3.699 1720	4.226 5484	3.654 3277
91	3.564 5131	4.073 5717	3.521 6101
92	3.421 6446	3.912 5940	3.380 5748
93	3.270 1631	3.743 2745	3.230 8243
94	3.109 6546	3.565 1392	3.071 9336
95	2.939 6949	3.377 8524	2.903 5186
96	2.759 8495	3.180 9856	2.725 1354
97	2.569 6740	2.974 0509	2.536 3311
98	2.368 7135	2.756 6361	2.336 6198
99	2.156 5029	2.527 6299	2.125 5788
100	1.932 5668	2.287 8017	1.902 7641
101	1.696 4198	2.033 4238	1.667 9197
102	1.447 5661	1.763 4280	1.419 7966
103	1.185 4996	1.477 1213	1.159 2663
104	0.909 7040	1.176 0913	0.885 3612
105	0.619 6530	0.845 0980	0.596 5971
106	0.314 8098	0.477 1213	0.290 0346
107	1.994 6274	0.000 0000	1.968 4829
108	1.658 5485	..	1.643 4527
109	1.306 0059	..	1.301 0300
110	..	..	2.903 0900
111	..	..	2.602 0600



TABLE 8.—VALUES of ANNUITIES. SINGLE and ANNUAL PREMIUMS which insure £1 on the LIFE of a FEMALE. (Interest of Money 3 per Cent.)

Age.	$\frac{N_x}{D_x} = A_x$	$\frac{D_x}{N_x} = a_x$	$\frac{D_x}{C_x}$	$\frac{D_x}{M_x} = \Sigma_x$	$\frac{N_x}{M_x} = s_x$	$\frac{C_x}{D_x}$	$\frac{M_x}{D_x} = \Pi_x$	$\frac{M_x}{N_x} = \pi_x$
<i>x</i>	PRESENT VALUE of an ANNUITY of £1, (first payment at the Age <i>x</i> .)	ANNUITY (first payment at Age <i>x</i> ) which £1 will purchase.	Sum which ONE PREMIUM of £1 will insure over ONE YEAR.	Sum which ONE PREMIUM of £1 will insure over the WHOLE TERM OF LIFE.	Sum which an ANNUAL PREMIUM of £1 will insure over the WHOLE TERM OF LIFE.	SINGLE PREMIUM which will insure £1 over the ONE YEAR.	SINGLE PREMIUM which will insure £1 over the WHOLE TERM OF LIFE.	ANNUAL PREMIUM which will insure £1 over the WHOLE TERM OF LIFE.
	£	£	£	£	£	£	£	£
0	19.8944	0.050266	7.83	2.37782	47.3052	1.27775	4.2055	0.021139
1	22.4106	0.044622	17.01	2.87965	64.5346	0.58804	3.4726	0.015496
2	23.4747	0.042599	28.04	3.16186	74.2237	0.35663	3.1627	0.013473
3	24.0317	0.041612	40.01	3.33281	80.0932	0.24994	3.0005	0.012485
4	24.3495	0.041069	53.94	3.43890	83.7357	0.18540	2.9079	0.011942
5	24.5182	0.040786	73.15	3.49801	85.7650	0.13670	2.8588	0.011660
6	24.5697	0.040701	99.17	3.51645	86.3983	0.10084	2.8438	0.011574
7	24.5316	0.040764	121.98	3.50278	85.9287	0.08198	2.8549	0.011638
8	24.4439	0.040910	146.83	3.47173	84.8628	0.06811	2.8804	0.011784
9	24.3179	0.041122	154.70	3.42803	83.3622	0.06464	2.9171	0.011996
10	24.1784	0.041359	201.69	3.38094	81.7456	0.04958	2.9578	0.012233
11	23.9963	0.041673	207.35	3.32138	79.7007	0.04823	3.0108	0.012547
12	23.8044	0.042009	208.18	3.26086	77.6227	0.04804	3.0667	0.012883
13	23.6053	0.042363	199.35	3.20035	75.5452	0.05016	3.1247	0.013237
14	23.4044	0.042727	173.33	3.14151	73.5252	0.05769	3.1832	0.013601
15	23.2145	0.043077	176.88	3.08785	71.6829	0.05653	3.2385	0.013950
16	23.0149	0.043450	138.22	3.03341	69.8138	0.07235	3.2966	0.014324
17	22.8456	0.043772	129.52	2.98871	68.2789	0.07721	3.3459	0.014646
18	22.6814	0.044089	127.31	2.94658	66.8324	0.07855	3.3938	0.014963
19	22.5140	0.044417	125.11	2.90484	65.3995	0.07993	3.4425	0.015291
20	22.3433	0.044756	122.92	2.86350	63.9801	0.08135	3.4922	0.015630
21	22.1694	0.045107	120.73	2.82255	62.5743	0.08283	3.5429	0.015981
22	21.9921	0.045471	118.56	2.78201	61.1821	0.08434	3.5945	0.016345
23	21.8114	0.045848	116.40	2.74185	59.8034	0.08591	3.6472	0.016721
24	21.6271	0.046238	114.24	2.70208	58.4381	0.08753	3.7009	0.017112
25	21.4392	0.046644	112.10	2.66271	57.0862	0.08921	3.7556	0.017517
26	21.2476	0.047064	109.98	2.62372	55.7477	0.09092	3.8114	0.017938
27	21.0522	0.047501	107.87	2.58511	54.4223	0.09270	3.8683	0.018375
28	20.8528	0.047955	105.79	2.54689	53.1099	0.09453	3.9264	0.018829
29	20.6495	0.048427	103.72	2.50904	51.8103	0.09642	3.9856	0.019301
30	20.4420	0.048919	101.68	2.47156	50.5235	0.09835	4.0460	0.019793
31	20.2302	0.049431	99.64	2.43444	49.2491	0.10030	4.1077	0.020305
32	20.0139	0.049965	97.64	2.39768	47.9871	0.10241	4.1707	0.020839
33	19.7931	0.050523	95.67	2.36127	46.7370	0.10453	4.2350	0.021396
34	19.5676	0.051105	93.71	2.32521	45.4988	0.10671	4.3007	0.021979
35	19.3372	0.051714	91.78	2.28948	44.2721	0.10895	4.3678	0.022588
36	19.1017	0.052351	89.88	2.25408	43.0566	0.11126	4.4364	0.023225
37	18.8609	0.053020	88.00	2.21900	41.8522	0.11363	4.5065	0.023894
38	18.6145	0.053721	86.16	2.18422	40.6583	0.11606	4.5783	0.024595
39	18.3625	0.054459	84.34	2.14975	39.4748	0.11856	4.6517	0.025333
40	18.1045	0.055235	82.55	2.11557	38.3013	0.12114	4.7269	0.026109
41	17.8402	0.056053	80.79	2.08167	37.1374	0.12377	4.8038	0.026927
42	17.5694	0.056917	79.06	2.04804	35.9829	0.12648	4.8827	0.027791
43	17.2917	0.057831	77.36	2.01468	34.8372	0.12926	4.9636	0.028705
44	17.0069	0.058800	75.69	1.98156	33.7002	0.13211	5.0465	0.029673
45	16.7145	0.059828	74.05	1.94868	32.5713	0.13504	5.1317	0.030702
46	16.4143	0.060923	72.44	1.91602	31.4502	0.13804	5.2191	0.031796
47	16.1057	0.062090	70.86	1.88359	30.3365	0.14111	5.3090	0.032964
48	15.7883	0.063338	69.32	1.85135	29.2298	0.14426	5.4015	0.034212
49	15.4617	0.064676	67.80	1.81931	28.1298	0.14749	5.4966	0.035550

VALUES of ANNUITIES. SINGLE and ANNUAL PREMIUMS which insure £1 on the LIFE of a FEMALE. (Interest of Money 3 per Cent.)—continued.

Age.	$\frac{N_x}{D_x} = A_x$	$\frac{D_x}{N_x} = a_x$	$\frac{D_x}{C_x}$	$\frac{D_x}{M_x} = \Sigma_x$	$\frac{N_x}{M_x} = s_x$	$\frac{C_x}{D_x}$	$\frac{M_x}{D_x} = \Pi_x$	$\frac{M_x}{N_x} = \pi_x$
<i>x</i>	PRESENT VALUE of an ANNUITY of £1, (first payment at the Age <i>x</i> .)	ANNUITY (first payment at Age <i>x</i> ) which £1 will purchase.)	Sum which ONE PREMIUM of £1 will insure over ONE YEAR.	Sum which ONE PREMIUM of £1 will insure over the WHOLE TERM OF LIFE.	Sum which an ANNUAL PREMIUM of £1 will insure over the WHOLE TERM OF LIFE.	SINGLE PREMIUM which will insure £1 over ONE YEAR.	SINGLE PREMIUM which will insure £1 over the WHOLE TERM OF LIFE.	ANNUAL PREMIUM which will insure £1 over the WHOLE TERM OF LIFE.
	£	£	£	£	£	£	£	£
50	15.1254	0.066114	64.68	1.78745	27.0359	0.15461	5.5945	0.036988
51	14.7846	0.067638	60.85	1.75629	25.9660	0.16434	5.6938	0.038512
52	14.4426	0.069240	57.42	1.72610	24.9293	0.17414	5.7934	0.040113
53	14.0987	0.070928	54.32	1.69677	23.9223	0.18410	5.8936	0.041802
54	13.7525	0.072714	51.45	1.66822	22.9422	0.19438	5.9944	0.043588
55	13.4034	0.074608	48.74	1.64040	21.9869	0.20519	6.0961	0.045482
56	13.0514	0.076620	46.13	1.61326	21.0552	0.21676	6.1986	0.047494
57	12.6964	0.078763	43.61	1.58679	20.1465	0.22931	6.3020	0.049636
58	12.3387	0.081046	41.14	1.56099	19.2605	0.24305	6.4062	0.051920
59	11.9787	0.083481	38.73	1.53585	18.3975	0.25821	6.5111	0.054355
60	11.6170	0.086080	36.36	1.51140	17.5580	0.27500	6.6164	0.056954
61	11.2543	0.088855	34.06	1.48764	16.7424	0.29363	6.7220	0.059728
62	10.8914	0.091816	31.82	1.46461	15.9516	0.31431	6.8278	0.062609
63	10.5290	0.094976	29.65	1.44231	15.1861	0.33726	6.9333	0.065650
64	10.1680	0.098347	27.57	1.42077	14.4465	0.36267	7.0384	0.068821
65	9.8095	0.101942	25.59	1.40000	13.7333	0.39075	7.1429	0.072155
66	9.4543	0.105772	23.71	1.38001	13.0471	0.42168	7.2463	0.075646
67	9.1033	0.109850	21.95	1.36081	12.3879	0.45565	7.3485	0.079274
68	8.7574	0.114189	20.29	1.34241	11.7561	0.49287	7.4493	0.083062
69	8.4175	0.118801	18.74	1.32480	11.1515	0.53348	7.5483	0.087067
70	8.0842	0.123698	17.31	1.30798	10.5740	0.57767	7.6454	0.091272
71	7.7584	0.128893	15.98	1.29194	10.0234	0.62559	7.7403	0.095697
72	7.4406	0.134398	14.76	1.27667	9.4992	0.67741	7.8329	0.100327
73	7.1313	0.140226	13.64	1.26216	9.0009	0.73324	7.9229	0.105100
74	6.8312	0.146387	12.61	1.24839	8.5280	0.79325	8.0103	0.110161
75	6.5405	0.152893	11.66	1.23533	8.0797	0.85754	8.0950	0.115466
76	6.2596	0.159754	10.80	1.22297	7.6554	0.92620	8.1768	0.120977
77	5.9888	0.166980	10.01	1.21128	7.2541	0.99936	8.2557	0.126684
78	5.7280	0.174581	9.28	1.20024	6.8750	1.07709	8.3316	0.132597
79	5.4775	0.182564	8.62	1.18983	6.5173	1.15944	8.4046	0.138727
80	5.2373	0.190937	8.02	1.18000	6.1800	1.24649	8.4746	0.145081
81	5.0073	0.199708	7.47	1.17075	5.8623	1.33828	8.5416	0.151661
82	4.7874	0.208881	6.97	1.16204	5.5632	1.43479	8.6056	0.158477
83	4.5775	0.218458	6.51	1.15384	5.2817	1.53606	8.6667	0.165532
84	4.3774	0.228446	6.09	1.14613	5.0171	1.64207	8.7250	0.172849
85	4.1869	0.238842	5.71	1.13889	4.7684	1.75279	8.7805	0.180427
86	4.0056	0.249648	5.35	1.13208	4.5347	1.86816	8.8333	0.188281
87	3.8334	0.260862	5.03	1.12569	4.3153	1.98818	8.8834	0.196421
88	3.6700	0.272481	4.73	1.11969	4.1093	2.11264	8.9310	0.204866
89	3.5150	0.284498	4.46	1.11406	3.9159	2.24155	8.9762	0.213627
90	3.3680	0.296909	4.21	1.10878	3.7344	2.37481	9.0189	0.222721
91	3.2289	0.309700	3.98	1.10383	3.5642	2.51207	9.0594	0.232178
92	3.0971	0.322887	3.77	1.09918	3.4042	2.65331	9.0977	0.241921
93	2.9724	0.336425	3.57	1.09481	3.2542	2.79867	9.1340	0.251981
94	2.8542	0.350361	3.39	1.09074	3.1132	2.94707	9.1681	0.262381
95	2.7426	0.364622	3.23	1.08687	2.9808	3.09924	9.2008	0.273150
96	2.6372	0.379196	3.07	1.08321	2.8566	3.25485	9.2318	0.284321
97	2.5373	0.394115	2.93	1.07980	2.7398	3.41389	9.2610	0.295921
98	2.4430	0.409334	2.80	1.07670	2.6304	3.57476	9.2877	0.308071
99	2.3503	0.425474	2.68	1.07380	2.5238	3.73776	9.3127	0.320801
100	2.2659	0.441332	2.56	1.07103	2.4268	3.90009	9.3368	0.334150

TABLE 9. VALUES of LIFE ANNUITIES, deduced from the ENGLISH LIFE TABLE—No. 2. MALES AND FEMALES.

Age.	$\frac{N_x}{D_x} = A_x$					
	PRESENT VALUE of an ANNUITY of £1, first Payment at the Age $x$ .					
	MALES.			FEMALES.		
$x$	3 per Cent.	4 per Cent.	5 per Cent.	3 per Cent.	4 per Cent.	5 per Cent.
	£	£	£	£	£	£
0	19.2660	16.0764	13.7584	19.8944	16.5844	14.1848
1	22.3827	18.6535	15.9374	22.4106	18.6641	15.9422
2	23.5635	19.6429	16.7805	23.4747	19.5551	16.7008
3	24.1106	20.1146	17.1899	24.0317	20.0332	17.1145
4	24.4061	20.3821	17.4295	24.3495	20.3176	17.3674
5	24.5587	20.5340	17.5733	24.5182	20.4814	17.5203
6	24.5969	20.5928	17.6396	24.5697	20.5500	17.5941
7	24.5502	20.5823	17.6480	24.5316	20.5454	17.6066
8	24.4679	20.5429	17.6326	24.4439	20.5003	17.5854
9	24.3481	20.4728	17.5915	24.3179	20.4236	17.5377
10	24.2042	20.3828	17.5339	24.1784	20.3359	17.4810
11	24.0307	20.2680	17.4553	23.9963	20.2126	17.3939
12	23.8359	20.1353	17.3613	23.8044	20.0808	17.2995
13	23.6331	19.9956	17.2612	23.6053	19.9427	17.1996
14	23.4226	19.8490	17.1552	23.4044	19.8028	17.0979
15	23.2225	19.7109	17.0564	23.2145	19.6718	17.0039
16	23.0035	19.5866	16.9434	23.0149	19.5324	16.9025
17	22.7928	19.4089	16.8361	22.8456	19.4184	16.8230
18	22.5962	19.2728	16.7387	22.6814	19.3087	16.7473
19	22.4141	19.1490	16.6519	22.5140	19.1963	16.6695
20	22.2334	19.0263	16.5663	22.3433	19.0813	16.5896
21	22.0490	18.9005	16.4781	22.1694	18.9634	16.5074
22	21.8607	18.7712	16.3871	21.9921	18.8427	16.4229
23	21.6682	18.6383	16.2930	21.8114	18.7190	16.3359
24	21.4714	18.5017	16.1959	21.6271	18.5923	16.2405
25	21.2703	18.3612	16.0955	21.4392	18.4625	16.1545
26	21.0646	18.2167	15.9916	21.2476	18.3294	16.0597
27	20.8542	18.0680	15.8841	21.0522	18.1929	15.9622
28	20.6391	17.9150	15.7730	20.8528	18.0530	15.8618
29	20.4192	17.7576	15.6580	20.6495	17.9095	15.7583
30	20.1943	17.5957	15.5391	20.4420	17.7623	15.6516
31	19.9646	17.4292	15.4161	20.2302	17.6112	15.5417
32	19.7298	17.2581	15.2891	20.0139	17.4561	15.4282
33	19.4899	17.0822	15.1577	19.7931	17.2968	15.3111
34	19.2450	16.9015	15.0220	19.5676	17.1331	15.1903
35	18.9951	16.7159	14.8819	19.3372	16.9649	15.0654
36	18.7400	16.5254	14.7373	19.1017	16.7919	14.9362
37	18.4799	16.3300	14.5881	18.8609	16.6140	14.8027
38	18.2147	16.1294	14.4342	18.6145	16.4309	14.6644
39	17.9443	15.9238	14.2756	18.3625	16.2423	14.5213
40	17.6689	15.7131	14.1120	18.1045	16.0479	14.3728
41	17.3883	15.4971	13.9435	17.8402	15.8470	14.2189
42	17.1026	15.2759	13.7700	17.5694	15.6409	14.0591
43	16.8118	15.0493	13.5913	17.2917	15.4275	13.8930
44	16.5158	14.8173	13.4073	17.0069	15.2071	13.7203
45	16.2146	14.5798	13.2178	16.7145	14.9792	13.5406
46	15.9080	14.3366	13.0227	16.4143	14.7434	13.3534
47	15.5962	14.0876	12.8219	16.1057	14.4993	13.1581
48	15.2788	13.8327	12.6151	15.7883	14.2463	12.9543
49	14.9559	13.5717	12.4021	15.4617	13.9839	12.7413

TABLE 9. VALUES of LIFE ANNUITIES, deduced from the ENGLISH LIFE TABLE—No. 2. MALES AND FEMALES—continued.

Age.	$\frac{N_x}{D_x} = A_x$					
	PRESENT VALUE of an ANNUITY of £1, first Payment at the Age $x$ .					
	MALES.			FEMALES.		
$x$	3 per Cent.	4 per Cent.	5 per Cent.	3 per Cent.	4 per Cent.	5 per Cent.
	£	£	£	£	£	£
50	14.6272	13.3044	12.1826	15.1254	13.7116	12.5186
51	14.2925	13.0304	11.9563	14.7846	13.4340	12.2902
52	13.9517	12.7495	11.7229	14.4426	13.1540	12.0589
53	13.6043	12.4614	11.4819	14.0987	12.8711	11.8239
54	13.2501	12.1656	11.2330	13.7525	12.5845	11.5848
55	12.8886	11.8617	10.9754	13.4034	12.2941	11.3411
56	12.5193	11.5490	10.7086	13.0514	11.9994	11.0926
57	12.1455	11.2304	10.4351	12.6964	11.7006	10.8392
58	11.7780	10.9159	10.1641	12.3387	11.3979	10.5811
59	11.4155	10.6044	9.8946	11.9787	11.0914	10.3184
60	11.0572	10.2951	9.6260	11.6170	10.7818	10.0517
61	10.7027	9.9877	9.3579	11.2543	10.4697	9.7813
62	10.3515	9.6819	9.0899	10.8914	10.1556	9.5079
63	10.0037	9.3775	8.8222	10.5290	9.8404	9.2322
64	9.6593	9.0748	8.5547	10.1680	9.5249	8.9549
65	9.3185	8.7738	8.2876	9.8095	9.2099	8.6767
66	8.9817	8.4751	8.0214	9.4543	8.8964	8.3986
67	8.6493	8.1790	7.7565	9.1033	8.5851	8.1213
68	8.3218	7.8859	7.4932	8.7574	8.2770	7.8455
69	7.9998	7.5966	7.2322	8.4175	7.9728	7.5722
70	7.6837	7.3114	6.9739	8.0842	7.6733	7.3020
71	7.3742	7.0311	6.7191	7.7584	7.3793	7.0358
72	7.0718	6.7561	6.4682	7.4406	7.0914	6.7741
73	6.7770	6.4869	6.2218	7.1313	6.8103	6.5175
74	6.4902	6.2242	5.9804	6.8312	6.5363	6.2667
75	6.2119	5.9683	5.7445	6.5405	6.2701	6.0220
76	5.9424	5.7197	5.5145	6.2596	6.0119	5.7840
77	5.6820	5.4786	5.2909	5.9888	5.7620	5.5529
78	5.4309	5.2455	5.0738	5.7280	5.5208	5.3291
79	5.1893	5.0204	4.8638	5.4775	5.2883	5.1128
80	4.9574	4.8037	4.6608	5.2373	5.0647	4.9041
81	4.7350	4.5953	4.4652	5.0073	4.8500	4.7031
82	4.5223	4.3954	4.2771	4.7874	4.6441	4.5099
83	4.3190	4.2039	4.0965	4.5775	4.4471	4.3245
84	4.1253	4.0208	3.9235	4.3774	4.2588	4.1469
85	3.9407	3.8460	3.7579	4.1860	4.0789	3.9768
86	3.7653	3.6792	3.5997	4.0056	3.9076	3.8144
87	3.5986	3.5206	3.4489	3.8334	3.7444	3.6593
88	3.4406	3.3699	3.3052	3.6700	3.5892	3.5110
89	3.2910	3.2267	3.1691	3.5150	3.4419	3.3702
90	3.1492	3.0907	3.0403	3.3680	3.3020	3.2355
91	3.0152	2.9618	2.9183	3.2289	3.1690	3.1075
92	2.8885	2.8387	2.8024	3.0971	3.0430	2.9864
93	2.7687	2.7225	2.6959	2.9724	2.9244	2.8702
94	2.6557	2.6111	2.5933	2.8542	2.8128	2.7613
95	2.5493	2.5048	2.5010	2.7426	2.7072	2.6564
96	2.4482	2.4046	2.4141	2.6372	2.6063	2.5553
97	2.3544	2.3021	2.3298	2.5373	2.5098	2.4530
98	2.2661	2.2062	2.2542	2.4430	2.4262	2.3663
99	2.1777	2.0842	2.1689	2.3503	2.3415	2.2938
100	2.0993	1.9703	2.0520	2.2659	2.2713	2.2377

TABLE 10. VALUES OF LIFE ANNUITIES, deduced from the ENGLISH LIFE TABLE—  
No. 2. MALES AND FEMALES.

Age.	$\frac{D_x}{N_x} = a_x$					
	ANNUITY (first Payment at Age $x$ ) WHICH £1 WILL PURCHASE.					
	MALES.			FEMALES.		
$x$	3 per Cent.	4 per Cent.	5 per Cent.	3 per Cent.	4 per Cent.	5 per Cent.
	£	£	£	£	£	£
0	·051 905	·062 203	·072 683	·050 266	·060 298	·070 498
1	·044 677	·053 609	·062 745	·044 622	·053 579	·062 727
2	·042 439	·050 909	·059 593	·042 599	·051 138	·059 877
3	·041 476	·049 715	·058 174	·041 612	·049 917	·058 430
4	·040 973	·049 063	·057 374	·041 069	·049 218	·057 579
5	·040 719	·048 700	·056 904	·040 786	·048 825	·057 077
6	·040 656	·048 561	·056 691	·040 701	·048 662	·056 837
7	·040 733	·048 586	·056 664	·040 764	·048 673	·056 797
8	·040 870	·048 679	·056 713	·040 910	·048 780	·056 865
9	·041 071	·048 845	·056 846	·041 122	·048 963	·057 020
10	·041 315	·049 061	·057 032	·041 359	·049 174	·057 205
11	·041 613	·049 339	·057 289	·041 673	·049 474	·057 491
12	·041 953	·049 664	·057 599	·042 009	·049 799	·057 805
13	·042 313	·050 011	·057 933	·042 363	·050 144	·058 141
14	·042 694	·050 381	·058 291	·042 727	·050 498	·058 487
15	·043 062	·050 733	·058 629	·043 077	·050 834	·058 810
16	·043 472	·051 134	·059 020	·043 450	·051 197	·059 163
17	·043 873	·051 523	·059 396	·043 772	·051 498	·059 443
18	·044 255	·051 886	·059 742	·044 089	·051 790	·059 711
19	·044 615	·052 222	·060 053	·044 417	·052 093	·059 990
20	·044 977	·052 559	·060 363	·044 756	·052 407	·060 279
21	·045 354	·052 909	·060 687	·045 107	·052 733	·060 579
22	·045 744	·053 273	·061 024	·045 471	·053 071	·060 891
23	·046 151	·053 653	·061 376	·045 848	·053 422	·061 215
24	·046 573	·054 049	·061 744	·046 238	·053 786	·061 552
25	·047 014	·054 463	·062 129	·046 644	·054 164	·061 902
26	·047 473	·054 895	·062 533	·047 064	·054 557	·062 268
27	·047 952	·055 346	·062 956	·047 501	·054 966	·062 648
28	·048 452	·055 819	·063 400	·047 955	·055 392	·063 045
29	·048 974	·056 314	·063 865	·048 427	·055 836	·063 459
30	·049 519	·056 832	·064 354	·048 919	·056 299	·063 891
31	·050 089	·057 375	·064 867	·049 431	·056 782	·064 343
32	·050 685	·057 944	·065 406	·049 965	·057 287	·064 816
33	·051 309	·058 540	·065 973	·050 523	·057 814	·065 312
34	·051 961	·059 166	·066 569	·051 105	·058 367	·065 832
35	·052 645	·059 823	·067 196	·051 714	·058 945	·066 377
36	·053 362	·060 513	·067 855	·052 351	·059 552	·066 951
37	·054 113	·061 237	·068 549	·053 020	·060 190	·067 555
38	·054 901	·061 998	·069 280	·053 721	·060 861	·068 192
39	·055 728	·062 799	·070 050	·054 459	·061 568	·068 865
40	·056 597	·063 641	·070 862	·055 235	·062 313	·069 576
41	·057 510	·064 528	·071 718	·056 053	·063 101	·070 329
42	·058 471	·065 463	·072 622	·056 917	·063 935	·071 128
43	·059 482	·066 448	·073 576	·057 831	·064 819	·071 979
44	·060 548	·067 489	·074 586	·058 800	·065 759	·072 885
45	·061 673	·068 588	·075 656	·059 828	·066 759	·073 852
46	·062 861	·069 752	·076 789	·060 923	·067 827	·074 888
47	·064 118	·070 984	·077 991	·062 090	·068 969	·075 999
48	·065 450	·072 292	·079 270	·063 338	·070 194	·077 194
49	·066 863	·073 683	·080 632	·064 676	·071 511	·078 485

TABLE 10. VALUES OF LIFE ANNUITIES, deduced from the ENGLISH LIFE TABLE—  
No. 2. MALES AND FEMALES—continued.

Age.	$\frac{D_x}{N_x} = a_x$					
	ANNUITY (first Payment at Age $x$ ) WHICH £1 WILL PURCHASE.					
	MALES.			FEMALES.		
$x$	3 per Cent.	4 per Cent.	5 per Cent.	3 per Cent.	4 per Cent.	5 per Cent.
	£	£	£	£	£	£
50	·068 366	·075 163	·082 084	·066 114	·072 931	·079 881
51	·069 967	·076 744	·083 638	·067 638	·074 438	·081 365
52	·071 676	·078 434	·085 303	·069 240	·076 022	·082 927
53	·073 506	·080 248	·087 093	·070 928	·077 694	·084 574
54	·075 471	·082 199	·089 024	·072 714	·079 463	·086 320
55	·077 588	·084 305	·091 113	·074 608	·081 340	·088 175
56	·079 877	·086 588	·093 383	·076 620	·083 337	·090 151
57	·082 335	·089 044	·095 830	·078 763	·085 465	·092 258
58	·084 904	·091 610	·098 385	·081 046	·087 736	·094 509
59	·087 600	·094 301	·101 065	·083 481	·090 160	·096 914
60	·090 439	·097 133	·103 885	·086 080	·092 748	·099 486
61	·093 435	·100 123	·106 862	·088 855	·095 514	·102 236
62	·096 604	·103 286	·110 012	·091 816	·098 468	·105 176
63	·099 963	·106 638	·113 351	·094 976	·101 622	·108 317
64	·103 527	·110 196	·116 895	·098 347	·104 988	·111 671
65	·107 313	·113 975	·120 662	·101 942	·108 578	·115 251
66	·111 337	·117 993	·124 666	·105 772	·112 405	·119 067
67	·115 616	·122 265	·128 925	·109 850	·116 481	·123 134
68	·120 166	·126 808	·133 454	·114 189	·120 817	·127 461
69	·125 004	·131 638	·138 271	·118 801	·125 427	·132 062
70	·130 145	·136 772	·143 390	·123 698	·130 321	·136 948
71	·135 608	·142 226	·148 829	·128 893	·135 514	·142 131
72	·141 407	·148 015	·154 602	·134 398	·141 015	·147 622
73	·147 559	·154 156	·160 725	·140 226	·146 837	·153 433
74	·154 079	·160 663	·167 213	·146 387	·152 991	·159 574
75	·160 982	·167 551	·174 080	·152 893	·159 488	·166 057
76	·168 283	·174 835	·181 341	·159 754	·166 337	·172 891
77	·175 995	·182 527	·189 005	·166 980	·173 549	·180 085
78	·184 131	·190 640	·197 089	·174 581	·181 133	·187 648
79	·192 702	·199 186	·205 602	·182 564	·189 095	·195 588
80	·201 720	·208 174	·214 555	·190 937	·197 445	·203 909
81	·211 192	·217 614	·223 955	·199 708	·206 188	·212 624
82	·221 128	·227 511	·233 804	·208 881	·215 327	·221 732
83	·231 532	·237 876	·244 109	·218 458	·224 865	·231 241
84	·242 408	·248 709	·254 876	·228 446	·234 810	·241 145
85	·253 760	·260 013	·266 103	·238 842	·245 162	·251 455
86	·265 586	·271 797	·277 800	·249 648	·255 914	·262 166
87	·277 882	·284 041	·289 945	·260 862	·267 069	·273 280
88	·290 646	·296 748	·302 552	·272 481	·278 611	·284 818
89	·303 863	·309 917	·315 552	·284 498	·290 536	·296 715
90	·317 545	·323 549	·328 917	·296 909	·302 850	·309 071
91	·331 652	·337 633	·342 668	·309 700	·315 558	·321 803
92	·346 204	·352 268	·356 840	·322 887	·328 620	·334 853
93	·361 180	·367 315	·370 934	·336 425	·341 950	·348 404
94	·376 551	·382 980	·385 616	·350 361	·355 522	·362 152
95	·392 270	·399 226	·399 832	·364 622	·369 381	·376 448
96	·408 466	·415 872	·414 231	·379 196	·383 679	·391 347
97	·424 739	·434 385	·429 227	·394 115	·398 435	·407 665
98	·441 284	·453 267	·443 619	·409 334	·412 165	·422 601
99	·459 209	·477 791	·461 062	·425 474	·427 069	·435 965
100	·476 354	·507 547	·487 327	·441 332	·440 275	·446 891

TABLE 11. VALUES of LIFE ANNUITIES in Pounds, Shillings, and Pence.

MALES.—Interest 3 per Cent.					
Age. <i>x</i>	$\frac{N_x}{D_x} = A_x$	$\frac{100 D_x}{N_x} = 100 a_x$	Age. <i>x</i>	$\frac{N_x}{D_x} = A_x$	$\frac{100 D_x}{N_x} = 100 a_x$
	PRESENT VALUE of an ANNUITY of £1, first payment at Age <i>x</i> .	ANNUITY (first payment at Age <i>x</i> ) WHICH £100 WILL PURCHASE.		PRESENT VALUE of an ANNUITY of £1, first payment at Age <i>x</i> .	ANNUITY (first payment at Age <i>x</i> ) WHICH £100 WILL PURCHASE.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
0	19 5 4	5 3 10	50	14 12 7	6 16 9
1	22 7 8	4 9 4	51	14 5 10	6 19 11
2	23 11 3	4 4 11	52	13 19 0	7 3 4
3	24 2 3	4 2 11	53	13 12 1	7 7 0
4	24 8 2	4 1 11	54	13 5 0	7 10 11
5	24 11 2	4 1 5	55	12 17 9	7 15 2
6	24 11 11	4 1 4	56	12 10 5	7 19 9
7	24 11 0	4 1 6	57	12 2 11	8 4 8
8	24 9 4	4 1 9	58	11 15 7	8 9 10
9	24 7 0	4 2 2	59	11 8 4	8 15 2
10	24 4 1	4 2 8	60	11 1 2	9 0 11
11	24 0 7	4 3 3	61	10 14 1	9 6 10
12	23 16 9	4 3 11	62	10 7 0	9 13 2
13	23 12 8	4 4 8	63	10 0 1	9 19 11
14	23 8 5	4 5 5	64	9 13 2	10 7 1
15	23 4 5	4 6 1	65	9 6 4	10 14 8
16	23 0 1	4 6 11	66	8 19 8	11 2 8
17	22 15 10	4 7 9	67	8 13 0	11 11 3
18	22 11 11	4 8 6	68	8 6 5	12 0 4
19	22 8 3	4 9 3	69	8 0 0	12 10 0
20	22 4 8	4 9 11	70	7 13 8	13 0 3
21	22 1 0	4 10 8	71	7 7 6	13 11 3
22	21 17 3	4 11 6	72	7 1 5	14 2 10
23	21 13 4	4 12 4	73	6 15 6	14 15 1
24	21 9 5	4 13 2	74	6 9 10	15 8 2
25	21 5 5	4 14 0	75	6 4 3	16 2 0
26	21 1 4	4 14 11	76	5 18 10	16 16 7
27	20 17 1	4 15 11	77	5 13 8	17 12 0
28	20 12 9	4 16 11	78	5 8 7	18 8 3
29	20 8 5	4 17 11	79	5 3 9	19 5 5
30	20 3 11	4 19 0	80	4 19 2	20 3 5
31	19 19 3	5 0 2	81	4 14 8	21 2 5
32	19 14 7	5 1 4	82	4 10 5	22 2 3
33	19 9 10	5 2 7	83	4 6 5	23 3 1
34	19 4 11	5 3 11	84	4 2 6	24 4 10
35	18 19 11	5 5 3	85	3 18 10	25 7 6
36	18 14 10	5 6 9	86	3 15 4	26 11 2
37	18 9 7	5 8 3	87	3 12 0	27 15 9
38	18 4 4	5 9 10	88	3 8 10	29 1 4
39	17 18 11	5 11 5	89	3 5 10	30 7 9
40	17 13 5	5 13 2	90	3 3 0	31 15 1
41	17 7 9	5 15 0	91	3 0 4	33 3 4
42	17 2 1	5 16 11	92	2 17 9	34 12 5
43	16 16 3	5 19 0	93	2 15 4	36 2 4
44	16 10 4	6 1 1	94	2 13 1	37 13 1
45	16 4 4	6 3 4	95	2 11 0	39 4 6
46	15 18 2	6 5 9	96	2 9 0	40 16 11
47	15 11 11	6 8 3	97	2 7 1	42 9 6
48	15 5 7	6 10 11	98	2 5 4	44 2 7
49	14 19 1	6 13 9	99	2 3 7	45 18 5

Note.—By deducting £1 from the value of the annuity as above given, the value of an annuity payable at the end of the first and of every subsequent year is obtained.

TABLE 12. VALUES of LIFE ANNUITIES in Pounds, Shillings, and Pence.

FEMALES.—Interest 3 per Cent.					
Age. <i>x</i>	$\frac{N_x}{D_x} = A_x$	$\frac{100 D_x}{N_x} = 100 a_x$	Age. <i>x</i>	$\frac{N_x}{D_x} = A_x$	$\frac{100 D_x}{N_x} = 100 a_x$
	PRESENT VALUE of an ANNUITY of £1, first payment at Age <i>x</i> .	ANNUITY (first payment at Age <i>x</i> ) WHICH £100 WILL PURCHASE.		PRESENT VALUE of an ANNUITY of £1, first payment at Age <i>x</i> .	ANNUITY (first payment at Age <i>x</i> ) WHICH £100 WILL PURCHASE.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
0	19 17 11	5 0 6	50	15 2 6	6 12 3
1	22 8 3	4 9 3	51	14 15 8	6 15 3
2	23 9 6	4 5 2	52	14 8 10	6 18 6
3	24 0 8	4 3 3	53	14 2 0	7 1 10
4	24 7 0	4 2 2	54	13 15 1	7 5 5
5	24 10 4	4 1 7	55	13 8 1	7 9 3
6	24 11 5	4 1 5	56	13 1 0	7 13 3
7	24 10 8	4 1 6	57	12 13 11	7 17 6
8	24 8 11	4 1 10	58	12 6 9	8 2 1
9	24 6 4	4 2 3	59	11 19 7	8 7 0
10	24 3 7	4 2 9	60	11 12 4	8 12 2
11	23 19 11	4 3 4	61	11 5 1	8 17 9
12	23 16 1	4 4 0	62	10 17 10	9 3 8
13	23 12 1	4 4 9	63	10 10 7	9 9 11
14	23 8 1	4 5 5	64	10 3 4	9 16 8
15	23 4 3	4 6 2	65	9 16 2	10 3 11
16	23 0 4	4 6 11	66	9 9 1	10 11 7
17	22 16 11	4 7 7	67	9 2 1	10 19 8
18	22 13 8	4 8 2	68	8 15 2	11 8 5
19	22 10 3	4 8 10	69	8 8 4	11 17 7
20	22 6 10	4 9 6	70	8 1 8	12 7 5
21	22 3 5	4 10 3	71	7 15 2	12 17 9
22	21 19 10	4 10 11	72	7 8 10	13 8 10
23	21 16 3	4 11 8	73	7 2 8	14 0 5
24	21 12 7	4 12 6	74	6 16 7	14 12 9
25	21 8 9	4 13 3	75	6 10 10	15 5 9
26	21 4 11	4 14 2	76	6 5 2	15 19 6
27	21 1 1	4 15 0	77	5 19 9	16 14 0
28	20 17 1	4 15 11	78	5 14 7	17 9 2
29	20 13 0	4 16 10	79	5 9 7	18 5 2
30	20 8 10	4 17 10	80	5 4 9	19 1 10
31	20 4 7	4 18 10	81	5 0 2	19 19 5
32	20 0 3	4 19 11	82	4 15 9	20 17 9
33	19 15 10	5 1 1	83	4 11 7	21 16 11
34	19 11 4	5 2 3	84	4 7 7	22 16 11
35	19 6 9	5 3 5	85	4 3 9	23 17 8
36	19 2 0	5 4 8	86	4 0 1	24 19 4
37	18 17 3	5 6 0	87	3 16 8	26 1 9
38	18 12 3	5 7 5	88	3 13 5	27 5 0
39	18 7 3	5 8 11	89	3 10 4	28 9 0
40	18 2 1	5 10 6	90	3 7 4	29 13 10
41	17 16 10	5 12 1	91	3 4 7	30 19 5
42	17 11 5	5 13 10	92	3 1 11	32 5 9
43	17 5 10	5 15 8	93	2 19 5	33 12 10
44	17 0 2	5 17 7	94	2 17 1	35 0 9
45	16 14 3	5 19 8	95	2 14 10	36 9 3
46	16 8 3	6 1 10	96	2 12 9	37 18 5
47	16 2 1	6 4 2	97	2 10 9	39 8 3
48	15 15 9	6 6 8	98	2 8 10	40 18 8
49	15 9 3	6 9 4	99	2 7 0	42 10 11
			100	2 5 4	44 2 8

Note.—By deducting £1 from the value of the annuity as above given, the value of an annuity payable at the end of the first and of every subsequent year is obtained.

TABLE 12. SINGLE and ANNUAL PREMIUMS in Pounds, Shillings, and Pence by ENGLISH LIFE TABLE. No. 2. FEMALES, 3 per Cent.

Age. (x)	$\frac{10 D_x}{C_x}$	$\frac{10 D_x}{M_x} = 10 \Sigma_x$	$\frac{10 N_x}{M_x} = 10 s_x$	$\frac{100 C_x}{D_x}$	$\frac{100 M_x}{D_x} = 100 \Pi_x$	$\frac{100 M_x}{N_x} = 100 \pi_x$
	Sum which ONE PREMIUM of £10 at the Age x will insure over ONE YEAR.	SUM which ONE PREMIUM of £10 at the Age x will insure over the WHOLE TERM OF LIFE.	Sum which an ANNUAL PREMIUM of £10, commenced at the Age x, will insure over the WHOLE TERM OF LIFE.	SINGLE PREMIUM which at the Age x will insure £100 over ONE YEAR.	SINGLE PREMIUM which at the Age x will insure £100 over the WHOLE TERM OF LIFE.	ANNUAL PREMIUM which will insure £100 over the WHOLE TERM OF LIFE.
	£ s.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
0	78 6	23 15 7	473 1 0	12 15 7	42 1 1	2 2 3
1	170 2	28 15 11	645 6 11	5 17 7	34 14 6	1 11 0
2	280 8	31 12 4	742 4 9	3 11 4	31 12 6	1 6 11
3	400 2	33 6 7	800 18 8	2 10 0	30 0 1	1 5 0
4	539 8	34 7 9	837 7 2	1 17 1	29 1 7	1 3 11
5	731 10	34 19 7	857 13 0	1 7 4	28 11 9	1 3 4
6	991 14	35 3 3	863 19 8	1 0 2	28 8 9	1 3 2
7	1219 16	35 0 7	859 5 9	0 16 5	28 11 0	1 3 3
8	1468 6	34 14 4	848 12 7	0 13 7	28 16 1	1 3 7
9	1547 0	34 5 7	833 12 5	0 12 11	29 3 5	1 4 0
10	2016 18	33 16 2	817 9 1	0 9 11	29 11 7	1 4 6
11	2073 10	33 4 3	797 0 2	0 9 8	30 2 2	1 5 1
12	2081 16	32 12 2	776 4 6	0 9 7	30 13 4	1 5 9
13	1993 10	32 0 1	755 9 0	0 10 0	31 4 11	1 6 6
14	1733 6	31 8 4	735 5 0	0 11 6	31 16 8	1 7 2
15	1768 16	30 17 7	716 16 7	0 11 4	32 7 8	1 7 11
16	1382 4	30 6 8	698 2 9	0 14 6	32 19 4	1 8 8
17	1295 4	29 17 9	682 15 9	0 15 5	33 9 2	1 9 4
18	1273 2	29 9 4	668 6 6	0 15 9	33 18 9	1 9 11
19	1251 2	29 1 0	653 19 11	0 16 0	34 8 6	1 10 7
20	1229 4	28 12 8	639 16 0	0 16 3	34 18 5	1 11 3
21	1207 6	28 4 6	625 14 10	0 16 7	35 8 7	1 12 0
22	1185 12	27 16 5	611 16 5	0 16 10	35 18 11	1 12 8
23	1164 0	27 8 4	598 0 8	0 17 2	36 9 5	1 13 5
24	1142 8	27 0 5	584 7 7	0 17 6	37 0 2	1 14 3
25	1121 0	26 12 7	570 17 3	0 17 10	37 11 1	1 15 0
26	1099 16	26 4 9	557 9 6	0 18 2	38 2 3	1 15 10
27	1078 14	25 17 0	544 4 6	0 18 6	38 13 8	1 16 9
28	1057 18	25 9 5	531 2 0	0 18 11	39 5 3	1 17 8
29	1037 4	25 1 10	518 2 1	0 19 3	39 17 1	1 18 7
30	1016 16	24 14 4	505 4 8	0 19 8	40 9 2	1 19 7
31	996 8	24 6 11	492 9 10	1 0 1	41 1 6	2 0 7
32	976 8	23 19 6	479 17 5	1 0 6	41 14 2	2 1 8
33	956 14	23 12 3	467 7 5	1 0 11	42 7 0	2 2 10
34	937 2	23 5 1	454 19 9	1 1 4	43 0 2	2 4 0
35	917 16	22 17 11	442 14 5	1 1 9	43 13 7	2 5 2
36	898 16	22 10 10	430 11 4	1 2 3	44 7 3	2 6 5
37	880 0	22 3 10	418 10 5	1 2 9	45 1 4	2 7 9
38	861 12	21 16 10	406 11 8	1 3 3	45 15 8	2 9 2
39	843 8	21 9 11	394 15 0	1 3 9	46 10 4	2 10 8
40	825 10	21 3 1	383 0 3	1 4 3	47 5 5	2 12 3
41	807 18	20 16 4	371 7 6	1 4 9	48 0 9	2 13 10
42	790 12	20 9 7	359 16 7	1 5 4	48 16 6	2 15 7
43	773 12	20 2 11	348 7 5	1 5 10	49 12 9	2 17 5
44	756 18	19 16 4	337 0 0	1 6 5	50 9 4	2 19 4
45	740 10	19 9 9	325 14 3	1 7 0	51 6 4	3 1 5
46	724 8	19 3 2	314 10 0	1 7 7	52 3 10	3 3 7
47	708 12	18 16 9	303 7 4	1 8 3	53 1 10	3 5 11
48	693 4	18 10 3	292 6 0	1 8 10	54 0 4	3 8 5
49	678 0	18 3 10	281 6 0	1 9 6	54 19 4	3 11 1

TABLE 12. Single and Annual Premiums in Pounds, Shillings, and Pence by English Life Table. No. 2. Females, 3 per Cent.—continued.

Age. (x)	$\frac{10 D_x}{C_x}$	$\frac{10 D_x}{M_x} = 10 \Sigma_x$	$\frac{10 N_x}{M_x} = 10 s_x$	$\frac{100 C_x}{D_x}$	$\frac{100 M_x}{D_x} = 100 \Pi_x$	$\frac{100 M_x}{N_x} = 100 \pi_x$
	Sum which ONE PREMIUM of £10 at the Age x will insure over ONE YEAR.	Sum which ONE PREMIUM of £10 at the Age x will insure over the WHOLE TERM OF LIFE.	Sum which an ANNUAL PREMIUM of £10, commenced at the Age x, will insure over the WHOLE TERM OF LIFE.	SINGLE PREMIUM which at the Age x will insure £100 over ONE YEAR.	SINGLE PREMIUM which at the Age x will insure £100 over the WHOLE TERM OF LIFE.	ANNUAL PREMIUM which will insure £100 over the WHOLE TERM OF LIFE.
	£ s.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
50	646 16	17 17 6	270 7 2	1 10 11	55 18 11	3 14 0
51	608 10	17 11 3	259 13 2	1 12 10	56 18 9	3 17 0
52	574 4	17 5 3	249 5 10	1 14 10	57 18 8	4 0 3
53	543 4	16 19 4	239 4 6	1 16 10	58 18 9	4 3 7
54	514 10	16 13 8	229 8 5	1 18 11	59 18 11	4 7 2
55	487 8	16 8 1	219 17 5	2 1 0	60 19 3	4 11 0
56	461 6	16 2 8	210 11 0	2 3 4	61 19 9	4 15 0
57	436 2	15 17 4	201 9 4	2 5 10	63 0 5	4 19 3
58	411 8	15 12 2	192 12 1	2 8 7	64 1 3	5 3 10
59	387 6	15 7 2	183 19 6	2 11 8	65 2 3	5 8 9
60	363 12	15 2 3	175 11 7	2 15 0	66 3 3	5 13 11
61	340 12	14 17 6	167 8 6	2 18 9	67 4 5	5 19 5
62	318 4	14 12 11	159 10 4	3 2 10	68 5 7	6 5 5
63	296 10	14 8 6	151 17 3	3 7 5	69 6 8	6 11 8
64	275 14	14 4 2	144 9 4	3 12 6	70 7 8	6 18 5
65	255 18	14 0 0	137 6 8	3 18 2	71 8 7	7 5 8
66	237 2	13 16 0	130 9 5	4 4 4	72 9 3	7 13 4
67	219 10	13 12 2	123 17 7	4 11 2	73 9 8	8 1 5
68	202 18	13 8 6	117 11 3	4 18 7	74 9 10	8 10 1
69	187 8	13 5 0	111 10 4	5 6 8	75 9 8	8 19 4
70	173 2	13 1 7	105 14 10	5 15 6	76 9 1	9 9 2
71	159 16	12 18 5	100 4 8	6 5 1	77 8 1	9 19 6
72	147 12	12 15 4	94 19 10	6 15 6	78 6 7	10 10 7
73	136 8	12 12 5	90 0 2	7 6 8	79 4 7	11 2 2
74	126 2	12 9 8	85 5 7	7 18 8	80 2 1	11 14 6
75	116 12	12 7 1	80 15 11	8 11 6	80 19 0	12 7 6
76	108 0	12 4 7	76 11 1	9 5 3	81 15 4	13 1 3
77	100 2	12 2 3	72 10 10	9 19 10	82 11 2	13 15 9
78	92 16	12 0 1	68 15 0	10 15 5	83 6 4	14 10 11
79	86 4	11 18 0	65 3 6	11 11 11	84 0 11	15 6 11
80	80 4	11 16 0	61 16 0	12 9 4	84 14 11	16 3 7
81	74 14	11 14 2	58 12 6	13 7 8	85 8 4	17 1 2
82	69 14	11 12 5	55 12 8	14 7 0	86 1 1	17 19 6
83	65 2	11 10 9	52 16 4	15 7 3	86 13 4	18 18 8
84	60 18	11 9 3	50 3 5	16 8 5	87 5 0	19 18 8
85	57 2	11 7 9	47 13 8	17 10 7	87 16 1	20 19 5
86	53 10	11 6 5	45 6 11	18 13 8	88 6 8	22 1 1
87	50 6	11 5 2	43 3 1	19 17 8	88 16 8	23 3 6
88	47 6	11 3 11	41 1 10	21 2 6	89 6 2	24 6 8
89	44 12	11 2 10	39 3 2	22 8 4	89 15 3	25 10 9
90	42 2	11 1 9	37 6 11	23 15 0	90 3 9	26 15 7

TABLE 13. Deduced from the ENGLISH LIFE TABLE.—No. 2., for determining the VALUE of ANNUITIES, ASSURANCES, &c. on the whole of a stationary Population—or on the Part of the Population of the Age  $x$  and upwards.

Age. ( $x$ )	FEMALES.—3 per Cent.					
	$\frac{1}{1000} \cdot v^x \cdot Q_x = Q'_x$	$\sum Q_x = Z_x$	$\frac{Z_{x+1}}{Q'_x} = A'_x$	$\lambda Q_x + \lambda v^x = \lambda Q'_x$	$\lambda Z_x$	$\lambda Z_{x+1} - \lambda Q'_x = \lambda A'_x$
0	204 909	3 841 353	17 747	5 311 5607	6 584 4842	1 249 1162
1	194 607	3 636 444	17 686	5 289 1583	6 560 6769	1 247 6320
2	185 070	3 441 837	17 597	5 267 3364	6 536 7903	1 245 4593
3	176 108	3 256 767	17 493	5 245 7791	6 512 7867	1 242 8646
4	167 620	3 080 659	17 379	5 224 3247	6 488 6437	1 240 0216
5	159 550	2 913 039	17 258	5 202 8955	6 464 3463	1 236 9878
6	151 859	2 753 489	17 132	5 181 4399	6 439 8833	1 233 8056
7	144 517	2 601 630	17 002	5 159 9185	6 415 2455	1 230 5066
8	137 501	2 457 113	16 870	5 138 3043	6 390 4251	1 227 1111
9	130 791	2 319 612	16 735	5 116 5789	6 365 4154	1 223 6314
10	124 374	2 188 821	16 599	5 094 7306	6 340 2103	1 220 0732
11	118 235	2 064 447	16 461	5 072 7457	6 314 8038	1 216 4445
12	112 360	1 946 212	16 321	5 050 6120	6 289 1902	1 212 7524
13	106 739	1 833 852	16 181	5 028 3225	6 263 3644	1 208 9983
14	101 361	1 727 113	16 039	5 005 8720	6 237 3208	1 205 1823
15	96 219	1 625 752	15 896	4 983 2592	6 211 0543	1 201 2997
16	91 302	1 529 533	15 752	4 960 4806	6 184 5589	1 197 3481
17	86 604	1 438 231	15 607	4 937 5376	6 157 8287	1 193 3193
18	82 117	1 351 627	15 460	4 914 4344	6 130 8569	1 189 2017
19	77 834	1 269 510	15 311	4 891 1681	6 103 6361	1 184 9902
20	73 745	1 191 676	15 159	4 867 7333	6 076 1583	1 180 6818
21	69 843	1 117 931	15 006	4 844 1247	6 048 4151	1 176 2731
22	66 121	1 048 088	14 851	4 820 3368	6 020 3978	1 171 7601
23	62 570	981 967	14 694	4 796 3637	5 992 0969	1 167 1394
24	59 183	919 397	14 535	4 772 1989	5 963 5031	1 162 4076
25	55 955	860 214	14 373	4 747 8362	5 934 6065	1 157 5598
26	52 877	804 259	14 210	4 723 2684	5 905 3960	1 152 5924
27	49 945	751 382	14 044	4 698 4882	5 875 8608	1 147 5004
28	47 151	701 437	13 876	4 673 4882	5 845 9886	1 142 2794
29	44 490	654 286	13 706	4 648 2600	5 815 7676	1 136 9246
30	41 956	609 796	13 534	4 622 7953	5 785 1846	1 131 4307
31	39 544	567 840	13 360	4 597 0845	5 754 2260	1 125 7928
32	37 249	528 296	13 183	4 571 1184	5 722 8773	1 120 0047
33	35 066	491 047	13 003	4 544 8866	5 691 1231	1 114 0602
34	32 990	455 981	12 822	4 518 3782	5 658 9468	1 107 9529
35	31 016	422 991	12 638	4 491 5814	5 626 3311	1 101 6770
36	29 140	391 975	12 452	4 464 4837	5 593 2584	1 095 2255
37	27 357	362 835	12 263	4 437 0721	5 559 7092	1 088 5919
38	25 664	335 478	12 072	4 409 3319	5 525 6640	1 081 7691
39	24 057	309 814	11 878	4 381 2477	5 491 1010	1 074 7491
40	22 532	285 757	11 682	4 352 8032	5 455 9968	1 067 5240
41	21 085	263 225	11 484	4 323 9806	5 420 3272	1 060 0859
42	19 713	242 140	11 283	4 294 7600	5 384 0665	1 052 4275
43	18 413	222 427	11 080	4 265 1210	5 347 1875	1 044 5390
44	17 181	204 014	10 875	4 235 0405	5 309 6600	1 036 4131
45	16 014	186 833	10 667	4 204 4937	5 271 4536	1 028 0425
46	14 909	170 819	10 457	4 173 4532	5 232 5362	1 019 4208
47	13 864	155 910	10 246	4 141 8892	5 192 8740	1 010 5398
48	12 876	142 046	10 032	4 109 7690	5 152 4290	1 001 3927
49	11 941	129 170	9 817	4 077 0561	5 111 1617	0 991 9790
50	11 059	117 229	9 600	4 043 7101	5 069 0351	0 982 2917
51	10 226	106 170	9 383	4 009 6905	5 026 0018	0 972 3273
52	9 440	95 944	9 164	3 974 9597	4 982 0178	0 962 0765
53	8 699	86 504	8 944	3 939 4789	4 937 0362	0 951 5286
54	8 002	77 805	8 723	3 903 2048	4 891 0075	0 940 6693

A Table deduced from the English Life Table.—No. 2., for determining the Value of Annuities, Assurances, &c. on the whole of a stationary Population—or on the Part of the Population of the Age  $x$  and upwards.

Age. ( $x$ )	FEMALES.—3 per Cent.					
	$\frac{1}{1000} \cdot v^x \cdot Q_x = Q'_x$	$\sum Q_x = Z_x$	$\frac{Z_{x+1}}{Q'_x} = A'_x$	$\lambda Q_x + \lambda v^x = \lambda Q'_x$	$\lambda Z_x$	$\lambda Z_{x+1} - \lambda Q'_x = \lambda A'_x$
55	7 347	69 803	8 501	3 866 0901	4 843 8741	0 929 4841
56	6 731	62 456	8 279	3 828 0821	4 795 5742	0 917 9680
57	6 154	55 725	8 056	3 789 1232	4 746 0501	0 906 1045
58	5 612	49 571	7 832	3 749 1507	4 695 2277	0 893 8971
59	5 106	43 959	7 609	3 708 0964	4 643 0478	0 881 3282
60	4 633	38 853	7 386	3 665 8864	4 589 4246	0 868 3936
61	4 192	34 220	7 163	3 622 4406	4 534 2800	0 855 0858
62	3 782	30 028	6 940	3 577 6733	4 477 5264	0 841 3898
63	3 400	26 246	6 719	3 531 4915	4 419 0631	0 827 3187
64	3 046	22 846	6 499	3 483 7965	4 358 8102	0 812 8687
65	2 719	19 800	6 281	3 434 4818	4 296 6652	0 798 0315
66	2 418	17 081	6 064	3 383 4345	4 232 5133	0 782 7883
67	2 141	14 663	5 850	3 330 5328	4 166 2228	0 767 1409
68	1 886	12 522	5 638	3 275 6489	4 097 6737	0 751 1294
69	1 654	10 636	5 429	3 218 6449	4 026 7783	0 734 7282
70	1 443	8 982	5 223	3 159 3759	3 953 3731	0 717 9378
71	1 252	7 539	5 021	3 097 6878	3 877 3137	0 700 7557
72	1 080	6 287	4 821	3 033 4178	3 798 4435	0 683 1698
73	926	5 207	4 625	2 966 3933	3 716 5876	0 665 1519
74	788	4 281	4 434	2 896 4326	3 631 5452	0 646 7660
75	666	3 493	4 246	2 823 3441	3 543 1986	0 627 9817
76	558	2 827	4 064	2 746 9266	3 451 3258	0 608 9079
77	464	2 269	3 886	2 666 9684	3 355 8345	0 589 5088
78	383	1 805	3 712	2 583 2474	3 256 4772	0 569 6522
79	313	1 422	3 543	2 495 5312	3 152 8996	0 549 4003
80	253	1 109	3 380	2 403 5765	3 044 9315	0 528 8973
81	203	856	3 219	2 307 1294	2 932 4738	0 507 7838
82	161	653	3 062	2 205 9249	2 814 9132	0 486 0402
83	126	492	2 909	2 099 6867	2 691 9651	0 463 7944
84	97	366	2 765	1 988 1283	2 563 4811	0 441 6240
85	74	269	2 625	1 870 9508	2 429 7523	0 419 0838
86	56	195	2 484	1 747 8451	2 290 0346	0 395 1697
87	42	139	2 335	1 618 4905	2 143 0148	0 368 2812
88	30	97	2 206	1 482 5537	1 986 7717	0 343 5211
89	22	67	2 058	1 339 6929	1 826 0748	0 313 5196
90	15	45	1 939	1 189 5527	1 653 2125	0 287 5686
91	11	30	1 766	1 031 7679	1 477 1213	0 246 9857
92	7	19	1 634	0 865 9618	1 278 7536	0 213 2194
93	5	12	1 423	0 691 7481	1 079 1812	0 153 3499
94	3	7	1 240	0 508 7192	0 845 0980	0 093 3408
95	2	4	965	0 316 4789	0 602 0600	1 984 5511
96	1	2	768	0 114 5854	0 301 0300	1 885 4146
97	1	1	..	1 902 5891	0 000 0000	..
98	0	0	..	1 680 0713	..	..
99	0	0	..	1 446 6189	..	..
100	0	0	..	1 201 7150	..	..

Note.—The first and second columns in this Table correspond in the nature of their construction and relations with the columns D and N in the previous Tables for calculating Life Annuities. The numbers in the first column are obtained by multiplying the numbers in the column Q of the Life Table by the successive powers of  $v = \frac{1}{1.03}$

(when the interest of money is 3 per cent.), and dividing by 1000. The division by 1000 is equivalent to cutting off 3 figures, which is done merely for the sake of convenience, as the Table in its present form is sufficiently extensive for all the purposes to which it can be applied. The  $v$  varies with the interest of money.

## POPULATION, DEATHS, and MORTALITY in ENGLAND for the Seven Years 1838-44.

Ages.	POPULATION 1841. (Estimated to the Middle of the Year.)		DEATHS in Seven Years.		Annual Rate of Mortality per Cent.	
	Males.	Females.	Males.	Females.	Males.	Females.
0—	210,341	218,851	301,378	236,261	20·510	15·440
1—	215,322	214,250	100,874	95,764	6·706	6·393
2—	218,035	219,006	53,785	53,449	3·531	3·490
3—	203,492	206,368	35,826	35,802	2·520	2·481
4—	201,080	200,263	26,034	25,634	1·853	1·831
5—	1,048,270	1,058,738	517,897	446,910	7·072	6·037
6—	953,235	952,450	61,659	59,903	·926	·900
10—	880,907	852,517	31,028	32,662	·504	·548
15—	1,507,944	1,633,939	84,833	95,152	·805	·833
25—	1,178,131	1,275,849	79,703	89,967	·968	1·009
35—	871,845	902,863	76,093	78,431	1·249	1·242
45—	621,142	653,065	77,047	70,680	1·776	1·548
55—	398,937	433,202	87,539	84,275	3·141	2·782
65—	224,863	259,283	103,873	106,692	6·613	5·885
75—	86,736	103,707	87,218	95,723	14·394	13·201
85—	12,635	17,906	26,167	34,497	29·646	27·553
95 and upwards	579	1,091	1,727	3,112	42·697	40·795
All ages specified	7,785,224	8,144,610	1,234,784	1,198,004	—	—
Not specified	—	—	2,505	1,355	—	—
All ages	7,785,224	8,144,610	1,237,289	1,199,359	2·270	2·104

Note.—The mortality was not disturbed by any great epidemics in these years, and it is believed that they will serve well as the basis of Tables for use by Life Offices.

[The following Index furnishes a reference to the *Number* of each DISTRICT in the topographical arrangement adopted in the Tables of Abstracts contained in the Report, the numbers running consecutively from 1 to 623.\* In forming the alphabetical arrangement the principle is adopted of placing compound names in the order in which they are pronounced: thus, East Ashford will be found under the letter E, and not under A, as Ashford, East.]

Aberayron, 596.	Beverley, 518.	Canterbury, 65.
Abergavenny, 578.	Bicester, 159.	Cardiff, 581.
Aberystwith, 597.	Bideford, 297.	Cardigan, 593.
Abingdon, 123.	Biggleswade, 180.	Carlisle, 568.
Alcester, 405.	Billericay, 199.	Carmarthen, 589.
Alderbury, 263.	Billesdon, 410.	Carnarvon, 620.
Alnwick, 559.	Bingham, 443.	Castle Ward, 554.
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\* Thus, the number of Marriages in the Aberayron District may at once be ascertained by referring, in the "Abstract of Marriages," to the District numbered 596 (see page 24); and in like manner the number of Births and Deaths, of Deaths at different Ages, &c. will be found by referring to the same district number in the appropriate Tables.

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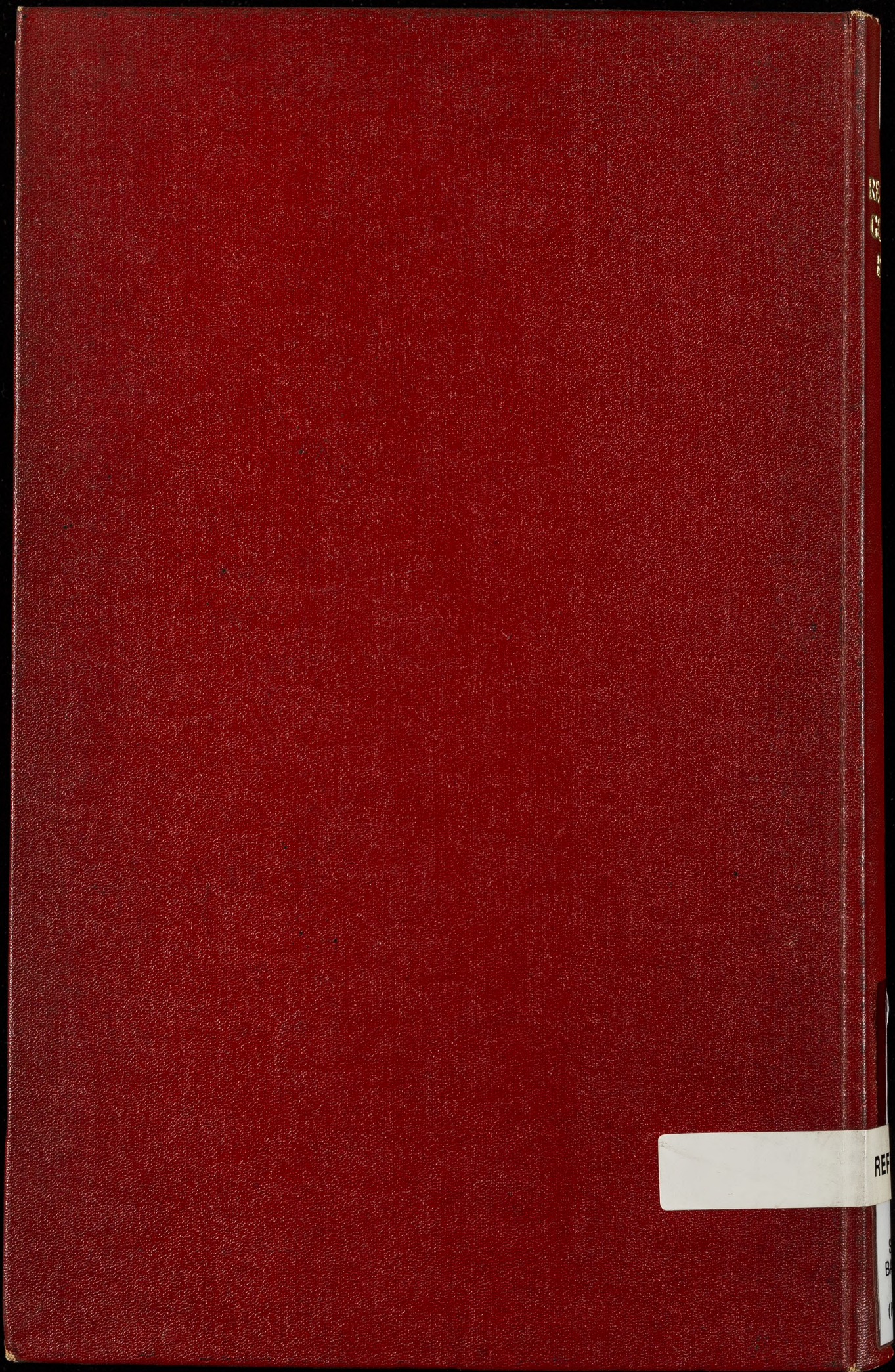
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