[Report 1909] / Medical Officer of Health, Nottingham City.

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CITY OF NOTTINGHAM.

ANNUAL HEALTH REPORT

FOR

1909.

BY

PHILIP BOOBBYER, M.D.,

MEDICAL OFFICER OF HEALTH,

MEDICAL SUPERINTENDENT OF ISOLATION HOSPITALS,

SUPERINTENDENT MEDICAL OFFICER OF SCHOOLS.

Nottingham:

THOS. FORMAN AND SONS, SHERWOOD STREET.

CITY OF NOTTINGHAM.

1909—1910.

HEALTH COMMITTEE.

COUNCILLOR ALBERT BALL, J.P., MAYOR.

Chairman:—

ALDERMAN DABELL, M.R.C.S., J.P.

Vice-Chairman:—

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„ ELLIOTT.
COUNCILLOR GIBSON.
„ GREGG.
„ LLOYD.
„ MARLOW.
„ W. E. MORRIS.
„ PENDLETON, J.P.
„ SMALL.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE OF THE NOTTINGHAM CORPORATION.

GENTLEMEN,

The following is my 21st Annual Report as Medical Officer of Health for Nottingham City and County Borough.

The vital statistics of the City for 1909, whether viewed in comparison with the contempory records of other places or with its own past records, must on the whole be considered as satisfactory.

The birth-rate, indeed, still dwindles, that for the past year being equal to only 25·6 per 1,000 living. The lowest previous rate was 26·5—in 1905.

The crude general death-rate was 16·2 per 1,000 living, which is slightly above the extremely low figure for 1908, but otherwise almost a record for lowness in Nottingham.

The infant death-rate per 1,000 births was equal to 150, a very low figure, as compared with past records, for Nottingham, but nevertheless representing a rate of mortality among infants more than 80 per cent. above the minimum for healthy districts.

The death-rate from the seven principal epidemic diseases of the Registrar-General, was equal to 1·625 per 1,000 living. This again is a low rate for Nottingham, but, as this rate under present conditions fluctuates principally with the relative prevalence or non-prevalence of measles, whooping-cough, and diarrhœa, over which but little control is exercised, we are entitled to very little credit for the reduction. Out of 420 total deaths from all the members of

this group, 365, or 87 per cent., were due to these three diseases during 1909; scarlet fever, diphtheria, and enteric fever being responsible for only 55 deaths between them, and there was no death from small-pox.

I regret to say there is no evidence of a reduction in the prevalence and fatality of phthisis in the City. The annual numbers of deaths credited to the disease (which is far more active among the poor than the rich), have varied comparatively little and shown no tendency to decline for more than 10 years.

The deaths from enteric fever and diarrhœa have been far less numerous during the five years ended with 1909, than in the preceding quinquennium. The deaths from enteric fever have averaged only 30 per annum during the more recent, as against 59 for the former period, and those from diarrhœa only 213 as compared with 291. The greater part of this reduction is probably due to weather conditions (cold and wet summers), but some of the diminution is certainly the outcome of better scavenging and other sanitary improvements.

The effect of such sanitary improvement as the conversion of dry closets to W.C's in diminishing the prevalence of diarrhœa and enteric fever has recently been demonstrated in the case of Leicester, where formerly both these diseases were far more prevalent than in Nottingham, but now, and since the conversion of the dry closets, are far less so than with us.

The conversion of our dry closets to W.C's is an essential item in the scheme of housing reform, for the promotion of which the new Housing Department of the Corporation has now come into being. But, as the work of conversion can only be undertaken by the Health Department, under the Public Health Acts, the Housing Department can do no more than give it moral support and encouragement.

The good effects of reforms like this, and others more intimately connected with the homes of the poor, are not to be measured only by the physical changes produced; we have to consider also the influence upon the thoughts and habits of the people produced by improved environment.

Reflections of this kind bring home to us the necessity for the systematic organization and co-ordination of all schemes directed to the social and hygienic improvement of the poorer classes. As an example of an epoch-making reform largely ineffective for lack of collateral support, I may mention the introduction of compulsory education by the Act of 1870. The establishment of Medical Inspection of Public Elementary School Children, under the Education (Administrative Provisions) Act of 1907, gives promise, if properly developed, of removing much of the reproach which has hitherto attached to our system of Public Elementary Education, as an incomplete and therefore ineffectual agency for the improvement of the poorer classes.

Other movements designed to bring good influence to bear upon the poor—and especially upon the wives and mothers—in their homes, are those connected with the administration of the Midwives Act and the Notification of Births Act. Both of these are going strongly in Nottingham at the present time.

Some modern thinkers are opposed to all such movements on principle, and are apt to stigmatize them as a costly and unjustifiable interference with the liberty and independence of the poor. My own opinion, however, shared by many thoughtful and experienced people, is, that such movements are absolutely necessary if the poor of our cities are to be saved from further deterioration, and that they will ultimately be productive of great and lasting benefit.

PHILIP BOOBBYER.

TABLE I.

Nottingham. Population, Inhabited Houses, Marriages, Births and Deaths for 1909, and for the 10 years 1899-1908.

	Estimated Population.	Inhabited Houses.	† Marriages	Births.	Deaths.			Deaths in Public Institutions.
					Total at all ages.	Under One Year.	Under 5 Years.	
1909	263,441	62,816	2150	6746	4268	1009	1483	876
1908	260,449	61,887	2195	7037	4019	1026	1371	766
1907	257,492	60,963	2403	6882	4499	1154	1696	833
1906	254,567	59,828	2387	6759	4069	1158	1477	764
1905	251,677	58,902	2077	6645	4142	1031	1580	761
1904	248,811	58,000	2057	6880	4314	1239	1666	816
1903	245,985	56,784	2287	6945	4063	1144	1590	789
1902	243,191	55,240	2256	6867	4118	1101	1382	666
1901	240,438	53,107	2255	6801	4346	1330	1774	791
1900	*237,770	52,537	2153	6731	4555	1314	1811	770
1899	239,384	53,052	2037	6910	4689	1470	1954	802
Average of the *ten* years 1899-1908.	247,976	57,030	2211	6846	4281	1197	1630	776

* Retrospective estimate based upon Census Return of April, 1901.

Estimate for year 1899 based upon hypothesis that rate of increase between 1881 and 1891 had continued during succeeding decennium.

† The returns of Marriages, from June 1899 onwards, are for the entire municipal area—the new Parish of Nottingham: prior to this, they did not include those of Bulwell, Basford, and North Wilford.

TABLE II.

Nottingham. Annual Rates for 1909, and the 10 years 1899-1908.

	Rate per 1000 of Population.		Per 1000 Births Deaths under 1 year.	Per 1000 of Total Deaths.		
	Birth Rate.	Death Rate.		Deaths under 1 year.	Deaths under 5 years.	Deaths in Public Institutions.
1909	25·6	16·20	150	236	347	205
1908	27·02*	15·43*	146	255	341	191
1907	26·7	17·47	168	256	377	185
1906	26·55	15·98	171	285	363	188
1905	26·5	16·45	155	249	381	184
1904	27·7	17·34	176	287	386	189
1903	28·3	16·5	165	282	391	194
1902	27·3	16·7	159	267	336	190
1901	28·3	18·1	196	306	408	182
1900	28·3	19·2	196	288	398	169
1899	28·8	19·6	213	313	417	168
Average of the *ten* years 1899-1908.	27·59	17·27	175	279	380	184

* These rates are calculated on the mid-year population without correction for the 53rd week contained in 1908. When so corrected they fall to 26·6 and 15·2 respectively.

TABLE III Schedule A—Nottingham. 19(

No.	DISEASES.	AGES.								
		0–		1–		5–		10–		1
		M	F	M	F	M	F	M	F	M
1	Small-pox (*a*) Vaccinated	..	..	..	..	..	..	..	..	..
	(*b*) Unvaccinated	..	..	..	..	..	..	..	..	..
	(*c*) No Statement	..	..	..	..	..	..	..	..	..
2	Measles	16	11	55	51	2	7	..	..	..
3	Scarlet Fever	..	..	3	3	1	1	1	1	..
4	Typhus Fever	..	..	..	..	..	..	..	..	..
5	Epidemic Influenza	1	..	..	1	..	..	..	..	1
6	Whooping-Cough	14	6	13	25	..	1	..	..	..
7	Diphtheria	..	..	9	11	2	4	..	..	..
8	Enteric Fever	..	..	1	1	1	1	1	1	..
9	Asiatic Cholera	..	..	..	..	..	..	..	..	..
10	Diarrhœa, Dysentery	54	51	6	10	..	..	..	..	..
11	Epidemic Enteritis	12	13	1	3	..	..	..	..	..
12	Chicken-Pox	..	..	..	..	..	..	..	..	..
13	Epidemic Cerebro-Spinal Meningitis	..	..	..	..	..	..	..	..	..
14	Mumps	..	1	..	..	..	..	..	..	..
15	*Other allied Diseases*	..	..	..	..	..	..	..	..	..
16	Hydrophobia	..	..	..	..	..	..	..	..	..
17	Glanders	..	..	..	..	..	..	..	..	..
18	Tetanus	..	1	1	..	..	..	..	..	..
19	Anthrax	..	..	..	..	..	..	..	..	..
20	Cowpox	..	..	..	..	..	..	..	..	..
21	Syphilis	6	8	1	..	..	..	..	..	..
22	Gonorrhœa	..	..	..	..	..	..	..	..	..
23	Phagedæna	..	..	..	..	..	..	..	..	..
24	Erysipelas	1	2	..	..	..	..	..	..	..
25	Puerperal Sepsis	..	..	..	..	..	..	..	..	..
26	Pyæmia	..	..	..	..	..	..	1	..	..
27	Infective Endocarditis	..	..	..	..	..	..	..	..	..
28	*Other Allied Diseases*	..	..	..	..	..	..	..	..	..
29	Cancrum Oris	..	..	..	..	..	..	..	..	..
30	Malarial Fever	..	..	..	..	..	..	..	..	..
31	Rheumatic Fever	..	..	..	..	..	2	..	1	..
32	Rheumatism of Heart	..	..	..	..	..	..	..	1	..
33	Tuberculosis of Brain	6	3	17	9	4	2	..	2	..
34	Tuberculosis of Larynx	..	..	..	..	..	..	..	..	..
35	Phthisis	1	1	5	6	1	3	1	4	10
36	Abdominal Tuberculosis	5	5	9	8	1	2	1	2	..
37	General Tuberculosis	6	..	5	2	1	..	1	2	1
38	Other forms Tuberculosis	..	..	..	..	..	..	..	..	..
39	Tuberculous Joints	..	..	..	..	..	..	..	..	..
40	Tuberculous Spinal Caries	..	..	..	..	..	..	..	..	..
41	Tuberculous Spine	..	..	..	..	..	1	..	..	..
42	Lupus	..	..	..	..	..	..	..	..	..
43	Elephantiasis	..	..	..	..	..	..	..	..	..
44	*Other Infective Diseases*	..	..	..	..	..	..	..	..	..
45	Thrush	2	2	..	..	..	..	..	..	..
46	Actinomycosis	..	..	..	..	..	..	..	..	..
47	Hydatid Diseases	..	..	..	..	..	..	..	..	..
48	Scurvy	..	..	..	..	..	..	..	..	..
49	*Other Diseases due to Altered Food*	..	..	..	..	..	..	..	..	..
50	Acute Alcoholism	..	..	..	..	..	..	..	..	..
51	Chronic Alcoholism	..	..	..	..	..	..	..	..	..
52	*Chronic Industrial Poisonings*	..	..	..	..	..	..	..	..	..
53	*Other Chronic Poisonings*	..	..	..	..	..	..	..	..	..
54	Rheumatoid Arthritis	..	..	..	..	..	..	..	..	..
55	Osteo-myelitis	..	..	..	..	..	..	..	..	..
56	Osteo-Arthritis	..	..	..	..	..	..	..	..	..
57	Gout	..	..	..	..	..	..	..	..	..
58	Sarcoma	..	..	..	..	..	..	..	..	..
59	Cancer	..	..	..	..	..	..	..	..	..
60	Diabetes Mellitus	..	..	..	..	..	1	1	..	3
	TOTALS	124	104	126	130	13	25	7	14	15

eaths Registered from all causes.

AGES.																ALL AGES.		TOTALS.	No.
20–		25–		35–		45–		55–		65–		75–		85–					
F	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	73	70	143	2
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	5	10	3
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
..	2	3	1	1	5	2	5	5	5	7	5	4	..	2	25	25	50	5
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	27	32	59	6
..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	11	15	26	7
..	2	1	1	3	2	1	1	..	..	..	..	..	..	..	..	10	9	19	8
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
..	..	..	..	1	..	..	1	2	1	1	2	3	2	..	66	68	134	10
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	16	29	11
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	14
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...	..	..	..	17
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	18
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20
..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	9	9	18	21
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	22
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	23
..	..	..	..	..	..	..	..	..	1	..	1	1	1	..	..	2	5	7	24
4	..	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	8	8	25
..	1	..	..	1	..	1	..	1	..	1	..	..	..	..	..	2	4	6	26
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	27
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	28
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	30
..	..	2	1	1	..	2	..	2	..	..	..	..	..	1	1	12	13	31
..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	1	2	3	32
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	27	18	45	33
..	1	..	..	1	..	1	1	..	..	..	..	..	..	..	..	2	3	5	34
18	31	39	42	29	31	24	19	7	9	3	1	2	..	1	169	154	323	35
2	..	1	..	..	2	1	1	..	..	..	..	..	..	..	..	19	22	41	36
1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	15	5	20	37
..	1	..	..	..	..	1	1	1	..	..	..	..	..	..	..	2	2	4	38
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	39
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	40
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	41
..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1	42
..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	43
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	44
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4	45
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	46
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	47
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	48
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	49
..	..	..	2	..	1	..	1	..	..	..	..	..	..	..	..	4	..	4	50
..	1	..	..	4	1	..	..	1	..	..	..	1	..	..	..	2	6	8	51
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	52
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	53
..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	54
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	55
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	56
..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	1	1	2	57
..	1	1	3	..	3	2	5	2	..	2	..	..	..	..	..	12	8	20	58
..	1	6	5	17	14	26	42	34	28	28	8	14	3	1	101	126	227	59
..	..	1	1	1	..	2	6	4	6	2	2	..	..	..	19	11	30	60
25	42	57	57	63	60	63	84	63	49	46	19	26	5	5	621	645	1266	

TABLE III. Schedule A—Nottingham. 1

No.	DISEASES.	AGES.								
		0-		1-		5-		10-		
		M	F	M	F	M	F	M	F	M
61	Purpura Hæmorrhagica	1	..	..	..	..	..	..	..	..
62	Hæmophilia	..	..	..	..	..	..	..	..	..
63	Anæmia	..	..	..	..	..	..	..	..	..
64	Scurvy	..	..	..	1	..	..	..	..	..
65	Lymphadenoma	..	..	..	..	..	..	..	..	..
66	Myxœdema	..	..	..	..	..	..	..	..	..
67	Disease of Adrenals	..	..	..	..	..	..	..	..	..
68	Premature Birth	83	59	..	..	..	..	..	..	..
69	Injury at Birth	3	2	..	..	..	..	..	..	..
70	Debility at Birth	36	34	..	..	..	..	..	..	..
71	Atelectasis	11	9	..	..	..	..	..	..	..
72	*Congenital Defects*	13	22	..	1	..	1	..	..	..
73	Leucocythæmia	..	..	..	..	..	..	..	..	..
74	Goitre	..	..	..	..	..	..	..	..	..
75	Want of Breast Milk	5	4	..	..	..	..	..	..	..
76	Atrophy, Debility, Marasmus	52	46	3	4	..	..	..	..	..
77	Dentition	3	4	1	2	..	..	..	..	..
78	Rickets	6	..	2	3	..	..	..	..	..
79	Acromegaly	..	..	..	..	..	..	..	..	..
80	Old Age, Senile Decay	..	..	..	..	..	..	..	..	..
81	Convulsions	35	21	3	7	..	1	..	..	..
82	Meningitis	5	3	6	5	..	..	..	..	..
83	Encephalitis	..	..	..	..	..	..	..	..	..
84	Apoplexy	..	..	..	..	..	..	..	..	..
85	Softening of Brain	..	..	..	..	..	..	..	..	..
86	Brain Atrophy	..	..	..	..	..	..	..	..	..
87	Hemiplegia	..	..	1	..	..	..	..	..	..
88	General Paralysis of Insane	..	..	..	..	..	..	..	..	..
89	Other forms of Insanity	..	..	..	..	..	..	..	..	..
90	Chorea	..	..	..	..	..	..	..	..	..
91	Cerebral Tumour	..	..	..	..	..	..	..	..	..
92	Epilepsy	..	..	..	..	1	..	..	1	..
93	Laryngismus Stridulus	1	1	1	..	..	..	..	..	..
94	Locomotor Ataxy	..	..	..	..	..	..	..	..	..
95	Paraplegia	..	..	..	..	..	..	..	..	1
96	Bulbar Paralysis	..	..	..	..	..	..	..	..	..
97	Multiple Neuritis	..	..	..	..	..	..	..	..	..
98	Peripheral Neuritis	..	..	..	..	..	..	..	..	..
99	Disseminated Sclerosis	..	..	..	..	..	..	..	..	..
100	Lateral Sclerosis	..	..	..	..	..	..	..	..	..
101	Multiple Sclerosis	..	..	..	..	..	..	..	..	..
102	Melancholia	..	..	..	..	..	..	..	..	..
103	Paralysis Agitans	..	..	..	..	..	..	..	..	..
104	*Other forms, Brain Diseases*	..	..	..	..	..	..	..	..	..
105	Otitis	..	1	2	1	..	1	..	2	1
106	Disease of Nose, Epistaxis	..	..	..	..	..	..	..	..	..
107	Diseases of Eye	..	..	..	..	..	..	..	..	..
108	Pericarditis	..	..	..	..	..	..	..	..	..
109	Endocarditis	..	..	..	..	..	..	1	3	..
110	Hypertrophy of Heart	..	..	..	..	..	..	..	..	..
111	Fatty Heart	..	..	..	..	..	..	..	..	..
112	Angina Pectoris	..	..	..	..	..	..	..	..	..
113	Aneurism	..	..	..	..	..	..	..	..	..
114	Senile Gangrene	..	..	..	..	..	..	..	..	..
115	Embolism, Thrombosis	..	..	1	..	..	..	..	..	..
116	Phlebitis	..	..	..	..	..	..	..	..	..
117	Varicose Veins	..	..	..	..	..	..	..	..	..
118	Atherome	..	..	..	..	..	..	..	..	..
119	Dilatation of Heart	..	..	..	..	..	..	..	..	..
120	Arterio Sclerosis	..	..	..	..	..	..	..	..	..
121	*Other Diseases, Heart and Vessels*	..	..	..	..	..	..	..	..	..
122	Laryngitis	4	..	2	4	..	..	..	..	..
	TOTALS	258	206	22	28	1	3	1	6	3

Deaths Registered from all causes—continued.

AGES.																All Ages.		Totals	No.
20–		25–		35–		45–		55–		65–		75–		85–					
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	61
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	62
..	..	..	2	..	..	1	3	1	3	1	..	..	1	..	..	3	9	12	63
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	64
..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	2	65
..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1	66
..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1	67
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	83	59	142	68
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	5	69
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	36	34	70	70
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11	9	20	71
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	24	37	72
..	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	2	1	3	73
..	..	..	..	..	1	..	1	..	2	..	1	..	1	..	..	..	6	6	74
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	4	9	75
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	55	50	105	76
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	6	10	77
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	3	11	78
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	79
..	..	..	..	..	..	..	2	..	1	24	23	46	71	20	29	90	126	216	80
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	38	29	67	81
..	..	..	..	1	2	2	..	1	..	..	..	..	..	..	..	15	10	25	82
..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	2	2	83
..	..	2	1	5	4	7	16	21	21	24	26	14	18	1	2	74	88	162	84
..	..	1	..	..	1	..	2	2	2	2	6	1	3	..	..	6	14	20	85
..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	1	1	2	86
..	..	..	..	..	1	2	1	2	4	6	5	4	6	..	1	15	18	33	87
1	..	1	1	7	1	5	4	1	..	..	1	..	..	..	..	15	7	22	88
..	..	..	..	..	..	1	..	..	2	2	..	..	2	..	..	3	4	7	89
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	90
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	91
2	..	..	3	4	3	1	..	3	..	2	1	1	..	1	..	15	8	23	92
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	93
..	..	..	..	..	..	3	2	1	1	..	1	..	..	..	..	4	4	8	94
..	..	..	..	1	..	..	..	1	1	1	1	..	..	..	..	4	2	6	95
..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	2	..	2	96
..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	2	..	2	97
..	..	..	..	..	1	1	3	..	..	..	..	..	..	..	..	1	4	5	98
..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	99
..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1	100
..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	101
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	102
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	103
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	104
..	..	2	..	..	..	..	..	..	1	..	..	..	..	..	..	5	6	11	105
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	106
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	107
..	..	..	..	..	..	..	1	1	1	..	..	..	..	..	..	1	2	3	108
2	3	9	10	4	15	25	26	26	29	32	55	9	30	3	3	111	177	288	109
..	1	1	..	..	1	2	3	3	5	5	7	3	7	..	..	14	24	38	110
..	..	..	..	..	..	1	2	1	1	1	..	2	..	..	..	5	3	8	111
..	..	..	..	..	..	2	..	1	..	2	4	..	..	..	..	5	4	9	112
..	..	1	..	1	..	5	..	3	..	..	1	1	1	..	..	11	2	13	113
..	..	..	..	1	..	...	1	..	2	3	4	..	3	1	..	5	10	15	114
..	..	..	1	1	..	3	..	1	3	3	1	3	2	..	..	12	7	19	115
..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	116
..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1	117
..	..	..	..	..	..	1	..	..	..	..	..	..	2	..	..	1	2	3	118
..	..	..	..	1	..	..	..	..	1	..	..	1	2	..	..	2	3	5	119
..	..	..	..	1	..	..	1	..	2	1	1	4	1	..	1	6	6	12	120
..	..	..	..	..	2	2	..	..	3	9	6	9	5	..	2	20	18	38	121
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	4	10	122
5	4	18	19	29	33	67	70	72	87	119	146	100	156	26	38	721	799	1520	

TABLE III. Schedule A—Nottingham. 19

No.	DISEASES.	AGES.								
		0–		1–		5–		10–		1
		M	F	M	F	M	F	M	F	M
123	Tonsillitis	..	..	..	..	..	..	..	..	..
124	Croup	..	..	..	..	..	..	..	..	..
125	*Other Diseases, Larynx and Trachea*	..	1	..	..	..	..	..	..	..
126	Acute Bronchitis	35	27	9	11	..	..	..	..	..
127	Chronic Bronchitis	..	..	..	..	..	..	..	..	..
128	Lobar Pneumonia	22	11	11	19	4	2	2	2	3
129	Lobular Pneumonia	52	51	36	48	2	3	..	..	1
130	Pneumonia	1	3	2	..	..	..	..	..	..
131	Emphysema, Asthma	1	..	..	..	..	..	..	1	..
132	Pleurisy	..	..	..	..	..	..	..	..	..
133	Empyema	..	..	..	..	..	..	..	..	1
134	*Other Diseases, Respiratory System*	..	..	..	..	..	..	..	..	..
135	*Diseases of Mouth and Annexa*	..	..	..	..	..	..	..	..	..
136	Parotitis, Suppurative	..	..	..	..	..	..	..	..	..
137	Diseases of Pharynx	..	..	..	..	..	..	..	..	..
138	Diseases of Œsophagus	..	..	..	..	..	..	..	..	..
139	Ulcer of Stomach and Duodenum	1	1	1	..	..	..	..	..	..
140	Other Diseases of Stomach	7	8	2	3	..	..	..	..	..
141	Enteritis	32	28	4	6	..	..	..	..	..
142	Appendicitis	..	..	2	..	..	1	..	1	3
143	Obstruction of Intestine	2	4	..	..	..	..	..	..	..
144	Other Diseases of Intestine	..	..	..	..	..	..	..	..	..
145	Gall Stones	..	..	..	..	..	..	..	..	..
146	Pancreatitis	..	..	..	..	..	..	..	..	..
147	Cirrhosis of Liver	..	..	..	..	..	..	..	..	..
148	Acute Yellow Atrophy of Liver	..	..	..	..	..	..	..	..	..
149	Other Diseases of Liver	2	1	..	..	1	1	..	..	..
150	Peritonitis	..	..	..	..	..	..	..	..	..
151	Fistula in Ano	..	..	..	..	..	..	..	..	..
152	Ischio-Rectal Abscess	..	..	..	..	..	..	..	..	..
153	Hernia	1	..	..	..	..	..	..	..	1
154	Dysentery	..	..	..	..	..	..	..	..	..
155	Intussusception	..	..	..	..	1	..	..	..	..
156	*Other Diseases, Digestive System*	..	..	..	..	..	..	..	..	..
157	*Diseases, Lymphatic System and Glands*	..	..	1	..	..	..	..	..	..
158	Recto Vaginal Fistula	..	..	..	..	..	..	..	..	..
159	Addison's Disease	..	..	..	..	..	..	..	..	..
160	Acute Nephritis	..	..	..	1	..	..	..	..	1
161	Bright's Disease	..	..	..	..	..	..	..	..	..
162	Calculus	..	..	..	..	..	..	..	..	..
163	Diseases of Bladder and Prostate	..	..	..	..	..	..	..	..	..
164	*Other Diseases, Urinary System*	..	..	..	..	..	..	..	..	..
165	Stricture of Urethra	..	..	..	..	..	..	..	..	..
166	Urinary Fistula	..	..	..	..	..	..	..	..	..
167	Diseases of Testis and Penis	..	..	..	..	..	..	..	..	..
168	Diseases of Ovaries	..	..	..	..	..	..	..	..	..
169	Diseases of Uterus and Appendages	..	..	..	..	..	..	..	..	..
170	Diseases of Vagina and External Genitals	..	..	..	..	..	..	..	..	..
171	Diseases of Breast	..	..	..	..	..	..	..	..	..
172	Rupture of Uterus	..	..	..	..	..	..	..	..	..
173	Abortion, Miscarriage	..	..	..	..	..	..	..	..	..
174	Extra Uterine Fœtation	..	..	..	..	..	..	..	..	..
175	Contracted Pelvis	..	..	..	..	..	..	..	..	..
176	Puerperal Mania	..	..	..	..	..	..	..	..	..
177	Puerperal Convulsions	..	..	..	..	..	..	..	..	..
178	Placenta Prævia, Flooding	..	..	..	..	..	..	..	..	..
179	Post Partum Hæmorrhage	..	..	..	..	..	..	..	..	..
180	Tubal Pregnancy	..	..	..	..	..	..	..	..	..
181	Puerperal Thrombosis	..	..	..	..	..	..	..	..	..
182	Obstructed Labour from Contracted Pelvis	..	..	..	..	..	..	..	..	..
183	*Other Diseases, Pregnancy and Childbirth*	..	..	..	..	..	..	..	..	..
184	Arthritis, Ostitis, Periostitis	..	1	..	..	..	..	..	..	..
	TOTALS	156	136	68	88	8	7	2	4	10

eaths Registered from all causes—continued.

AGES.																All Ages.		Totals.	No.
20–		25–		35–		45–		55–		65–		75–		85–					
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	123
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	124
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	125
..	..	..	..	3	1	5	8	21	14	32	43	23	33	4	5	132	144	276	126
..	..	1	..	..	..	4	2	11	23	21	32	16	35	7	6	60	98	158	127
1	1	6	3	9	5	8	2	6	6	13	12	3	6	..	2	88	72	160	128
..	1	1	1	1	1	3	3	2	6	5	6	1	7	..	1	104	128	232	129
1	..	..	2	1	1	3	2	..	1	2	2	1	1	..	1	11	13	24	130
..	..	..	1	1	2	3	3	2	5	7	2	2	1	..	..	16	15	31	131
..	..	..	1	1	..	..	2	..	..	..	2	..	1	..	..	1	6	7	132
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	133
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	134
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	135
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	136
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	137
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	138
2	1	2	2	1	3	1	1	2	..	1	..	..	..	1	10	11	21	139
..	..	..	1	..	..	..	1	1	..	1	1	1	..	..	12	14	26	140
..	..	..	..	1	1	2	1	..	2	2	1	1	..	..	41	40	81	141
..	2	..	..	..	1	..	1	..	..	..	1	..	..	..	10	4	14	142
..	..	1	1	2	..	1	1	2	2	3	..	1	..	1	6	16	22	143
..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	1	1	2	144
..	1	..	..	1	..	2	1	3	1	2	1	..	..	..	4	8	12	145
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	146
..	..	2	6	3	6	8	6	2	2	2	1	1	..	..	21	18	39	147
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	148
..	..	1	2	1	1	..	..	..	..	..	2	..	..	..	8	4	12	149
..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	1	1	2	150
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	151
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	152
..	..	..	..	2	..	2	1	..	..	1	..	1	..	..	3	6	9	153
..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1	154
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	155
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	156
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	157
..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	158
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	159
2	..	1	2	2	6	2	2	3	2	1	..	1	..	..	13	14	27	160
1	1	1	4	8	9	13	6	7	5	14	4	4	..	1	29	49	78	161
..	..	..	1	1	2	..	..	1	2	1	1	..	..	..	6	3	9	162
..	..	..	1	..	2	1	3	..	10	1	5	..	..	..	21	2	23	163
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	164
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	165
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	166
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	167
..	..	1	..	..	..	..	..	2	..	2	..	1	..	..	..	6	6	168
..	..	2	..	2	..	2	..	1	..	1	..	..	..	..	..	8	8	169
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	170
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	171
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	172
1	..	4	..	1	..	..	..	..	..	..	..	..	..	..	..	6	6	173
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	174
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	175
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	176
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	177
..	..	2	..	8	..	1	..	..	..	..	..	..	..	..	..	11	11	178
..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1	179
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	180
..	..	2	..	1	..	1	..	..	..	..	..	..	..	..	..	4	4	181
..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2	2	182
..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1	183
..	..	..	..	1	..	2	..	..	..	2	1	..	..	..	1	6	7	184
9	13	31	37	49	57	63	66	79	107	133	65	95	11	18	603	719	1322	

TABLE III. Schedule A—Nottingham. 1909.

No.	DISEASES.	AGES. 0– M	0– F	1– M	1– F	5– M	5– F	10– M	10– F	15– M	15– F
185	*Other Diseases, Osseous System*	..	..	..	..	..	..	..	..	..	..
186	Osteo Myelitis	..	..	..	..	1	..	..	..	..	..
187	Abscess	..	..	..	..	..	..	..	..	..	..
188	Ulcer, Bedsore	..	..	..	..	..	..	..	..	..	..
189	Eczema	1	..	..	..	..	..	..	..	..	..
190	Pemphigus	1	..	..	..	..	..	..	..	..	..
191	Acute Dermatitis	..	..	..	..	..	..	..	..	..	..
192	Carbuncle	..	..	..	..	..	..	..	..	..	..
193	*Other Diseases, Integumentary System*	..	..	..	..	..	..	..	..	..	..
194	*Accidents and Negligence*:	..	..	..	..	..	..	..	..	..	..
195	In Dwelling	..	..	..	..	..	..	..	..	..	..
196	In Mines and Quarries	..	..	..	..	..	..	1	..	..	..
197	In Vehicular Traffic	..	..	..	2	2	2	1	..	..	..
198	On Railways	..	..	..	..	..	..	..	..	1	..
199	On Ships, Boats, &c. (not drowning)	..	..	..	..	..	..	..	..	..	..
200	In Building Operations	..	..	..	..	..	..	..	..	..	..
201	At Play	..	..	..	..	..	..	..	..	1	..
202	By Machinery	..	..	..	..	..	..	..	..	..	..
203	By Weapons and Implements	..	..	..	..	..	..	..	..	1	..
204	Burns and Scalds	..	..	2	4	1	3	..	..	..	1
205	Burnt in Fire of House	..	..	..	..	..	..	..	..	..	..
206	Poisons, Poisonous Vapours	..	..	2	..	1	..	1	..	..	..
207	Surgical Narcosis	..	..	..	..	..	..	..	..	..	..
208	Effects of Electric Shock	..	..	..	..	..	..	..	..	..	..
209	Corrosions by Chemicals	..	..	..	..	..	..	..	..	..	..
210	Drowning	..	..	1	..	..	1	..	..	..	..
211	Suffocation, Overlaid in Bed	5	8	..	..	..	..	..	..	..	..
212	,, while in Bed alone	1	..	..	..	..	..	..	..	..	..
213	,, Otherwise	1	..	..	..	..	..	..	..	..	..
214	Fall from Cart	..	..	..	..	..	..	..	..	..	..
215	Fall in Street	..	..	..	..	..	..	..	..	..	..
216	Fall in House	..	..	..	1	..	..	..	..	..	..
217	Falls not specified	..	..	..	..	..	..	..	..	..	..
218	Weather Agencies	..	..	..	..	..	..	..	..	..	..
219	Starvation	..	..	..	..	..	..	..	..	..	..
220	Otherwise, not stated	..	..	..	..	..	..	..	..	..	..
221	Homicide	..	..	..	..	..	..	..	..	..	..
222	*Suicides*:—										
223	By Poison	..	..	..		..	..	..	..	..	..
224	By Asphyxia	..	..	..		..	..	..	..	..	..
225	By Hanging and Strangulation	..	..	..	..	..	..	..	..	..	..
226	By Drowning	..	..	..	..	..	..	..	..	..	..
227	By Shooting	..	..	..	..		..	..	..	..	..
228	By Cut or Stab	..	..	..	..	..	..	..	..	..	..
229	By Precipitation from Elevated Places	..	..	..	..	..	..	..	..	..	..
230	By Crushing	..	..		..	..	..	..	..	..	..
231	By other and unspecified methods	..	..	..	..	..	..	..	..	..	..
232	Execution	..	..	..	..	..	..	..	..	..	..
233	Sudden Death, Cause not ascertained	..	..	..	..	..	..	..	..	..	..
234	Ill defined and unspecified causes	1	..	..	..	..	..	..	..	..	..
235	Uncertified	2	5	..	..	..	..	..	..	..	..
	TOTALS, Pages 14 and 15	12	13	5		5	7	3	..	3	1
	TOTALS, Pages 12 and 13	156	136	68		8	7	2	4	10	7
	TOTALS, Pages 10 and 11	258	206	22		1	3	1	6	3	3
	TOTALS, Pages 8 and 9	124	104	126	130	13	25	7	14	15	24
	GRAND TOTALS	550	459	221	253	27		13	24	31	35

Deaths Registered from all causes—continued.

AGES.																All Ages.		Totals.	No.
20-		25-		35-		45-		55-		65-		75-		85-					
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	185
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	186
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	187
..	..	..	..	..	..	1	..	..	1	..	..	1	..	..	..	2	1	3	188
..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	2	189
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	190
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	191
..	..	..	..	..	..	1	..	..	..	..	1	2	..	1	..	4	1	5	192
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	193
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	194
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	195
1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3	196
..	..	1	..	2	..	1	..	..	..	1	..	..	..	..	..	8	4	12	197
..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2	..	2	198
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	199
..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	2	..	2	200
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	201
..	..	1	..	1	..	..	..	..	..	1	..	..	..	..	..	3	..	3	202
..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2	..	2	203
..	..	..	1	..	..	..	1	..	1	..	1	1	1	1	..	5	13	18	204
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	205
..	..	..	2	..	3	1	..	1	..	1	..	..	..	..	..	7	5	12	206
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	207
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	208
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	209
..	1	..	..	..	1	..	..	2	..	..	..	..	..	..	..	3	3	6	210
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	8	13	211
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	212
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	213
..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	214
..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1	215
..	..	..	..	1	1	..	2	1	2	1	5	..	2	..	1	3	15	18	216
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	217
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	218
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	219
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	220
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	221
																			222
..	..	1	..	4	..	..	1	1	..	1	..	..	..	..	..	7	1	8	223
..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	224
1	..	2	..	2	1	1	1	1	..	1	..	..	..	..	..	8	2	10	225
..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	1	1	2	226
..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1	227
..	..	..	1	2	..	..	..	1	..	..	..	..	..	..	..	3	1	4	228
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	229
..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	230
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	231
..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1	232
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	233
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	234
..	..	..	..	..	..	1	..	2	2	4	2	1	2	..	..	10	11	21	235
2	1	9	5	14	6	7	5	13	7	10	9	7	6	2	1	93	67	160	
3	9	13	31	37	49	57	63	66	79	107	133	65	95	11	18	603	719	1322	
5	4	18	19	29	33	67	70	72	87	119	146	100	156	26	38	721	799	1520	
20	25	42	57	57	63	60	63	84	63	49	46	19	26	5	5	621	645	1266	
30	39	82	112		151	191	201	235	236	285	334	191	283	44	62	2038	2230	4268	

Schedule B.—Nottingham. 1909. Deaths Registered from all causes.

No.	Causes of Death.	All Ages.	Under 1	1—5	5—15	15—25	25—65	65 & upwards.	In Public Institutions.
1	Small-pox	..	..	..	..	..	..	..	..
2	Measles	143	27	106	9	..	1	..	5
3	Scarlet Fever	10	..	6	4	..	..	..	6
4	Typhus Fever	..	..	..	..	..	..	..	..
5	Epidemic Influenza	50	1	1	..	1	24	23	11
6	Whooping-cough	59	20	38	1	..	..	..	1
7	Diphtheria, Membranous Croup	26	..	20	6	..	..	..	15
8	Croup	..	..	..	..	..	..	..	..
9	Enteric Fever	19	..	2	4	2	11	..	14
10	Asiatic Cholera	..	..	..	..	..	..	..	..
11	Diarrhœa, Dysentery	134	105	16	..	..	4	9	12
12	Epidemic or Zymotic Enteritis	29	25	4	..	..	..	..	4
13	Enteritis	81	60	10	..	..	5	6	2
14	Epidemic Cerebro-Spinal Meningitis	..	..	..	..	..	..	..	..
15	Mumps	1	1	..	..	..	..	..	..
16	*Other continued Fevers*	..	..	..	..	..	..	..	..
17	Erysipelas	7	3	..	..	..	1	3	2
18	Puerperal Sepsis	8	..	..	..	4	4	..	2
19	*Other septic diseases*	..	..	..	..	..	..	..	..
20	Intermittent Fever and Malarial Cachexia	..	..	..	..	..	..	..	..
21	Tuberculosis of Meninges ..	45	9	26	8	2	..	..	6
22	Tuberculosis of Lungs	323	2	11	9	63	222	16	111
23	Other forms of Tuberculosis ..	73	16	24	11	6	16	..	12
24	Alcoholism	12	..	..	..	..	11	1	1
25	Cancer (Malignant new growths)	247	..	..	..	1	162	84	56
26	Premature Birth	142	142	..	..	..	..	..	5
27	Developmental Diseases	132	130	1	1	..	..	..	7
28	Old Age	216	..	..	..	..	3	213	69
29	Meningitis	25	8	11	..	..	6	..	1
30	Inflammation and Softening of Brain	20	..	..	..	..	8	12	8
31	Organic Diseases of Heart and Vessels	453	..	1	4	9	208	231	99
32	Acute Bronchitis	276	62	20	..	2	52	140	55
33	Chronic Bronchitis	158	..	..	.	..	41	117	52
34	Lobar (Croupous) Pneumonia ..	160	33	30	10	6	45	36	23
35	Lobular (Broncho-)Pneumonia ..	232	103	84	5	2	18	20	13
36	Diseases of Stomach	47	17	6	..	3	16	5	7
37	Obstruction of Intestines ..	36	6	2	2	6	12	8	14
38	Cirrhosis of Liver	39	..	..	..	..	33	6	6
39	Nephritis and Bright's Disease ..	105	..	1	..	5	67	32	26
40	Tumours and other Affections of Female Genital Organs ..	14	..	..	..	..	10	4	6
41	Accidents and Diseases of Parturition	29	..	..	..	2	27	..	5
42	Deaths by Accident or Negligence	97	15	12	14	6	34	16	36
43	Deaths by Suicide	27	..	..	..	1	23	3	3
44	Deaths from Ill-defined Causes ..	1	1	..	..	..	..	..	..
45	All other Causes	792	223	42	18	14	281	214	181
	ALL CAUSES	4268	1009	474	106	135	1345	1199	876

TABLE IV.

Nottingham City. Infantile Mortality during the Year 1909.
Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
All Causes	Certified	173	37	45	40	295	105	105	80	78	63	48	60	43	52	44	29	1002
	Uncertified ..	6	..	..	..	6	..	..	..	..	..	..	..	..	..	..	1	7
i. Common Infectious Diseases.	Small-pox ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Measles	..	..	1	..	1	..	..	..	..	..	3	5	5	8	3	2	27
	Mumps	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1
	Scarlet Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Diphtheria (including Membranous Croup)..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	2
	Whooping Cough	..	..	..	..	..	..	..	1	3	1	2	3	2	3	4	..	19
ii. Diarrhœal Diseases.	Stomatitis ..	..	1	1	1	3	1	..	..	..	..	..	..	..	..	1	..	5
	Diarrhœa all forms	..	1	3	2	6	15	24	22	20	11	7	7	5	4	6	2	129
	Enteritis, Muco-enteritis, Gastro-enteritis	..	..	..	1	1	2	8	5	3	6	2	5	1	1	2	1	37
	Gastritis, Gastro-intestinal Catarrh	..	..	1	..	1	15	8	5	5	3	..	1	1	3	2	2	46
iii. Wasting Diseases.	Premature Birth..	107	12	7	9	135	7	1	1	1	1	1	..	..	..	..	1	148
	Congenital Defects	38	6	9	4	57	9	8	3	..	2	..	1	..	..	1	..	81
	Injury at Birth ..	5	2	1	3	11	2	1	1	1	..	..	..	..	..	..	..	16
	Want of Breast-milk, Starvation	1	1	..	..	2	1	1	1	..	1	2	..	1	..	..	1	10
	Atrophy, Debility, Marasmus ..	9	7	8	6	30	18	20	15	10	8	5	7	3	5	3	4	128
iv. Tuberculous Diseases.	Tuberculous Meningitis ..	..	..	..	..	..	1	..	..	..	1	..	2	1	3	1	..	9
	Tuberculous Peritonitis: Tabes Mesenterica ..	..	..	1	1	2	2	1	..	2	..	..	1	..	2	..	1	11
	Other Tuberculous Diseases	..	..	..	..	..	1	2	..	1	1	..	1	..	..	1	..	7
v. Other Causes.	Erysipelas ..	..	1	1	..	2	..	..	..	..	..	..	1	..	..	..	..	3
	Syphilis	3	..	1	..	4	4	1	1	2	..	..	..	2	..	..	..	14
	Rickets	..	..	..	..	..	..	..	..	..	..	2	..	1	1	2	..	6
	Meningitis (*not Tuberculous*) ..	..	..	..	..	..	..	3	..	2	..	..	1	2	..	1	1	10
	Dentition	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	2
	Convulsions ..	7	1	5	3	16	8	5	4	3	4	4	6	2	2	1	2	57
	Bronchitis ..	1	3	2	4	10	6	7	5	11	11	4	2	8	4	3	2	73
	Laryngitis ..	..	..	..	..	..	2	..	..	..	..	..	..	..	1	..	..	3
	Pneumonia ..	..	2	1	5	8	6	11	12	12	10	10	15	8	14	13	8	127
	Purpura	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1
	Suffocation, overlying	2	..	1	..	3	3	3	2	..	..	2	1	..	..	..	..	14
	„ otherwise	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1
	Intussusception ..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	2
	Other causes ..	..	..	1	1	2	2	1	2	1	1	3	..	..	..	..	1	13
		179	37	45	40	301	105	105	80	78	63	48	60	43	52	44	30	1009

City of Nottingham. Population (estimated to middle of 1909) 263,441.
Births in the Year—Legitimate, 6297; Illegitimate, 449.
Deaths from all Causes at all Ages, 4268.

TABLE V.

Nottingham, 1909. Deaths and Death-Rates from certain groups of Diseases.

A. All Ages.	Deaths.	Deaths per 1000 of the *population.*	Deaths per 1000 *total Deaths.*
1. Principal Epidemic Diseases ...	420	1·59	98
2. Pulmonary Diseases	889	3·37	208
3. Tuberculous Diseases	440	1·67	103
B. Infants under 1 year of Age.	Deaths.	Deaths per 1000 *Births.*	Deaths per 1000 *Deaths under 1 year.*
4. Wasting Diseases ...	319	47·3	316
5. Convulsive Diseases	71	10·5	70

NOTES.

1. Includes Small-pox, Measles, Scarlet Fever, Diphtheria, Whooping-Cough, Typhus, Enteric, and Simple Continued Fevers, and Diarrhœa.
2. Includes all Respiratory Diseases except Phthisis (Consumption).
3. Includes Tuberculous Phthisis, and other forms of Tuberculosis.
4. Includes Marasmus, Atrophy, Wasting, Debility, Inanition, Premature Birth, and Improper Feeding.
5. Includes Infantile Meningitis, Convulsions, and Dentition.

N.B.—This Table is now retained only to allow of comparison between present and past records.

TABLE VI.

Nottingham. Deaths from the Principal Epidemic Diseases in the ten years 1899-1908, and in the Year 1909.

Disease.	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	Ten Years, 1899-1908. Annual Average.	Ten Years, 1899-1908. Proportion of Deaths to 1000 Deaths.	1909. Deaths.	1909. Proportion of Deaths to 1000 Deaths.
Small-pox	..	..	..	..	2	12	1	..	..	..	1·5	0·35	..	..
Measles	140	45	96	4	98	44	232	5	203	31	89·8	20·98	143	33·51
Scarlet Fever	53	55	11	23	34	29	19	17	5	11	25·7	6·00	10	2·34
Diphtheria	30	28	29	31	60	69	49	41	42	30	40·9	9·55	26	6·09
Whooping-Cough	55	103	96	37	90	91	61	40	131	64	76·8	17·94	59	13·82
Fevers. Typhus	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fevers. Enteric	114	75	79	50	36	57	24	40	37	29	54·1	12·64	19	4·66
Fevers. Simple Continued ..	4	1	1	..	..	..	..	1	..	..	0·7	0·16	..	..
Diarrhœa	600	387	361	194	166	346	202	375	155	171	295·7	69·07	163	38·19
Total	996	694	673	339	486	648	588	519	573	336	585·2	136·70	420	98·41
Total, London	11,228	10,136	10,203	10,393	8,166	9,990	7,990	9,047	6,720	6,599	9,047	117·32	6,285	92·1
Total, England & Wales	69,820	64,059	66,531	53,795	49,150	65,633	51,581	60,063	43,953	46,306	57,089	105·4	40,029	77·27

Birth-Rate, Death-Rate, Infantile Death-Rate, and Death-Rate from Epidemic Diseases and Phthisis.

(Registrar-General.)

I. NOTTINGHAM.

In five yearly periods, 1856—1890, and in single subsequent years.

	Birth-Rate.	Death-Rate.	Infantile Death-Rate	DEATH-RATE FROM								
				7 Princp. Epidemic Diseases.	Small-Pox.	Measles.	Scarlet Fever.	Diph-theria.	Whooping-Cough.	"Fever."	Diarrhœa	Phthisis and other Tuberculous Diseases.
1856—1860	36·8	27·2	209	5·98	0·21	0·80	1·08	0·13	0·76	1·02	2·00	3·22
1861—1865	34·8	24·9	192	3·83	0·09	0·43	0·98	0·12	0·51	0·78	1·09	3·19
1866—1870	31·3	23·8	200	4·34	0·07	0·44	0·73	0·09	0·51	0·92	1·57	2·78
1871—1875	34·1	24·9	192	4·30	0·79	0·31	0·53	0·02	0·26	0·84	1·53	2·42
1876—1880	34·6	21·7	175	3·00	0·00	0·35	0·62	0·03	0·43	0·34	1·06	1·85
1881—1885	36·6	20·9	174	3·22	0·06	0·41	0·77	0·12	0·46	0·31	1·09	1·99
1886—1890	30·4	17·9	168	2·39	0·01	0·42	0·11	0·06	0·45	0·31	1·04	1·52
1891	29·8	19·5	169	2·49	0·00	0·51	0·13	0·09	0·56	0·32	0·84	1·69
1892	29·4	18·4	167	2·33	0·00	0·55	0·19	0·13	0·54	0·16	0·73	1·42
1893	30·2	18·4	172	2·62	0·02	0·11	0·37	0·07	0·27	0·31	1·47	1·81
1894	28·6	16·7	174	2·42	0·01	0·60	0·23	0·08	0·53	0·28	0·60	1·80
1895	29·7	18·5	189	2·64	..	0·00	0·23	0·04	0·14	0·24	1·97	2·10
1896	29·4	17·5	168	2·47	..	0·88	0·11	0·06	0·39	0·34	0·69	1·89
1897	28·9	18·4	202	2·81	..	0·21	0·15	0·09	0·49	0·21	1·66	1·88
1898	28·8	17·2	178	2·37	..	0·44	0·14	0·10	0·25	0·24	1·20	1·82
1899	28·9	20·0	210	3·33	..	0·58	0·23	0·13	0·23	0·48	1·68	1·67
1900	28·3	19·2	196	2·35	..	0·19	0·23	0·12	0·43	0·32	1·08	2·02
1901	28·4	18·5	193	2·86	..	0·41	0·05	0·12	0·42	0·35	1·51	1·80
1902	27·8	16·7	159	1·32	..	0·02	0·10	0·12	0·15	0·21	0·72	1·69
1903	28·3	16·5	165	2·05	0·01	0·39	0·14	0·26	0·39	0·14	0·68	1·68
1904	27·7	17·7	176	2·58	0·05	0·18	0·11	0·28	0·36	0·23	1·37	1·90
1905	26·5	16·5	155	2·27	0·00	0·92	0·07	0·19	0·24	0·09	0·76	1·63
1906	26·5	15·9	171	2·04	..	0·02	0·07	0·16	0·16	0·16	1·48	1·63
1907	26·7	17·5	168	2·23	..	0·79	0·02	0·16	0·51	0·15	0·61	1·77
1908	26·6	15·2	145	1·25	..	0·12	0·04	0·11	0·23	0·11	0·64	1·72
1909	25·7	16·3	150	1·67	..	0·54	0·04	0·10	0.22	0·08	0·69	1·67

II. ENGLAND AND WALES.

In five yearly periods, 1858–1890, and in single subsequent years.

												Phthisis only.
1858—1860	34·3	22·2	153	4·03	0·22	0·48	0·89	0·37	0·49	0·79	0·78	2·57
1861—1865	35·1	22·6	151	4·22	0·22	0·46	0·98	0·25	0·52	0·92	0·87	2·53
1866—1870	35·3	22·4	159	4·08	0·10	0·43	0·96	0·13	0·55	0·85	1·06	2·45
1871—1875	35·5	22·0	153	3·76	0·41	0·37	0·76	0·12	0·50	0·60	1·00	2·22
1876—1880	35·4	20·8	144	2·94	0·01	0·39	0·68	0·12	0·53	0·38	0·83	2·04
1881—1885	33·4	19·3	139	2·32	0·01	0·41	0·43	0·16	0·46	0·27	0·65	1·82
1886—1890	31·4	18·9	145	2·25	0·01	0·46	0·24	0·17	0·44	0·20	0·66	1·63
1891	31·4	20·2	149	2·70	0·00	0·43	0·17	0·17	0·46	0·16	0·46	1·60
1892	30·5	18·9	148	2·78	0·01	0·46	0·19	0·22	0·45	0·14	0·50	1·47
1893	30·8	19·2	159	3·16	0·05	0·37	0·23	0·31	0·34	0·23	0·95	1·47
1894	29·6	16·6	137	2·25	0·02	0·39	0·16	0·29	0·41	0·16	0·36	1·38
1895	30·3	18·7	161	2·14	0·00	0·38	0·15	0·26	0·32	0·18	0·87	1·40
1896	29·7	17·1	148	2·18	0·02	0·56	0·18	0·29	0·41	0·17	0·55	1·30
1897	29·7	17·4	156	2·15	0·00	0·40	0·14	0·24	0·35	0·16	0·86	1·34
1898	29·4	17·6	161	2·22	0·01	0·41	0·11	0·24	0·31	0·18	0·96	1·31
1899	29·3	18·3	163	2·21	0·01	0·31	0·12	0·29	0·30	0·20	0·98	1·33
1900	28·9	18·3	154	2·00	0·00	0·39	0·12	0·29	0·34	0·17	0·69	1·33
1901	28·5	16·9	151	2·05	0·01	0·27	0·13	0·27	0·30	0·16	0·91	1·26
1902	28·6	16·3	133	1·64	0·08	0·38	0·15	0·23	0·29	0·13	0·38	1·23
1903	28·4	15·4	132	1·46	0·02	0·27	0·12	0·18	0·27	0·10	0·50	1·20
1904	27·9	16·2	146	1·94	0·01	0·36	0·11	0·17	0·34	0·09	0·86	1·24
1905	27·2	15·2	128	1·52	0·00	0·32	0·11	0·16	0·25	0·09	0·59	1·14
1906	27·0	15·4	133	1·73	0·00	0·27	0·10	0·17	0·23	0·09	0·87	1·15
1907	26·3	15·0	118	1·26	0·00	0·36	0·09	0·16	0·29	0·07	0·29	1·14
1908	26·5	14·7	121	1·29	0·00	0·22	0·08	0·15	0·27	0·07	0·50	1·12
1909	25·6	14·5	109	1·12	0·00	0·35	0·09	0·14	0·20	0·06	0·28	..

Principal Vital Statistics of the 76 Greater English Towns for 1909 (taken from the Registrar-General's Annual Summary).

Populations estimated to middle of 1909 (from increase during Decennium, 1891-1901).

	Populations estimated to middle of 1909	Birth-Rate.	Recorded Death-Rate.	Corrected Death Rate.	Death-Rates at Age Periods.			Death-Rate from seven principal epidemic diseases.	Percentage of uncertified Deaths.
					Deaths under one year per 1000 Births.	Deaths 1 to 60 years per 1000 living at those ages.	Deaths over 60 years per 1000 living at those ages.		
England & Wales	35,756,615	25·6	14·49	14·49	109	7·2	70·5	1·12	1·35
76 Large Towns ..	16,445,281	25·7	14·66	15·57	118	7·7	74·1	1·42	0·8
London	4,833,938	24·2	14·03	14·75	108	7·3	71·5	1·31	0·1
Croydon	161,078	24·4	11·70	11·99	80	5·4	65·3	0·67	0·1
Willesden ..	160,424	25·2	10·44	11·20	97	5·5	61·5	1·08	0·5
Hornsey	95,628	15·3	8·32	9·48	61	4·0	60·8	0·46	—
Tottenham ..	129,464	29·4	11·50	12·41	89	5·9	68·8	0·74	—
West Ham ..	321,767	27·2	14·04	15·02	124	7·7	75·5	2·24	0·1
East Ham ..	149,575	23·6	9·86	10·52	100	5·1	71·2	1·10	0·1
Leyton	129,614	24·1	10·25	10·54	82	5·2	56·9	0·93	—
Walthamstow ..	136,602	24·2	9·59	10·14	91	5·2	61·3	0·96	0·2
Hastings	68,165	15·1	12·47	11·99	79	5·1	68·4	0·29	0·8
Brighton	130,926	20·5	15·27	15·05	96	7·2	76·3	0·65	0·2
Portsmouth ..	214,726	27·2	14·22	14·60	96	7·4	66·7	1·42	0·6
Bournemouth ..	72,368	16·7	12·76	13·48	100	5·8	67·9	0·55	0·3
Southampton ..	124,667	23·6	13·35	13·27	106	6·7	64·0	1·05	—
Reading	82,995	20·9	11·51	11·90	95	5·5	64·4	0·91	2·7
Northampton ..	97,752	20·1	13·29	13·82	110	6·3	78·1	0·76	1·2
Ipswich	74,889	24·0	13·23	12·92	92	6·5	63·3	0·73	—
Great Yarmouth..	53,430	25·4	17·55	16·06	125	7·8	74·7	1·39	—
Norwich	124,136	24·3	13·87	13·23	119	6·1	64·8	1·54	0·8
Plymouth.. ..	124,180	22·4	14·53	14·17	131	6·9	63·4	1·20	—
Devonport ..	83,103	26·1	11·60	12·16	96	5·5	59·5	1·16	—
Bristol	377,642	22·6	12·71	13·06	100	6·1	67·9	0·87	0·1
Hanley	68,831	31·2	18·12	19·80	155	9·6	87·3	2·43	0·6
Burton-on-Trent..	54,453	22·2	11·99	12·89	102	5·9	72·5	0·47	2·2
Wolverhampton ..	104,633	23·8	15·97	16·52	138	8·5	74·8	2·30	0·5
Walsall	99,399	28·0	14·55	15·41	139	7·0	76·4	1·73	0·6
Handsworth ..	70,186	20·5	9·83	10·82	85	4·8	61·0	0·97	2·5
West Bromwich ..	70,457	30·4	15·27	15·40	123	8·1	64·8	1·95	3·1
Birmingham ..	563,629	26·6	15·42	16·59	134	8·4	72·9	2·03	3·3
Kings Norton ..	81,632	22·9	9·77	10·22	72	5·0	58·0	1·02	2·4
Smethwick ..	70,377	28·3	12·79	13·99	113	6·7	75·3	2·01	0·6
Aston Manor ..	85,257	23·7	13·01	14·42	124	6·7	75·1	1·75	0·5
Coventry	80,163	32·5	16·05	16·09	97	9·0	66·4	1·88	2·7
Leicester	244,255	21·9	12·89	13·75	127	6·3	71·6	1·22	0·6
Grimsby	73,036	30·1	13·32	14·26	118	6·7	64·1	1·09	1·4

Principal Vital Statistics of the 76 Greater English Towns for 1909—*continued.*

	Populations estimated to middle of 1909.	Birth-Rate.	Recorded Death-Rate.	Corrected Death Rate	Death-Rates at Age Periods.			Death-Rate from seven principal epidemic diseases.	Percentage of uncertified Deaths.
					Deaths under one year per 1000 Births.	Deaths 1 to 60 years per 1000 living at those ages.	Deaths over 60 years per 1000 living at those ages.		
Nottingham ..	**263,443**	25·7	16·28	17·15	150	7·7	78·7	1·67	0·5
Derby	129,411	24·9	13·36	14·40	123	6·6	69·7	1·26	—
Stockport ..	103,706	26·4	16·46	17·78	132	8·5	81·7	1·40	0·2
Birkenhead ..	121,123	30·9	15·94	16·99	123	7·9	81·9	1·17	0·4
Wallasey	71,004	25·8	12·78	13·98	83	6·3	83·4	0·92	0·9
Liverpool	760,357	31·1	19·04	20·38	144	10·8	80·9	2·11	2·7
Bootle	69,393	30·6	16·94	18·66	122	10·2	75·9	2·26	3·5
St. Helens ..	95,161	32·1	18·60	20·15	150	11·2	78·8	3·66	3·5
Wigan	90,678	31·5	19·05	20·90	173	10·6	83·0	2·60	0·1
Warrington ..	72,276	31·3	17·09	18·41	130	10·3	75·7	3·02	3·4
Bolton	187,824	24·7	15·12	17·10	128	8·1	85·6	1·13	0·6
Bury	59,234	20·8	16·22	18·16	130	8·3	90·3	1·12	1·6
Manchester ..	655,435	27·8	17·92	19·98	134	10·3	87·3	1·81	0·8
Salford	241,950	27·9	18·00	19·88	141	10·3	89·5	2·45	0·5
Oldham	143,301	27·4	19·08	21·46	119	10·9	98·2	1·09	0·1
Rochdale	89,653	22·7	16·20	17·92	104	8·5	94·6	0·68	2·5
Burnley	106,267	25·1	16·08	18·13	156	8·4	83·3	1·30	1·1
Blackburn ..	136,959	22·9	16·27	18·40	126	9·1	85·9	1·49	1·4
Preston	118,519	25·7	15·83	17·32	136	7·6	87·8	1·30	2·8
Barrow-in-Furness	62,996	26·1	12·19	13·85	81	7·0	78·2	0·66	1·8
Huddersfield ..	94,739	24·5	16·30	17·49	95	9·0	80·7	1·04	0·5
Halifax	111,911	16·5	13·86	15·02	97	7·3	78·9	0·77	1·0
Bradford	293,983	18·8	14·50	16·03	116	7·3	84·4	0·68	0·3
Leeds	484,012	22·8	14·05	15·33	122	7·4	79·1	0·80	0·1
Sheffield	470,958	28·2	15·07	16·24	118	8·0	81·4	1·78	1·4
Rotherham ..	65,070	31·6	13·24	13·69	116	6·4	71·0	1·21	2·0
York	87,004	23·8	14·40	11·74	99	5·5	57·2	0·55	0·1
Hull	275,552	29·4	14·94	15·31	114	7·9	70·0	1·38	0·8
Middlesbrough ..	105,255	31·9	19·09	20·79	158	11·1	78·7	2·48	1·0
Stockton-on-Tees	53,417	26·5	13·93	14·61	120	7·1	73·4	1·19	0·9
West Hartlepool..	79,686	24·0	11·84	13·00	113	6·6	69·2	1·67	0·6
Sunderland ..	159,378	29·3	16·94	17·47	135	9·3	76·0	1·98	2·5
South Shields ..	117,627	29·0	15·12	16·00	137	7·8	78·3	1·37	3·6
Gateshead ..	131,024	28·7	12·67	13·36	112	6·7	64·8	0·91	5·7
Newcastle-on-Tyne	281,584	27·3	14·84	15·99	119	8·2	75·2	1·22	0·1
Tynemouth ..	55,808	33·5	17·32	17·88	129	9·3	68·8	1·46	1·9
Newport (Mon.)..	78,336	31·7	15·27	16·50	115	8·1	79·2	1·51	0·3
Cardiff	195,303	25·8	13·13	14·28	103	7·1	78·5	0·85	0·1
Rhondda	135,894	41·2	16·34	17·97	129	8·7	79·5	1·91	0·5
Merthyr Tydfil ..	78,365	35·7	17·70	18·77	143	9·6	70·2	1·68	0·7
Swansea	98,308	33·0	19·40	20·81	159	10·1	79·5	2·15	0·5

The City of Nottingham.

SITE and POPULATION DATA, and RATABLE VALUE, 1909.

Situation and Soil.—Nottingham lies in lat. 52 deg. 57 min. north, and long. 1 deg. 9 min. west, in the S.W. portion of the County of Notts., and in the watershed of the Trent. It stretches about 7½ miles north from the Trent, and has an average breadth of about three and a half miles. It stands for the most part on Bunter sandstone, but on the east the Keuper marls appear; on the north and west, red marl and magnesian limestone of the Permian series; and on the south towards the Trent, and in the valley of the Leen and other small streams, are found the alluvium and gravels of the Trent and its local tributaries.

Area and Altitude.—The City has an area of 10,935 acres, and its altitude varies from about 80 feet (at Trent Bridge) to 425 feet (on Woodborough Road) above ordnance datum (mean water level at Liverpool).

Population.—At census of 1881, 186,575; at census of 1891, 213,877; at census of 1901, 239,753.

Average number of persons to each house:—At census of 1881, 4·8; at census of 1891, 4·6; at census of 1901, 4·5.

Average number of persons to an acre, 23·82.

Ratable Value, £1,237,507 10s. (for Poor-Law purposes).

GENERAL VITAL STATISTICS.

Population.—The usual decennial census will be taken in 1911, but, until the new census return appears, we must continue to rely upon our estimates, based upon the increase which the last two census figures showed to have taken place in the local population during the ten years interval between them. The errors of such an estimate, however formed, almost necessarily grow with the lapse of time after the period of fixed data, and, with the method here adopted, there is no possibility of adjustment to meet changing conditions. As an example of change continually in progress in towns, it is sufficient to mention the centrifugal movement of population—from the central parts to the suburbs—which movement, when the suburbs like West Bridgford and other places round Nottingham are outside the town, may entail a loss of population to the latter for statistical and other more material purposes.

With this preface to pave the way for whatever may be revealed by the census returns, which will probably appear before my next annual report is out, I will now proceed to discuss the estimated population in some detail, with the aid of collateral means of verification.

The marriages and births were both of them less numerous in 1909 than in 1908, but, as a large number of new houses have been erected during the year, and as the number of occupied houses shows a similar increase, we are probably justified in considering that there has been an advance in the population figure approximately equal to the amount given by the method of the Registrar-General.

The natural increase, corresponding to the excess (if any) of births over deaths, would be a reliable guide in the absence of immigration and emigration, but the amount of each of these is so uncertain as greatly to diminish the value of this difference as a basis of calculation. When trade is prosperous, immigration predominates, when depressed, emigration.

During 1908 the natural increase was slightly in advance of that estimated by the Registrar-General's method; during 1909, on the other hand, it was considerably (16 per cent.) behind it.

The proportion of each sex in the population of Nottingham at the census of 1901 was as 100 males to 114·6 females. Dividing the estimated population for 1909 according to the same sexual ratio, we obtain 122,760 males and 140,681 females.

The preponderance of females in the population of Nottingham has diminished in recent years. At the 1891 census, for example, the sexual ratio was 100 males to 119 females, whereas at the 1901 census it was 100 males to only 114·6 females. As I have previously stated, the shrinkage in the proportion of females is undoubtedly due to a lesser demand for female labour.

The numerical proportion of the sexes in the population of England and Wales as a whole, is as 100 males to 107 females.

It seems possible that our efforts to diminish infant mortality may be instrumental in augmenting the preponderance of the female element of the population, for it has been found that the periods of infant life at which such efforts are appreciably successful are subsequent to the period most fatal to males.

There are now twelve of the great towns of England and Wales with populations exceeding a quarter of a million, and Nottingham stands twelfth on the list from the highest. The two towns next above it are, Hull, with 275,552, and Newcastle-on-Tyne, with 281,984. The two next below are, Leicester, with 244,255, and Salford, with 241,950. There are no less than eight towns, including the two latter, with estimated populations of between 150,000 and 250,000 persons.

Marriages.—The number of marriages recorded in Nottingham during 1909 was 2,150, which is the smallest annual total since 1905. In this last year they numbered 2,077. In 1908, 1907, and 1906, they numbered, respectively, 2,195, 2,403, and 2,387, and the average annual number for the ten years ended with 1908 was 2,211.

The whole area of Nottingham was unified for all purposes of Local Government in 1899, and prior to this date the marriage figures for the town as a whole cannot be given.

The ordinary method of expressing the annual marriage rate, is to state the proportion of persons married during the year per 1,000 living at the mid-year. This is the crude rate. The Registrar-General recommends, as preferable, a statement of the proportion of persons married per 1,000 marriageable persons living. This is obviously superior to the above crude method, but I am unable to adopt it for lack of the necessary data. The crude method, moreover, though less accurate, has the advantage of being comparable at once with the ordinary rates of other times and places.

With regard to the influence of trade conditions upon the marriage rate, the Registrar-General in his report for 1908 states, "that in recent years the fluctuations of the marriage-rate show some correspondence with the fluctuations of exports and of

employment. In other words, the alternating periods of commercial prosperity and depression have some effect on the increase or decrease in the proportion of marriages. For example, the rise in the marriage rate in the years 1906 and 1907 corresponded to a rise in the value of exports and in the amount of employment, while the considerable fall that took place in the marriage-rate in the year 1908 corresponded to a reduction in exports and a high proportion of unemployed."

If we read "improved state of trade" for "rise in the value of exports," we have here a simple statement of the operation of one very important cause of fluctuation in the marriage rate.

The 2,150 marriages which took place in Nottingham during 1909, were equal to a rate of 16·32 per 1,000 living, as compared with rates of 16·86, 18·7, and 18·7, in the three preceding years. The marriage rate for England and Wales was 14·6, and for London 15·8, during 1909. The London rate, the Registrar-General informs us, was the lowest recorded since the first publication of complete marriage statistics for that City.

The table below gives the numbers of marriages which took place in churches, in chapels, and before registrars, respectively, in the City of Nottingham during each of the four quarters of 1909.

Nottingham.

Marriages in Year 1909.

	Qr. I.	Qr. II.	Qr. III.	Qr. IV.	Total.
Churches	164	383	362	354	1263
Chapels	14	32	35	15	96
Registrars	155	198	227	211	791
	333	613	624	580	2150

There was, therefore, an increase of 14 in the church marriages, a decrease of 4 in the chapel marriages, and a decrease of 55 in the marriages before registrars, as compared with the corresponding figures for 1908.

Births.—The births registered in Nottingham during 1909 numbered 6,746 according to my returns, and 6,745 according to those of the Registrar-General. The difference of one is immaterial here. This annual total is less by 291 than that of 1908, and is the lowest since 1905. The birth-rate per 1,000 living to which this total corresponds, is 25·6, which is 1·0 per 1,000 below that of 1908, and 2·0 per 1,000 below the average rate of the 10 years ended with 1908, and is moreover the lowest annual birth-rate yet recorded in the City.

Under the Notification of Births Act now in force in the City, 4,909 out of 6,746 total births (or 73 per cent.) were duly notified. The notified births represent practically all those occurring in the poorer working-class sections of the population. The still-births (the notification of which is specifically required under the Act) amounted to 117, or 2·4 per cent. of all the notified births. This proportion is practically identical with that recorded in the County of London (2·3 per cent.)

The birth-rates per 1,000 living, for 1909, in the 76 great towns, in London, and in England and Wales, were, respectively, 25·7, 24·2, and 25·6. Each of these rates is the lowest on record in its own series.

Of the 6,746 children born in Nottingham during 1909, 3,403 were males and 3,343 females. Of the males 218, and of the females 231 were illegitimate. The illegitimate births were equal to 6·7 per cent. of all, as compared with 5·7 per cent., 6·0 per cent., and 6·4 per cent., in the 3 preceding years respectively.

The illegitimate births of London, during 1909, were equal to 3·5 per cent. of all births, and those of England and Wales as a whole to 3·8 per cent. of all. The proportion of illegitimate to total births in the country as a whole, has fallen almost continuously year by year, from 6·7 per cent. in 1845 to 3·8 per cent. in 1909. It will be noticed that the proportion of illegitimate to total births in Nottingham is nearly double that of London, and that it is not diminishing.

In my Report for 1908 I pointed out that the birth-rate of Nottingham had fallen from 37·8 in 1883 to 26·5 in 1905, that of London from 36·5 in 1867 to 25·2 in 1908, and that of England and Wales from 36·3 in 1876 to 26·3 in 1908. I also showed that (according to the Registrar-General) a similar loss of fertility was apparent in most other civilized communities throughout the world, but that parts of Austria, Russia, Spain, and Ireland were exceptions to the rule, as also certain working-class districts of England and Wales, such as parts of Middlesbrough, St. Helens, Coventry, Merthyr Tydfil, and Rhondda.

Deaths.—The deaths of persons normally resident in Nottingham which occurred during 1909, numbered 4,268 according to my returns, and 4,277 according to the Registrar-General. The difference of nine is negligible in a statistical sense, as it does not affect the death-rate in the first place of decimals. This rate, crudely expressed, as the actual number of deaths per 1,000 of persons estimated to be living in the City at the mid-year, was equal to 16·2, which is 1·0 per 1,000 in excess of the rate for 1908, and the same amount behind the average rate for the decennium ended with that year.

The corrected death-rate of the Registrar-General's reports, is the crude rate corrected for age and sex variations from the standard existent in the population

of England and Wales (during the most recent inter-censal period) at the last census (1901).

The corrected death-rate of Nottingham for 1909, so computed, is equal to 17·15 per 1,000. If the corrected death-rate of England and Wales be taken as a standard 1,000, the corresponding rate for Nottingham in relation to such a standard number will amount to 1,184. The Nottingham figure, in the same relation, for 1908, was 1,091.

At the close of 1909, the City of Nottingham occupied the 58th place from the lowest on the list of the 76 great towns of England and Wales arranged according to the magnitude of their crude death-rates, and the 54th place on the same list of towns arranged in the order of their corrected death-rates. It has therefore fallen 18 places on the crude list, and 13 places on the corrected list, as compared with its record for 1908. In other words, the position of Nottingham from a health point of view, in comparison with many other great towns of England and Wales, was considerably less favourable at the close of 1909 than at the corresponding period of 1908.

No less than eleven of the great towns of England and Wales had, during 1909, corrected death-rates below twelve per 1,000 living. These were, Hornsey, Walthamstow, Kings Norton, East Ham, Leyton, Handsworth, Willesden, York, Reading, Croydon, and Hastings. Nine of these great towns, at the lower end of the list, had corrected death-rates ranging from 19·8 to 21·46 per 1,000. These were Hanley, Salford, Manchester, St. Helens, Liverpool, Middlesbrough, Swansea, Wigan, and Oldham.

The 4,268 deaths of Nottingham residents during 1909, according to my returns, were made up of 2,061 male, and 2,207 female deaths. The male rate was equal to 16·79 per 1,000 living males, and the female rate to 15·69 per 1,000 living females. The difference

in favour of females is therefore equal to 1·10, as against 1·9 for the country as a whole during the same period.

The discrepancy between the local rates for the two sexes is very much less than usual (in 1908 it was equal to 2·7, and in 1907 to 2·2 per 1,000), and, if we examine the death causes in detail, we see an altogether exceptional approximation in the numbers of deaths of each sex throughout the year.

The deaths of males and females, recorded in the City during the year, are set out in age-periods, under the headings of the various causes to which they were attributed, in Table III., p.p. 8 to 16 of the Report. Certain diseases are commonly more fatal to one sex than the other. For example, whooping-cough is more fatal to females than to males at all ages, and this was the case in 1909; whereas measles and diarrhœa are more fatal to infant males than infant females, and, as the majority of cases of both the latter diseases occur in infancy, the male deaths from both are usually more numerous than the female; this, however, was not the case here in 1909. Indeed, although the numerical ratio of the sexes in the City population is probably not greatly different from that revealed at the last census, the deaths of females from all the epidemic diseases taken together actually outnumbered those of males—a very unusual occurrence in Nottingham.

Again, although the deaths of males from tuberculosis during 1909 were more numerous than those of females, the preponderance of the former over the latter was less than the normal. For example, the deaths of males from phthisis (which is by far the most potent tuberculous death-cause) exceeded those of females from this cause by only 9 per cent. during 1909, as compared with 35 per cent. in 1908.

But the most notable example of a levelling-up tendency in the male and female mortalities occurred under the heading of cancer. The male deaths from

true cancer were equal to rather less than half (48 per cent.) of the female deaths in 1908—and in recent years they have never exceeded three-fifths—whereas in 1909 the total number of male deaths from this cause was equal to four-fifths of the female—101 to 126. This last proportion, however, it may be noted, is in almost exact accord with the present sexual ratio of this mortality for the country as a whole.

The death-rate of infants under 1 year, per 1,000 births during the year, was equal to 150*. This rate is four per 1,000 above that for 1908, but with this exception is the lowest on record for this City. Indeed, had the births been as numerous in 1909 as in 1908, the infant death-rate of 1909 would have been actually lower than that of the previous year.

Measles, whooping-cough, and epidemic diarrhœa—especially the latter—usually account for a large proportion of the infant victims, and, of these three, only measles was at all specially prevalent during 1909.

Epidemic diarrhœa is principally a disease of cities, and especially of those with defective sanitation, and even in those with the most pronounced predisposing conditions of this kind, it is seldom seriously in evidence except during hot and dry summer weather. Relatively cold and wet summers, it will be remembered, have been the rule of recent years.

The infant death-rate per 1,000 births, during 1909, was equal to 109 in England and Wales as a whole, to 108 in London, to 118 in the 76 great towns, to 111 in the 143 smaller towns, and to 98 in England and Wales less the 219 towns.

The deaths of persons aged between 1 and 60 years, per 1,000 of such persons living, during 1909, were at the rate of 7·7 in Nottingham, 7·2 in England and Wales, 7·3 in London, and 7·7 in the great towns.

* On page 17 will be found a table made out on the L.G.B. form, giving the deaths from stated causes in weeks and months under one year of age.

The rates in England and Wales and in the great towns are identical with the corresponding rates of 1908; those in Nottingham and London are higher than the latter.

The deaths during 1909 of persons over 60 years of age, per 1,000 of such persons living, were equal to 78·7 in Nottingham, to 70·5 in England and Wales, to 71·5 in London, and to 74·1 in the 76 great towns. Each of these rates is considerably higher than the corresponding rate of 1908, that of Nottingham by almost exactly 10 per 1,000.

Registration Sub-Districts.—The populations of these sub-districts are here once again estimated on the assumption, that each has continued to increase since the last census at the same proportional rate as the general population during the last inter-censal period. This, as previously explained, is practically the only available method, because of the frequent changes that have been made in the areas of these sub-districts during the past few years. The possibilities of error involved in this method of calculation are numerous, but I am disposed to think it does not actually take us very far wrong, as the various rates based upon the population figures it furnishes are for the most part singularly consistent. The locality and the boundaries of the registration sub-districts are shown on the spot maps (p.p. 51A and 58A) which accompany the sections of the report dealing with diphtheria and enteric fever.

The birth-rate of Bulwell was 34·6 per 1,000, which is 1·0 per 1,000 below the rate of 1908, but still a high figure, and far above the rates of the other sub-districts.

The birth-rate in the N.W. sub-district was 23·1 in 1909, as compared with 23·6 in 1908; that in the N.E. sub-district 22·9 in 1909 and 24·4 in 1903; that in the S.W. sub-district 22·3 in 1909 and 25·0 in

1908; that in the S.E. sub-district 27·9 in 1909 and 29·8 in 1908.

It is a singular fact that many working-class communities of the kind to which the major part of the Bulwell people belong—notably iron and coal workers—throughout the country, continue to produce children in the normal proportion, while all other sections of the population among and around them are continously reducing their families. For example, the birth-rates of Coventry, Tynemouth, Merthyr Tydfil, and Rhondda ranged last year from 32·5 to 41·2, while those of Hastings, Hornsey, Halifax, and Bradford extended only from 15·1 to 18·8 per 1000.

I have already pointed out that the illegitimate birth-rate of the City as a whole shows a tendency to increase, and that it is now (6·7) nearly double the rate for London (3·5). The following are the illegitimate rates of the several sub-districts expressed as percentages of total births:—Bulwell, 8·5 per cent. (8·1 per cent. in 1908); N.W., 4·4 per cent. (4·4 per cent. in 1908); N.E., 6·4 per cent. (6·4 per cent. in 1908); S.W., 5·4 per cent. (4·9 per cent. in 1908); S.E., 8·7 per cent. (8·4 per cent. in 1908).

Births in Registration Sub-Districts. 1909.

Sub-District.	Legitimate.		Illegitimate.		Total of each Sex.		Total of both Sexes.
	M.	F.	M.	F.	M.	F.	
Bulwell ..	761	697	73	63	834	760	1594
N.W... ..	703	714	32	33	735	747	1482
N.E.	782	781	58	48	840	829	1669
S.W.	469	447	23	29	492	476	968
S.E.	470	473	32	58	502	531	1033
TOTALS ..	3185	3112	218	231	3403	3343	6746

This method of expressing the illegitimate birth-rate is not entirely satisfactory, but it has this advantage over many other rates, that it necessarily represents actual fact. The total number of births and the number of illegitimate births are both known quantities, and these are the only factors dealt with.

The crude general death-rates in each of the sub-districts were as follows :—Bulwell, 16·4 (16·3 in 1908) ; N.W., 14·7 (14·6 in 1908) ; N.E., 16·9 (15·5 in 1908) ; S.W., 13·9 (13·9 in 1908) ; S.E., 19·5 (17·4 in 1908). The rates in Bulwell, N.W. and S.W., were identical or practically identical with those for 1908, and call for no special comment ; the rates in N.E. and S.E. were 1·4 and 2·1 per 1,000, respectively, higher than those for the preceding year, and the increase in each case was due in great measure to the simultaneous fatal prevalence, slightly above the mean, of measles, whooping-cough, diarrhœa, and phthisis.

The numbers of infant deaths per 1,000 births during the year in each of the sub-districts were :—123 in Bulwell (as against 123 in 1908) ; 142 in N.W. (against 152 in 1908) ; 184 in N.E. (against 157 in 1908) ; 124 in S.W. (against 129 in 1908) ; and 169 in S.E. (against 170 in 1908). The rates are low in Bulwell and S.W., moderate in N.W., and high in N.E. and S.E. A disproportionate share of measles, whooping-cough, and diarrhœa, was again the principal explanation of the high infant death-rates in the last two sub-districts.

The seven principal epidemic diseases, taken together, caused the following death-rates per 1,000 of population in the several sub-districts :—Bulwell, 1·48 (1·18 in 1908) ; N.W., 1·09 (0·99 in 1908) ; N.E., 2·00 (1·49 in 1908) ; S.W., 1·17 (1·09 in 1908) ; S.E., 2·11 (1·58 in 1908).

Measles caused 143 deaths altogether during the year, and 111 of them occurred in Bulwell, N.E.,

and S.E., the remaining 32 being equally divided between N.W. and S.W. The disease spread from North to South in the City during the first half of the year, then rapidly declined until the middle of December, when it once more became actively prevalent in the S.W. district.

Scarlet Fever was more prevalent than in any year since 1904, but the case mortality was the lowest on record. The fatal cases, 10 in number, belonged to Bulwell, N.W., and N.E. There were over 200 cases reported during the year from each of the sub-districts except S.W., but from here the total was only 109. The seasonal distribution was exceptionally even, with a minimum four-weekly total of 60 in the monthly period ending August 14th, and a maximum of 130 in that ending October 9th, this latter marking the crest of the usual autumnal rise.

Diphtheria, once again, was very generally distributed in the City during the whole year. The maximum numbers of cases (131 and 121, respectively) were reported from N.W. and S.W., and the maximum number of deaths (10 and 6, respectively) from N.E. and N.W., but deaths occurred in all the sub-districts. The attack-rate per 1,000 of population, for the year, ranged from 1 in S.E. to 2·8 in S.W. The maximum number of cases in any four-weekly period during the year, was 75 in the period ending July 17th, and the mimimum number, 20, singularly enough was recorded in the four-weekly period next ensuing. The spot map (p. 51A) accompanying the general section on diphtheria shows at once the distribution of this disease in each division of the City during the year.

Whooping-Cough was the cause of much sickness and of 59 deaths during the year. Forty-two of the deaths occurred during the first quarter, and were more or less evenly distributed in each of the sub-districts during this period. Nine deaths only occurred

during the second quarter, but these again were shared by each of the divisions. One death only, in N.W., occurred in the 3rd quarter, but 7 in the 4th were shared by N.W. and S.E., in the proportions of 4 and 3 respectively.

Enteric Fever was less in evidence during 1909 than in any previous year since notification was first reliably established. Only 160 reputed cases were notified, and of these only 157 were subsequently found to be true cases of the disease. Nineteen deaths were registered as due to enteric fever, and this constitutes another low record. The cases and deaths had origin in the several sub-districts of the City as follows :— Bulwell, 35 cases and 5 deaths ; N.W., 31 cases and 4 deaths ; N.E., 45 cases and 5 deaths ; S.W., 25 cases and 1 death ; S.E., 21 cases and 4 deaths.

The seasonal distribution was more or less in accordance with average precedent, but the fall in the number of cases from the beginning of the year was somewhat abrupt, and the autumnal rise a little sudden. The monthly numbers of cases averaged 7·5 from March to July, and 23 from August to November. The maximum number of cases in any four-weekly period (30) occurred in the period ending November 6th, and the minimum (6) was repeated three times in the respective periods ending March 27th, April 24th, and August 14th.

Diarrhœa was given, according to my returns, as the cause of only 163 deaths during 1909, as against 171 in 1908, and 137 of these occurred in the period of 11 weeks between August 1st and October 16th. The disease was most prevalent in the N.E. sub-district, and least prevalent in that of Bulwell. In N.E. the diarrhœa death-rate for the entire year was equal to 0·94 per 1,000, and in Bulwell to only 0·28. In the other sub-districts it was equal to rather more than 0·5 per 1,000, but in no case to as much as 0·75 per 1,000.

NOTTINGHAM SUB-DISTRICTS.

Summary of Statistics for 1909.

The Deaths and the Notifications are distributed over the Districts to which they properly belong.

	Population.				Births.	Birth Rate.	Deaths.			Death Rates.				DEATHS FROM									Notified Cases of					
	Census.		Approximate Enumeration.	Estimated middle 1909.			Total.	Under 1 year.	From 7 prin. Epidemic Diseases.	Total per 1000 of population.	Under 1 year per 1000 Births.	From 7 prin. Epidemic Diseases per 1000 of pop.	From Phthisis per 1000 of pop.	Small-Pox.	Measles.	Scarlet Fever	Diphtheria.	Whooping-Cough.	"Fever."	Diarrhœa.	Influenza.	Cancer.	Phthisis.	Small-Pox.	Scarlet Fever	Diphtheria.	Enteric Fever.	Erysipelas.	Puerperal Fever.
	1881.	1891.	1901.																										
Bulwell..	26,712	34,262	41,888	46,034	1594	34·6	756	196	68	16·4	123	1·48	0·96	..	37	3	2	9	5	12	6	42	44	..	217	72	35	76	3
N.W. ..	39,574	53,699	58,388	64,160	1482	23·1	940	211	77	14·7	142	1·20	1·09	..	16	2	6	13	4	36	20	54	70	..	227	131	31	31	4
N.E. ..	53,911	63,870	66,274	72,830	1669	22·9	1237	307	146	16·9	184	2·00	1·39	..	42	5	10	16	5	68	12	60	100	..	256	77	45	60	2
S.W. ..	26,080	32,072	39,510	43,419	968	22·3	603	120	51	13·9	124	1·17	1·15	..	16	..	4	8	1	22	6	41	50	..	109	120	25	55	1
S.E. ..	40,295	29,974	33,692	37,026	1033	27·9	732	175	78	19·5	169	2·11	1·59	..	32	..	4	13	4	25	6	50	59	..	227	38	21	37	4
The whole City	186,572	213,877	239,752	263,469	6746	25·6	4268	1009	420	16·2	150	1·59	1·23	..	143	10	26	59	19	163	50	247	323	..	1036	438	157	259	14

N.B.—Populations at Censuses of 1881, 1891, and 1901, and Estimated for 1909.
Births and Deaths from Local Registrars returns, without correction.
Notified cases from Health Department Registers, without correction.

Phthisis was the cause of 323 deaths in Nottingham during 1909, as compared with 335 in 1908, and 331 in 1907. The death-rates from phthisis, per 1,000 of population, in each of the sub-districts were as follows :—Bulwell, 0·9 ; N.W., 1·1 ; N.E., 1·4 ; S.W., 1·1 ; S.E., 1·6. These rates show a reduction in Bulwell and S.E., no change in N.E., and an increase in N.W. and S.W., as compared with the corresponding figures of 1908.

The deaths from cancer and other malignant new growths numbered 247 during 1909, as compared with 253 during 1908, and 220 during 1907. There was thus a slight reduction in 1909 below the number in the immediately preceding year, but it should be noted that the advance in that year had been unprecedentedly large. The actual number of deaths from cancer in each of the sub-districts during 1909 were as follows :—Bulwell, 42 ; N.W., 54 ; N.E., 60 ; S.W., 41 ; S.E., 50. The cancer deaths amounted to somewhat less than 1·0 per 1,000 in all the sub-districts but S.E., and here they were equal to 1·3 per 1,000.

GENERAL REPORT.

PRINCIPAL EPIDEMIC DISEASES.

These are the seven chief epidemic diseases of the Registrar-General's reports and of Public Health literature. The numbers of deaths ascribed to each during 1909, excepting only enteric fever and diarrhœa, are identical in my returns and in those of the Registrar-General. The discrepancy, moreover, in the case of enteric fever is of 1 death only, my returns giving 19 and the Registrar-General's, 20. The difference, however, in the case of diarrhœa is no less than 19, my total being 163, and that of the Registrar-General 182. I am unable to account for such a discrepancy, for I have strictly adhered to the rules laid down by the Registrar-General, for the classification of deaths ascribed in various terms to diarrhœa and other allied complaints.

Death-Rates from the Principal Epidemic Diseases. (Average) for previous Five Years, and for 1909.

	Nottingham.		London.		76 Towns.
	5 years. 1904–1908.	1909.	5 years. 1904–1908.	1909.	1909.
Small-pox	0·01	..	0·00	0·00	0·00
Measles	0·40	0·54	0·39	0·48	0·48
Scarlet Fever ..	0·06	0·04	0·11	0·08	0·11
Diphtheria	0·18	0·10	0·15	0·13	0·15
Whooping-Cough ..	0·30	0·22	0·30	0·26	0·24
Enteric Fever ..	0·15	0·08	0·05	0·03	0·06
Diarrhœa	0·98	0·69	0·71	0·33	0·38
Total Epidemic Rate	2·08	1·67	1·71	1·31	1·42

Nottingham, 1909. Temperature, Rainfall, and Seasonal incidence of Epidemic Diseases.

		Thirteen Four-weekly Periods Ending on													
		Jan. 30	Feb. 27	Mar. 27	April 24	May 22	June 19	July 17	Aug. 14	Sept. 11	Oct. 9	Nov. 6	Dec. 4	Jan. 1	Total.
Mean Temperature		38·5	37·1	36·5	47·9	49·5	54·0	57·2	60·6	55·9	54·6	48·6	39·3	38·3	47·5
Rainfall in Inches		0·98	0·76	2·43	1·74	0·46	1·41	3·56	2·46	3·09	2·46	2·25	1·78	2·84	26·053
Onsets of ascertained Cases of	Small-Pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Scarlet Fever	77	75	70	74	74	66	94	60	72	130	98	85	59	1034
	Diphtheria	42	26	23	21	35	31	75	20	29	26	43	27	26	429
	Enteric Fever	10	11	6	6	8	11	8	6	24	17	30	16	7	160
Recorded Deaths from	Measles	18	15	33	28	18	8	9	6	3	1	..	1	3	143
	Whooping-Cough ..	9	15	18	5	2	2	1	..	..	3	..	3	2	60
	Diarrhœa	5	3	1	6	5	3	..	18	89	25	10	3	1	169

The figures in this table are compiled from the weekly returns, and are therefore subject to some correction; also, as the dates of onset are taken instead of dates of notification in the case of the notifiable diseases, it will be found that the numbers here do not coincide with those of other tables dealing with the same subject, but giving dates of notification instead of dates of onset.

In making comparison between Nottingham and other places, the statistics for which are compiled by the Registrar-General presumably upon the same principle as he has adopted for Nottingham, I shall cite the Registrar-General's figures, but otherwise I shall adhere to those made out by myself from local sources.

Small-Pox and Vaccination.—There was again no case of small-pox reported in Nottingham during the year. There were 85 cases notified in the great towns, Bristol claiming 35, London 21, Hull 6, and Liverpool and Bolton 5 each. The total number of deaths from small-pox in all England and Wales during the year was 21.

In my next Annual Report I shall have to describe an outbreak which occurred in this City during the current year, consisting of 8 cases with 1 death. The first case was detected on January 17th, and the last on April 15th. All the cases were promptly isolated at the Bulwell Forest Small-Pox Hospital.

The accompanying table of vaccination statistics for Nottingham shows, *inter alia*, that primary (infantile) vaccination has steadily declined since 1903. The slight apparent increase in the figure for the first half of 1909 (the latest obtainable), as compared with that for the second half of 1908, is due to the fact that the proportion of all infants successfully vaccinated in the first half of the year is always higher than that in the second half. The table also shows that the, so-called, conscientious objectors have greatly increased in number since the substitution of a statutory declaration, by the Vaccination Act of January 1st, 1908, for the certificate of conscientious objection required by the Act of 1898. The fact is that conscientious objection, as interpreted by the average objector, is not

only broadly farcical in itself, but is rapidly reducing compulsory vaccination to something of the same order. Indeed, the gratuitous provision by Act of Parliament of so simple a means of escape from

Vaccination in the Parish of Nottingham. Summary of Statistics, 1883–1909.

Years.	Births. *	Percentage.			Certified as Insusceptible of Vaccination.	Had Small-Pox.	Certificates granted to "Conscientious Objectors."
		Successfully Vaccinated.	Died Unvaccinated.	Not finally accounted for.			
1883–88 ...	6194	74·3	12·4	13·0	10	...	...
1889	5398	67·3	12·0	12·1	12	...	...
1890	5084	69·8	11·7	14·0	11	...	...
1891	5033	67·1	12·0	16·0	8	...	...
1892	5142	63·8	12·0	16·2	15	...	...
1893	5193	64·4	13·4	17·7	24	...	...
1894 1st half-year	2632	62·5	12·7	11·2	9	...	...
1895 do.	2758	43·1	14·2	15·3	11	...	...
1896 do.	2728	29·4	11·7	16·4	3	...	...
†1896–97 ...	5313	18·97	15·60	52·88	3	...	...
†1897–98 ...	5391	23·05	17·23	30·47	4	...	684
‡1898–99 ...	5857	42·4	15·5	10·2	28	...	543
§†1899–1900 ...	6904	50·8	15·13	7·5	15	...	682
†1900–1901 ...	6699	57·83	14·73	10·7	21	...	1146
Jan. to Dec., 1901	6827	65.13	13·90	10·18	51	...	718
1902 1st half-year	3336	69·87	11·66	12·20	85	...	183
1902 entire year	6766	70·97	12·62	9·55	21	...	443
1903 1st half-year	3443	70·96	10·49	11·27	9	...	210
1903 2nd do.	3506	70·02	12·55	7·81	5	1	204
1904 1st half-year	3522	69·54	12·99	13·31	9	2	142
1904 2nd do.	3408	66·87	12·12	15·43	9	...	181
1905 1st half-year	3359	69·51	10·98	13·22	16	...	195
1905 2nd do.	3296	68·88	10·95	12·71	3	...	243
1906 1st half-year	3485	66·1	12·5	13·09	10	...	281
1906 2nd do.	3309	62·5	14·86	13·78	4	...	288
1907 1st half-year	3468	64·6	11·85	12·75	5	...	369
1907 2nd do.	3461	62·1	11·3	12·28	4	...	493
1908 1st half-year	3581	58·9	10·1	12·62	7	...	651
1908 2nd do.	3327	51·4	12·05	12·10	11	...	829
1909 1st half-year	3537	53·2	11·25	11·31	5	...	1728

† June of first year to July of second.

‡ Including Returns of Basford, Bulwell, and North Wilford for April, May, and June, 1899.

§ First Twelve Month's Return from New Parish of Nottingham.

* Nos. of births as furnished on Vaccination Returns.

vaccination is regarded by many people as an authoritative encouragement to the public generally to evade the compulsory provisions of the Vaccination Acts, and these latter are thus fast becoming a dead letter to whole sections of the community. The poor necessarily suffer more than the rich as a result of this paradoxical legislation, for they have less education and less means of access to reliable sources of knowledge than the rich, and are quite as much exposed to the influence of the anti-vaccinationist. And they who are thus victimised, are those for whose protection especially these Vaccination Acts, and other preventive measures, have come into being. All this, too, we must remember is about primary vaccination; re-vaccination, which is quite as important, is still purely optional.

Measles.—At the close of 1908, measles was extending rapidly in N.W., N.E., and Bulwell. During the first quarter of 1909 it caused 72 deaths, shared by the several sub-districts as follows:—Bulwell 30; N.W., 8; N.E. 14; S.W. 10; and S.E. 10. During the second quarter it declined in Bulwell and S.W., but continued to spread in the other divisions of the City, as the following list of fatalities for this quarter

Deaths from Measles, during each of the Four Quarters of 1909, in the Registration Sub-Districts of the City.

District	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
Bulwell.. ..	30	6	..	1	37
N.W...	8	5	3	..	16
N.E.	14	20	8	..	42
S.W.	10	2	1	3	16
S.E.	10	17	5	..	32
Totals	72	50	17	4	143

shows :—Bulwell 6 ; N.W. 5 ; N.E. 20 ; S.W. 2 ; and S.E. 17. During the third quarter there were no deaths in Bulwell, and only 17 distributed among the other divisions. During the fourth quarter there were 4 deaths only, 1 in Bulwell, and 3 in S.W.

A list of the schools and school departments closed during the year on account of measles, and other infectious diseases, is given at the end of this section, as measles is the principal complaint for which such closure is practised.

Of the 143 fatal cases of measles during 1909, 27 were of infants under 1 year, and 106 of children between 1 and 5 years of age. There were, therefore, 133 out of a total of 143 deaths, or 93 per cent. below the 5th year. The ratio of deaths under 5 to total deaths is almost exactly identical with that of 1908, although the total number of deaths is more than four and a half times greater than in the latter year.

Of the 27 deaths under 1 year, 16 were of males and 11 of females ; of those between 1 and 5 years, 55 were of males and 51 of females ; and of those above the 5th year, 2 were of males and 8 of females. Of the total deaths, therefore, 73 were of males, and 70 of females.

Under the 5th year the mortality of males is normally greater than that of females, but the converse obtains above this age. As, however, more than nine-tenths of the cases occur before the 5th year, the aggregate male mortality, where large numbers are dealt with, is always greater than the female. The difference in favour of females, as already stated, was less than usual in Nottingham during 1909.

The death-rate from measles, per 1,000 of population during 1909, was equal to 0·54 (54 per 100,000), as compared with 0·12 per 1,000 (12 per 100,000) in 1908,

and an annual average of 0·40 (40 per 100,000) for the five years 1904-8. The death-rate per 1,000 from measles during 1909, was 0·35 in England and Wales, 0·48 in London, 0·48 in the 76 great towns, 0·33 in the 143 lesser towns, and 0·21 in England and Wales less the 219 towns.

The deaths from measles and whooping-cough, together, in England and Wales during 1909, were almost double those from diarrhœa, and also almost double those from diphtheria, scarlet fever, enteric fever, and small-pox, combined. Still, notwithstanding this huge mortality, in spite of the fact that both diseases are spread mainly by direct personal infection, no practicable means of preventing the spread of either among the poor have yet been devised.

The death-rate, and the ratio of deaths to cases, are for both diseases much higher in town than in country districts. Overcrowding, and all the insanitariness incidental thereto, are the explanation of this higher fatality. It should be remembered in this connection that the various forms of pneumonia are far more fatal in town than in country, and that one form of pneumonia is a specially fatal complication of both measles and whooping-cough.

SCHOOL CLOSURE ON ACCOUNT OF INFECTIOUS DISEASE.

(Principally for Measles and Whooping-Cough.)

A—COUNCIL SCHOOLS.

Albert Street, Bulwell—	Infants' Dept.	Jan. 12th to Feb. 1st.
Clarendon Street—	Babies' Class ...	Jan. 13th to Jan. 27th.
Quarry Road—	,, ,, ...	Jan 13th to Feb. 8th.
,, ,,	Infants' Dept.	Jan. 22nd to Feb. 8th.
Coventry Road—	,, ,, ...	Jan. 14th to Feb. 1st.
Sneinton—	,, ,, ...	Feb. 23rd to March 9th.
Carrington—	,, ,, ...	Feb. 24th to March 15th.
,,	,, ,, ...	May 27th to June 13th.

Sherwood—	Infants' Dept.	March 2nd to March 22nd.
Blue Bell Hill—	,, ,, ...	March 4th to March 18th.
Lenton—	,, ,, ...	March 11th to Mar. 22nd.
,,	Girls' Dept. ...	June 28th to July 5th.
,,	All Depts. ...	June 29th to July 12th.
Southwark Street—	Infants' Dept.	March 11th to Mar. 22nd.
Berridge Road—	Babies' Class...	May 19th to June 6th.
Bath Street—	Infants' Dept.	May 26th to June 13th.
New Basford—	,, ,, ...	May 27th to June 13th.
Scotholme—	,, ,, ...	May 26th to June 13th.
,,	,, ,, ...	Dec. 20th to (Jan. 10, 1910)
Alfreton Road—	,, ,, ...	May 27th to June 13th.
Bosworth Road—	Classes 4, 5, & 6	June 11th to June 28th.
Queen's Walk—	Infants' Dept.	June 11th to June 28th.
St. Ann's Well Rd.—	,, ,, ...	June 11th to July 5th.
Collygate Road—	,, ,, ...	Nov. 26th to Dec. 13th.

B—TRUST SCHOOLS.

Cinder Hill—	All Depts. ...	Jan. 11th to Jan. 18th.
,, ,,	Infants' Dept.	Jan. 11th to Jan. 25th.
Bulwell—	,, ,, ...	Jan. 14th to Feb. 1st.
Carrington—	,, ,, ...	Feb. 1st to Feb. 22nd.
Sneinton—	Babies' Class...	Feb. 5th to Feb. 22nd.
,,	Infants' Dept.	Feb. 16th to March 2nd.
Lenton—	,, ,, ...	Feb. 16th to March 8th.
,,	All Depts. ...	July 1st to July 12th.
New Basford—	Infants' Dept.	March 8th to March 22nd.
St. George's—	,, ,, ...	March 15th to Mar. 29th.
St. Matthias'—	,, ,, ...	May 4th to May 18th.
,,	,, ,, ...	Dec. 13th to (Jan. 10, 1910)
St. Mary's—	,, ,, ...	May 26th to June 13th.
Hyson Green—	,, ,, ...	May 26th to June 13th.
St. Mark's—	,, ,, ...	June 8th to June 21st.
St. Saviour's—	,, ,, ...	June 11th to June 28th.
Hyson Green R.C.—	Infants' Dept.	June 14th to June 28th.
All Saints'—	3rd Class ...	June 21st to July 5th.
St. Ann's—	Babies' Class...	June 25th to July 12th.
St. Patrick's R.C.—	Infants' Dept.	Dec. 8th to Dec. 20th.

All the Infant Departments in the City Schools were closed from March 22nd to April 8th.

Scarlet Fever.—The cases of scarlet fever notified during 1909 numbered 1,036, as against 1,189, 681, 611, 416, and 595, respectively, in the 5 years 1904-8. The separate houses invaded were 920 in number. Of the 1,036 cases, 457 were male and 579 female. The deaths numbered 10, 5 of each sex. The total case-mortality was equal to 0·96 per cent., that of males to 1·1 per cent., and that of females to 0·86 per cent. This case-mortality is the lowest on record, and compares very favourably with the rates of the past 5 years, which were as follows:—1908, 1·85 per cent.; 1907, 1·20 per cent.; 1906, 2·78 per cent.; 1905, 2·8 per cent.; 1904, 2·3 per cent.

Full details of the case-mortality for each sex at the usual age-periods will be found in the table on page 74 of this Report. Of the 1,036 cases notified, 565, or 54 per cent. were removed to the City Isolation Hospital.

The history of these cases is dealt with in the Hospital Section of the report, pp. 112 to 117 post.

Notifications of Scarlet Fever, during each of the Four Quarters of 1909, in the Registration Sub-Districts of the City.

District.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
Bulwell	49	50	53	65	217
N.W...	59	61	56	51	227
N.E.	46	67	82	61	256
S.W.	21	30	22	36	109
S.E.	69	39	57	62	227
Totals	244	247	270	275	1036

The distribution of the disease in the City during the year was remarkably even and general, except so far as the S.W. district was concerned. In each of the districts excepting the latter there was a total number of cases equal to more than a fifth of the whole number notified; in the S.W. district there was a total of little more than a tenth. Still excepting this sub-district, there

was also a relatively narrow range in the total numbers of cases notified from each of the districts during the several quarters of the year. These numbers ranged only from 39 in the S.E. during the 2nd quarter, to 82 in N.E. in the 3rd quarter. In the S.W. district, though the numbers were smaller throughout the year, the quarterly numbers varied only from 21 in the 1st to 36 in the last quarter.

The cases notified in each four-weekly period during the year had also a relatively narrow range, although the autumnal rise was fairly well marked. During the first five of these four-weekly periods the totals varied only from 70 to 77. During the next five periods there was more irregularity, the numbers ranging from 66 in the first to 94 in the second, then to 60, 72, and 130, respectively, in the later periods. During the last three four-weekly periods of the year the totals declined, more or less in the usual course, from 98 to 59.

There are several features of this complaint which render it one of the most puzzling of all the common infectious diseases with which we have to deal; but the more I see of the open-air treatment of cases, which we have now carried out for many years as far as practicable in an ordinary hospital like our own, the more convinced do I become that this is in all respects the most rational and successful line of treatment hitherto adopted.

The death-rate per 1,000 of population from scarlet fever, in Nottingham during 1909, was 0·04 (4 per 100,000). This rate is identical with that of 1908 (although the cases in 1909 were nearly twice as numerous as those of the latter year), and for lowness is second only to that of 1907 (0·02).

The deaths from scarlet fever in England and Wales during 1909, were equal to a rate of 0·09 per

1,000, in London to one of 0·08, in the 76 towns to one of 0·11, in the 143 smaller towns to one of 0·09, and in England and Wales less the 219 towns to one of 0·06.

Diphtheria.—The cases of diphtheria notified to me in Nottingham during 1909 numbered 438. The numbers notified in each of the preceding 5 years, respectively, were 546, 537, 570, 517, and 454. The number of separate houses affected was 394, as compared with 370 in 1908. The reported cases were 173 of them male, and 265 female. The preponderance of the female cases is here greater than usual, but it is always existent to some extent, being due, in great measure at any rate, as in the case of scarlet fever, to the presence in the home, and therefore in contact with sources of infection, of a larger number of women and girls than of men and boys, during the greater part of the day.

There were 26 deaths from diphtheria during 1909, 11 of males and 15 of females. The case-mortality of males was equal to 6·4 per cent. and that of females to 5·7 per cent. The total case-mortality was equal to 5·96 per cent. the lowest annual rate on record. The rate for 1908 was 6·6 per cent. the lowest recorded prior to 1909.

The case-mortality for each sex at various age-periods is given in the table on page 74 of this report. There were 10 cases, (9 m. and 1 f.) under 1 year, but no death in this period. The case-mortality is ordinarily high among infants. The deaths under 5 years (20 out of a total of 26) were equal to 77 per cent. of all, and were thus, as usual in Nottingham, considerably above the average elsewhere (53 per cent.). The deaths under 10 years of age ordinarily amount to about 80 per cent. of all, but in Nottingham, during 1909, all the deaths occurred before the 10th year.


PLAN OF THE
CITY OF NOTTINGHAM
SHEWING SURFACE LEVELS BY
CONTOUR LINES
1909 Local Incidence of Cases of Diphtheria, shown by Black Spots.
No. of Cases = 458.
Basford
Bulwell
Reg. Sub-Dist.
N.W. R.S.D.
N.E. R.S.D.
S.E. R.S.D.
S.W. R.S.D.
Scale 24 Inches to a Mile

The mortality among females is usually higher than that among males from about the 3rd to the 45th year, and this was the case in Nottingham during 1909, alike as regards actual, and case-mortalities. Between the 1st and 5th years the female cases and deaths both exceeded the male in actual numbers, but, though both sexual case death-rates were high, the male rate (16·6 per cent.) exceeded the female (15·7 per cent.) Between the 5th and 15th years, however, the number of female cases not only exceeded that of the male, but the female case-mortality was also higher (m., 2·5 per cent.; f., 3·3 per cent.) There was no death in the later age-periods, but the female cases above the 15th year numbered 71, and the male only 31.

It is, I think, now generally well known that diphtheria antitoxin is practically a specific remedy for the disease, when injected in sufficient dose and sufficiently early. I am, however, constrained to make repeated allusion to the remedy and its undoubted efficacy, on account of the large number of cases continually brought to my notice in which its use has been neglected. Cases are frequently sent into hospital which have received no serum, although their nature has been recognized for several days. This, of course, is very regrettable, and is the less easy to understand, in view of the fact that antitoxin is now, and has been for several years, distributed gratuitously from the Health Department to medical men in attendance upon poor patients requiring its administration. The serum should be injected directly the case is recognised. The experience of all fever hospitals shows that there is practically no mortality among ordinary cases injected on the first day of disease.

Of the 438 cases notified, 208, or 47·5 per cent., were admitted to the City Isolation Hospital. The history of these cases is given in the hospital section of the report (pp. 120 to 123 post).

Notifications of Diphtheria, during each of the Four Quarters of 1909, in the Registration Sub-Districts of the City.

Districts.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
Bulwell	27	18	10	17	72
N.W.	41	35	27	28	131
N.E.	16	21	15	25	77
S.W.	17	49	34	20	120
S.E.	6	9	10	13	38
Totals	107	132	96	103	438

As already stated in the section dealing with the statistics of the Registration Sub-Districts, the distribution of the disease in the City was very general throughout the year. Cases occurred in all the sub-districts in each quarter. The total quarterly numbers were 107, 132, 96, and 103, respectively. The maximum numbers of cases (120 and 131, respectively) occurred in S.W. and N.W., and the maximum numbers of deaths (10 and 6, respectively) occurred among cases from N.E. and N.W. The attack-rates per 1,000 living ranged from 1 in S.E. to 2·8 in S.W. There was marked concentration of cases in parts of the Meadows and Wilford Road, in New Lenton, in Radford and Hyson Green, and in the Alfred Street district.

The 26 deaths from diphtheria, in Nottingham during 1909, represent a death-rate per 1,000 living of 0·10 (10 per 100,000), which is the lowest since 1897, when the rate was 0·09. The corresponding death-rates of the preceding 5 years were, respectively, 0·28, 0·19, 0·16, 0·16, and 0·11. The death-rate per 1,000 living from diphtheria during 1909, was equal to 0·14 in England and Wales, 0·13 in London, 0·15 in the 76 great towns, 0·16 in the 143 smaller towns, and 0·14 in England and Wales less the 219 towns.

Whooping-Cough.—This disease was prevalent in a minor degree during the whole of 1908, but the deaths in the last quarter, 8 in number, were the fewest for any quarterly period of the year. During the first quarter of 1909 there was a general increase of prevalence in all parts of the City, the deaths numbering 8, 5, 14, 7, and 8, respectively, in the several sub-districts from Bulwell to S.E. In the 2nd quarter there was a rapid decline with a total of 9 deaths only, distributed over all the sub-districts. In the 3rd quarter there was 1 death only, in N.W. During the 4th quarter there were 7 deaths, 4 in N.W. and 3 in S.E.

Deaths from Whooping-Cough, during each of the Four Quarters of 1909, in the Registration Sub-Districts of the City.

District.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
Bulwell	8	1	..	..	9
N.W...	5	3	1	4	13
N.E.	14	2	..	..	16
S.W.	7	1	..	..	8
S.E.	8	2	..	3	13
Totals	42	9	1	7	59

Dr. John Tatham gave 97 per cent. as the proportion of all deaths occurring under the 5th year. In Nottingham, during 1909, there was 1 death only in a total of 59 above that age (1·7 per cent.) The deaths among females at all ages, from this disease, when large numbers are dealt with, are more numerous than those among males. In Nottingham, during 1909, there were altogether 27 male deaths to 32 female, but the male deaths preponderated (14 m. to 6 f.) in the 1st year, the female afterwards (26 f. to 13 m.)

I have already, in writing of measles, drawn attention to the huge aggregate-mortality from measles and whooping-cough, and to the fact that both are specially fatal in urban communities. I shall here, therefore, only emphasize the facts (a) that both are eminently infectious, and undoubtedly preventable where means of isolation are available, and (b) that both are liable to leave behind in those who have been attacked, and apparently recovered, after-effects of a very serious character.

The deaths from whooping-cough in Nottingham during 1909, 59 in number, correspond to a death-rate per 1,000 living of 0·22 (22 per 100,000), as against 0·23, 0·51, 0·16, 0·24, and 0·36 in the preceding 5 years, respectively.

The death-rate from this disease during 1909, was 0·20 in England and Wales, 0·26 in London, 0·24 in the 76 great towns, 0·17 in the 143 lesser towns, and 0·16 in England and Wales less the 219 towns.

Enteric Fever.—The cases of enteric fever notified to me during 1909 numbered 157. The total for 1908 was 237, the annual average for the 5 years ended with that year, 261, and for the preceding quinquennium (1899-1903), 446. The attack-rate per 1,000 of population was 0·59 (59 per 100,000), the lowest on record. The lowest attack-rate prior to this was 0·81 (81 per 100,000) in 1903.

The weekly numbers of cases and deaths—when there were any such—are shown in the accompanying table. In the first 8 weeks (ending February 27th) the cases averaged 3 per week; in the next 10 weeks (ending May 8th) 1·3; in the next 8 weeks (ending July 3rd) 2·5; in the next 8 weeks (ending August 28th) 2·1; and in the last 18 weeks of the year, 4·6. There were 57 cases and 9 deaths in the 1st half of the year, and 98 cases and 11 deaths in the 2nd half.

It must, however, be remembered that several of the deaths in the first few weeks of the year were those of cases belonging to the previous year (1908), and that several of the cases commencing towards the close of the year ended fatally in 1910.

Nottingham, 1909. Enteric Fever. Cases and Deaths in Weekly Periods.

Week ending	January.				February.				March.				April.				May.					June.				July.	
	9	16	23	30	6	13	20	27	6	13	20	27	3	10	17	24	1	8	15	22	29	5	12	19	26	3	
Cases	1	5	3	2	2	6	1	4	2	1	..	2	2	1	..	4	..	1	5	1	2	2	3	4	2	1	=57*
Deaths	..	1	3	1	..	..	..	..	1	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	= 9*

Week ending	July.				August.				September.				October.					November.				Decmbr.	Jan.				
	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25	1	
Cases..	3	1	3	1	..	5	1	3	6	4	3	2	7	4	5	5	3	7	6	7	6	5	4	..	4	3	= 98*
Deaths	..	1	..	..	..	..	..	..	..	1	1	..	..	..	1	1	1	..	2	..	..	..	1	1	..	1	= 11*

* Figures made up from weekly returns, without correction.

Although the cases during 1909 were fewer than in any previous year, they were still widely scattered over all the poor neighbourhoods of the City. Groups of cases in close aggregation, varying from 6 to 13 in number, occurred in the following situations:—

(1) At the Derby Road end of Willoughby Street, Lenton.
(2) At Radford Woodhouse.
(3) In the Meadow Platts.
(4) At the lower end of Carlton Road.

Cases also were somewhat thickly distributed in the Meadows, at Old Radford, at New Basford, and along the North side of St. Ann's Well Road.

The spot map (p. 58A) accompanying this section shows, as nearly as possible with a map of such small scale, the exact situation of each case discovered or notified during the year.

The usual tables of cases and deaths, and case death-rates of males and females separately, in age-periods, for the year of the report and two preceding years, will be found on p. 60 post. In actual numbers, as usual, the male cases (and deaths) exceeded the female, but the proportional excess of the male cases was considerably above the normal (90 male cases to 67 female).

The case-mortality for all ages and both sexes, expressed as the number of cases to 1 death, is practically the same as in 1908—8·3, as compared with 8·2 for the latter year. The total female case-mortality is, as usual, somewhat higher than the male—1 death to 7·4 female cases, as against 1 to 9 for those of males.

The case-mortality was relatively low for both sexes between the 5th and the 35th years, there being only 9 deaths to 118 cases (7·6 per cent.); and that of males between the 15th and 25th years was remarkably low—1 death to 24 cases, or only fractionally more than 4 per cent. The average case-mortality of the past 3 years for both sexes in Nottingham has been equal to 13·2 per cent.—12·8 per cent. for males, and 13·5 per cent. for females. These rates are considerably below the average rates in this country, which are, approximately, slightly less than 18 per cent. for both sexes, somewhat more than 17 per cent. for males, and somewhat less than 19 per cent. for females.*

The 19 deaths registered as due to enteric fever in Nottingham during 1909, were fewer by 5 than the previous lowest annual total, that of 1905, and were equal to little more than one-third of the average annual number for the 10 years ended with 1908, which was 54·2.

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* The total case-mortality of the Metropolitan Asylums Board Hospitals during the past two years has been 15 per cent.

The 19 deaths correspond to a death-rate per 1,000 of 0·07 (7 per 100,000),* as compared with an annual average rate of 0·22 for the 10 years ended with 1908.

In London, during 1909, the death-rate from enteric fever was equal to 0·03 per 1,000, and in England and Wales, in the 76 great towns, in the 143 smaller towns, and in England and Wales less the 219 towns, to a uniform rate of 0·06 per 1,000.

Forty-five cases of enteric fever (29 per cent. of all) were admitted to the City Isolation Hospital during 1909. The history of these cases is given in the Hospital section of the Report. Forty-eight cases also were admitted to the General Hospital, and three to the Union Workhouse Infirmary during the year.

In previous Annual Reports, at intervals from 1889 onwards, I have dealt at considerable length with the question of the special causation of enteric fever in Nottingham, and have expressed the belief that the dry-system of excrement disposal—pail or "privy"—was in great measure responsible for the excessive and endemic prevalence of the disease. I have pointed out that anyone having an intimate acquaintance with the slum, and other working-class districts of the City, must have frequently realized that the most powerful insanitary factor in such districts is the dry-closet, polluting, as it does, the soil and atmosphere, and, indeed, the whole environment of industrial and domestic life, with excremental and other refuse matters. I have shown that the boots, and clothes, and persons of the users of these closets are frequently soiled with human fæces, that flies and dust continually pass from the closet receptacle to the house and workplace, and that so long as there is a risk of typhoid and other specifically infected stools finding their way into the

* The Registrar-General gives the total number of deaths from enteric fever in Nottingham during 1909 as 20, and the death-rate therefore as 0·08 per 1,000.

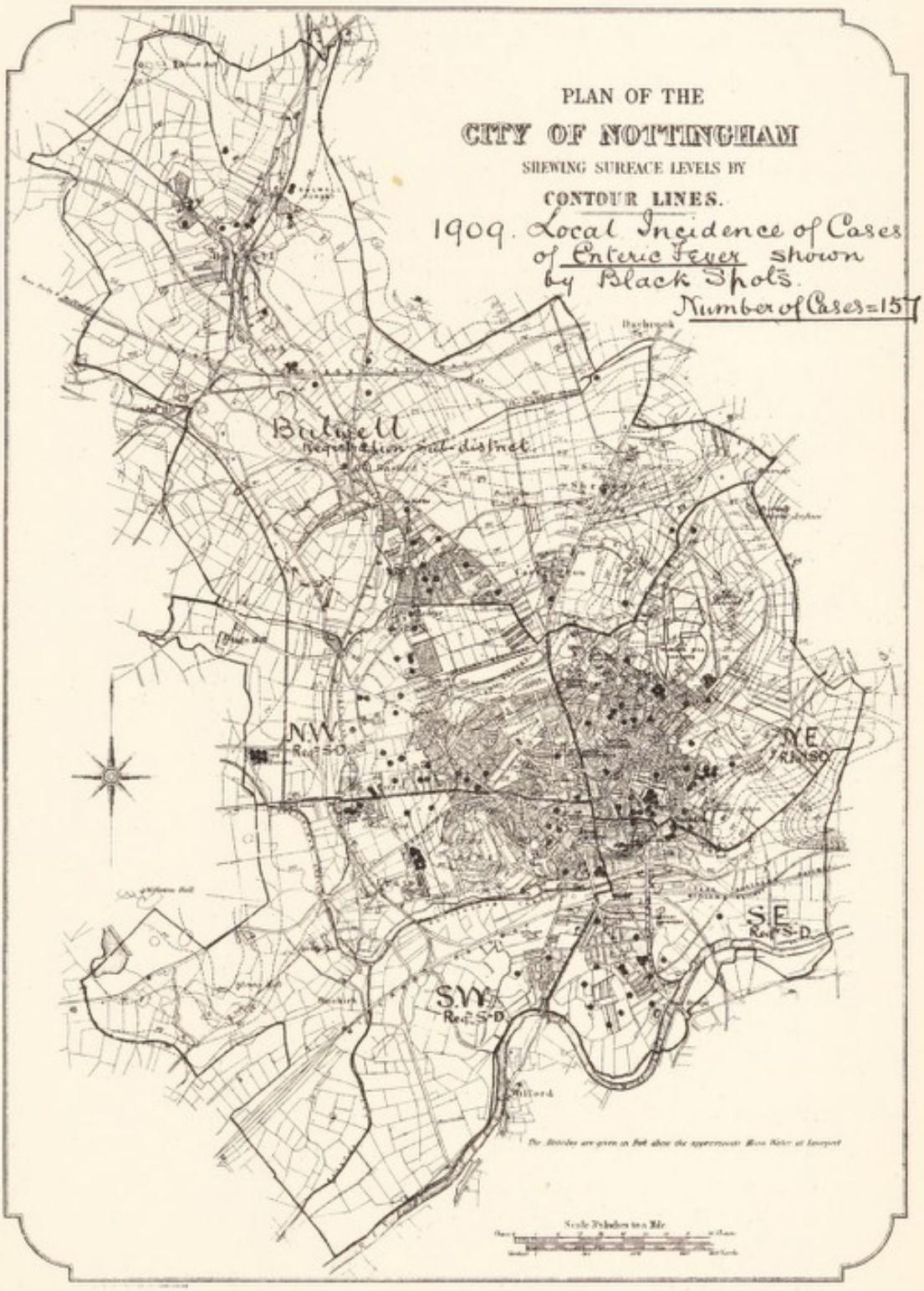
closet receptacles—and the risk and its realization are practically always in evidence, notwithstanding all precautions—so long must enteric fever, and other complaints, continue to spread endemically where these dry-closets are in use.

Special pails are still used for all known cases nursed at home, but, as most cases of enteric fever have been some time in progress before diagnosis and notification, and as many are never notified at all, and as the poor are notoriously careless (mainly through ignorance) in the disposal of infected materials, it is obvious that this provision of special typhoid pails does not constitute the reliable safeguard against the spread of infection that many people are wont to imagine.

I have published annually for a long series of years a table showing the incidence of enteric fever upon houses furnished with different types of closets, which I think strongly supports my contention that the dry-closet is a fertile source and vehicle of infection.

From 1887 to the present time, although the actual numbers of cases have varied considerably from year to year, the ratio of incidence has remained relatively constant in a striking degree. For example :—the average annual incidence from 1887 to 1898 was (*a*) for pail-closets, 1 case in 120 houses, (*b*) for water-closets, 1 case in 558 houses ; in 1899 the incidence was (*a*) for pail-closets, 1 case in 70 houses, (*b*) for water-closets, 1 case in 296 houses ; and finally, in 1909 (with an awakened public conscience and intelligence, improved scavenging, and cold and wet seasons) the incidence was (*a*) for pail-closets, 1 case in 295 houses, and (*b*) for water-closets, 1 case in 1,189 houses.

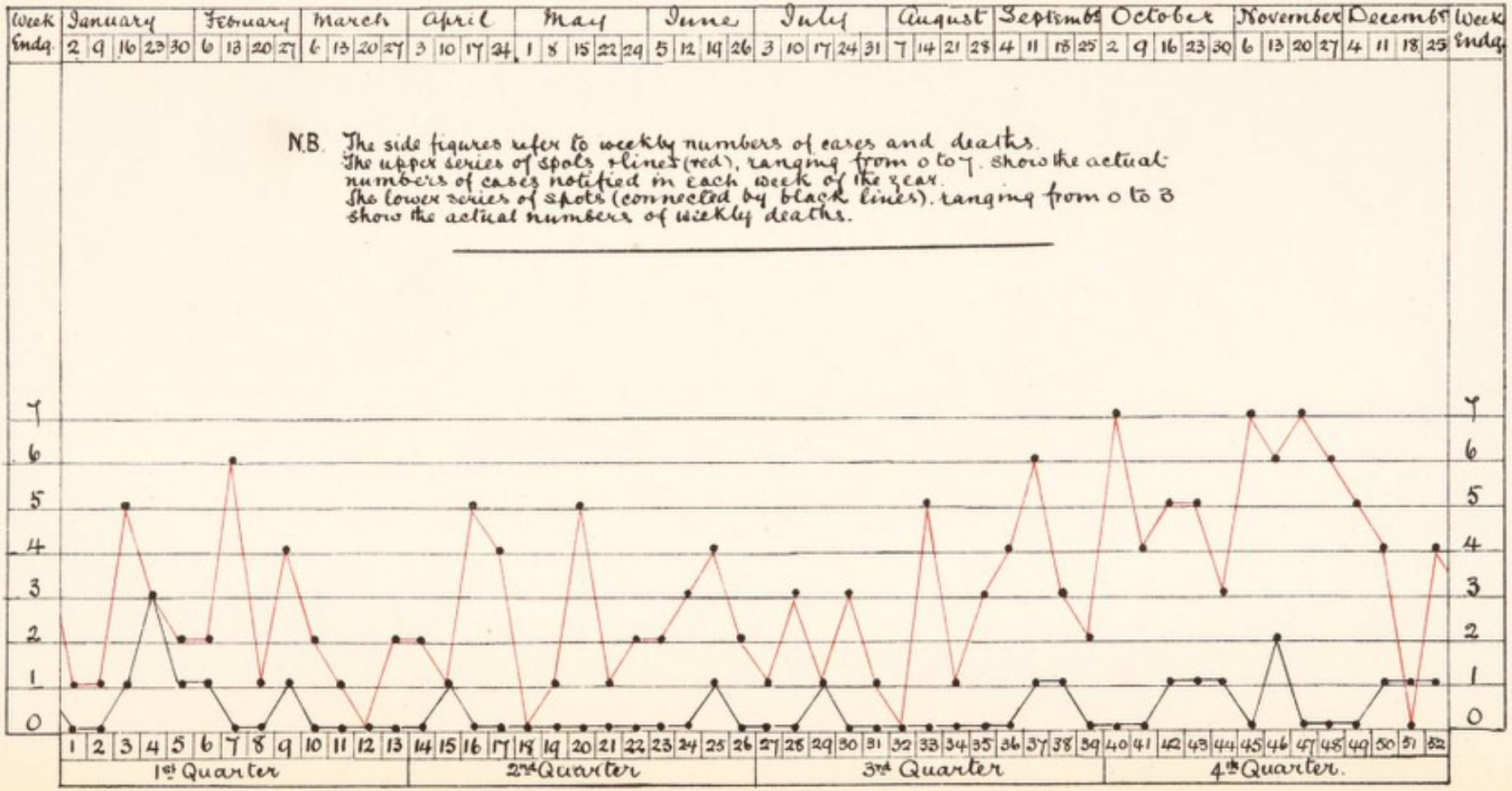
Although the pail-closets and water-closets are now existent to a large extent side by side all over the City—there being altogether 36,318 pail closets and 21,397 water-closets,—the incidence of enteric fever on the first is still four times heavier than on the second.


PLAN OF THE
CITY OF NOTTINGHAM
SHEWING SURFACE LEVELS BY
CONTOUR LINES.
1909. Local Incidence of Cases of Enteric Fever shown by Black Spots.
Number of Cases = 157
Bulwell
Registration Sub-district.
N.W
Reg. S-D
S.E
Reg. S-D
S.W
Reg. S-D

Nottingham. 1909.

Enteric Fever.

Weekly Numbers of Cases & Deaths.



Incidence of Enteric Fever Cases upon Houses with Pail-closets, Midden-privies, and W.c.'s, from 1887 to 1909, and upon Waste-water-closets during 1905-09.

1887 to 1898 (Average).

Houses with	pail-closets	...	1	case of enteric fever in		120	houses.
,,	midden-privies	...	1	,,	,,	37	,,
,,	water-closets	...	1	,,	,,	558	,,

1899.

Houses with	pail-closets	...	...	...	1 case in	70	houses.
,,	midden-privies	...	...	...	1 ,,	18	,,
,,	water-closets	...	...	...	1 ,,	296	,,

1900.

Houses with	pail-closets	...	...	...	1 case in	92	houses.
,,	midden-privies	...	...	...	1 ,,	20	,,
,,	water-closets	...	...	...	1 ,,	407	,,

1901.

Houses with	pail-closets	...	...	...	1 case in	84	houses.
,,	midden-privies	...	...	...	1 ,,	12	,,
,,	water-closets	...	...	...	1 ,,	255	,,

1902.

Houses with	pail-closets	...	...	...	1 case in	129	houses.
,,	midden-privies	...	...	...	1 ,,	21	,,
,,	water-closets	...	...	...	1 ,,	294	,,

1903.

Houses with	pail-closets	...	...	...	1 case in	267	houses.
,,	midden-privies	...	...	...	1 ,,	50	,,
,,	water-closets	...	...	...	1 ,,	504	,,

1904.

Houses with	pail-closets	...	...	...	1 case in	166	houses.
,,	midden-privies	...	...	...	1 ,,	50	,,
,,	water-closets	...	...	...	1 ,,	407	,,

1905.

37,048	houses with	pail-closets	204	cases ...	1 case in	181	houses.	
400	,,	midden-privies	4	,, ...	1 ,,	100	,,	
12,000	,,	water-closets	21	,, ...	1 ,,	571	,,	
6,785	,,	waste-w.c.'s	26	,, ...	1 ,,	261	,,	

1906.

36,886	houses with	pail-closets	231	cases ...	1 case in	160	houses.	
300	,,	midden-privies	3	,, ...	1 ,,	100	,,(cir.)	
14,000	,,	water-closets	21	,, ...	1 ,,	667	,,	
6,785	,,	waste-w.c.'s	30	,, ...	1 ,,	226	,,	

1907.

36,697	houses with	pail-closets	177	cases ...	1 case in	207	houses.	
200	,,	midden-privies	11	,, ...	1 ,,	18	,,(cir.)	
18,395	,,	water-closets	25	,, ...	1 ,,	736	,,	
6,785	,,	waste-w.c.'s	18	,, ...	1 ,,	377	,,	

1908.

36,531	houses with	pail-closets	197	cases ...	1 case in	185	houses.	
100	,,	midden-privies	3	,, ...	1 ,,	33	,,(cir.)	
19,944	,,	water-closets	25	,, ...	1 ,,	798	,,	
6,785	,,	waste-w.c.'s	12	,, ...	1 ,,	565	,,	

1909.

36,318	houses with	pail-closets	123	cases ...	1 case in	295	houses.	
—	,,	midden-privies	2	,, ...	1 ,,	30	,,(cir.)	
21,397	,,	water-closets	18	,, ...	1 ,,	1189	,,	
6,785	,,	waste-w.c.'s	14	,, ...	1 ,,	485	,,	

NOTTINGHAM.

Enteric Fever. Cases and Deaths (distinguishing Males and Females) in Age-Periods.

1907.

		0-1 yrs.	1-5 yrs.	5-15 yrs.	15-25 yrs.	25-35 yrs.	35-45 yrs.	45-55 yrs.	55-65 yrs.	65-75 yrs.	Over 75.	Totals at all Ages.	
Cases	Male ..	1	10	28	37	36	10	7	..	..	..	129	231
	Female ..	..	6	25	31	13	12	9	6	..	..	102	
Deaths	Male ..	1	1	3	6	6	..	1	..	..	..	18	37
	Female ..	..	1	4	3	5	2	2	2	..	..	19	
No. of Cases to One Death in age-periods.												No. of Cases to one Death at all Ages.	
Male ..	..	1·0	10·0	9·3	6·2	6·0	..	7·0	..	..	..	7·2	6·2
Female	.. ..		6·0	6·2	10·3	2·6	6·0	4·5	3·0	..	..	5·4	

1908.

		0-1 yrs.	1-5 yrs.	5-15 yrs.	15-25 yrs.	25-35 yrs.	35-45 yrs.	45-55 yrs.	55-65 yrs.	65-75 yrs.	Over 75.	Totals at all Ages.	
Cases	Male ..	..	7	32	34	21	14	13	3	..	..	124	237
	Female ..	..	6	42	32	20	9	3	1	..	..	113	
Deaths	Male ..	..	..	3	3	2	6	2	1	..	..	17	29
	Female ..	..	..	7	1	3	1	..	..	..	..	12	
No. of Cases to One Death in age-periods.												No. of Cases to one Death at all Ages.	
Male ..	..	..	..	10·6	11·3	10·5	2·3	6·5	3·0	..	..	7·3	8·2
Female	.. ..		..	6·0	32·0	6·6	9·0	..	..	..	..	9·4	

1909.

		0-1 yrs.	1-5 yrs.	5-15 yrs.	15-25 yrs.	25-35 yrs.	35-45 yrs.	45-55 yrs.	55-65 yrs.	65-75 yrs.	Over 75.	Totals at all Ages.	
Cases	Male ..	..	4	26	24	20	8	4	4	..	..	90	157
	Female ..	..	5	21	14	13	8	6	..	..	..	67	
Deaths	Male ..	..	1	2	1	2	1	2	1	..	..	10	19
	Female ..	..	1	2	1	1	3	1	..	..	..	9	
No. of Cases to One Death in age-periods.												No. of Cases to one Death at all Ages.	
Male ..	..	..	4·0	13·0	24·0	10·0	8·0	2·0	4·0	..	..	9·0	8·3
Female	.. ..		5·0	10·5	14·0	13·0	2·7	6·0	..	..	..	7·4	

ENTERIC FEVER.—Cases and Deaths, Male and Female, during each of the Four Quarters of the Year in Registration Sub-Districts.

		First Quarter.		Second Quarter.		Third Quarter.		Fourth Quarter.		Totals.				
		Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males	Females.	Both Sexes.		
Bulwell	Cases	5	2	2	7	6	3	7	3	20	15	35	Cases	Bulwell
	Deaths	2	1	...	...	1	...	1	...	4	1	5	Deaths	
N.W.	Cases	2	3	1	4	5	1	7	8	15	16	31	Cases	N.W.
	Deaths	...	1	1	1	...	...	...	1	1	3	4	Deaths	
N.E. ...	Cases	6	4	...	6	3	2	17	5	26	17	43	Cases	N.E.
	Deaths	...	...	...	...	...	...	3	2	3	2	5	Deaths	
S.W. ...	Cases	2	1	2	3	4	4	6	4	14	12	26	Cases	S.W.
	Deaths	...	...	...	...	...	1	...	...	...	1	1	Deaths	
S.E. ...	Cases	4	1	1	...	8	6	2	...	15	7	22	Cases	S.E.
	Deaths	1	1	...	...	...	1	1	...	2	2	4	Deaths	

Nottingham, 1894-1909.

GENERAL ENTERIC FEVER DATA.

Year.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
Population ..	223,584	226,659	229,775	232,935	236,139	239,384	237,770	240,438	243,191	245,993	248,811	251,677	254,567	257,492	260,449	263,441
Cases of Enteric Fever	334	422	444	428	423*	607*	505*	535*	375*	200*	296*	255	285	231	237	157
Attack or Case rate	1·49	1·86	1·93	1·83	1·79	2·53	2·12	2·22	1·54	0·812	1·19	1·01	1·12	0·897	0·910	0·596
Deaths from Enteric Fever ..	61	55	75	45	53	114	75	79	50	36	57	24	40	37	29	19
Death-rate from Enteric Fever..	0·28	0·24	0·34	0·21	0·22	0·48	0·32	0·329	0·21	0·14	0·23	0·09	0·16	0·15	0·11	0·07
Mean air temperature ..	47·9	47·0	48·2	48·1	49·2	48·3	47·269	46·534	46·67	47·7	48·4	48·3	49·4	48·1	48·7	47·5
Rainfall in inches	20·252	20·753	22·992	23·726	19·750	22·635	26·823	21·401	21·524	32·368	19·733	20·010	23·938	25·651	22·703	26·053
Death-rates from Enteric Fever in great towns..	0·19	0·20	0·19	0·18	0·20	0·22	0·20	0·17	0·15	0·12	0·10	0·08	0·09	0·07	0·08	0·06

* Number obtained from Weekly Returns of Notifications without subsequent correction.

NOTTINGHAM, 1904-1909. ENTERIC FEVER. Onsets of Cases, with Mean Temperature of Air, and Rainfall, in Four-Weekly Periods. * Five-weekly period.

	Four-weekly periods ending	Jan. 30.	Feb. 27.	March 26.	April 23.	May 21.	June 18.	July 16.	Aug. 13.	Sept. 10.	Oct. 8.	Nov. 5.	Dec. 3.	Dec. 31.	Totals.
1904	Mean Temperature	38·8	38·4	39·2	46·8	50·1	55·9	61·2	63·1	58·1	52·6	48·9	39·1	37·2	48·4
	Rainfall in Inches	1·65	3·19	1·21	1·52	0·42	1·36	0·37	2·48	3·01	1·51	0·40	1·07	1·53	19·733
	Cases of Enteric Fever ..	20	28	21	31	18	7	11	23	59	31	21	19	6	295
	Four-weekly periods ending	Jan. 28.	Feb. 25.	March 25.	April 22.	May 20.	June 17.	July 15.	Aug. 12.	Sept. 9.	Oct. 7.	Nov. 4.	Dec. 2.	Dec. 30.	Totals.
1905	Mean Temperature	37·0	40·9	43·6	44·1	49·3	54·8	63·5	61·6	58·7	51·0	44·1	39 8	39·5	48·3
	Rainfall in Inches	0·77	0·58	2·36	1·63	0·73	2·26	1·22	2·16	2·68	1·47	1·38	2·06	0·69	20·010
	Cases of Enteric Fever ..	9	25	16	17	13	28	26	29	22	16	26	13	14	254
	Four-weekly periods ending	Jan. 27.	Feb. 24.	March 24.	April 21.	May 19.	June 16.	July 14.	Aug. 11.	Sept. 8.	Oct. 6.	Nov. 3.	Dec. 1.	Dec. 29.	Totals.
1906	Mean Temperature	39·7	38·1	43·0	44·5	47·5	54·3	59·7	64·0	64·7	54·4	50·1	45·2	37·0	49·4
	Rainfall in Inches	2·88	1·59	2·05	0·19	1·54	1·68	1·10	0·57	0·91	2·32	3·59	2·64	2·41	23·938
	Cases of Enteric Fever ..	20	19	15	9	9	9	12	19	33	44	48	34	16	292
	Four-weekly periods ending	Jan. 26.	Feb. 23.	March 23.	April 20.	May 18.	June 15.	July 13.	Aug. 10.	Sept. 7.	Oct. 5.	Nov. 2.	Nov. 30.	Dec. 28.	Totals.
1907	Mean Temperature	37·4	36·3	41·7	46·1	50·7	52·9	53·3	61·0	57·2	56·5	49·0	43·1	40·5	48·1
	Rainfall in Inches	1·08	1·69	1·37	1·61	2·39	2·96	2·03	2·26	2·26	0·21	3·48	1·80	2·75	25·651
	Cases of Enteric Fever ..	10	14	15	12	9	5	7	3	7	27	78	23	21	231
	Four-weekly periods ending	Jan. 25.	Feb. 22.	March 21.	April 18.	May 16.	June 13.	July 11.	Aug. 8.	Sept. 5.	Oct. 3.	Oct. 31.	Nov. 28.	Jan. 2.*	Totals.
1908	Mean Temperature	34·6	41·6	38·5	43·2	48·1	57·5	58·5	60·8	55·8	57·4	52·6	45·4	38 8	48·7
	Rainfall in Inches	0·91	1·18	1·61	2·18	3·49	1·28	1·96	1·72	3·53	1·06	0·82	1·30	1·43	22·703
	Cases of Enteric Fever ..	19	12	16	14	9	9	22	14	25	23	27	26	22	238
	Four-weekly periods ending	Jan. 30.	Feb. 27.	March 27.	April 24.	May 22.	June 19.	July 17.	Aug. 14.	Sept. 11.	Oct. 9.	Nov. 6.	Dec. 4.	Jan. 1.	Totals.
1909	Mean Temperature	38·5	37·1	36·5	47·9	49·5	54·0	57·2	60·6	55·9	54·6	48·6	39·3	38·3	47·5
	Rainfall in Inches	0·98	0·76	2·43	1·74	0·46	1·41	3·56	2·46	3·09	2·46	2·25	1·78	2·84	26·053
	Cases of Enteric Fever ..	11	13	5	7	7	11	7	9	14	16	20	24	11	155

In addition, however, to these striking facts, we have now examples of towns which have almost got rid of enteric fever, and greatly reduced the prevalence of epidemic diarrhœa, by substituting water-closets for dry-closets. In my Report for 1908 I contrasted the enteric fever and diarrhœa statistics of Nottingham and Leicester in recent years, and showed that with the conversion of its dry-closets at the close of the nineteenth century, the unenviable notoriety of Leicester for epidemic diarrhœa prevalence had become a thing of the past, its death-rate from diarrhœa having fallen approximately to the level of the average rate in the great towns of England and Wales, and that its death-rate from enteric fever had fallen continuously until it was little more than one-fourth of that existent in Nottingham.

This subject has now (1909) been taken up by Dr. Newsholme, the Chief Medical Officer of the Local Government Board, who has carried the comparison further, with a like conclusion to that at which I had arrived, viz., that this change for the better in the health of Leicester is mainly due to the conversion of its dry-closets to water-closets.

There were 10 local cases of enteric fever during the autumn of 1909 in which milk appeared as the probable vehicle of infection, but in none was the evidence conclusive in this direction. There were no cases in which shell-fish were at all definitely incriminated.

There can, I think, be no reasonable doubt that the reduction in the number of cases of enteric fever in Nottingham during 1909 and other recent years, as compared with the past, is due principally to two causes, viz. :—the relative coldness and wetness of the summer season, and the superior methods of scavenging now in use, including the frequent and systematic

cleansing of pail-closets, and of courts, alleys, and yards in the slum districts of the City, by men specially employed for the purpose.

Diarrhœa. I have already (p. 40) referred to the difference of 19 between the total deaths from diarrhœa in Nottingham during 1909, according to my returns and those of the Registrar-General, respectively. The total of these deaths according to my returns is 163, and according to those of the Registrar-General, 182. I shall adhere to my own figure, except when making comparison with other places, the statistics of which are furnished by the Registrar-General. These 163 deaths correspond to a death-rate per 1,000 of 0·62 (62 per 100,000), as compared with individual rates of 1·37, 0·76, 1·48, 0·61, and 0·64, respectively, for the preceding 5 years, and an average annual rate of 0·97 for this period.

One hundred and thirty of all the deaths from diarrhœa (66 of males and 64 of females) were within the 1st year of life. These are equal to 80 per cent. of all, a figure closely in accord with the average of other recent years in Nottingham, but on the authority of the Registrar-General (1908) more than 8 per cent. above that of the country as a whole.

Ninety-eight, or 75 per cent. of the deaths from diarrhœa under one year of age, occurred during the first six months of that year*.

Diarrhœa is normally more fatal to males than to females under the 3rd year, but the excess of male over female deaths was far less than usual in 1909. On the other hand, the higher mortality of females from the 3rd year onwards (to the middle period of life) was more marked than usual of late years in Nottingham: there were 7 deaths of males, and 13 of females, between 1

* On page 17 will be found a table, made out on the L.G.B. form, giving the deaths from stated causes in weeks and months under one year of age.

and 5 years, and one of a female at 40. There were 6 deaths of each sex evenly scattered over the age-periods intervening between the 55th year and extreme old age.

The deaths of males and females at all ages from diarrhœa, in Nottingham during each of the past five years, have been as follows:—

1909,	79	males and	84	females
1908,	95	,,	76	,,
1907,	84	,,	71	,,
1906,	206	,,	169	,,
1905,	108	,,	94	,,

It will be noticed that 1909 was the only year of the series in which the female exceeded the male deaths.

Of the 130 deaths from epidemic diarrhœa which occurred during the 1st year of life, the following numbers occurred in the successive quarters of the year:—1st quarter, 45 (21 m., 24 f.); 2nd quarter, 54 (28 m., 26 f.); 3rd quarter, 19 (11 m., 8 f.); 4th quarter, 12 (5 m., 7 f.).

The lowest numerical ratios of the several quarters for both sexes together, were, therefore, 4·5, 5·3, 1·9, and 1·2, respectively, as against, 4·6, 4·9, 2·5, and 2·2, for the 4 quarters of 1908. The largest number of deaths during the past five years, in any one quarter, has occurred uniformly in the 2nd, and the smallest in the 4th quarter.

The numbers of deaths from diarrhœa in consecutive months of the 1st year of life, during 1909, were as follows:—6, 15, 24, 22, 20, 11, 7, 7, 5, 4, 6, 2.

Accompanying this section are the usual tables of deaths from diarrhœa during the period of special diarrhœa prevalence (*i.e.*, from about August 1st to October 16th), with the amounts of rainfall in inches, and the 1 ft. and 4 ft. earth temperatures recorded during each week of the period. The highest weekly

number of deaths followed immediately after the period in which the highest deep earth temperature was recorded (week ending August 21st), but the weekly number of diarrhœa deaths rapidly declined—as the deep earth temperature fell away—from this point onwards, in accordance with the late Dr. Ballard's theory.

The decline of both the diarrhœa and deep earth temperatures were doubtless greatly assisted by the rainfall of 3·09 ins., which occurred during the period of four weeks intervening between the week ending August 21st and that ending September 11th.

I have already dealt to some extent with the local distribution of the disease during 1909, under the heading of the sub-districts; but I may mention here that it was most prevalent in the poorer parts of the N.E. sub-district, especially at its junction with S.E., from Barker Gate to the lower end of Carlton Road; in the slum districts of S.E., from Sussex Street, Red Lion Street, and Leen Side, to Poplar and Windmill Lane; in Old Radford and in the Meadow districts—especially about Wilford Road.

NOTTINGHAM, 1909.

Weekly Deaths from Diarrhœa (during Diarrhœa season) in Registration Sub-Districts.

Week ending

	July.					August.				Sept.				October.					Nov.		
	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	
Bulwell	..	..	..	..	..	1	..	..	3	..	2	1	..	2	1	1	..	..	..	..	— 11
N.W.	..	..	..	..	..	2	1	3	3	9	4	1	3	1	2	1	..	1	..	..	— 31
N.E.	..	..	..	..	..	2	4	13	15	9	10	4	3	..	1	4	..	..	..	..	— 65
S.W.	..	..	..	..	1	..	2	2	4	2	2	..	..	..	1	1	..	..	..	..	— 15
S.E.	..	..	..	1	..	2	2	1	3	3	1	4	..	1	..	..	..	2	..	1	— 21
	..	..	..	1	1	7	9	19	28	23	19	10	6	4	5	7	..	3	..	1	— 143

The death-rates in the Registration Sub-Districts ranged from 0·94 per 1,000 (94 per 100,000) in N.E., to 0·28 per 1,000 (28 per 100,000) in the Bulwell district. In the other sub-districts it ranged from rather more

than 0·50 per 1,000 (50 per 100,000), to rather less than 0·75 per 1,000 (75 per 100,000). The relatively low diarrhœa rate in Bulwell is in accord with past records.

The deaths from epidemic diarrhœa during 1909, according to the Annual Summary of the Registrar-General, were equal to death-rates per 1,000 living, of 0·28 in England and Wales, 0·33 in London, 0·38 in the 76 great towns, 0·27 in the 143 smaller towns, and 0·17 in England and Wales less the 219 towns—as compared with 0·69 according to the Registrar-General's returns, and 0·62 according to mine, in Nottingham.

With regard to the special causation of epidemic diarrhœa in towns like Nottingham, and the best means for its prevention, I cannot I think do better than quote my remarks under this heading in the 1908 Report. These were as follows :—

"What I have said of enteric fever in the previous section may be said with slight variation, also, of diarrhœa. Dirt, poverty, overcrowding, lack of sunlight and ventilation, hand-feeding of infants, hot and dry weather, and dry and porous soils (like our own) polluted with organic matter, are some of the more prominent factors in the production of excessive mortality from epidemic diarrhœa. Towns are necessarily, therefore, the centres of its chief activity. Towns with effective, frequent scavenging, and with a water-carriage system for the disposal of night-soil sewage—other things being equal—have a decided advantage in this regard over those with defective scavenging and dry-closet systems.

The truth of this statement is strikingly borne out by the history of the relative diarrhœa mortality in many of our large towns in recent years. Manchester, Salford, Birmingham, and Leicester have greatly reduced their diarrhœa mortality by radical reforms in this direction, and especially by the conversion, or partial conversion, of their dry-closets. Nottingham, as I have said, has done well to improve its system of collecting

and disposing of refuse, but it would have done better to abandon its dry-closets altogether, and substitute water-closets.

Up to almost the close of the nineteenth century, Nottingham held its own, and its diarrhœa mortality compared favourably with that of almost all the great towns with which it can be fairly compared; but since this time, although it has improved, it has not improved so rapidly as many other places in this respect—and especially Leicester—and I am strongly of opinion that our position in the race is largely due to our retention of the pail-system of excrement disposal which our neighbours have abandoned.

Of all recent charitable efforts directed to the improvement of the conditions surrounding infant life in the poorer (or poorest) parts of the City, and thereby of diminishing the diarrhœa death-rate of infants, there is probably none holding brighter promise than the Mothers' and Babies' Welcome Scheme, for the succouring and instructing of recent mothers, which was launched for Nottingham in July, 1908, by the instrumentality of a committee of local ladies and gentlemen, with Mrs. Macdonald, of Tollerton, as Chairman. The operation of the Notification of Births Act, and the support given to the scheme by the Health and Estates Committees of the Corporation and the Social Guild Institution, have all contributed to its success, but though these have helped, they did not make the scheme.

Some account of the immediate and future object and aim of the "Welcome," and of the excellent work it has done since its opening, will be found under the heading of the Notification of Births Act on pp. 139 to 146 of this Report. I will only repeat here, that breast-milk, personal and domestic cleanliness, and fresh air, are three things the essential value of which in this connection the poor are slow to learn, but must be effectively taught if they are to improve—by their own action—from within."

RAINFALL, TEMPERATURE, and DIARRHŒA DEATHS, (DURING DIARRHŒA SEASON).

1904.

	WEEK ENDING																		
	July 9	July 16	July 23	July 30	Aug. 6	Aug. 13	Aug. 20	Aug. 27	Sept. 3	Sept. 10	Sept. 17	Sept. 24	Oct. 1	Oct. 8	Oct. 15	Oct. 22	Oct. 29	Nov. 5	Nov. 12
Rainfall ..	0·09	0·09	0·26	1·73	0·32	0·17	1·20	1·16	0·57	0·08	0·26	0·35	0·84	0·06	0·08	0·19	0·07	0·08	0·60
Earth Temperature 1 ft. below surface ..	62·2	67·4	66·8	63·5	66·5	60·9	57·3	56·5	60·0	57·9	58·4	54·7	57·9	49·3	47·9	51·0	47·1	47·8	46·3
Earth Temperature 4 ft. below surface ..	55·6	57·4	58·7	59·5	60·1	60·7	59·4	58·4	58·2	58·2	57·4	56·9	55·9	54·5	53·1	52·4	51·9	51·0	50·2
Deaths from Diarrhœa	3	1	4	12	30	48	62	54	31	18	19	8	9	9	3	3	3	1	1

1905.

	WEEK ENDING																		
	July 1	July 8	July 15	July 22	July 29	Aug. 5	Aug. 12	Aug. 19	Aug. 26	Sept. 2	Sept. 9	Sept. 16	Sept. 23	Sept. 30	Oct. 7	Oct. 14	Oct. 21	Oct. 28	Nov. 4
Rainfall ..	0·38	0·01	0·63	0·03	0·56	0·99	0·58	0·65	0·61	0·65	0·77	0·01	0·01	0·70	0·75	0·05	0·27	0·25	0·81
Earth Temperature 1 ft. below surface ..	60·3	63·2	67·5	66·1	65·1	61·1	60·3	61·0	59·7	58·1	58·4	54·0	53·3	51·8	47·1	49·7	42·6	40·3	44·2
Earth Temperature 4 ft. below surface ..	53·2	57·4	58·9	60·7	61·2	61·2	60·3	60·1	60·1	59·5	58·9	58·2	56·7	55·6	54·3	53·1	51·1	48·4	47·2
Deaths from Diarrhœa	1	..	5	8	12	19	26	20	16	16	6	7	15	3	1	1	..	5	1

1906.

	WEEK ENDING																		
	July 7	July 14	July 21	July 28	Aug. 4	Aug. 11	Aug. 18	Aug. 25	Sept. 1	Sept. 8	Sept. 15	Sept. 22	Sept. 29	Oct. 6	Oct. 13	Oct. 20	Oct. 27	Nov. 3	Nov. 10
Rainfall ..	..	0·20	0·07	0·24	0·22	0·04	0·46	0·39	0·00	0·06	0·74	0·18	0·00	1·40	0·92	1·50	0·42	0·75	1·69
Earth Temperature 1 ft. below surface ..	61·8	61·9	60·4	65·0	65·0	65·4	61·1	62·2	63·4	65·1	58·6	55·9	50·3	54·4	55·9	49·1	49·5	46·3	45·6
Earth Temperature 4 ft. below surface ..	56·1	57·8	57·6	58·4	59·6	60·5	60·8	60·0	60·1	61·3	61·0	59·5	58·0	56·4	56·7	55·5	53·7	50·6	50·1
Deaths from Diarrhœa	1	3	2	2	8	24	24	52	47	50	53	36	15	10	9	6	5	1	3

RAINFALL, TEMPERATURE, and DIARRHŒA DEATHS, (DURING DIARRHŒA SEASON).

1907.

	WEEK ENDING																		
	July 6	July 13	July 20	July 27	Aug. 3	Aug. 10	Aug. 17	Aug. 24	Aug. 31	Sept. 7	Sept. 14	Sept. 21	Sept. 28	Oct. 5	Oct. 12	Oct. 19	Oct. 26	Nov. 2	Nov. 9
Rainfall ..	0·54	0·61	0·00	0·62	1·24	0·40	1·36	0·15	0·02	0·73	0·00	0·01	0·03	0·17	1·10	1·44	0·44	0·50	0·24
Earth Temperature 1 ft. below surface ..	53·6	55·0	60·9	58·7	59·2	60·0	59·5	57·1	58·1	56·1	56·9	56·5	54·4	54·6	52·2	51·1	48·2	47·4	48·1
Earth Temperature 4 ft. below surface ..	53·9	54·1	55·1	56·4	56·9	57·4	58·0	57·8	57·4	57·4	57·1	57·0	56·5	56·1	55·5	53·9	52·8	51·2	50·8
Deaths from Diarrhœa	..	1	..	2	..	..	2	2	8	6	6	9	19	22	19	12	7	6	4

1908.

	WEEK ENDING																		
	July 4	July 11	July 18	July 25	Aug. 1	Aug. 8	Aug. 15	Aug. 22	Aug. 29	Sept. 5	Sept. 12	Sept. 19	Sept. 26	Oct. 3	Oct. 10	Oct. 17	Oct. 24	Oct. 31	Nov. 7
Rainfall ..	0·17	1·27	1·66	0·00	0·05	0·01	0·22	0·85	1·44	1·02	0·15	0·58	0·31	0·02	0·02	0·07	0·48	0·25	0·00
Earth Temperature 1 ff. below surface ..	62·3	60·0	59·9	62·3	63·4	61·9	59·0	58·0	57·1	53·1	53·2	52·9	56·3	58·5	56·8	54·7	52·1	48·9	47·0
Earth Temperature 4 ft. below surface ..	56·4	57·4	53·0	57·9	59·6	60·3	60·0	58·6	58·1	57·1	55·8	54·6	55·4	56·0	57·1	56·2	55·7	53·2	52·2
Deaths from Diarrhœa	2	4	3	2	3	8	12	19	13	9	8	4	8	8	9	9	6	4	4

1909.

	WEEK ENDING																		
	July 3	July 10	July 17	July 24	July 31	Aug. 7	Aug. 14	Aug. 21	Aug. 28	Sept. 4	Sept. 11	Sept. 18	Sept. 25	Oct. 2	Oct. 9	Oct. 16	Oct. 23	Oct. 30	Nov. 6
Rainfall ..	0·15	1·04	0·77	0·23	1·80	0·43	0·00	1·80	0·22	0·48	0·59	0·39	0·82	0·64	0·61	0·92	0·85	0·40	0·08
Earth Temperature 1 ft. below surface ..	56·4	58·7	58·5	60·0	57·5	59·5	63·9	62·6	58·0	55·2	54·5	54·7	55·3	54·6	53·7	52·9	52·7	45·7	45·2
Earth Temperature 4 ft. below surface ..	53·6	54·7	55·4	56·7	56·8	56·7	58·8	60·2	59·3	58·0	56·8	55·9	55·7	55·6	55·2	54·5	54·1	52·5	48·9
Deaths from Diarrhœa	..	..	..	1	1	7	9	19	28	23	19	10	6	4	5	7	..	3	..

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods.

1905.

	0-1 yr.	1-5 yrs.	5-15 yrs.	15-25 yrs.	25-35 yrs.	35-45 yrs.	45-55 yrs.	55-65 yrs.	65-75 yrs.	Over 75 yrs.	Total.
Small-Pox *Cases*..	..	..	1	7	4	1	3	2	1	..	19
Deaths..	..	..	..	..	..	..	1	..	..	..	1
Scarlet Fever *Cases*..	8	211	343	85	26	8	..	..	..	..	681
Deaths..	2	11	6	..	..	..	..	..	..	..	19
Diphtheria *Cases*..	5	149	266	68	28	10	8	2	1	..	537
Deaths..	1	31	15	..	..	..	2	..	..	..	49
Enteric Fever *Cases*..	2	28	78	66	35	29	13	3	1	..	255
Deaths..	1	1	3	6	2	8	1	1	1	..	24
Puerperal Fever (*Notified*) *Cases*..	..	..	..	..	..	..	..	..	..	..	12
Deaths..	..	..	..	..	..	..	..	..	..	..	12
Erysipelas *Cases*	..	..	..	..	..	..	..	..	..	..	110
Deaths..	..	..	..	..	..	..	..	..	..	..	11

1906.

	0-1 yr.	1-5 yrs.	5-15 yrs.	15-25 yrs.	25-35 yrs.	35-45 yrs.	45-55 yrs.	55-65 yrs.	65-75 yrs.	Over 75 yrs.	Total.
Scarlet Fever *Cases*..	6	187	335	56	21	6	..	..	..	..	611
Deaths..	1	9	6	1	..	..	..	..	..	..	17
Diphtheria *Cases*..	11	136	300	73	32	11	5	1	1	..	570
Deaths..	3	23	14	..	1	..	..	..	..	..	41
Enteric Fever *Cases*..	1	15	94	71	59	26	16	3	..	..	285
Deaths..	..	1	8	9	12	4	5	1	..	..	40
Puerperal Fever (*Notified*) *Cases*..	..	..	..	5	9	1	..	..	..	..	15
Deaths..	..	..	..	6	13	..	..	..	..	..	19
Erysipelas *Cases*..	9	8	6	23	44	37	34	29	18	12	220
Deaths..	3	..	..	..	1	1	2	1	1	1	10

1907.

	0-1 yr.	1-5 yrs.	5-15 yrs.	15-25 yrs.	25-35 yrs.	35-45 yrs.	45-55 yrs.	55-65 yrs.	65-75 yrs.	Over 75 yrs.	Total.
Scarlet Fever *Cases*..	4	127	238	26	17	4	..	..	..	..	416
Deaths..	..	4	..	..	1	..	..	..	..	..	5
Diphtheria *Cases*..	5	125	285	62	32	6	..	1	1	..	517
Deaths..	2	23	11	..	..	1	..	..	..	..	42
Enteric Fever *Cases*..	1	16	53	68	49	22	16	6	..	..	231
Deaths..	1	2	7	9	11	2	3	2	..	..	37
Puerperal Fever (*Notified*) *Cases*..	..	..	..	3	11	3	1	..	..	..	18
Deaths..	..	..	..	3	11	5	..	..	..	..	19
Erysipelas *Cases*..	5	6	13	21	27	41	60	28	28	12	241
Deaths..	3	..	..	..	1	3	5	2	3	4	21

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0-1 year.	1-5 years.	5-15 years.	15-25 years.	25-35 years.	35-45 years.	45-55 years.	55-65 years.	65-75 years.	Over 75 yrs.	Total.	
Scarlet Fever ..	*Notified Cases*	M.	2	57	167	19	4	1	1	..	..	..	251	595
		F.	3	73	217	26	21	4	..	..	..	..	344	
	Certified Deaths	M.	..	3	2	..	..	..	..	..	..	..	5	11
		F.	..	2	3	..	1	..	..	..	..	..	6	
Diphtheria ..	*Notified Cases*	M.	4	61	109	23	6	..	2	2	..	..	207	454
		F.	2	37	146	37	12	10	2	..	1	..	247	
	Certified Deaths	M.	2	6	7	..	..	..	..	..	..	..	15	30
		F.	..	5	8	2	..	..	..	..	..	..	15	
Enteric Fever ..	*Notified Cases*	M.	..	7	32	34	21	14	13	3	..	..	124	237
		F.	..	6	42	32	20	9	3	1	..	..	113	
	Certified Deaths	M.	..	..	3	3	2	6	2	1	..	..	17	29
		F.	..	..	7	1	3	1	..	..	..	..	12	
Erysipelas ..	*Notified Cases*	M.	..	4	3	5	16	15	21	13	5	1	83	211
		F.	2	3	14	14	13	19	31	12	14	6	128	
	Certified Deaths	M.	..	..	..	..	..	1	1	1	3	..	6	8
		F.	..	1	..	..	..	..	..	..	..	1	2	
Puerperal Sepsis	*Notified Cases*	F.	..	..	..	3	9	4	..	..	..	..	16	
	Certified Deaths	F.	..	..	..	1	5	3	..	..	..	..	9	

1909.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0-1 year.	1-5 years.	5-15 years.	15-23 years.	25-35 years.	35-45 years.	45-55 years.	55-65 years.	65-75 years.	Over 75 yrs.	Total.	
Scarlet Fever ..	*Notified Cases*	M.	1	131	277	34	10	4	..	..	..	..	457	1036
		F.	2	116	373	61	22	5	..	..	..	..	579	
	Certified Deaths	M.	..	3	2	..	..	..	..	..	..	..	5	10
		F.	..	3	2	..	..	..	..	..	..	..	5	
Diphtheria ..	*Notified Cases*	M.	9	54	79	17	11	2	1	..	..	..	173	438
		F.	1	70	123	35	20	10	5	1	..	..	265	
	Certified Deaths	M.	..	9	2	..	..	..	..	..	..	..	11	26
		F.	..	11	4	..	..	..	..	..	..	..	15	
Enteric Fever ..	*Notified Cases*	M.	..	4	26	24	20	8	4	4	..	..	90	157
		F.	..	5	21	14	13	8	6	..	..	..	67	
	Certified Deaths	M.	..	1	2	1	2	1	2	1	..	..	10	19
		F.	..	1	2	1	1	3	1	..	..	..	9	
Erysipelas ..	*Notified Cases*	M.	4	1	2	20	12	22	19	18	8	6	112	259
		F.	4	4	4	16	14	26	31	23	16	9	147	
	Certified Deaths	M.	1	..	..	..	..	..	..	..	..	1	2	7
		F.	2	..	..	..	..	..	..	1	1	1	5	
Puerperal Sepsis	*Notified Cases*	F.	..	..	..	5	6	3	..	..	..	..	14	
	Certified Death	F.	..	..	..	4	2	2	..	..	..	..	8	

Nottingham. Notification and other Epidemic Disease Data up to the end of 1909.

	Scarlet Fever. *			Enteric Fever. †			Small-Pox. *			Diphtheria. ‡			Puerperal Fever. §			Erysipelas. §			Deaths from Non-Notifiable Epidemic Diseases.			
	Deaths.	Known cases.	Ratio of known cases to Deaths.	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.	Measles.	Whoopi'g -Cough.	Diarrhœa	TOTAL.
1881	353	..	..	61	..	..	4	..	..	7	..	..	..	..	..	..	..	..	34	88	202	324
1882	280	1029	3·7	71	68	1·0	51	446	8·7	21	..	..	..	..	..	..	..	..	133	73	225	431
1883	59	428	7·3	73	159	2·2	2	23	11·5	34	125	3·7	..	..	..	..	..	..	14	76	168	258
1884	37	384	10·4	68	218	3·2	..	11	..	39	113	2·9	..	..	..	..	..	..	145	129	377	651
1885	31	390	12·6	44	326	7·4	2	10	5·0	28	85	3·0	..	..	..	..	..	..	112	116	163	391
1886	13	351	27·0	61	317	5·2	2	12	6·0	10	68	6·8	..	..	..	..	..	..	175	90	328	593
1887	22	615	28·0	74	411	5·6	..	2	..	10	50	5·0	..	..	..	..	..	..	58	153	315	526
1888	25	643	25·7	89	426	4·8	12	59	4·9	34	152	4·5	..	..	..	..	..	..	115	81	157	353
1889	32	1047	32·7	66	395	5·9	..	..	..	11	66	6·0	..	..	..	..	..	..	86	153	263	502
1890	33	984	29·8	58	348	6·0	..	..	..	16	64	4·0	..	..	..	..	..	..	52	47	185	284
1891	28	895	31·9	70	396	5·6	..	..	..	21	103	4·9	..	..	..	..	..	..	110	121	180	411
1892	43	1163	27·0	36	205	5·6	..	..	..	30	76	2·5	..	..	..	..	..	..	118	117	158	393
1893	82	1511	18·4	68	490	7·2	5	53	10·6	15	81	5·4	..	..	..	..	..	..	25	59	358	442
1894	51	1164	22·8	62	363	5·8	4	59	15·8	18	56	3·1	..	..	..	..	..	..	134	118	134	386
1895	51	1250	24·5	55	461	8·3	..	3	..	11	47	4·2	..	..	..	..	..	..	1	33	444	478
1896	27	731	27·1	75	478	6·4	..	..	..	12	60	5·0	..	..	..	..	..	..	203	91	175	469
1897	34	517	15·2	45	428	9·5	..	..	..	21	75	3·6	..	..	..	..	..	..	49	117	530	696
1898	32	931	29·1	54	423	7·8	..	..	..	23	85	3·7	..	..	..	..	..	..	104	59	385	548
1899	53	2500	47·2	114	613	5·4	..	..	..	30	142	4·7	..	..	..	..	..	..	140	54	600	792
1900	55	1394	25·3	75	505	6·7	..	..	..	28	116	4·1	..	..	..	..	..	..	45	103	387	535
1901	11	918	83·5	79	535	6·8	..	7	..	29	115	3·97	..	..	..	..	..	..	96	96	361	553
1902	23	966	42·0	50	375	7·5	..	..	..	31	209	6·74	..	..	..	..	..	..	4	37	194	235
1903	34	1420	41·8	36	200	5·6	2	152	76·0	60	423	7·05	..	..	..	..	..	..	98	92	166	356
1904	27	1189	44·0	58	296	5·1	10	308	30·8	71	546	7·7	..	..	..	..	..	..	44	89	344	477
1905	19	681	35·8	24	255	10·6	1	19	19·0	49	537	10·9	12	12	1·0	11	110	10·0	232	61	202	495
1906	17	611	35·9	40	285	7·1	..	..	..	41	570	13·9	19	19	1·0	10	220	22·0	5	40	375	420
1907	5	416	83·2	37	231	6·2	..	..	..	42	517	12·3	19	19	1·0	21	241	11·5	203	131	155	489
1908	11	595	54·1	29	237	8·2	..	..	..	30	454	15·1	9	16	1·8	8	211	26·4	31	64	171	266
1909	10	1036	103·6	19	157	8·3	..	..	..	26	438	16·8	8	14	1·7	7	259	37·0	143	59	163	365

* Notification of Small-Pox and Scarlet Fever, from February, 1882. † Notification of Enteric Fever and Typhus, from June, 1883.
‡ Notification of Diphtheria, from August, 1885. § Notification of Puerperal Fever and Erysipelas from 1905.

OTHER DISEASES, INFECTIVE AND NON-INFECTIVE, AND DEATH CAUSES.

In this part of the Report I shall deal with points of special interest contained in the general table of deaths of Nottingham people during 1909, to be found on pp. 8 to 16 ante, but excluding the deaths from the principal epidemic diseases already discussed.

Many specific infective diseases are dealt with in this section, in addition to those included under the heading of epidemic diseases in that immediately preceding it; but, though communicable and propagated by a specific virus, the infective diseases now remaining to be discussed, do not for the most part extend in an epidemic or endemic manner. I should mention that, in order to allow of a ready comparison between past and present records in the Annual Reports, I have thought it desirable to retain, as far as practicable, the same arrangement of parts throughout as hitherto adopted.

The deaths attributed to **Syphilis** numbered 18—9 of each sex,—as compared with 12 in 1908. Fourteen, 6 male and 8 female, were under 1 year, and 1 male between 1 and 5 years. All these were due to the congenital form of the disease. The 3 remaining deaths, 2 male and 1 female, occurred between the 15th and 45th years. A total of 18 deaths is ridiculously inadequate to serve as an index of the true degree of prevalence of this terrible and disgusting disease, and the mischief wrought by it.

With regard to **Gonorrhœa**, which is certainly not less prevalent than syphilis, and, so far as capacity for serious mischief is concerned, not far below it in importance, there was again (as in 1908) no death certified as due to this disease in Nottingham during 1909. The special and perhaps the most sinister feature

of both complaints is their production of numerous after-effects of a disastrous character. Moreover, when death occurs, as it often does, after long disablement, it is frequently certified as due to the symptom instead of the original malady. This is specially liable to occur when death is due to the cerebral and visceral complications of syphilis. Indeed, the true nature of these is often not recognised until it is too late to employ treatment with advantage.

Erysipelas, Puerperal Septicæmia, Septic Intoxication, and Septicæmia (including **Pyæmia**).—The deaths severally ascribed to these diseases during 1909 were, to erysipelas 7, to puerperal sepsis 8, and to various forms of septicæmia 6; as compared with 8, 9, and 17 respectively, in 1908; 21, 19, and 14 in 1907; and 10, 19, and 22 in 1906.

So far as fatality is concerned, therefore, there has been marked evidence of a decline in this group of complaints during the past two years. Although both erysipelas and puerperal sepsis are now compulsorily notifiable diseases, the number of notifications, *per se*, of each disease affords only an approximate idea of its true prevalence.

The notified cases of puerperal sepsis fall somewhat short of the actual number occurring, and many cases notified as of erysipelas are obviously not cases of that disease.

Still, I believe that all the recognised cases of puerperal sepsis occurring in the practice of midwives are now promptly notified, and in every such instance the person, clothing, and outfit of the midwife are thoroughly cleansed and disinfected before she is allowed to resume work.

Of the 7 deaths from erysipelas, 2 were of males and 5 of females. Three (1 m. and 2 f.) occurred in the first year of life, and 4 (1 m. and 3 f.) after the 55th year. Of the 8 deaths from puerperal sepsis, 4 were

between the 20th and 25th year, 2 between the 25th and 35th, and 2 between the 35th and 45th. Of the 6 deaths from septicæmia, 2 were of males and 4 of females. One was between the 10th and 15th year, and the rest between the 25th and 67th years.

Acute Rheumatism and Rheumatism of the Heart.—These diseases were given as the causes of 13 and 3 deaths respectively, 16 in all. The total for both was 23 during 1908, but the average annual total for the five years prior to 1908 was 16 only. There was an unusual preponderance of female deaths in 1909; 12 out of 13 total deaths from acute rheumatism, and 2 out of 3 from heart rheumatism, being those of females. The female mortality is as a rule only slightly higher than the male, in the Midland Counties of England at any rate. The highest mortality for both sexes (according to the Registrar-General) is between the 10th and 15th year of age, but during 1909, in Nottingham, 8 out of 13 deaths from acute rheumatism occurred between the 25th and 65th years. There were 4 deaths only below the 20th year (two, 5–10 years; one, 10–15 years; and one, 15–20 years).

PHTHISIS AND OTHER TUBERCULOUS DISEASES.

Tuberculous diseases were credited with 440 deaths of both sexes in this City during 1909, 234 being male, and 206 female deaths. The total number for each of the five years ended with 1908 were, 472, 410, 416, 458, and 449. The relative uniformity in the annual numbers of deaths from these diseases in recent years has been very striking. Since 1890, when, owing to the pandemic wave of influenza these deaths rose to 555, their annual total has risen only as high as 481 (in 1900) and fallen only as low as 401 (in 1899). The average annual number of such deaths during the 19 years which have elapsed since 1890 was 436. Owing

principally to an increase in the number of deaths from all causes exclusive of tuberculosis (for the number of deaths from the latter is practically the same as in 1908), the proportion borne by the deaths from tuberculosis to the deaths from all causes was considerably less than usual, at 10·3 per cent. The corresponding proportion for Nottingham in 1908 was 11·2, and that for the country as a whole 10·8 per cent. The 440 deaths from all tuberculous diseases in Nottingham during 1909 were equal to a death-rate of 1·67 per 1,000 living (167 per 100,000), and the 323 from phthisis alone to one of 1·22 per 1,000 (122 per 100,000). The corresponding rates for England and Wales during 1908 were, from all tuberculous diseases 1·58 per 1,000, and from phthisis alone 1·12 per 1,000.

The deaths of males from all tuberculous diseases in Nottingham during 1909, per 1,000 males living, were equal to a rate of 1·90 (190 per 100,000), and those of females to one of 1·45. The corresponding death-rates from phthisis alone were, for males 1·40, and for females 1·10. For some reason which is not apparent, there was, during 1909, considerably less difference than usual, to the advantage of females, between the death-rates of the sexes from tuberculosis, and, indeed (as I have mentioned before), from many other diseases. The deaths of males from all tuberculous diseases in Nottingham during 1908 were equal to 2·24 per 1,000, and those of females to 1·27, and those from phthisis alone to rates of 1·78 for males and of 0·95 for females.

Comparing these rates with those of the country at large, we find (1) that the male death-rate from all tuberculous diseases in Nottingham is approximately 0·08 per 1,000, and the female rate 0·09 per 1,000, higher than that of England and Wales; (2) that the local death-rates from phthisis alone are, roughly speaking, the male rate 0·09 per 1,000, and the female 0·17 per 1,000, higher than the corresponding rate for England and Wales.

It should afford us encouragement in our new crusade against tuberculosis, to reflect that the sanitary awakening of the last half century, partial and imperfect though it has often been, especially where the poor are concerned, has had the effect of reducing the tuberculosis mortality by more than one half. The death-rate from all tuberculous diseases in Nottingham during the early fifties was as high as 3·6 per 1,000 (360 per 100,000), and from 1856–60 it averaged 3·22 per 1,000 (see Table on page 20). The average death-rate from all tuberculous diseases for England and Wales from 1851 to 1860 was 3·46 per 1,000, and this mortality was then equal to 15·6 per cent. of the total mortality from all causes.

The usual differences in the mortality of males and females, respectively, from tuberculous diseases, at certain age-periods, were well illustrated locally, with some variations, during 1909. In the first year of life the male deaths commonly exceed the female, but in this instance the excess of the male deaths was somewhat greater than usual, there being 18 male to 9 female deaths. Between the 1st and 5th years there were 36 male to 25 female deaths. The preponderance of the male mortality is here also slightly above the normal. From the 5th to the 25th year the female mortality should exceed the male, and in this period there were 60 female to 39 male deaths—a large female preponderance. The total deaths at this period amounted to 23 per cent. of all deaths from tuberculosis, as compared with an average of 20 per cent. for the preceding three years. From the 25th to the 55th year the male deaths again, as usual, preponderate, though to a relatively slight extent, there being 109 male to 97 female deaths. After the 55th year there were 47 deaths, 32 of males and 15 of females. At this period of life also it is usual for the male to exceed the female mortality.

In Table III., pages 8 and 9 (ante), items 33 to 42, inclusive, furnish the numbers of deaths certified as due to tuberculosis, arranged in age-periods and according to the parts or organs of the body affected.

There were 45 deaths due to tuberculosis of the brain and meninges, as compared with 52 in 1908. Thirty-five (23 m. and 12 f.) were under five years of age, and all were under 20 years.

There were five deaths from tuberculosis of the larynx—the same number as in 1908. Two were of males and three of females, and they occurred at ages ranging from 20 to 65 years.

The deaths from phthisis, or lung consumption, numbered 323, as against 335 in 1908. The male deaths numbered 169, the female 154. The excess of the male above the female mortality from phthisis was much less than usual.

The deaths from phthisis constituted 73 per cent. of all deaths from tuberculosis, as compared with 70 per cent. in the country as a whole (1908).

Of the 323 deaths from phthisis, 259, or 80 per cent. of all, occurred between the 15th and the 55th year. There were 22 deaths below and 42 above this period.

The deaths ascribed to abdominal tuberculosis (including tabes mesenterica) were 41 in number, 19 of males and 22 of females. The total for 1908 was 32. The male mortality from this form of tuberculosis commonly exceeds the female, both in this City and in the Country as a whole. Twenty-seven, out of a total of 41 deaths from abdominal tubercle in Nottingham during 1909, were those of children under 5 years. This number is equal to 66 per cent. of all, as compared with 67 per cent. for England and Wales (1908). Seven of the 10 deaths in the 1st year of life occurred during the first 5 months of that year, and 2 in the first month.

General tuberculosis was credited with 20 deaths during 1909, 15 of males and 5 of females. Thirteen of the deaths were under 5 years of age, and 11 of these were of males. The rest of the deaths under this heading were at various ages up to the 30th year.

Other forms of tuberculosis were given as the causes of 6 deaths, 2 of males and 4 of females, at ages ranging from the 7th to the 65th year. There was one death from lupus, that of a female in the 55-65 years age-period.

One of the first things to be apprehended in the study of tuberculosis as a public health problem, is the fact that, apart from the question of constitutional susceptibility, its incidence is purely a matter of poverty and unhealthy environment. The epoch-making sanitary awakening of the latter half of the 19th century, though it led to an improved environment for the poor dwelling, hardly reached its interior, and did not touch its inmates in their habit as they lived. So much, indeed, is this the case, that the saying "the poor must be improved in spite of themselves" has practically passed into a proverb.

There is no apparent reason why the essentials of sanitary morality should not be effectively taught to the poor, and innumerable agencies are now in operation directed to this end. But, until cleanliness of person and surroundings, including in the latter the atmosphere of workshop and dwelling, is accepted, not only as next to Godliness, but as a part of it, there seems to be little prospect of its general adoption and practice among the poor.

If now we turn from theory to fact, as regards the class incidence of phthisis, we obtain, so far at any rate as Nottingham is concerned, some very remarkable evidence in support of the statement that the working-class dwelling is the principal habitat of the disease.

The accompanying table gives the actual numbers of deaths from phthisis in Nottingham during each of the past three years (1907-1909), which occurred among persons either living in or coming from houses of weekly rentals ranging from 2/- to 10/- and upwards. The figures contained in this table are certainly remarkable, and not the least remarkable point about them, is the close correspondence of the numbers of phthisis deaths for each similar grade of house in each of the three years respectively. The figures for the three years, indeed, are so nearly alike all round, that I shall mention the percentage incidence of one only, viz., 1909, and that of the others may be inferred from this. During the latter year, 142 out of 323 total deaths, or 74·3 per cent. occurred in houses of between 2/- and 5/- a week rental; 240, or 87·3 per cent. of all, in houses of 6/- a week and less rental; and 302, or 93·5 per cent. of all, in houses of 8/- a week and less rental.

NOTTINGHAM.

Deaths from tuberculous phthisis in houses of various rentals.

Rental of House.	No. of Deaths.		
	1907.	1908.	1909.
2/- to 3/- per week (gross rental)	11	17	16
3/- to 4/- ,, ,, ,, ...	66	64	61
4/- to 5/- ,, ,, ,, ...	72	79	65
5/- to 6/- ,, ,, ,, ...	102	101	98
6/- to 7/- ,, ,, ,, ...	41	41	44
7/- to 8/- ,, ,, ,, ...	16	14	18
8/- to 9/- ,, ,, ,, ...	14	8	6
9/- to 10/- ,, ,, ,, ...	4	4	4
Above 10/- ,, ,, ,, ...	5	7	11

N.B.—Deaths from phthisis in the Union Workhouse, and other Public Institutions, have been re-distributed (in this table) to the class of house from which the patients were originally removed. The majority of better-class patients die at home.

The work of the new Housing Department, supplemented and assisted by the various educational agencies already referred to, should do much to diminish the extraordinary incidence of the disease upon working-class dwellings as revealed by this table.

The general adoption of compulsory notification will probably be the next development in the now actively progressive national scheme for the prevention of phthisis. Voluntary notification has already proved highly serviceable in many places, and compulsory notification in a few, and neither has in any instance given rise to the trouble anticipated by the opponents of such notification. Some measure of voluntary notification has been practised in Nottingham for several years, and has been the means of enabling the Health Department to do a considerable amount of preventive work in a quiet way.

The Public Health (Tuberculosis) Regulations, 1908, of the Local Government Board, which came into force on January 1st, 1909, provide for the notification to Medical Officers of Health of Sanitary Authorities, of cases of pulmonary tuberculosis occurring among the inmates of Poor Law Institutions, or among persons under the care of District Medical Officers, and for the taking of certain measures in such cases. These regulations are probably intended to pave the way to a more comprehensive measure, and, meantime, they are doing a very good work in bringing the Health Department into touch with a large number of cases in which its services are highly useful.

The preamble of the Order and the circular letter issued with it are reprinted in the appendix of this report. I have already referred to the valuable memorandum written by Dr. Newsholme, and issued by the Local Government Board in February, 1909.

Nottingham, 1909.

Cases of Tuberculous Phthisis, arranged, in Districts, according to sex and in age-periods, notified during each Quarter of 1909 and during the whole year, to the Medical Officer of Health, under the Public Health (Tuberculosis) Order of 1908.

Registration Sub-District.		BULWELL.					N.W.					N.E.					S.W.					S.E.					Cases imported from outside City.					Totals for each Quarter & for Year.				
Quarters of Year.		1	2	3	4	Total for year	1	2	3	4	Total for year	1	2	3	4	Total for year	1	2	3	4	Total for year	1	2	3	4	Total for year	1	2	3	4	Total for year	1	2	3	4	Total for year
0–5 years.	M.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	F.	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Totals ..		..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
5–15 years.	M.	..	..	..	..	..	1	..	..	1	2	..	1	..	..	1	1	1	..	1	3	..	..	..	..	..	..	..	..	..	..	2	2	..	2	6
	F.	..	..	..	..	..	2	1	..	1	4	..	..	..	..	..	..	..	..	1	1	..	..	..	1	1	..	..	..	..	..	2	1	..	3	6
Totals ..		..	..	..	..	..	3	1	..	2	6	..	1	..	..	1	1	1	..	2	4	..	..	..	1	1	..	..	..	..	..	4	3	..	5	12
15–30 years.	M.	4	1	..	2	7	4	3	1	1	9	3	2	5	2	12	1	1	..	..	2	5	2	1	3	11	1	..	..	..	1	18	9	7	8	42
	F.	2	..	..	..	2	4	1	1	..	6	4	..	..	1	5	3	2	1	..	6	2	1	1	..	4	..	1	1	..	2	15	5	4	1	25
Totals ..		6	1	..	2	9	8	4	2	1	15	7	2	5	3	17	4	3	1	..	8	7	3	2	3	15	1	1	1	..	3	33	14	11	9	67
30–50 years.	M.	6	1	2	1	10	11	1	4	2	18	10	6	3	5	24	3	..	3	2	8	17	3	2	5	27	2	2	1	1	6	49	13	15	16	93
	F.	4	1	1	4	10	4	2	2	1	9	6	2	3	1	12	2	1	1	2	6	8	1	1	..	10	..	..	1	..	1	24	7	9	8	48
Totals ..		10	2	3	5	20	15	3	6	3	27	16	8	6	6	36	5	1	4	4	14	25	4	3	5	37	2	2	2	1	7	73	20	24	24	141
Over 50 years.	M.	2	..	1	1	4	6	3	..	1	10	17	2	2	1	22	5	..	..	..	5	14	1	2	6	23	6	1	1	2	10	50	7	6	11	74
	F.	3	..	..	..	3	1	1	1	2	5	1	..	..	1	2	2	..	..	..	2	3	1	..	..	4	1	1	..	..	2	11	3	1	3	18
Totals ..		5	..	1	1	7	7	4	1	3	15	18	2	2	2	24	7	..	..	..	7	17	2	2	6	27	7	2	1	2	12	61	10	7	14	92
All Ages.	M.	12	2	3	4	21	22	7	5	5	39	30	11	10	8	59	10	2	3	3	18	36	6	5	14	61	9	3	2	3	17	119	31	28	37	215
	F.	9	1	1	4	15	11	5	4	4	24	11	3	3	3	20	7	3	2	3	15	13	3	2	1	19	1	2	2	..	5	52	17	14	15	98
Totals ..		21	3	4	8	36	33	12	9	9	63	41	14	13	11	79	17	5	5	6	33	49	9	7	15	80	10	5	4	3	22	171	48	42	52	313

This memorandum explains for the benefit of Local Authorities the application of the powers conferred on them by the Order, and should be read in connection with the latter.

The Municipal Sanatorium for Phthisis in the City Isolation Hospital Enclosure at Bagthorpe is still serving an extremely useful purpose. It is primarily intended as a school at which patients and their friends, and, indeed, the public generally, may learn the principles of the rational treatment of consumption, both subjectively and objectively considered. As regards hopeful cases, it is shown how the lives should be ordered, to afford the best prospect of permanent cure without relapse. In advanced cases, the risk to others is emphasized, and precautionary measures inculcated and explained. But the Sanatorium is also a hospital for all types of cases, and a full account of those dealt with during 1909 will be found in the section of this report devoted to the City Hospitals (pp. 123 to 125).

In the appendix of the report will be found a reprint of the leaflet on the prevention and treatment of phthisis, etc., issued from the Health Department, and distributed to infected households by our Lady Health Visitors, and others. A phthisis dispensary, and the notification of all cases, are, however, both required, before it will be possible to put even the nucleus of a local scheme of prevention upon a satisfactory business footing.

Acute and Chronic Alcoholism were given as the causes of 12 deaths, 4 from the acute and 8 from the chronic form, all the acute and 2 of the chronic being male, and 6 of the chronic, female deaths. Ten of the 12 deaths were between the 35th and 58th years. The total for 1908 was 13, and the annual average for the preceding five years, 22. These

numbers of deaths, like others having reference to causes to which a moral stigma attaches, are clearly too small to serve in any degree as a measure of the prevalence of fatal intemperance. Indeed, if the actual number of deaths directly and indirectly due to intemperance in alcohol—and food—could be given, the total would probably be found far larger than most people imagine.

Cirrhosis of the Liver. This diseased condition, when occurring in the adult, is still held by most medical authorities to be due in the majority of cases to alcohol, although this belief has been strongly challenged in recent years.

The deaths so explained during 1909 were 39 in number, 21 of males and 18 of females. Two only, both of females, were below the 35th year, in the 25-35 years period; and 29, 18 of males and 11 of females between the 35th and 58th years. The total of deaths so certified during 1908 was 27, and the annual average for the preceding 5 years, 35. It is noteworthy, that, although the list of deaths due to alcohol is obviously incomplete, the total so far as it goes is almost equally shared by the two sexes.

Cancer and Sarcoma (Malignant New Growths). The deaths ascribed to malignant new growths in Nottingham during 1909, were 247 in number. The annual totals for the preceding 5 years were, respectively, 192, 212, 223, 220, and 254. The annual average for the 10 years, 1889 to 1898, was 174, and that for the next decennium ended with 1908, 209.

The total number of deaths from malignant tumours during 1909 was thus 7 less than in the preceding year; but the diminution occurred in the deaths from sarcoma, which numbered only 20, as compared with 32 the year before. The deaths from true epithelial

cancer amounted to 227, as against 222 in 1908, and were therefore more numerous by 5 than those of the latter year. Of these 227 deaths from true cancer, 101, or 44·5 per cent. were of males, and 126, or 55·5 per cent., of females. The male deaths were equal to a death-rate of 0·82 per 1,000 (82 per 100,000) living males, and the female deaths to one of 0·89 per 1,000 (89 per 100,000) living females.

During 1908 the deaths of males from true cancer in this City numbered 72, or 32 per cent. of all, and the female, 150, or 68 per cent. The male death-rate was equal to 0·60 per 1,000 males, against a female rate of 1·09 per 1,000 females. The actual and proportional numbers for each sex are here much more in accord with the figures of other recent years than are those of 1909; and although the reports of the Registrar-General, and of the Medical Officers of Health throughout the country, have accustomed us to look for an almost stationary female death-rate from cancer and an advancing male rate, the abrupt levelling up, and down, of the cancer mortality of either sex in Nottingham during 1909, can only in the light of all experience be regarded as a purely temporary anomaly.

True cancer is for the most part a disease of middle and advanced life. During 1909, 194, or 87 per cent. of all the deaths, occurred between the 25th and 75th year, and 220, or 97 per cent., between the 35th and 86th year.

In the case of the death-rates from cancer given above, the rate for each sex is calculated upon the whole number of each estimated to be living at the mid-year, and this course is followed in order to render these rates comparable and co-ordinate with other death-rates given in this report; but it must be remembered that with a special age and sex incidence like that which occurs in the case of cancer, the actual attack- and death-rates among the limited number of

susceptible persons are much higher than the proportion of the entire population.

Of the 20 deaths from the sarcomatous variety of malignant new growths which occurred during 1909, 12 were of males and 8 of females. They occurred at age-periods ranging from the 15th to the 75th year, but 15 out of the 20, or 75 per cent. of all, were between the 35th and 65th year.

Nottingham, 1909.

Deaths of Males and Females from Cancer, arranged in Age-periods, and according to parts of Body affected.

Part of Body Affected.	25-		35-		45-		55-		65-		75-		85-		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Both Sexes
Uterus	..	2	..	6	..	11	..	6	..	6	..	6	..	..	..	37	37
Stomach	1	..	1	..	1	1	10	8	3	4	1	4	..	..	17	17	34
Liver	..	..	1	1	1	2	10	5	3	3	2	1	..	..	17	12	29
Intestines ..	..	..	1	2	..	1	5	3	3	4	..	..	1	..	10	10	20
Breast	..	1	..	2	..	5	..	5	..	5	..	1	..	..	..	19	19
Rectum	..	..	1	1	3	1	4	2	3	..	..	..	..	..	11	4	15
Lung	..	1	..	2	1	..	..	1	..	1	..	1	..	..	1	6	7
Bladder	..	..	..	1	..	1	2	..	1	..	..	1	1	..	4	3	7
Tongue	..	1	..	..	..	..	2	..	2	..	1	..	..	..	5	1	6
Neck	..	..	..	..	2	..	1	..	..	1	..	..	..	..	3	1	4
Pancreas	..	..	..	..	1	..	..	..	1	2	..	..	..	..	2	2	4
Mouth	..	..	..	..	..	..	1	..	1	..	2	..	..	..	4	..	4
Larynx	..	..	..	..	..	..	..	..	3	..	..	..	..	..	3	..	3
Pharynx	..	..	..	..	1	..	1	..	1	..	..	..	..	..	3	..	3
Ovary	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	3	3
Brain	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	2	2
Ear	..	..	..	..	..	..	..	..	2	..	..	..	..	..	2	..	2
Cheek	..	..	..	..	..	..	1	..	1	..	..	..	..	..	2	..	2
Face	..	..	..	..	..	..	..	..	1	..	1	..	..	..	2	..	2
Throat	..	..	..	..	1	..	..	..	1	..	..	..	..	..	2	..	2
Penis	..	..	..	..	1	..	..	..	..	..	1	..	..	..	2	..	2
Abdomen	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	2	2
Lip	..	..	..	..	1	..	..	..	1	..	..	..	..	..	2	..	2
Œsophagus ..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	2	..	2
Jaw	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Nose	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
Parotid Glands ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Cervical Glands ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Hand	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Mediastinum ..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Gall Bladder ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1
Mesenteric Glands	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
Omentum ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
Vulva	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1
Prostate	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
No locality given	..	..	..	1	..	1	..	..	..	..	..	..	1	..	1	2	3
Totals ..	1	6	5	17	14	26	42	34	28	28	8	14	3	1	101	126	227

Nottingham, 1909.

Deaths from Sarcoma, arranged as in Cancer Table.

Part of Body Affected.	15-		25-		35-		45-		55-		65-		75-		85-		Totals.		
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Both Sexes
Lung	1	1	..	2	..	..	..	2	..	..	..	..	..	..	..	5	1	6
Brain ..	..	..	..	..	..	2	1	..	1	..	..	..	..	..	..	2	2	4
Femur ..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	1	1	2
Scalp	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
Gums ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Neck	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Breast ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
Kidneys ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
Retro-peritoneal	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Peritoneum ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
Testicle ..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Totals ..	1	1	1	3	..	3	2	5	2	..	2	..	..	..	..	12	8	20

The accompanying table gives the particular part or organ of the body affected, in each fatal case of malignant new growth which occurred during 1909, together with the sex and approximate age of the victims. This table speaks in great measure for itself, but I may point out the following salient facts revealed by it as being of special interest and importance:—The deaths from cancer of the female organs of generation and breasts enormously outnumber those of the corresponding male parts, and it is this alone which causes the preponderance of the female over the male deaths from the disease. This table shows 60 such deaths of females to only 3 of males. The deaths from cancer of the stomach and intestines, including the rectum and mesenteric glands, of the liver, gall-bladder, pancreas, and "abdomen," numbered 108 altogether; 59 being of males and 49 of females. The deaths from cancer of the tongue, mouth, cheek, lip, jaw, nose, and face, of the neck and neck glands, of the larynx and pharynx, were largely confined to males. There were 32 deaths altogether from cancerous affection of these parts, no less than 29 being those of males and only 3 of females.

Diabetes Mellitus.—The deaths attributed to diabetes mellitus during 1909 were 30 in number, as compared with 35 in 1908, and a previous quinquennial average of 28. The male deaths in 1909 numbered 19, and the female, 11. There is usually a higher male than female mortality from this disease, but while the deaths of both sexes have increased considerably of late, the female appear to have increased the more rapidly. In both sexes the majority of deaths occur after the 40th year. During 1909 no less than 73 per cent. of all deaths from this cause in Nottingham occurred after the 45th year. The like fact is recorded by the Registrar-General for England and Wales during 1908.

Premature Birth.*—The deaths ascribed to premature birth in Nottingham during 1909 were 142 in number. A large proportion of these deaths and of those grouped under the next two headings of "congenital defects, atrophy, debility, lung collapse, inanition, etc.," occur within a very short period after birth, and are, as Dr. George Newman has pointed out, necessarily due to ante-natal defects. I have continued to classify the three groups separately to allow of comparison with past records in detail, but they may advantageously be considered together on account of their largely ante-natal origin.

Of the 142 deaths referred to premature birth in 1909, 83, or 58 per cent. were of males, and 59, or 42 per cent. of females. The preponderance of the male mortality varies somewhat from year to year, but is always existent and always large. The average ratio of recent years has been as 5 (m) to 4 (f).

Dr. T. H. C. Stevenson has pointed out that if, as seems not improbable, this mortality and its sexual ratio should remain more or less constant, while that of later periods of infancy when the male and female deaths are more nearly equal should be reduced, as a

* See Tables, pp. 10 and 17.

result of sanitary and social improvements, the ultimate effect will be to increase the already existent excess of females over males in the general population. The deaths given as due to premature births during 1908 were 186 in number, and the average annual number of the ten years ended with 1907 was 149. There has been an increase in the annual number of deaths attributed to this cause in Nottingham during the past few years, greater than can be explained by the growth of population.

Congenital Defects, Lung Collapse, and Debility at Birth.—The total deaths under these headings were 127 in number, as compared with 132 in 1907 and 129 in 1908. In all but 2 cases, from congenital defects, the deaths occurred during the first year of life, and in the majority before the end of the first month of that year. There were 60 male and 67 female deaths from the whole group. An excess of female over male deaths in this group is unusual: during 1908 the male deaths numbered 72 and the female 57.

Want of Breast Milk, Atrophy, Debility, and Marasmus.—There were 114 deaths during 1909 given as due to the causes comprised in this group. All but 7 were in the 1st year, and all were before the 5th year. The male deaths numbered 60, and the female 54.

The work done by our Lady Inspectors under the Notification of Births Act, and especially that of the Mothers' and Babies' Welcomes in Howard Street and Windmill Street, has for one of its principal objects the promotion of exclusive breast-feeding for infants. The tendency to hand-feeding in a town like Nottingham, where large numbers of mothers are industrially employed, is greater than in places where there is less of such employment; and, in endeavouring to check the evil, one has to deal with the strong opposing forces of selfishness, established habit, and example, all exceedingly difficult to overcome.

Illegitimate children continue to constitute a large proportion of the victims of this group of death-causes. The death-rate among these unfortunates has declined in some measure in recent years, but it is still greatly in excess of that among children born in wedlock.

Rickets.—The deaths attributed to rickets during 1909 numbered 11, as against 11, 9, and 4 in 1906, 1907, and 1908, respectively, an annual average of 13 for the five years ended with 1906, and of 25 for the preceding quinquennium (1897–1901). The recent reduction in the number of deaths ascribed to this disease, to which I have referred in former reports, has not been maintained during the year now under notice, for, as the above figures show, these deaths were nearly three times more numerous in 1909 than in 1908. Moreover, the medical inspection of children in the Public Elementary Schools of Nottingham, during 1909, revealed the fact that nearly 1 per cent. of the children examined were suffering from well-marked rickets—a much larger proportion than was anticipated prior to the commencement of the inspection.

Old Age, Senile Decay.—The deaths certified as due to old age during 1909 numbered 216, as compared with 154 in 1908, and an annual average of 237 for the 5 years ended with 1907. The total of such deaths varies much from year to year, according to the mention or non-mention of inter-current death causes, which, when given, necessarily explain the deaths more satisfactorily, from a medical point of view at least. There were 90 male and 126 female deaths altogether, described in this manner; 24 male and 23 female deaths between 65 and 75 years, 46 male and 71 female deaths between 75 and 85 years, and 20 male and 29 female deaths from 85 upwards. There were 18 deaths between 90 and 100 years, but none over

100. Of the 18 deaths over 90, 8 were of males and 10 of females.

Infantile Convulsions.—In earlier reports I have frequently drawn attention to the fact—continually emphasized in the Registrar-General's reports, and in the official "Nomenclature of Disease" issued by the College of Physicians—that convulsions are only a symptom of disease, and not the disease itself. In Nottingham, during 1909, one out of every 18 deaths under 1 year was so accounted for, as compared with 1 out of 11 for England and Wales (Registrar-General's Annual Report, 1908). The total number of deaths given as due to convulsions in Nottingham during 1909 was 67; 56 (35 m. and 21 f.) under 1 year, 10 (3 m. and 7 f.) between 1 and 5 years, and 1 (f.) between 5 and 10 years. The total of such deaths during 1908 was 65, and the annual average for the 5 years ended with 1907, 57.

Meningitis.—The annual number of deaths ascribed to simple meningitis (without mention of an infective cause) as previously stated, continues to decline. The number of such deaths in 1909 was 25, as against 31 in 1908, 32 in 1907, an annual average of 44 for the 5 years ended with 1906, and of 65 for the preceding 10 years, 1892–1901. Of the 25 deaths during 1909, 15 were male and 10 female. Nineteen out of the 25, or practically 80 per cent., made up of 11 male and 8 female deaths, occurred under 5 years of age.

Cerebral Hæmorrhage (Apoplexy), Hemiplegia, Disease of Blood Vessels.—Since 1901 the deaths under this heading have been distinguished, in the principal table (No. III.) of our Annual Health Reports, from those due to obstruction of the blood vessels (Softening of the Brain, etc.).

The deaths due to cerebral hæmorrhage during 1909 were 195 in number. The totals for the 8 preceding years (from 1901 onwards), were, respectively, 173, 204, 158, 173, 157, 179, 193, and 187. The 195 deaths of 1909 were 89 of them male, and 106 female. One hundred and eighty two, or 93 per cent. were at ages above the 45th year, as compared with 96 per cent. in 1908.

Between the 35th and 55th year of age the deaths of females commonly exceed those of males. In Nottingham, during 1909, the male and female deaths were equal in number between the 35th and 45th year, but the female exceeded the male deaths in every age-period after the 45th year.

I should perhaps once more call attention to the fact, that there is usually a considerable amount of mutual variation between the deaths ascribed to these causes, and those attributed directly to diseases of the heart, kidney, and other parts, from which the cerebral haemorrhage may have arisen in a purely secondary manner.

General Paralysis of the Insane, and Other Forms of Insanity.—The deaths certified as from general paralysis of the insane during 1909 were 22 in number, 15 of males and 7 of females. The total number of such deaths in 1908 was 21, and the annual average for the 5 years ended with 1907, 25. The male deaths always greatly exceed the female from this cause. In England and Wales as a whole, for example, during 1908, they were approximately as 17 (m.) to 5 (f.)

The 15 male and 7 female deaths which occurred in Nottingham during 1909 were distributed in age-periods as follows :—1 male death between 20 and 25 years, 1 male and 1 female death between 25 and 35 years, 7 male and 1 female death between 35 and 45 years,

5 male and 4 female deaths between 45 and 55 years, 1 male death between 55 and 65 years, and 1 female death between 65 and 75 years.

There were 7 deaths, 3 male and 4 female, from other forms of insanity ; 1 male death between 45 and 55 years, 2 female deaths between 55 and 65 years, 2 male deaths between 65 and 75 years, and 2 female deaths between 75 and 85 years.

The number of deaths under this last heading (other forms of insanity), during 1908 was 5, and the annual average for the preceding 5 years was 12.

Epilepsy.—The deaths certified as caused by epilepsy during 1909 numbered 23, compared with 24 in 1908, and an annual average of 19 for the 10 years ended with 1907.

Of the 23 deaths during 1909, 15 were of males and 8 of females, but although there is usually a preponderance of the male mortality over the female (when large numbers are dealt with), it is not usually so great as in these local figures for the past year. The deaths during 1909 were distributed over ages extending from 5 years to 85 years and upwards, but 14 occurred between the 35th and 65th years.

The numbers of deaths from this disease recorded each year in the country at large is steadily declining, but there is no corresponding reduction at present in the local deaths attributed to it.

Locomotor Ataxy, Progressive Muscular Atrophy, Disseminated Sclerosis, etc.—The deaths from this group of diseases during 1909 numbered 17, 9 of males and 8 of females. The total deaths of both sexes during 1908 were 19, and the average annual total for the 10 years ending with 1907, 17.

The deaths from locomotor ataxy were 8 in number, and, although the general mortality of males

from this disease is much greater than that of females, the local deaths during 1909, as in 1908, were equally divided between the sexes. Another fact, also, which the Registrar-General's figures clearly show in connection with this disease, so far at any rate as certified deaths are concerned, is that it is steadily increasing. There has been, however, in the past few years no apparent increase in the number of local deaths, as the figures above given clearly show. The common proximate cause of locomotor ataxy is certainly syphilis. All but 2 of the deaths from this group of diseases occurred between the 45th and 75th year.

Neuritis, Poly- and Peripheral Neuritis.—The deaths ascribed to neuritis during 1909 numbered 7, as compared with a like number in 1908, and 3, 4, and 10 in the 3 preceding years respectively. There were 3 deaths of males, and 4 of females during 1909. The bulk of the victims are commonly adult females, and during 1908 six out of the seven total deaths were those of women over 35 years of age.

Alcoholic intemperance is so frequently the cause of the disease that in the Registrar-General's returns whenever "Neuritis appears in the medical certificate in conjunction with alcoholism as a cause of death, the entry is made under intemperance." The sedentary habits and occupations of women probably predispose them in some measure to this particular effect of alcoholism.

Organic Diseases of the Heart and Blood Vessels.—To allow of ready comparison between current and past records, I have once more grouped together the diseases of the heart and of the blood-vascular system, included under the above heading in the large general table of death causes (No. III., pp. 8 to 16), which is drawn up on a similar plan to that adopted in most large health reports. It should be noted, however, that the deaths attributed to cerebral

hæmorrhage and softening,* commonly the result of vascular degeneration and heart disease, have already been discussed under the headings specially descriptive of such conditions. This course is practically unavoidable, owing to the method of classification adopted in the past.

The deaths referred to causes in this group were altogether 453 in number during 1909: the male deaths numbered 195, and the female 258. The deaths due to valvular heart disease were 288 in number, 111 being male, and 177 female deaths. According to the Registrar-General, the female deaths from valvular heart disease preponderate (in all England and Wales) up to the 55th year. In the case of Nottingham last year, however, the excess of female over male deaths occurred at practically all ages, being most marked between 35 and 45, and between 65 and 80 years.

In this City, as in the entire country, the deaths ascribed to valvular heart disease are steadily increasing in number; but, as Dr. Stevenson of the Registrar-General's office points out, this fact may in part at least be explained by the decline in the number of deaths referred to indefinite forms of heart disease, which has been in progress for a corresponding period.

The number of deaths under these headings in Nottingham during 1908 was 455, 208 being male, and 247 female deaths. The deaths from valvular heart disease numbered 234 in 1908. During 1907 the total of these deaths was 461, made up of 204 male and 257 female deaths. The deaths from valvular heart disease, during 1907, were 232 in number.

The average annual number of deaths from all the diseases under this heading, during the 5 years ended with 1906, was 378, and during the immediately preceding quinquennium, 374.

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* Eighty-nine per cent. of cases of cerebral embolism occur in heart disease (Saveliew).

Among other more definite forms of heart disease now also apparently increasing in prevalence, is angina pectoris. There were 9 deaths from this cause certified during 1909—5 of males and 4 of females—and an annual average of 8 for the 5 years ended with 1908.

Bronchitis, Pneumonia, and Pleurisy (Diseases of the Respiratory System other than Phthisis).—In order to explain my action in retaining these diverse elements under one heading, I may perhaps be allowed to repeat once more the passage of a former report in which I sought to justify such action. The passage is as follows:—

"Apart altogether from the pathology of these diseases "—varying as they do from acute specific affections in "the pneumonias (Broncho-and-Lobar pneumonia, and "other forms), to degenerative catarrhal conditions in "chronic bronchitis and emphysema—it is still con- "venient to consider them together as affections of the "same organs, having similar seasonal curves, not "infrequently following each other in the same subject, "and affected in their prevalence and fatality by the "concurrence of similar acute specific maladies. As "regards the last point, for example, epidemic influenza, "measles, and whooping-cough, when prevalent, increase "the liability to, and the mortality from, almost all "respiratory disorders, acute and chronic, infective and "degenerative."

Moreover, so long as this grouping is retained, we have an opportunity of comparing current with past records which to a large extent will necessarily be lost when it is abandoned.

The deaths included under this group of causes during 1909 numbered 888. The total for 1908 was 759, the annual average for the 5 years ended with 1907 was 751, and that for the immediately preceding quinquennium (ended with 1902) 712.

The relative uniformity of the annual totals (in the absence of disturbing factors like measles, whooping-cough, and epidemic influenza) is seen by the following figures representing such individual totals for 1901 and subsequent years:—685, 749, 728, 732, 653, 722, 918 (concurrent measles, whooping-cough, and epidemic influenza), 759, 888 (concurrent measles, whooping-cough and epidemic influenza). The condition as regards the disturbing elements referred to in 1907 and 1909, were similar, but more pronounced in 1907 than in 1909.

The deaths from bronchitis numbered 434, 192 of males and 242 of females. The total for 1908 was 402, and that for 1907, 504. The annual average of the preceding 5 years was 363. Of the 434 deaths in 1909, 276 were from acute bronchitis, and 158 from the chronic form. Of the acute, 132 were male, and 144 female deaths. Eighty-two (or 30 per cent.) of these deaths were under 5 years, and 192 (or 70 per cent.) above the 35th year of age. Of the chronic variety, 60 were of males and 98 of females. One only of all these deaths was below the 45th year (25-35), and 151 (or 96 per cent.) were above 55 years of age.

The deaths from the pneumonias during 1909 were 416 in number, 203 being those of males, and 213 of females. The total number of deaths from pneumonia during 1907 and 1908, respectively, were 389 and 322. The annual average of the 5 years ended with 1906 was 323.

In the case of both bronchitis and pneumonia, I have given the totals for 1907, in order to show that the presence of measles, whooping-cough, and influenza, in that year, was equally operative upon both.

The deaths from the lobar variety of pneumonia numbered 160, 88 of males and 72 of females. An unusually large proportion of the deaths, 39 per cent.,

in which those of males slightly predominated, occurred before 5 years of age, and only 50 per cent. after the 25th year. The preponderance of the male deaths was most marked between the 25th and 55th years.

There were 232 deaths from lobular or broncho-pneumonia (often called capillary bronchitis). The male deaths here numbered 104 and the female 128. The predominance of the female deaths, which is unusual, may be due to the influence of whooping-cough (the primary cause of many of these deaths) as this disease is more fatal to females than males at all ages.

One hundred and eighty-seven (88 m. and 99 f.), or 81 per cent. of all the deaths, occurred between 1 and 5 years of age. The corresponding proportion in 1908 was 80 per cent. There were 34 deaths (11 m. and 23 f.), 14 per cent. of all, after the 45th year. There were only 7 deaths attributed to pleurisy, as against 12 the year before, and no less than 6 were those of females. The deaths occurred at ages ranging from 25 to 85 years. This disease is frequently tuberculous in character.

The deaths from pneumonia in Nottingham during 1909 were equal to a rate of 1·58 per 1,000 of population (158 per 100,000), a rate only slightly less than that from all the principal epidemic diseases taken together. This rate is more than 100 per cent. in advance of that for the rural districts outside the City, and is probably a fairly reliable though somewhat sinister index of the general insanitariness of the poor neighbourhoods to which it has special reference.

Ulcer of Stomach and Duodenum.—There were 21 deaths attributed to this lesion during 1909, as compared with 18 in 1908, and 23, 7, 14, 15, and 26 in the 5 preceding years, respectively. This affection is more common in women than in men, in the proportion

approximately of 3 to 2. The age-incidence, moreover, of the two sexes is as a rule markedly different. Women are more commonly attacked between the age of puberty and the 30th year, and men after the 45th year.

These rules of age and sex incidence, however, for large numbers of cases, have not been at all well illustrated of late years among the relatively small numbers which occur annually in Nottingham. During 1909 there were 6 deaths of each sex before the 45th year, and 5 female and 4 male deaths between the 20th and 45th year. After the 45th year, there were 5 female and 4 male deaths. After the 65th year, when the male death-rate is commonly at its maximum, there were 2 deaths of females only.

In connection with the high death-rate of males after middle age from gastric ulcer, it is well to remember that the stomach is attacked in at least one out of every 5 male cases of cancer, and that in the absence of surgical or post-mortem examination there is always considerable room for error of diagnosis. It is interesting to note that—on the authority of the Registrar-General's reports—the difference between the death-rates of the two sexes, from gastric ulcer, has been steadily diminishing of late years.

Enteritis (Simple).—The special importance of this, as a reputed death cause, lies in its relation to the epidemic or specific form of the disease. Although not included for statistical purposes with epidemic diarrhœa, it is often distinguished from it only by name. Still, the practice of excluding all deaths certified in this way, from the list of diarrhœa deaths, having been generally adopted on the highest medical and statistical authority, one is practically compelled to fall in with it, if only to render one's returns evenly comparable with those of other districts where it is in use. The deaths

certified as due to enteritis during 1909 were 81 in number, as compared with 67 in 1908, and 41, 75, 40, 69, and 49, in the 5 preceding years respectively.

These deaths occur for the most part at the season when diarrhœa is prevalent, and at ages when this disease is most fatal, and also take toll of the two sexes in much the same proportion as diarrhœa. During 1909 the deaths under 1 year from diarrhœa constituted 79 per cent. of all deaths from diarrhœa, and those under 1 year from enteritis, 74 per cent. of all deaths from this disease. Moreover, during the same year, in the case of both diseases, the male deaths preponderated in the 1st year, and the female after that year and up to middle life. In all this, it must be understood, I am not arguing against the existence of "enteritis," but only insisting that many deaths ascribed to it are due to epidemic "diarrhœa."

Appendicitis was the certified cause of 14 deaths during 1909. The actual numbers of deaths so accounted for in 1901 (when this condition was first generally recognized), and other subsequent years down to 1908, were, respectively, 11, 10, 17, 16, 10, 17, 18, and 16. The deaths of males were 10 in number, and those of females 4. The mortality is commonly greater among males than females, except in extreme old age. The greatest number of deaths in both sexes (when large numbers are considered) occur between the 10th and 20th year, and 3 of each sex occurred in Nottingham during this period in 1909. The other deaths, however, took place at various ages between the 2nd and 85th years.

Hernia & other (non-malignant) **Obstructive Conditions of the Bowels** (excluding the appendix). The number of deaths described as due to hernia and other like bowel obstruction, during 1909, was 32, 10 of males and 22 of females. The total for 1908 was 24, and for each of the preceding 5 years, 33, 26, 26, 24,

and 30, respectively. Of the 32 total deaths in 1909, 7 (3 m. and 4 f.) were under 1 year, and 21 (5 m. and 16 f.) over 35 years of age.

Acute Nephritis and Bright's Disease (chronic nephritis).—One hundred and five deaths were certified as due to nephritis during 1909, 27 as due to the acute, and 78 to the chronic form of the disease. Of the deaths from the acute form, 13 were of males and 14 of females, and of those from the chronic, 29 were of males and 49 of females. The total number of deaths from nephritis during 1908 was 96, and in each of the preceding 5 years 90, 96, 83, 105, and 92, respectively. According to the Registrar-General's reports, both forms of nephritis are more fatal to males than females, except at certain periods between the 10th and 30th year. The mortality of both forms increases with advancing age. The age of special increase for acute nephritis is about the 25th year, and that for the chronic form about 10 years later.

The fatality increases with rapidity from these periods onwards to extreme old age. During 1909 in Nottingham, 22 out of the total of 27 deaths—or 81 per cent. of all—from acute nephritis, occurred after the 25th year. The corresponding proportion in 1908 was 80 per cent. Out of 78 total deaths from chronic nephritis, no less than 75, or 96 per cent., of all occurred after the 35th year. The proportion of such deaths to the total during 1908 was 94 per cent.

Diseases of the Bladder and Prostate (non-malignant).—The deaths returned from these causes were 23 in number during 1909. The total for 1908 was 15, and the annual average of the preceding 5 years was 16. Most of these deaths are necessarily in the male sex, but there were 2 female deaths from septic bladder disease. There was one death between 35 and 45 years ; the rest of the mortality was after the 45th year.

Diseases of the Female Organs of Generation (non-malignant).—There were 14 deaths referred to these diseases during 1909, as against 13 in 1908, and 9, 13, 8, 12, and 11 in the preceding 5 years. All but 3 of the deaths from these causes in 1909 were above the 35th year.

Accidents of Childbirth.– Maternal deaths ascribed to accidents of childbirth were 29 in number. The total of such deaths in 1908 was 12, and in each of the 5 preceding years respectively, 17, 16, 21, 21, and 17.

The various accidents, so far as these are described, and the numbers of deaths from each of them, were as under:—abortion, miscarriage, 6 deaths; placenta prævia, flooding, 11 deaths; post-partum hæmorrhage, 1 death; extra-uterine fœtation, 1 death; rupture of the uterus, 1 death; contracted pelvis, 3 deaths; puerperal thrombosis, 4 deaths; puerperal convulsions, 1 death; other accidental condition, 1 death.

I am unable to explain satisfactorily the sudden increase in the number of deaths under this collective heading, as compared with the records for 1908 and other recent years. Under two causes alone, those of abortion and flooding, there is a net increase as compared with 1908 of 14 deaths—an altogether unprecedented fact. Still, one must remember that the artificial production of abortion is undoubtedly practised to a very considerable extent at the present time, and that if the whole mortality from this cause were given, it would probably be very much higher each year even than the above exceptional figure for 1909.

I now give the ratios of these fatal "accidents" to the total number of ascertainable births (including, for 1909, the 117 still-births notified to me under the Notification of Births Act), for 1909 and other recent years. These were as follows:—1909, 1 maternal

death to every 233 births; 1908, 1 in 585; 1907, 1 in 405; 1906, 1 in 322; 1905, 1 in 416; 1904, 1 in 405. With the addition to the "accidents" under this heading, of those under that of puerperal sepsis, already dealt with elsewhere (which amounted to 8 during 1909), we obtain the following figures:—1909, 1 maternal death in 185 births; 1908, 1 in 335; 1907, 1 in 191; 1906, 1 in 169; 1905, 1 to 237; 1904, 1 in 275.

Deaths due to Accident and Negligence, and Violent Deaths other than Suicides.—The deaths given as due to such causes as these during 1909 were 98 in number. The corresponding total for 1908 was 135, and for each of the 5 preceding years, respectively, 93, 111, 124, 119, and 123. The annual average for the 5 years ended with 1902 was 110.

Of the 98 deaths during 1909, 3 (1, of a boy, æt. 10-15, the others of adult males) were in mines; 12 (8 of males and 4 of females, 7 in childhood, the rest above the 25th year) in vehicular traffic; 2 (both of males, 1 æt. 15-20, the other æt. 55-65) on railways; 2 (both of adult males) in building operations; 1 (of a youth, æt. 15-20) at play; 3 (of males, æt. 25-70) by machinery; 2 (both of males, æt. 15-20 and 55-65) by lethal weapons; 18 (5 of males and 13 of females, 10 of children of both sexes under 10, the rest at various ages from 15-20 to 85 and upwards) from burns and scalds; 12 (7 of males and 5 of females, 4 of males under 12, the rest of both sexes between 25 and 75) from poison; 1 (male, æt. 25-35) from chloroform during a surgical operation; 6 (3 of each sex at ages ranging from 1 to 60) from drowning; 13 (5 of males and 8 of females, all under 1 year) by overlaying in bed; 2 (both male infants under 1 year) by other methods of suffocation; 1 (of a male æt. 25-35) by a fall from a cart; 1 (of a male æt. 55-65) by a fall in the street; 18 (3 of males and 15 of females, 2

of females under 10, the others of both sexes from 35 to 85 and upwards) by falls in houses; 1 (of a male æt. 35-45) by judicial execution. Of all these 98 deaths by violence, other than suicide, 50 were of males and 48 of females.

Suicide.—The officially certified suicides in Nottingham during 1909 numbered 27, 22 by males and 5 by females. The total for 1908 was 32, 25 by males and 7 by females. The average proportion of male to female suicides in England and Wales is approximately as 3 to 1. The numbers of suicides in Nottingham during each of the preceding 5 years were, respectively, 31, 27, 44, 26, and 41.

Of the 27 certified during 1909; 8 were by poison (7 m. and 1 f.) æt. from 25 to 75 years; 1 by asphyxia (m) æt. 75-85 years; 10 by hanging and strangulation (8 m. and 2 f.) æt. from 20 to 65 years; 2 by drowning (1 m. and 1 f.) æt. 30 and 60 years; 1 by shooting (m.) æt. from 35-45 years; 4 by cut or stab (3 m. and 1 f.) æt. from 25 to 55 years; 1 by crushing (m.) æt. 45-55 years.

The total number of deaths registered as due to violence of all kinds, in Nottingham during 1909, was 122 according to the Registrar-General's figures, and 125 according to mine.

The Registrar-General's total corresponds to a death-rate of 0·46 per 1,000 living (46 per 100,000). The rates per 1,000 in the 3 preceding years were, respectively, 0·57, 0·64, and 0·63.

The death-rate per 1,000 living from all kinds of violence, during 1909, was equal to 0·54 in England and Wales, to 0·50 in London, to 0·52 in the 76 great towns taken together, and to 0·46 in the 143 smaller towns.

Deaths in Public Institutions.*—According to my returns these deaths in Nottingham during 1909 amounted to 876, and according to those of the Registrar-General to 880. The discrepancy is here immaterial. The total for 1908 was 766, and the average annual total for the 10 years ended with 1907 was 763.

The deaths in public institutions during 1909 were equal to 20·6 per cent. of all deaths in Nottingham, to 40·2 per cent. in London, to 26·8 per cent. in the 76 great towns, and to 14·8 in the 143 smaller towns. The London figure, which is fractionally higher than that of 1908, is specially notable for its magnitude.

Uncertified Deaths.—The uncertified deaths in Nottingham during 1909 were 21 in number, my figure in this case coinciding with that of the Registrar-General. These deaths correspond to 0·5 per cent. of all deaths, or, to be exact, to 1 in 203. The corresponding percentage in London was 0·1, in the 76 great towns 0·8, and in the 143 smaller towns 1·5, during 1909.

Inquests.—The inquests held in Nottingham during 1909, by the Coroner, Mr. C. L. Rothera, B.A., or his deputy, were, according to the Registrar-General's Annual Summary, 246 in number. This total corresponds to 5·8 per cent. of all deaths. The inquests in the 3 immediately preceding years were equal, respectively, to 6·8 per cent., 6·5 per cent., and 7·0 per cent. The inquests held during the past year in London, in the 76 great towns, and in the 143 smaller towns were, respectively, equal to 9·6 per cent., 7·8 per cent., and 6·1 per cent., of all deaths in those centres.

I have here given the Registrar-General's figures for inquests held in Nottingham, in order to render the

* The table on page 16 gives the more important causes of the deaths in Public Institutions accounted for in the local returns.

local statistics comparable with those of other places for which the Registrar-General gives similar particulars. I may mention, however, that Mr. C. L. Rothera's own return of inquests held by him during the year gives a considerably larger number than that furnished by the Registrar-General. Mr. C. L. Rothera states that he has held 274 inquests, 161 on male, and 113 on female bodies. This total is equal to 6·4 per cent. of the total deaths, as compared with 5·8 given by the Registrar-General.

Chart of Meteorology, Births, and Deaths in Nottingham during 1909.—This chart, which has now been issued annually for 21 years in succession, under the joint direction of Mr. Arthur Brown, M.Inst.C.E., the City Engineer, and myself, is bound up as heretofore under the cover at the end of this report—except in the abridged copies, from which it is omitted.

THE CITY ISOLATION HOSPITAL AND THE PHTHISIS SANATORIUM, BASFORD, NOTTINGHAM.

The Small-pox Hospital on Bulwell Forest was closed during 1909, owing to the absence of small-pox in that year. The following section, therefore, deals only with the General Isolation Hospital and the Phthisis Sanatorium at Basford.

The persons admitted for all purposes to the Isolation Hospital and Sanatorium, during 1909, numbered 914. The numbers admitted during the five preceding years, respectively, were:—in 1904, 1099; in 1905, 694; in 1906, 680; in 1907, 636; in 1908, 718.

Total Number of Cases in Hospital, 1909.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.

Disease.	Remaining at end of 1908.			Admitted during 1909.			Total cases during 1909.	Total cases finally dealt with during 1909.	Total deaths during 1909.	Case-mortality % of total cases, 1909.	Days of average residence.		Remaining at end of 1909.
	No. of Patients.	Recovered.	Died.	No. of Patients.	Recovered.	Died.					Non-fatal	Fatal.	
Scarlet Fever	M. 28	28	..	255	215	3	283	246	3	..	..	..	37
	F. 36	36	..	310	261	4	346	301	4	..	..	..	45
Total..	64	64	..	565	476	7	629	547	7	1·28	53·3	10·8	82
Enteric Fever	M. 17	16	1	27	16	5	44	38	6	..	..	..	6
	F. 6	5	1	18	14	3	24	23	4	..	..	..	1
Total..	23	21	2	45	30	8	68	61	10	16·4	55·3	22·3	7
Diphtheria ..	M. 15	15	..	87	75	7	102	97	10	..	..	..	5
	F. 16	16	..	121	96	10	137	122	7	..	..	..	15
Total..	31	31	..	208	171	17	239	219	17	7·76	55·3	5·3	20
Phthisis ..	M. 7	5	2	33	18	5	40	30	7	..	..	..	10
	F. 5	5	..	23	17	2	28	24	2	..	..	..	4
Total..	12	10	2	56	35	7	68	54	9	16·6	87·5	11·3	14
Other Cases ..	M. ..	..	..	13	11	1	13	12	1	..	..	..	1
	F. 1	1	..	27	23	1	28	25	1	..	..	..	3
Total..	1	1	..	40	34	2	41	37	2	5·4	17	8·5	4
Total	131	127	4	914	746	41	1045	918	45	9·5	53·7	32·0	127

The foregoing table contains all the following information, but as a somewhat careful study of the table is necessary in order to elicit the facts it contains, I give this brief analysis of the principal figures for the benefit of the casual reader.

The admissions during 1909 were as follows:—Scarlet Fever, 565 patients, males 255, females 310; Enteric Fever, 45 patients, males 27, females 18; Diphtheria, 208 patients, males 87, females 121; Phthisis, 56 patients, males 33, females 23. Other patients taken in with incidental complaints of an infective character, or through mistakes in diagnosis, and persons admitted for observation, disinfection, etc., numbered 40 in all, 13 males and 27 females.

The cases remaining in hospital at the end of 1908 numbered 131 :—scarlet fever, 64 (28 m. and 36 f.), enteric fever, 23 (17 m. and 6 f.), diphtheria, 31 (15 m. and 16 f.), phthisis, 12 (7 m. and 5 f.), and one other f. case. Those, again, remaining in the institution at the close of 1909 were 127 in number:—scarlet fever, 82 (37 m. and 45 f.), enteric fever, 7 (6 m. and 1 f.), diphtheria, 20 (5 m. and 15 f.), phthisis, 14 (10 m. and 4 f.), other cases, 4 (1 m. and 3 f.)

Particulars of the irregular admissions are given in the preceding table, and in that headed "Other Cases" (p 126 post). The number of cases sent in under mistaken or incomplete diagnosis during 1909 was 83. They necessarily gave rise—as usual with such cases—to much anxiety, inconvenience, and expense, on account of the risk, to themselves and others, of cross infection, and the necessity, after the rectification of diagnosis, of providing them with separate accommodation and nursing. Sixty-four cases of scarlet fever complicated with diphtheria, 8 cases of measles, 1 of German measles, 1 of septicæmia, 2 of croupous pneumonia, 1 of tuberculous meningitis, and 8 of pharyngitis, were among those

sent in to the Isolation Hospital in this manner, and sufficiently justify my remarks concerning the liability of such cases to cause anxiety, inconvenience, and expense in an institution of this character.

Table showing the number of Beds occupied during each month of the year 1909.

Month.	Beds Occupied.		Month.	Beds Occupied	
	Highest.	Lowest.		Highest.	Lowest.
January	140	121	July	161	143
February	127	109	August	151	124
March	116	101	September ..	146	128
April	105	82	October	181	141
May	124	83	November ..	182	156
June	151	111	December	157	123

The above table shows the highest and lowest number of beds in the entire hospital occupied during each month of the past year, and practically speaks for itself. Its explanation is to be found in the seasonal behaviour of the three principal diseases dealt with, viz., scarlet fever, diphtheria, and enteric fever. All three, as a rule, tend to decline somewhat in prevalence during the earlier part of the year. Scarlet fever is the first to resume activity in late spring or early summer, enteric fever follows suit a little after midsummer, and diphtheria, which shows the least seasonal variation of the three, is the last to resume special activity in late summer and early autumn. The only unusual feature about the table is the indication it gives of the relatively early period of the year under notice at which the number of occupied beds began to increase.

SCARLET FEVER.

The notified cases of scarlet fever numbered 1036 in 1909. Of these, 565, or 54 per cent., were admitted to the Isolation Hospital. The numbers admitted in each month of the year are given in the general table of monthly admissions on p. 126 of this report. The

proportion of all cases taken in during each of the five preceding years were, 39 per cent., 56 per cent., 57 per cent., 69 per cent., and 52 per cent.

All the cases remaining in the hospital at the close of 1908 ended in recovery, but there were 7 deaths among those admitted during 1909, three of males and four of females. In order to obtain the correct case-mortality for the year, we must consider only those cases finally disposed of within this period. These consist of the cases admitted during 1909, minus those remaining to be finally dealt with at its close, but plus those left over under similar circumstances from 1908. The total of cases thus arrived at is 547, and the 7 deaths which occurred during the year were equal to 1·27 per cent. of that total, the male rate being equal to 1·22 per cent. and the female to 1·33 per cent. The total case-mortality of the scarlet fever cases in hospital during the preceding five years was as follows:—1904, 1·09 per cent.; 1905, 2·31 per cent.; 1906, 2·64 per cent.; 1907, 1·75 per cent.; 1908, 3·25 per cent.

There were 3 deaths among the 471 cases nursed at home, representing a case death-rate of 0·64 per cent. The lowness of this rate is due to the fact that most of the severe cases were sent to hospital.

The accompanying tables give the age and sex distribution of cases and deaths, the particular causes of death in fatal cases, and the numbers and per-centages of cases in which the more important complications of the disease occurred.

Two members of the nursing staff were admitted to the wards with scarlet fever during 1909. Both recovered.

Before considering the "return cases" which occurred during the year, it may be well once more to define the term, "return case." A return case is any case

(say, of scarlet fever) occurring in a house to which one of our patients returns, on discharge from hospital, within 21 days of such return. Return cases may occur in connection with any infectious disease, but the use of the term is for the most part confined to scarlet fever. It is, of course, obvious that many cases occurring within this period may have been infected otherwise than through our patients, and that many, on the other hand, occurring after the lapse of the 21 days, may still have derived their infection from these patients. Some time limit, however, is required, and the one here adopted appears to be reasonable with a slight leaning towards error on the right side, *i.e.*, the error of over- rather than under-statement.

The number of such cases during 1909 was 14, and their monthly incidence was as follows:—4 in February, 1 in March, 2 in May, 1 in June, 2 in July, 1 in August, 1 in October, and 2 in November. The total number is equal to 2·56 per cent. of all the cases finally dealt with during 1909. The corresponding proportion in each of the five preceding years were:—3·48 per cent. in 1904, 1·28 per cent. in 1905, 1·17 per cent. in 1906, 1·76 per cent. in 1907, and 2·27 per cent. in 1908.

The practice of nursing cases of acute specific disease as far as possible in the open air, is still maintained at the City Isolation Hospital, as in former years. To anyone who has had opportunity of watching the progress of cases, especially those of marked severity, under these conditions, it must I think be at once apparent, that their progress is more satisfactory than when they are confined to the more or less close atmosphere of even the best ventilated wards. The difference in degree of purity between the air of a clean and well-ventilated ward and the open air, is not perhaps sufficiently radical to justify the expectation that the death-rate among severe cases will be greatly influenced by this practice; and the case-mortality of

Age and Sex Distribution of Non-fatal and Fatal Cases of Undoubted Scarlet Fever under treatment in Hospital during 1909, exclusive of those remaining at the close of the year, but inclusive of those carried over from 1908.

AGE PERIODS.	MALES.		FEMALES.	
	Recoveries.	Deaths.	Recoveries.	Deaths.
Under 1 year	1	..	..	..
Between 1 and 2 years	5	..	2	..
„ 2 and 3 „	8	..	14	1
„ 3 and 4 „	23	1	19	..
„ 4 and 5 „	26	1	21	1
„ 5 and 10 „	106	1	138	1
„ 10 and 15 „	49	..	56	1
„ 15 and 20 „	15	..	19	..
„ 20 and 25 „	7	..	15	..
„ 25 and 30 „	2	..	5	..
„ 30 and 35 „	1	..	4	..
„ 35 and 40 „	..	..	3	..
Over 40 years	..	..	1	..
TOTALS	243	3	297	4

TOTAL CASES, 547; deaths, 7; *case-mortality*, 1·27%.

MALE CASES, 246; deaths, 3; *case-mortality*, 1·22%.

FEMALE CASES, 301; deaths, 4; *case-mortality*, 1·33%.

Above cases constituted as follows:—

64 left over from 1908
565 admitted during 1909

629
82 left over for 1910

547 of definite issue during 1909.

Actual Age at Death, and Cause in Fatal Cases.

MALES. (3)

3 years .. Uræmia.
4 „ .. Pulmonary Embolism.
6 „ .. Uræmia.

FEMALES. (4)

2 years .. Convulsions.
4 „ .. Toxæmia.
5 „ .. Uræmia.
12 „ .. Toxæmia.

the relatively small numbers of cases dealt with varies so widely from season to season, as to render the use of the statistical method of demonstrating the value of such treatment extremely difficult. Still, I repeat, the cases obviously do better under these conditions than under those obtaining in the closed wards. There are absolutely no untoward results to the subjects of such treatment, and the advantage to other patients of separation from sources of active infection, often secondary and of a septic character, cannot fail to be highly beneficial.

Complications among Scarlet Fever Cases during 1909.

Complications.	Cases affected.	Percentage of all Cases.
Nephritis	24	4·5
Albuminuria	143	26·1
Otorrhœa	34	6·3
Rhinorrhœa	62	11·3
Abscess—Cervical	9	1·6
„ Mastoid	2	0·4
„ Orbital	1	0·2
Diphtheria	55	10·1
Second attack	29	5·3
Meningitis	2	0·4
Broncho-Pneumonia	1	0·2
Furunculosis	4	0·7
Herpes Zoster	1	0·2
Conjunctivitis	1	0·2
Lobar Pneumonia	1	0·2
Purpura	1	0·2
Arthralgia	19	3·5
Pulmonary Embolism	1	0·2
Phlebitis	2	0·4
Erysipelas	1	0·2
Surgical after burns	1	0·2
„ „ Ethmoid Disease	1	0·2

I must add a few comments here on the so-called "Barrier" system of treating infectious patients. This system consists broadly in the isolation of each patient's

bed by means of a cordon of some kind (*e.g.* a screen, cord, or tape) in a space by itself. With this system it appears to be possible to nurse cases of different infectious diseases in the same atmosphere and in close proximity, with a minimum risk of cross infection. Such a system is certainly an excellent precaution against contact—which is the principal means of infection—and also an excellent method of impressing upon nurses and patients the full meaning of physical isolation, but it is difficult to carry out in a hospital like ours, with a very large proportion of young patients of the poorer class, and with a nursing staff by no means in excess of average requirements under ordinary conditions. In my opinion, open-air treatment and convalescent wards constitute a simpler and more easily workable method of preventing the spread of infection.

In view of the benefit derived by all our patients from open-air treatment such as here described, I have long advocated the alteration of all our ward-blocks in a manner similar to that adopted some years ago at the Isolation Block. This alteration consists in the provision of an open verandah extending along the entire side of each ward-block, and communicating with the ward interiors by means of doorways formed by extending the existing window openings to the floor level. The nursing of patients on these verandahs would entail much less labour upon the nursing staff, than where—as at present—they are dealt with in the covered corridors, or on the open ground around the blocks. The patients also could be better protected against wind and weather, than they can be under existing outside conditions.

ENTERIC FEVER.

Forty-five out of the 157 cases of enteric fever notified during 1909, or 29 per cent. of all, were removed to the City Isolation Hospital. Forty-eight cases were admitted to the General Hospital, and three to the Workhouse Infirmary.

Owing to the considerable reduction which has taken place of late in the number of cases of enteric fever in Nottingham—partly through improved scavenging and general sanitation, and partly on account of cold and wet seasons,—we have lately had less difficulty than formerly in securing hospital accommodation for necessitous cases. But should the cases become more numerous, as they almost certainly would with hot and dry seasons, and the old pail-system of excrement disposal for heat and drought to work upon, we should again be met with the old difficulty of finding adequate hospital room for cases requiring removal; for there is an increasing tendency to throw the chief responsibility for dealing with such cases upon the Local Authority, and with existing arrangements at the City Isolation Hospital it is practically out of the question to provide more than 30 beds at most for cases of enteric fever, and this number is totally inadequate for such extensive outbursts of the disease as we have often had during the past 20 years.

It must be remembered that hospital accommodation is required both for the benefit of the patients themselves, and for that of the public: for the patients, because the majority of them cannot be properly nursed at home; for the public on account of the risk of infection through the careless disposal of urine and faeces, especially in poor neighbourhoods like our own furnished with pail-closets.

The total number of cases of enteric fever under treatment in the City Isolation Hospital during the year was 68. Of these, 23 (17 m. and 6 f.) were left over from 1908, and 45 (27 m. and 18 f.) admitted during 1909, 7 only (6 m. and 1 f.) being still in hospital at the close of the year.

The deaths among the 61 cases whose history was completed in 1909 numbered 10. The total case-mortality for the year, therefore, was equal to 16·4 per

cent.: the percentage of male deaths being 15·8, and that of the female 17·4. These rates, all round, are just double the rates of 1908, and, with the latter, serve to illustrate the variableness of enteric fever mortality from season to season, where small numbers of cases only are dealt with.

Age and Sex Distribution of Cases of Enteric Fever under treatment in Hospital during 1909, including those left over from 1908, but excluding those remaining at the end of 1909.

Ages.	Males.		Females.	
	Recovered.	Died.	Recovered.	Died.
Under 5 years	2	..	..	1
Between 5 and 10 years	7	1	2	..
„ 10 „ 15 „	4	2	3	1
„ 15 „ 20 „	..	..	2	1
„ 20 „ 25 „	6	1	5	1
„ 25 „ 30 „	4	..	4	..
„ 30 „ 35 „	5	..	1	..
„ 35 „ 40 „	2	..	1	..
Over 40 years	2	2	1	..
Totals ..	32	6	19	4

Total Cases, 61.—Deaths, 10. *Case-mortality*, 16·4%.
Male Cases, 38.—Deaths, 6. *Case-mortality*, 15·8%.
Female Cases, 23.—Deaths, 4. *Case-mortality*, 17·4%.

The above 61 cases are made up as follows:—

23 remaining at end of 1908.
45 admitted during 1909.

68
7 remaining at end of 1909.

61 finally dealt with during the year.

In the fatal cases death was due to Exhaustion in 3, Meningitis in 2, Cardiac Failure in 2, Hæmorrhage in 1, Toxæmia in 1, and Pneumonia in 1.

The accompanying table shows the numbers of cases and deaths of each sex at various age-periods.

The numbers of cases admitted in each month of the year—excepting May, when there was no case admitted—is shown in the table on page 126 (post).

These numbers varied from 1 in April, and 2 each in January, March, and September, to 7 each in February, October, and November.

The subject of enteric fever in Nottingham, during 1909 and other years, is discussed from the public health standpoint, under the heading of "enteric fever," in the body of this Report (p.p. 54 to 65).

It is with very great regret that I record the death, on September 14th, from enteric fever contracted in the hospital, of Mr. Joseph Thompson, the gate-keeper, constable, and foreman of the ground staff at the hospital. Mr. Thompson had been in the service of the Corporation since 1885, when a temporary isolation hospital was first established on the Glebe Farm enclosure at Bagthorpe, and had served the town with conspicuous fidelity and usefulness.

DIPHTHERIA.

Of the 438 cases of diphtheria notified during 1909, 208 (or 47·5 per cent.) were removed to the City Isolation Hospital. The proportion of all diphtheria cases taken to hospital, in each of the five preceding years, were, respectively, 24 per cent., 44 per cent., 47 per cent., 48 per cent., and 57 per cent.

The accompanying tables give the age and sex incidence and mortality of the disease, the monthly admission of cases to hospital throughout the year, the actual causes of death in fatal cases, and the complications recorded, together with some details of the antitoxin administered and of the tracheotomy operations performed.

The cases admitted during 1909, plus those left over from 1908, but minus those remaining at the end of 1909, make up the list of completed cases for the latter year. These were 219 in number, and the deaths among them, 17.

Age and Sex Distribution of Cases of Diphtheria under treatment during 1909, including those left over from 1908, but excluding those remaining at end of 1909.

Ages.	Males.		Females.		Monthly Admissions.
	Recovered.	Died.	Recovered.	Died.	
Under 1 year ..	3	..	2	..	Jan. 29
Between 1 and 2 years	1	1	4	4	Feb. 12
„ 2 and 3 „	4	2	4	..	March 16
„ 3 and 4 „	9	2	10	4	April 11
„ 4 and 5 „	14	1	12	..	May 19
„ 5 and 10 „	30	1	30	2	June 19
„ 10 and 15 „	18	..	19	..	July 18
„ 15 and 20 „	3	..	11	..	Aug. 15
Over 20 years ..	8	..	20	..	Sept. 12
					Oct. 21
					Nov. 20
					Dec. 16
Totals	90	7	112	10	208 whole year.

Total Cases, 219.—Deaths, 17. *Case-mortality*, 7·76 %.
Male Cases, 97.—Deaths, 7. *Case-mortality*, 7·2 %.
Female Cases, 122.—Deaths, 10. *Case-mortality*, 8·2 %.

The 219 cases are made up of—

31 „ remaining at end of 1908.
208 „ admitted in 1909.

239
20 „ left over at end of 1909.

219 „ finally dealt with during the year.

Causes of Death.—Cardiac Paralysis, 6; Toxæmia, 5; Broncho-Pneumonia, 4; Convulsions, 1; Tuberculous Peritonitis, 1.

ANTITOXIN.

208 cases admitted:—

171 recovered; of these 157 had 1,049,000 units of antitoxin, or an average of 6,688 per case.

17 died; of these 13 had 146,000 units, or an average of 11,230 per case.

20 carried over into 1910.

TRACHEOTOMIES.

F. 1 aged 1 Recovered.
2 „ 1 Died.
1 „ 2 Recovered.
1 „ 3 „
1 „ 4 „
1 „ 5 „
M. 1 „ 3 „
1 „ 3 Died.
2 „ 4 Recovered.
1 „ 4 Died.

The case death-rate for both sexes was equal to 7·76 per cent., that of males to 7·2 per cent. of the male cases, and that of females to 8·2 per cent. of the female. There was, however, no mortality among the 31 cases left over from 1908, all the deaths occurring among the 208 admitted during 1909.

The case-mortality was higher generally than that of 1908, and this I think was certainly due to increased severity of type in the disease, as compared with that of the previous year.

Three nurses and one ward-maid were admitted to the wards with diptheria during 1909. They all recovered.

Tracheotomy was performed upon 12 patients, 5 males and 7 females. Two of the males were 3 years of age, and three 4 years. One at each age died, the others recovered. The females were, three of them aged 1 year, and one each aged 2, 3, 4, and 5 years, respectively. Two of those aged 1 year died, the others recovered.

The amount per head of antitoxin administered is a fair measure of the severity of cases. During 1909 the 171 cases which ended in recovery had an average of 6,688 units, as compared with one of 4,753 for the 213 corresponding cases of 1908. The fatal cases of 1909 had an average of 11,230 units, as against one of 7,769 for the 13 fatal cases of 1908.

I have already referred to the importance of administering the antitoxin as early as possible after a diagnosis of diphtheria is made. My excuse for returning to the subject is, that many cases that have been a considerable time under treatment are still continually sent into our hospital without having received any serum, and this notwithstanding the fact that it is given out gratuitously from the Health Department for all poor patients requiring it. The antitoxin is

practically a specific for all ordinary cases, but every hour that elapses between the commencement of the disease and the use of the remedy diminishes its utility.

It is still, as formerly, the uniform practice at the City Isolation Hospital to require that two swabs (from throat, nose, etc.), shall have been bacteriologically examined, at intervals of not less than three days, with a negative result, in every case before discharge from the hospital. The average duration of stay of diphtheria patients in hospital under this regime during 1909 was 55 days, as against 51 days in 1908.

Complications among Diphtheria Cases.

Name of Complication.	No. of Cases.	Percentage of all Cases.
Strabismus	2	0·4
Palatal Paralysis	13	2·4
Laryngeal Diphtheria (without operation) ..	2	0·4
Cervical Abscess	4	0·7
Nephritis	3	0·5
Otorrhœa	2	0·4
Rhinorrhœa	4	0·7
Scarlet Fever (concurrent)	15	2·7

TUBERCULOUS PHTHISIS.

The phthisical patients admitted to the Sanatorium during 1909 were 56 in number, 33 males and 23 females. There were 12 in residence at the close of 1908, and 14 at the close of 1909. The average duration of stay of these patients was 87·5 days. There were nine deaths during the year, two among the 12 patients left over from 1908, and seven among those admitted during 1909.

The table which accompanies this section gives the usual particulars of the cases, and speaks for itself.

It must be understood that the Municipal Sanatorium exists quite as much for the purpose of disseminating useful knowledge respecting the preventive treatment of phthisis, as for the curative treatment of incipient and hopeful cases of the disease. The ordinary sanatorium has for its principal object the successful

treatment of curable cases, and all obviously incurable cases are as far as possible excluded from it. There are two principal reasons for this. The first is, that advanced cases bring no credit to the institution during life, and after death go to swell the list of its failures. The second reason is, that the sight of a person obviously dying from the same complaint as the other patients are affected with, must have an extremely depressing effect upon these patients, and, in the absence of special wards for the dying, the latter will usually be more or less in open view.

In the City Sanatorium hopeful cases are also necessarily preferred for the reasons just mentioned as operating at the larger sanatoria, and because their nursing is much less laborious than that required for the hopelessly advanced, but cases at all stages and in all conditions are admitted by us without demur, and the only special arrangement we make for hopeless cases is the provision of a separate room when possible for the last stage of their earthly journey.

The more one sees of this last stage in phthisis cases among the poor, the more one realizes the necessity for hospitals or retreats, other than those of the workhouse, set apart for their exclusive accommodation. It is eminently desirable that the homes should be relieved of such sources of infection, and there is a deep-rooted objection on the part of the more respectable of both patients and friends to any institution connected with the workhouse.

The tuberculosis leaflet, which gives simple instructions for dealing with tuberculous patients and the infection emanating from them, in the home, and which has been issued from the Health Department since 1894, is reproduced as usual in the Appendix of the Report.

NOTTINGHAM. 1909.—Cases of Phthisis at Municipal Sanatorium.

Name.	Sex.	Age.	Occupation.	Date of Admission.	Number of days in Hospital.	Condition on Admission.	Weight on Admission.	Weight on Discharge.	Condition at Present Time, or at Date of Discharge, or Ultimate Issue.
							St. lbs.	St. lbs.	
K. B.	F.	48	Married Woman...	4th Jan., 1909	124	No physical signs	10 12	10 11	Improved.
F. S.	F.	29	Nurse	11th ,, ,,	145	Left lung slightly affected ...	7 8	8 3	Improved. No physical signs.
A. W.	F.	32	Slipwinder ...	18th ,, ,,	5	Both lungs badly ,, ...	6 10	...	In *statu quo*.
P. S.	M.	25	Farm Labourer ...	9th Feb. ,,	69	Both lungs badly ,, ...	9 1	...	Died.
H. M.	F.	23	Married Woman...	9th ,, ,,	28	Both lungs badly ,, ...	8 9	8 9	In *statu quo*.
K. F.	F.	37	Married Woman...	16th ,, ,,	19	Both lungs badly ,, ...	...	...	Died.
W. R.	M.	19	Clerk	27th ,, ,,	36	No physical signs	9 0	9 5	Improved. No physical signs.
W. J.	M.	15	Plumber	3rd Mar. ,,	14	No physical signs	5 10	5 12	Improved.
C. E. B.	F.	47	Companion ...	12th ,, ,,	209	Both lungs badly affected ...	6 4	6 8	Died (of Hæmoptysis).
W. D.	M.	28	Clerk	15th ,, ,,	35	No physical signs ...	8 2	8 10	Improved. No physical signs.
W. J. M.	M.	32	Gas meter maker	5th April ,,	77	Both lungs slightly affected ...	8 12	9 7	Improved.
W. J. E. G.	M.	35	Gas meter maker	6th ,, ,,	44	Right lung badly ,, ...	...	...	Died.
J. C.	M.	36	Gas worker ...	16th ,, ,,	193	Left lung slightly ,, ...	12 6	10 11	In *statu quo*.
J. W. S.	M.	40	Lace hand ...	20th ,, ,,	126	Left lung badly ,, ...	7 13	...	Died.
L. M.	F.	30	Shop Assistant ...	21st ,, ,,	42	Both lungs ,, ...	7 3	7 0	In *statu quo*.
G. C.	M.	37	Discharged Soldier	29th ,, ,,	26	Fistula in Ano and right lung affected...	11 1	11 3	In *statu quo*.
G. H. D.	M.	31	Policeman ...	5th May ,,	29	Right lung badly affected ...	...	...	Died.
E. A.	F.	21	Blouse Maker ...	13th ,, ,,	156	Both lungs ,, ...	8 10	8 4	Improved.
E. D.	F.	18	Lace Dresser ...	20th ,, ,,	58	Right lung ,, ...	7 7	7 12	In *statu quo*.
M. A. S.	F.	45	Domestic Servant	21st ,, ,,	55	Right lung ,, ...	7 9	8 4	Improved.
A. N.	F.	27	Draper's Assistant	25th ,, ,,	105	Both lungs ,, ...	5 13	6 1	Improved.
J. G. L.	M.	28	Engineer	28th ,, ,,	62	Right lung ,, ...	7 13	8 6	Improved.
J. T.	M.	56	Crate Maker ...	31st ,, ,,	93	Right lung badly ,, ...	10 10	10 1	In *statu quo*.
C. R.	F.	40	Married Woman...	10th June ,,	30	Right lung slightly ,, ...	8 9	9 3	Improved. No physical signs.
S. T.	M.	30	Joiner	12th ,, ,,	14	Right lung slightly ,, ...	9 13	10 6	Improved.
E. R.	M.	43	Discharged Soldier	22nd ,, ,,	48	Both lungs ,, ...	8 2	8 1	Improved.
S. T.	M.	31	Tobacco hand ...	18th July ,,	106	Left lung slightly ,, ...	9 10	10 7	Improved.
A. H.	F.	21	Cigarette Maker ...	19th ,, ,,	84	Both lungs slightly ,, ...	6 5	6 6	Improved.

NOTTINGHAM. 1909.—Cases of Phthisis at Municipal Sanatorium—*continued.*

Name.	Sex.	Age.	Occupation.	Date of Admission.	Number of days in Hospital.	Condition on Admission.	Weight on Admission. St.	lbs.	Weight on Discharge. St.	lbs.	Condition at Present Time, or at Date of Discharge, or Ultimate Issue.
S. N.	M.	57	Bleacher	23rd July, 1909	39	Right lung badly affected ...	8	11	9	3	In *statu quo.*
E. D.	F.	18	Lace Dresser ...	24th ,, ,,	42	Right lung ,, ...	7	7	7	10	In *statu quo.*
E. G.	F.	14	Laundress ...	6th Aug. ,,	34	Left lung slightly ,, ...	5	10	5	13	Improved.
S. M.	M.	37	Joiner	7th ,, ,,	91	Hæmoptysis. No physical signs ...	11	5	11	12	Improved. No physical signs.
J. D.	M.	24	Discharged Soldier	10th ,, ,,	308	Left lung affected	11	4	13	1	Improved. No physical signs.
H. B.	M.	38	Driller	10th ,, ,,	109	Right lung slightly affected ...	8	7	10	3	Improved.
F. T.	M.	20	Carter	16th ,, ,,	38	Left lung slightly ,, ...	7	10	8	3	Improved.
M. H.	F.	19	Cigar Maker ...	31st ,, ,,	38	Left lung badly ,, ...	5	12	5	8	In *statu quo.*
P. S.	M.	35	Cobbler	2nd Sept. ,,	40	Both lungs ,, ...	8	5	8	13	Improved.
C. B.	F.	34	Married Woman...	6th ,, ,,	15	Both lungs slightly ,, ...	9	1	8	10	Improved.
L. L.	M.	18	Telephone Repairer	30th ,, ,,	Still in Hospl.	Left lung slightly ,, ...	9	10	10	7*	Improved.
J. C.	M.	36	Gas Worker ...	5th Oct. ,,	26	Both lungs badly ,, ...	...		...		Died.
J. N.	F.	32	Married Woman...	13th ,, ,,	180	Right lung badly ,, ...	6	11	...		Died.
R. K.	M.	54	General Dealer ...	16th ,, ,,	50	Both lungs ,, ...	10	5	11	9	Improved.
F. S.	M.	17	Draper	21st ,, ,,	133	Right lung slightly ,, ...	9	12	10	8	Improved. No physical signs.
C. S.	F.	38	Married Woman...	22nd ,, ,,	63	Right lung ,, ...	6	8	7	7	Improved.
W. W. S.	M.	35	Clerk	25th ,, ,,	4	Right lung ,, ...	10	11	...		In *statu quo.*
J. H. P.	M.	25	Tracer	1st Nov. ,,	125	Right lung ,, ...	8	1	8	9	Improved.
P. P.	M.	19	Typist	8th ,, ,,	117	Right lung slightly ,, ...	8	3	8	11	Improved.
A. M. G.	M.	25	Plumber	10th ,, ,,	103	Left lung badly ,, ...	7	11	...		Died.
M. C.	F.	38	Nurse	17th ,, ,,	14	No physical signs	...		...		Improved. No physical signs.
B. B.	F.	24	Machinist ...	19th ,, ,,	112	No physical signs	8	9	9	3	Improved. No physical signs.
M. W.	M.	24	Mechanic ...	6th Dec. ,,	61	Left lung affected ...	8	0	7	7	Died 9 days after discharge.
A. G. S.	F.	35	Married Woman...	8th ,, ,,	Still in Hospl.	Both lungs ,, ...	6	9	6	12*	Improved.
E. R.	M.	43	Discharged Soldier	14th ,, ,,	182	Both lungs ,, ...	8	0	...		Died.
L. S.	F.	8	School Girl ...	18th ,, ,,	47	Right lung slightly affected ...	3	2	3	3	Improved.
H. P.	M.	21	Clerk	20th ,, ,,	Still in Hospl.	Left lung ,, ...	9	4	9	12*	In *statu quo.*
S. T.	M.	32	Tobacco Hand ...	27th ,, ,,	82	Left lung slightly ,, ...	10	7	10	5	Improved.

* Weight in June, 1910.

The original inclusive charge of 10/6 a week for each patient admitted to the Sanatorium, is still maintained, and is usually paid ungrudingly by, or on behalf of, the patients or their friends.

I have once more much pleasure in acknowledging the obligation we are under to the Committee of Lady Visitors to the Sanatorium, originally appointed by the Social Guild Institution, with the sanction of the Health Committee. The ladies now serving on this Visiting Committee are:—Mrs. Bousfield, Mrs. F. J. Bradley, Miss Henrietta Carey, Mrs. C. H. Cattle, Miss Alice Morley, Mrs. Lewis Moysey, Miss Katherine Musson, and Mrs. W. E. Ryles. These ladies not only visit the Sanatorium regularly, but they also supply the patients with various luxuries, and offer friendly counsel and sympathy, which are for the most part gratefully received and appreciated.

I have also, again, very sincerely to thank Miss Henrietta Carey and Miss Katherine Musson, for collecting from various sources the money required for the maintenance of necessitous patients at the Sanatorium.

OTHER CASES.

The list of "other cases" which accompanies this section has already been sufficiently referred to, as also the cases of scarlet fever complicated with diptheria, all of which render the work of satisfactorily administering an isolation hospital additionally difficult and arduous. The cases of sickness among the members of the hospital staff have also been referred to under the headings of the particular diseases contracted. In only one instance, that of Mr. Joseph Thompson, was the issue fatal, and in all the others recovery was complete, without serious complication. The amount of such toll paid continually in the Public Health service, is very considerable in the aggregate, but is usually taken as a matter of course, and, therefore, attracts as a rule little public attention or interest. To take the case of enteric

Table showing monthly admissions of Cases of Scarlet Fever, Enteric Fever, Diphtheria and Phthisis, and "Other Cases," together with the monthly numbers of return cases of Scarlet Fever during 1909.

Months.	Cases Admitted.					Return Cases of Scarlet Fever.
	Scarlet Fever.	Enteric Fever.	Diphtheria.	Phthisis	Other Cases.	
January	39	2	29	3	2	..
February	26	7	12	4	4	4
March	38	2	16	3	..	1
April	25	1	11	6	3	..
May	56	..	19	7	5	2
June	48	5	19	3	1	1
July	54	3	18	4	6	2
August	40	6	15	6	2	1
September	70	2	12	3	1	..
October	80	7	21	6	5	1
November	46	7	20	5	2	2
December	43	3	16	6	9	..
Totals	565*	45	208	56	40	14

* No less than 64 patients sent in with Scarlet Fever were found after admission to be suffering also from Diphtheria. The consecutive monthly numbers of such cases were :—2, 1, 17, 1, 5, 0, 1, 16, 6, 4, 6, and 5.

Table of "Other Cases" admitted during 1909.

8 Measles, 2 wrongly certified as Scarlet Fever, 2 as Diphtheria, and 2 as Enteric Fever.
1 Septic Purpura. Fatal.
1 Liver Abscess, wrongly certified as Enteric Fever.
2 Croupous Pneumonia " " " "
1 Rubella " " Scarlet Fever.
2 No disease " " " "
1 Tuberculous Meningitis, wrongly certified as Diphtheria, fatal.
2 Fæcal impaction { 1 " " Enteric Fever. / 1 Hospital Staff.
8 Pharyngitis { 2 wrongly certified as Diphtheria. / 6 Hospital Staff.
4 Whitlow
3 Influenza
2 Gastritis
2 Dyspepsia
2 Emphysema and Bronchitis
1 Laryngitis
} Hospital Staff.

40

fever as perhaps the most serious example : I discovered and reported some years ago, that in the hospitals of Leicester, Nottingham, and Sheffield, the members of the hospital staffs attacked by the disease, per 100 of enteric fever cases admitted, ranged from 3 to 7 in number during a period of about three years. And yet such serious incidence attracted but little attention even in the hospitals where it occurred.

The total cost of the Hospital and Sanatorium during the financial year ending March 31st, 1910, is given by the City Accountant as £7,395. The amount spent during the immediately preceding year was £7,097, but the advance of £298 in the expenditure of 1909–10, as compared with the previous year, is fully accounted for by the fact that 204 more patients were admitted in the former than in the latter period. The cost, however, in large institutions of this character does not increase, *pari passu*, with the number of patients, as I shall now show.

The cost per bed during the year ending March 31st, 1910, works out at £49 6s. 0d., as compared with £55 8s. 10d. in the previous year, and the cost per patient at £8 1s. 2d., against £9 8s. 10d. in the previous year. The establishment expenses in these institutions are necessarily heavy, and practically constant, but the cost per head of maintaining any number of patients up to the limit of the hospital's capacity varies in an inversely increasing ratio with the number of patients maintained.

Dr. Oswald Kentish Wright continues to act as Resident Medical Officer at the City Isolation Hospital and Sanatorium, and as my assistant and deputy, and the manner in which he performs his various duties is entirely satisfactory.

Miss Julia Taylor also is still Matron of the institution, and devotes herself with praiseworthy assiduity to the duties of her office.

Handbills, Leaflets, etc. (*Distributed from the various sections of the Health Department.*) Leaflet literature, relating to (*a*) the feeding and care of infants, (*b*) the prevention of diarrhœa and cholera, (*c*) vaccination and small-pox, (*d*) the prevention of tuberculous consumption, (*e*) the care of scarlet fever patients discharged from Fever Hospitals, (*f*) the provision of the Shop Hours Acts, and (*g*) the Home Office requirements as regards "sanitary accommodation" in factories, will be found reprinted in Appendix B of this Report.

WORK IN DEPARTMENTS.

Municipal Laboratory of Bacteriology.

—Dr. F. H. Jacob, the City Bacteriologist, supplies the following account of official bacteriological work carried out during 1909—

Particulars of Investigation.

(*a*) In connection with Human Cases of Tuberculosis or suspected Tuberculosis :

1. Specimens examined for tubercle bacilli, with a positive result - - - -	31
2. Do. do. with a negative result -	158
	189

(*b*) In connection with Human Cases of Diphtheria, or suspected Diphtheria :

1. Specimens (throat, nose, and ear swabs) examined for bacillus diphtheriæ, with a positive result - - - - -	523
2. Do. do. with a negative result	2137
	2660

(*c*) In connection with Human Cases of Enteric Fever, or suspected Enteric Fever :

Widal's reaction—

1. Positive result - - - - -	60
2. Negative result - - - - -	104
	164

(*d*) In connection with Tuberculosis or suspected Tuberculosis in Milch Cows :

1. Milk examined with positive result -	—
2. Do. do. negative result -	12
3. Do. do. suspicious result -	1
	13

(*e*) In connection with suspected existence of other infective organisms in Milk under (*d*) :

Streptococci, staphylococci, diplococci, and pus found in all - - - - -	12

(*f*) In connection with peculiar odour and tendency to rapid decomposition in Milk :

Milk examined and peculiar mobile bacillus found - - - - - -	1

(*g*) In connection with supposed existence of Bacilli of colon group in Milk :

Milk examined with positive result - -	1

(*h*) In connection with diseased or otherwise unwholesome meats :

Specimens of beef found to contain Staphylococci - - - - - -	2

Disinfecting Department.—There is unmistakeable evidence on every hand of a growing appreciation in the public mind of what is meant by the terms infection and disinfection ; and one of the surest signs of this growth of knowledge is an increased demand for our services, in cleansing persons, goods,

and premises, infected, or supposed to be infected, with the particulate virus of various communicable diseases.

The degree of prevalence of certain of the acute specific diseases for which disinfection is practised as a matter of routine, must necessarily determine the bulk of the work the department is called upon to perform from year to year; but the signs of public awakening to which I refer are not most commonly manifested in connection with the routine and almost automatic practice of disinfection, carried out by us in connection with such varying epidemic incidence. This latter is accepted as a matter of course. The fresh public understanding and interest are chiefly apparent in connection with such diseases as phthisis, intestinal tuberculosis, epidemic diarrhœa, and cancer. Unfortunately, this new sentiment, like most other human feelings begotten of incomplete knowledge and active imagination, is liable to run to extravagant lengths, but even this is better than apathy.

All disinfecting work performed by us on account of epidemic diseases, and most of that for other communiciable disorders, is done gratuitously; but a charge is made for the cleansing of houses and goods infested with moth, vermin, etc., except when such service is required by persons unable to pay for it.

The cleansing of the persons and the clothing of children and adults infected with pediculosis and other parasitic disease, the first on behalf of the Education Committee, the second for the Health Department under the Cleansing of Persons Act, 1897, is now carried out on a fairly extensive scale at the Eastcroft Disinfecting Station, which was fitted up some years ago with baths and other appliances, in addition to the steam disinfecting apparatus, to allow of its use for such purpose.

Articles Disinfected at the Public Stations in Nottingham, 1893-1909.

	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
Bedding	8521	2943	10990	8822	4483	7550	22385	14582	12758	13002	13765	14391	11112	18970	12666	12801	13093
Clothing	11266	20579	12652	9012	4768	5554	14605	10517	9403	3785	9707	9268	10527	9548	9634	9668	10406
Furniture and Hangings	726	1541	1277	2184	1382	2130	2722	2397	3257	4455	2828	3145	2803	2842	3042	3718	3935
Miscellaneous Articles ..	10573	10303	13272	8394	8341	7699	14093	9498	9410	11498	12204	10558	11447	16856	15709	18654	17502
TOTAL	31086	35366	38191	28392	18974	22933	53805	36994	34828	32740	38504	37362	35889	48216	41051	44841	44936

Houses Disinfected, 1903-09.

1903	1904	1905	1906	1907	1908	1909
1977	1891	1243	1466	1075	1192	1432

Persons Cleansed and Disinfected at Public Stations, 1909 284

School Premises Disinfected during 1909 50

Private Houses Disinfected and Cleansed for Phthisis during 1909 66

The following passage from my Report of the current year, to the Education Committee, gives an account of the past and present position of affairs at this station, and of proposals for its future extension, which has met with acceptance from the Education Committee, and which I venture therefore to repeat here.

"For some years past the nucleus of a clinic and cleansing station has existed in connection with the disinfecting depôt at the Eastcroft Wharf on London Road, and, since the organization of the new Medical Inspection Department, an ever increasing amount of clinical and cleansing work has been carried on there by Officers of the Education (M. I.) and Health Departments conjointly—but the cost of this work has hitherto been borne by the Health Department. As many as 200 to 250 cases of such complaints as ringworm, impetigo contagiosa, discharging ears, blepharitis, and pediculosis, have been dealt with weekly at this station during the past few months, and some 20 to 30 fresh cases have been added to the list each week as others have been discharged. It is now proposed to improve and extend the station by equipping the disused coroner's court situated on the Eastcroft approach, as a clinic and cleansing centre, and there can be little doubt that the popularity and usefulness of this station will be greatly enhanced by the change."

Almost all the work is at present done by the Health Department, but as soon as the Board of Education have given their sanction to the clinic and cleansing station as an appendage of the Education Department, a large portion will be taken over and paid for by that Department.

The usual tables, giving particulars of the disinfection of various kinds carried out during 1909 and other recent years, accompany this section.

Mr. Harry Ward, Cert. R. San. I., continues to act as superintendent of this department of our work in an entirely acceptable manner.

The Mortuaries.—The bodies taken to the three public mortuaries of the City during 1909 were 230 in number. The totals for each of the previous three years were, respectively, 218, 256, 250.

Number of Bodies, Male and Female, taken into each of the Public Mortuaries during each month of the year 1909.

Month.	Leen Side.		Hyson Green.		Bulwell.		Total per Month.		Total both Sexes.
	Male Bodies.	Female Bodies.	Male Bodies.	Female Bodies.	Male Bodies.	Female Bodies.	Male Bodies.	Female Bodies.	
January ..	9	11	4	..	1	1	14	12	26
February ..	6	2	8	1	..	..	14	3	17
March ..	8	7	6	5	..	..	14	12	26
April ..	5	3	9	4	..	..	14	7	21
May.. ..	4	1	2	1	1	..	7	2	9
June ..	6	2	4	6	..	..	10	8	18
July ..	4	4	5	5	..	..	9	9	18
August ..	2	1	4	3	1	1	7	5	12
September	..	6	11	1	2	..	13	7	20
October ..	13	10	1	..	..	1	14	11	25
November ..	4	4	3	9	1	..	8	13	21
December ..	5	3	5	2	2	..	12	5	17
	66	54	62	37	8	3	136	94	230

The numbers of bodies sent to the public mortuaries vary somewhat with numerous accidental circumstances, like the numbers and mode of violent deaths and consequent inquests, from season to season, but beyond this there is little to be said respecting the numbers of bodies taken in.

With regard to the degree of use of each of the several establishments :—during 1909 there were more bodies taken to Hyson Green, and less to Leen Side and Bulwell, than in 1908. The Bulwell mortuary, however, I may mention once more, is only an adapted outbuilding attached to the Police Station, intended for occasional use in emergencies, and in this way, and to this extent only, is it ordinarily used.

Public Lavatories.—There has been no change in the number and position of these public conveniences during 1909.

Their situation and description are as follows :—

For Men—Parliament Street (underground).
Milton Street ,,
Gedling Street.
Shambles.
Carrington Street Bridge.
Trent Bridge.

For Women—Milton Street (underground).
Gedling Street.
Shambles.
Trent Bridge.

The pair of lavatories, one for each sex, at Trent Bridge, are the least patronized : the women's lavatory in the Shambles and the men's in Parliament Street are the most used. Indeed, the accommodation of the last named is far too small for the demands continually made upon it, especially at night time, and might advantageously and profitably be extended to at least double its present proportions.

Public lavatories (especially for women) are much required in the neighbourhood of the Lace Market, and in outlying parts of the town on the North and East.

Common Lodging Houses.– The number of common lodging houses on the City Register at the end of 1909 was 58, as compared with 62 at the end of 1908. Five houses were closed during the year, and these were situated, 2 in Red Lion Street (Narrow Marsh), 1 in Water Street, 1 in North Church Street (the Corporation House for Women), and 1 in Mount Street, Angel Row. One new house was opened in Cross Street.

Common Lodging Houses. Situation:—

In Red Lion Street (and yards opening thereon)	43
„ Millstone Lane	1
„ Canal Street and Leen Side	4
„ Main Street, Bulwell	2
„ Portland Place, Coalpit Lane	1
„ Washington Street..	1
„ Popham Street	1
„ Cherry Street	1
„ Clare Street..	1
„ Peel Street	1
„ Pear Street	1
„ Cross Street	1
	58

The total number of beds in these houses, for both sexes, at the close of 1909 was 996, as against 1,068 at the end of 1908. These beds, double and single together, were capable of accommodating 1,137 persons at the close of 1909, as compared with 1,209 at the end of 1908.

Common Lodging Houses, Nottingham, 1909.
Accommodation Data.

Number of Houses.				
	For Males only.	For both Sexes.	Total No. of Houses.	Total No. of Beds.
Houses.. ..	29	29	58	..
Beds	584	412	..	996

	No. of Houses.	Bed Accommodation.						Registered amount of bed accommodation for lodgers.
		Less than 10 beds.	10 to 20.	21 to 30.	31 to 40.	41 to 50.	51 to 60.	
Houses on Register, 1908..	62	7	31	17	4	2	1	1,209
New Houses opened ..	1	..	1	..	..	..	..	18
Houses closed	5	..	3	2	..	..	..	90
Houses on Register at end of 1909	58	7	29	15	4	2	1	1,137

Any reduction in the common lodging houses of the Narrow Marsh area is to be welcomed, as in recent times they have been altogether too numerous. The social derelicts and other nomads which frequent them in large numbers are hard to reach with any reforming influence, and their presence in force in any district is often a distinct bar to its improvement.

There are now 43 of these houses in the Narrow Marsh (Red Lion Street) area, as against 45 at the close of 1908. There are, of course, several classes of common lodging houses, but houses of the better class are not found within the Narrow Marsh precincts.

All the houses on the City Register were limewashed throughout, or painted and cleansed, in both April and October, as required by the Public Health Act, 1875.

The Corporation Lodging House for Women only, in North Church Street, with accommodation for 20 lodgers, was closed in July, 1909, for the reason—frequently urged by myself in previous Annual Reports—that it was not serving in any measure the purpose for which it was established, viz., the reception of respectable women of the working classes in need of temporary lodging.

A good lodging house for women is much needed in Nottingham, but I am strongly of opinion that the advice and assistance of experienced ladies is practically essential to the successful management of a house of this character.

With regard to the Corporation House for Men, I have practically nothing to add to, or take from, the observations contained in my Report for 1908, which I venture therefore to repeat. They were as follows :—

"The men's house in Popham Street has failed, because though clean and respectable, it is a bare and comfortless barrack in a mean side street. No money has been spent on it beyond what was necessary to keep it clean and habitable, and it has consequently been unable

to compete successfully with more enterprising and business-like contemporaries. A house in a decent working-class neighbourhood, equipped and managed on the lines of the Rowton Houses and Church Army Homes, if established in Nottingham by the Corporation, would, I believe, prove a boon to the poor, and a commercial success."

Mr. G. A. Read, Cert. R. San. I., who has been Inspector of Common Lodging Houses for many years, still retains the post, and performs his duties in a tactful and thoroughly efficient manner.

Corporation Lodging Houses.

Situation of lodging-house.	No. of beds.	No. of Lodgers admitted in each of the years. 1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.
Popham Street (Men only).	28	7,965	8,262	9,282	9,194	8,821	8,798	8,754	7,833	7,096	7,084
Nth. Church St. Formerly Parliament St. (Women only).	20	3,603	3,612	4,631	5,123	4,529	4,215	3,876	3,985	3,157	*1,739
		11,568	11,874	13,913	14,317	13,350	13,013	12,621	11,818	10,253	8,823

* House finally closed July 1909.

In my next Annual Report I shall deal with the subject of houses let in lodgings or tenements, our local draft of regulations for which the Local Government Board have now practically approved. The new work under these regulations will consist in the control of "furnished" tenements in the slums, and if properly carried out should prove beneficial to a large class of poor people, who, not having homes of their own, are constrained to take refuge in lodgings. I brought forward a report on this subject some 12 years ago, but the time was not then considered ripe for such action as you are now proposing to take.

Housing of the Working Classes Acts. 1890 to 1909.—These Acts are now administered by a special Housing Committee, and the work done under them forms the subject of a special report already published. It is only necessary here, therefore, to mention that 261 insanitary houses have already (June 30th, 1910) been rehabilitated and rendered habitable,

and 119 others scheduled as requiring radical repair and improvement. Four dwellings have been removed as obstructive of light and ventilation.

Perhaps the best example among these of the rehabilitation of decayed working-class dwellings, is that to be found in Parker Street and Windmill Street, Radford. In these streets 51 small dwelling-houses have been thoroughly cleaned, repaired, and in some cases almost reconstructed; they have been provided in each case with sinks and taps in the sculleries at the rear, and with W.C.'s in lieu of the previously existent pail-closets; the yards at the rear of, and the public streets also between, the houses, have been to some extent repaved, and the public and private drains overhauled and put in good working order.

All this has been done by informal arrangement with the owner, and at his cost. The total outlay in respect of all these alterations and repairs has amounted to about £500.

The cottages contain three and four rooms, and are let at from 3/- to 4/9 per week. The rents for this block of property are collected by Miss Henrietta Carey, of the Social Guild, and her assistants, and these ladies also exercise a general supervision over the houses and their tenants.

Similar work to this has been carried out in Deakin's Yard, St. Peter's Street; in Stag Yard, Poplar; in Taylor's Yard, Ilkeston Road; and in White, Pomfret, Sydney, and Cavendish Streets in lower Sneinton. In addition to these, 13 houses in Blackstone Street, and 46 in Queen's Grove have been in a great measure reconstructed and refitted by the owners without specific notices, and no less than 332 others cleansed and repaired in part or throughout under notice from the Health Committee.

Many people are unable to perceive the necessary connection between social and housing reform and that of the closet, but as a result of many years' experience and observation I have become convinced that in Nottingham at any rate the substitution of W.C.'s for pail-closets is essential to the success of any general scheme of slum improvement, not only on grounds of health but on those also of decency and morality. Moreover, there should be one W.C. to every house. No decent family will be content to share the use of such a convenience with strangers. It is unnecessary to enlarge upon the unpleasantness, the inconvenience, and the risks of such a partnership.

The Notification of Births Act, 1907, and the "Mothers' and Babies' Welcomes," in Howard Street, off Glasshouse Street, and in Windmill Street, Radford.

The Notification of Births Act has been in force in Nottingham since May 9th, 1908.

The number of births promptly notified under this Act during 1909 was 4,900, or 73 per cent. of all those registered in the City during the year (6,749). Under the Act it is required that all the births shall be notified; but, as the above number includes practically all those in respect of which, for the health's sake of either mother or child, it is desirable that early information should reach the Department, it has not been thought advisable at present to trouble about the rest. Practically all the births attended by midwives, and a considerable number of those attended by medical men, are promptly notified, either directly or through the father or other member of the mother's household, at the instance as the case may be of the midwife or medical man in attendance. Of those which are not notified, the majority are attended by medical men, who abstain from notifying, themselves, or informing the father that it is his duty to do so under the Act,

for the most part because no fee is payable to them for doing so.

The notifications are entered up daily as they are received in the Register kept for the purpose, and this register is open for inspection during office hours in the central office of the Health Department at the Guildhall.

Miss Winifred Hudston, Cert. R. San. I., continues to act as the principal inspector and visitor under the Act, but, at the request of Her Grace the Duchess of Portland, you have lately appointed the two ladies engaged at the Mothers' and Babies' Welcomes, in Howard Street and Windmill Street, respectively (Miss Annie M. Mackenzie, L.O.S., the Superintendent, and Nurse Mary A. Black) to act as additional inspectors under the Act, and have agreed to pay their salaries as such.

It will readily be understood how the primary visitation of Miss Hudston paves the way for the subsequent function of the "Welcome." At the first visit the mother is given some simple advice about the management of her own and her baby's health, and is specially urged to feed her baby at the breast. She is finally invited to the "Welcome" when able to leave her home.

Of the work done at the "Welcomes," I shall leave to the "Welcome Report," extracts from which are given further on in this section, to speak for itself. I shall now give a few statistics of Miss Hudston's work of visitation.

She has visited 2,555 selected houses during the year, and interviewed 2,055 mothers. Of these mothers; 1,641, or 80 per cent., stated that they were already feeding, or, if able, intending to feed their babies entirely at the breast; 204, or 10 per cent. expressed their intention of feeding their babies entirely by hand; 157, or 7·6 per cent. partly by breast and partly by

hand. Fifty-three of the babies, or 2·6 per cent. (not still-born), had died before the Inspector's visit. One hundred, or 5 per cent., of the mothers had been industrially employed away from their homes before their confinement, and were intending to resume work as soon as they were legally and physically able to do so. These women were employed as follows:—

* Mothers industrially employed (100 out of 2,055 visited).

Blouse Hands	4	Packer	1
Boxmakers	5	Paper Sorter....	1
Brass BobbinWinders	5	Picture Gilder	1
Cane Worker	1	Pressers (cycle)	2
Cigar Hands....	5	Printer	1
Charwomen	7	Seamstress	1
Cop Winders	3	Silk Sampler....	1
Hosiery Sorters	2	Slip Winders	3
Lace Dressing Hands	13	Tailoresses	2
Lace Warehouse ,,	21	Upholsteress....	1
Laundresses	8	Warp Winder	1
Machinists	3	Other Workers	8

Forty-three of these women acknowledged that their children were illegitimate; the inference being, of course, that they were not married. The lack of a husband in the case of such mothers, almost necessarily entails their industrial employment.

The following are the extracts from the latest report of the Mothers' and Babies' Welcomes above referred to:—

"The scheme of the Nottingham Mothers' and Babies Welcome was first projected by a small number of residents in the town and county, in July, 1908. This Institution, which has, therefore, completed the second year of its existence, has for its object the reduction of the excessive infant mortality in the Town of Nottingham, and the improvement of the general health and stamina of the mothers.

* On pages 172 and 173 (Appendix) will be found a short report furnished to the Home Office in June of the current year, on the Industrial Employment of Married Women and Infant Mortality.

"The scheme of the "Welcome" may be briefly outlined as follows:—

1. "Dinners are provided at a minimum cost to expectant and nursing mothers. This plan, as well as greatly improving the mother's health and chances of feeding her baby herself, serves also as a practical demonstration of a suitable economical dietry.

2. "Babies are weighed regularly, and a staff of eight doctors take it in turn to attend daily at the "Welcome" to give advice on diet, etc.

3. "Afternoon classes for knitting are held, and mothers are taught how to cut out and make children's clothes.

4. "The Superintendent and her Assistant visit the mothers in their own homes, and so keep in touch with every woman on the books."

"During the first months of the year under review the financial position of the "Welcome" caused considerable anxiety to the Committee. Subscriptions had not been so freely forthcoming as when the scheme was first launched. Repeated efforts to arrange an entertainment in aid of the funds were, from one cause or another, unsuccessful, and the expenditure had gone up as the "Welcome" undertook an increasing fraction of the vast work which exists for it in the City. However, in January, 1910, Her Grace the Duchess of Portland attended a meeting of the Health Committee of the Nottingham Corporation and appealed to them for further financial assistance. Her Grace pointed out that the work of the "Welcome" came within the scope of the functions of the Health Department, and so successful was her advocacy that the Health Committee agreed to appoint Miss Mackenzie and Miss Black as inspectors under the Notification of Births Act, and to place their services at the disposal of the "Welcome."

"Although this decision of the Health Committee averted the threatened crisis for the time being, the financial position of the "Welcome" continues to cause the gravest anxiety. The expenses which still have to be met by subscriptions are considerable, and very few of the original subscribers are continuing to support the "Welcome." The Committee, therefore, beg that all who are interested in saving infant life in the City will show their interest by giving the financial support which is absolutely essential, unless the Institution is to close its doors and abandon the work which has had such a very promising beginning.

"As will be seen by the table of attendances, the extent of the work has been increased considerably during the year. On October 11th, 1909, a branch was opened in Windmill Street, Radford, Miss Mary Black being appointed to take charge of it. The popularity of this branch among the inhabitants of the neighbourhood has more than justified its creation. But there are many other districts in the City which are quite as much in need of branches, and until these are started and the help of the "Welcome" is brought within easy reach of the working-class mothers in every part of Nottingham, there is very little prospect of making any marked impression on the infant mortality of the City as a whole.

"Miss Hudston, the Corporation Inspector under the Notification of Births Act, has done invaluable work in bringing the "Welcome" to the notice of recent mothers and in assisting generally in the work.

"Mrs. Newman has kindly visited the "Welcome" at intervals, and given instruction in hygiene to the mothers present. This has taken the form of very informal discussions on any subject advanced *à propos* of babies.

"As the majority of mothers attending the "Welcome" showed very great ignorance of cooking, and of the economic and nutritive values of different foods, an effort was made to give some systematic instruction. Mrs. Shepherd very kindly consented to assist in this matter by giving weekly cooking lessons, but the mothers showed no desire to learn, and the classes had to be abandoned. It is to be hoped, however, that something will be done in this matter in the future.

"It was found that the system of giving free dinners to mothers who stated that they were too poor to pay for them was being abused. The Committee, therefore, resolved that all dinners must be paid for in full at the time of eating. Mothers who say that they cannot afford to pay are referred to the Charity Organisation Society, who have very kindly given their co-operation in the matter. They investigate the cases sent to them and, when deserving, give them a portion or the whole of the money needed for the dinners. This is refunded at a weekly settling day by the Superintendent of the "Welcome," who is thus able to make sure that all the money is used for its legitimate purpose. By this system, the charity of the "Welcome" is protected against abuse without excluding necessitous cases, and the Superintendent is relieved of the invidious task of having to refuse free dinners to some cases and give them to others. The plan has been found to work excellently, and since its inauguration, out of a sum of £1 14s. 9d. distributed by the Charity Organisation Society, only 9d. has failed to find its way to the "Welcome."

"It is with the deepest feelings of regret that we have to record the sad death of Dr. A. J. Sharp. Associated with the "Welome" from its inception, he took the keenest interest in its work, as he did in any work whose aim was the saving of life and the welfare of the human race. As Honorary Secretary to the "Welcome" his painstaking and careful work was invaluable to the Institution, and his loss has been keenly felt by all who have had to do with him.

"At the end of May, 1910, Mrs. Macdonald announced, that, on account of the distance from Nottingham at which she was now living, she felt compelled to resign the Chairmanship of the Committee. As a recognition of the fact that it was very largely due to her efforts that the Institution was started and placed on its present sound working basis, the Committee unanimously elected her a Vice-President. She was succeeded in the Chair by Mrs. E. Kyrle Smith.

"The Committee have also been unfortunate during the past year in losing the services of Mrs. H. L. Wild and Miss Helen Fraser. Mrs. Wild and Miss Fraser had acted as joint Honorary Secretaries to the "Welcome" from the start, until they left Nottingham in July, 1909."

Note by the Medical Officer of Health.

"In the Report for 1908 I drew attention to the correlation of the work done at the "Welcome" with much of that carried out by the Health and Housing Departments.

"I pointed out that an establishment like the "Welcome" was practically indispensable to any social improvement scheme in poor neighbourhoods, and that it was peculiarly affiliated to any scheme of this character having the Notification of Births as a nucleus. I am pleased to think that the Corporation, at the instance of Her Grace the Duchess of Portland, have now not only given their adherence to this view, but have backed their opinion by employing officers to assist in carrying out the work which the "Welcome" was established to perform, viz., the succouring of recent mothers in poor neighbourhoods with assistance and advice appropriate to their special needs.

"Such work as this has long passed the experimental stage. Its proved utility has already more than justified its existence in a large number of populous places in this country and abroad, and in the 1908 Report I gave a list of the principal centres in this country where Schools for Mothers, "Welcomes," and other like institutions, had already been established.

"The first thing needful, prior to the establishment of such institutions, is a demonstration of their necessity, the second, after they have got to work, is the production of satisfactory evidence that they are performing the function for which they were established. The necessity for such work as our "Welcome" does, was unfortunately too readily apparent in this City to need any special demonstration. Nevertheless, in order to meet inevitable criticism, and to show the state of things existent when the remedial work commenced, I gave a few statistics of our infant mortality. These statistics I now propose to amplify to some extent.

"With regard to the second desideratum, I am pleased to say that it can be furnished without the smallest difficulty, and in other sections of this Report will be found an account of the work done, which has exceeded our most sanguine expectations, alike in its scope, its usefulness, and the appreciation it has met with.

"With regard to infant mortality statistics, the following figures are I think sufficiently definite to justify their quotation, if only to show how Nottingham now stands and has stood in this respect, as compared with certain other places and the country at large, and what there is to be done in this City before it can be considered a reasonably healthy place for a poor child to be born in :—

Infant Death-rates, per 1,000 Births, 1890—1908.

	In England and Wales.	In London.	In Nottingham.
1890	151	162	158
1891	149	154	169
1892	148	155	167
1893	159	164	172
1894	137	143	174
1895	161	165	189
1896	148	160	168
1897	156	158	202
1898	160	166	178
1899	163	167	210
1900	154	159	196
1901	151	148	193
1902	133	140	159
1903	132	130	165
1904	145	145	176
1905	128	130	155
1906	132	131	171
1907	118	116	168
1908	120	113	145

Infant Death-rates, per 1,000 Births, 1904-1909,
(from the Registrar-General's Annual Summary).

In 20 Towns with Low Rates.			In 20 Towns with High Rates.		
Towns.	Averag. 1904–8.	1909.	Towns.	Averag. 1904–8.	1909.
Hornsey	75	61	Bury	151	130
King's Norton	96	72	Plymouth	140	131
Hastings	101	79	Stockport	177	132
Croydon	109	80	Birmingham	162	134
Barrow-in-Furness ..	121	81	Manchester	162	134
Leyton	105	82	Sunderland	144	135
Wallasey	115	83	Preston .. .	170	136
Handsworth (Staffs.) ..	104	85	South Shields	141	137
Tottenham	117	89	Wolverhampton ..	139	138
Walthamstow	120	91	Walsall	155	139
Ipswich	128	92	Salford	158	141
Reading	112	95	Merthyr Tydfil ..	178	143
Huddersfield	120	95	Liverpool	161	144
Brighton .. .	113	96	**Nottingham**	162	150
Portsmouth	125	96	St. Helens	149	150
Devonport	114	96	Hanley	179	155
Willesden	111	97	Burnley	194	156
Coventry	117	97	Middlesbrough	165	158
Halifax	116	97	Swansea	149	159
York	131	99	Wigan	166	173

PHILIP BOOBBYER.

On pages 172 and 173 (Appendix) will be found a short Report, furnished in June of the current year to the Home Office, on the Industrial Employment of Married Women and Infant Mortality.

The Midwives' Act, 1902.—The number of certified midwives resident in Nottingham at the end of 1909 was 86, and, of these, 43, or exactly 50 per cent., were engaged in active practice as midwives.

Up to the close of the year the post of Inspector of Midwives for the entire City was still held by Miss Kate Steen, who is in all respects a high-class and reliable officer.

Miss Steen reports that during the year she has paid 454 visits to the homes of the practising midwives, and 492 visits to the patients under their charge. The number of visits to the first during 1908 was 382, and to the second, 515. The number of confinements attended

by midwives during 1909 is given as 3,372, as compared with 3,304 in 1908. The number of cases in which medical men were called in by, or at the instance of, these women, was 328. There were 9 deaths of infants, and 1 of a mother, before the arrival of medical men sent for in this manner.

In two instances the midwives have failed to ask for the assistance of medical men when such was necessary, and in three further cases they have neglected to notify me of the fact that they have sent for medical assistance after they have done so—as required by the Act.

The still-births notified to me by midwives during the year numbered 117, the same number, that is, as during 1908. The number of cases of puerperal sepsis notified to me as having occurred in the practice of midwives, was 8, and 3 of these ended fatally. Five midwives were reported to the Local Supervising Authority for serious breaches of the Rules of the Central Midwives Board. Three were reprimanded, and warned not to offend again, and two others were reported by the Local Authority to the Central Midwives Board. These women were cautioned by the latter authority.

The names and addresses of all certified midwives who, during the previous year, had notified the Local Supervising Authority of their intention to practice in the City (which all midwives having such intention are required, under the Act, to do), were sent in January to the Central Midwives Board, in accordance with the provision of section 8 of the Act.

A further provision of section 8, is that a copy of the Midwives' Roll for the current year shall be kept in the office of the Local Supervising Authority. This Roll is kept in the Central Office of the Health Department at the Guildhall.

On April 1st of the current year (1910), it will no longer be lawful for any uncertified woman to practice midwifery for gain, and it is in my opinion much to be feared that, unless some additional facilities to those at present existent for the local training of midwives are provided, a shortage of properly qualified women will occur in this and other districts. On this account it is I think desirable to establish at once a small Maternity Hospital, with a Home Midwifery Deparment attached, to serve the double purpose of a hospital for emergent and necessitous cases, and a school for the instruction of women desirous of becoming qualified as midwives.

Canal Boats Acts. 1877 to 1884; and Regulations. 1878.—Mr. F. W. Franks, Cert. R. San. I., the Chief Clerk of the Health Department, continues to act as Inspector of Canal Boats for the City.

He reports that he has paid official visits to the canals and other navigable waters in Nottingham on 75 occasions during 1909, and inspected 130 boats in the course of these visits. His inspections have all been made during the statutory hours, *i.e*, between 6 a.m. and 9 p.m., and no previous notice of an intended inspection has on any occasion been given.

He states that he has been well received in every instance, that all his enquiries have been satisfactorily answered, and that he has been allowed to make a complete inspection whenever he has desired to do so.

The women carried on the boats examined numbered 26, the children under 5 years of age, 6, and those between 5 and 12 years, 4. The following defects and breaches of the regulations were detected, viz. :—

One boat without proper water vessel,

One boat without certificate (on board),

One boat improperly marked,

but all defects were repaired at once by the owners on receipt of notice.

No case of infectious disease was discovered or reported as having recently occurred upon any boat passing over Nottingham waters during the year, nor was it necessary to order the special cleansing of any boat. The boats on the Nottingham Register now number 71, three new vessels having been enrolled during the year.

Factory and Workshop Acts, 1891-1901 —On pp. 168 to 170 of this Report will be found tables drawn up in the form approved by the Secretary of State for the Home Department, setting out, for the year 1909, the inspections made, notices issued, and defects found and remedied by officers of the Local Authority, particulars of home-work and outworkers, and of lists of these received from employers (Sec. 107), of inspections of outworkers' premises, of outwork found on unwholesome and infected premises (Secs. 108-110), and of action taken to prevent its issue to such premises (Secs. 109-110), the number of workshops on the local register (Sec. 131), matters notified by the Local Authority to His Majesty's Inspector (Sec. 133) and *vice versa*, and underground bakehouses in use at the end of the year (Sec. 101).

The nature and amount of the work done by Mr. Flint and Miss Buckoll, the two local inspectors with special functions under the Factory Acts, are almost sufficiently specified in the tables pp. 168 to 170 post, made out in the form prescribed by the Factory Department. But there are a few matters calling for further explanation than the tables afford.

The law relating to factories is for the most part administered by the Factory Department of the Home Office, but certain powers and responsibilities are vested in the Local Authority. For example, where the Public Health Acts Amendment Act has been

adopted, or section 22 of that Act, the Local Authority must see that all factories where persons of both sexes are employed are furnished with sufficient, suitable, and separate closet accommodation for each sex. This section has been strictly enforced, and the standard of the amount of such accommodation required, adopted by us in Nottingham, has been that of the Sanitary Accommodation Order of the Home Office, dated 4th February, 1903 (see Appendix pp. 180 post), although this Order does not strictly operate in districts like this where section 22 of the Public Health Acts Amendment Act is in force, and all but three of the new closets provided have been W.C.'s. Insufficient, unsuitable, or defective closet accommodation was found in 117 instances (including both factories and workshops), and remedied in 114, the balance of three items uncompleted standing over at the close of the year.

Nuisances from offensive (factory) trades, from smoke, from the discharge of grit into the atmosphere through the use of forced draught and small fuel, from insufficient and defective drainage, and other matters, have been dealt with in connection with numerous factories during the year. In 52 cases intimations in respect of closet accommodation and such other sanitary matters as the above, have been received from H.M. Inspector for the district, and in each case, after necessary action has been taken, a report of such action has been sent to that officer. No less than 183 breaches of the special requirements of sections 97 to 100 for bakehouses have been discovered during the year, and in 177 instances the defects have been satisfactorily remedied or the bakehouses closed.

A considerable amount of dissatisfaction has been occasioned locally, in certain sections of the bakers and confectioners' trade, by the establishment in Nottingham of workshop bakehouses (mostly *retail bakehouses*) on

adapted domestic premises. About 30 such bakehouses have come to our notice, and have been carefully inspected. Four have been closed as irremediably unfit for use, but with regard to the rest it has been considered that, as they either are already, or can with slight alterations be rendered reasonably compliant with the requirements of Secs. 97 to 100 of the Act, it is undesirable to ask for their closure. Indeed, in many instances the only logical grounds upon which their closure could be claimed is that they were not specially constructed for the purpose of bakehouses. In the present state of the law, and in all the circumstances of the case, it would appear that the action taken by us in the matter is sufficient and satisfactory.

I have referred at some length in former Reports to the difficulty of compiling exhaustive lists of outworkers, and pointed out that the small irregular contractors, with workers of a like order under them, are the principal cause of the difficulty. In times of slack trade such people are employed, some not at all, others only at intervals ; in busy times, they may be fully and continually engaged ; while under average conditions of trade their supply of work fluctuates greatly. Many of these people are never listed by the employers, and their employment is never notified to the Local Authority.

Again, as regards the inspection of outwork premises ; the home work of Nottingham is carried on almost exclusively by women, and as there is only one (lady) inspector regularly engaged in the inspection of all work-places where women are employed, it is quite impossible to secure the inspection of all of even the notified outwork premises even once during the year. Selected typical cases only, in the several districts, can be inspected by the special lady inspector from time to time. In order, however, to

obtain a fairly satisfactory amount of visitation, all Health Department Inspectors engaged in visiting neighbourhoods where outwork is done, have been asked to record the condition of premises upon which they see it in progress. This explains the relatively large number of inspections recorded in the table.

The routine practice of stopping outwork on premises where cases of dangerous infectious disease are in progress, and of disinfecting goods and premises that have been exposed to the infection of such diseases, still continues as heretofore.

Shop Hours Acts, 1892 to 1895.—These Acts provide that no young persons (under 18 years of age) shall be employed in any retail or wholesale shops, markets, stalls, or warehouses, for a longer period than 74 hours, including meal-times, in any one week; and official printed notices to this effect should be posted up in all the places in this City which come within the operation of the Acts.

It has been reported to me that offences under these Acts have been committed during the past year, but no satisfactory proof of such illegal practice has in any case been forthcoming.

A reprint of the official notice will be found as usual in the Appendix of this Report.

Diseases of Animals Act, 1894; Orders, Regulations, etc., of the Board of Agriculture.—The general Swine Fever (Regulation of Movement) Order, which came into force on June 1st, 1908, and the practical tenor of which is similar to that of 1903, was still in operation at the end of 1909.

The Nottingham Allotment Gardens (Swine Fever) Order of January 7th, 1904, having reference to the Mill-in-the-Hole Allotment Gardens, also continues in force.

The Sheep-Dipping (England) Order of 1908 was in operation, as before, between July 14th and August 31st, inclusive. It provides for the dipping of practically all sheep in the Dipping Area at any time between the 14th July and 31st of August, inclusive—but there are certain exceptions. Special provisions (Article 19) are made for the introduction, at the discretion of the Local Authority, of lambs, without dipping, but as it is impossible to guarantee that all lambs brought to the market shall be slaughtered immediately after leaving it, and as there is at the Market no means of separating dipped and undipped animals, the Local Authority have though it advisable not to admit lambs unless they have been previously dipped.

Twenty-eight cases of reputed swine fever were reported to the Health Department, and by the latter, in turn, to the Board of Agriculture, during 1909. Two only of these cases, however, (which occurred in October and December) were shown by subsequent bacteriological examination to have been actual cases of the disease.

One case of glanders—in a horse—occurred during November. The case was reported to the Board of Agriculture, and the usual precautions against the spread of the disease were adopted.

No other cases of the scheduled diseases came to the knowledge of the Department during the year.

The Dairies, Cowsheds, and Milkshops Orders, 1885 to 1899.—The number of persons registered as milk-sellers in the City at the close of 1909 was 896, as compared with 871 the year before.

The register, however, contains many names of persons who have retired from the business, but whose retirement has not come definitely to our knowledge. The Local Authority must register all applicants for registration, and any alterations that may be required to the plant or premises of the proposed milk-seller are usually made after registration. No less than 87 persons applied for registration under the Dairies, Cowsheds, and Milkshops Orders, during 1909. In 41 cases notices were issued requiring the alteration of premises on which it was proposed to carry on the business of milk-sellers, or to the fittings or plant thereof. On receipt of such notice, three of the applicants for registration withdrew their applications, the others complied in a more or less satisfactory manner with the terms of the notices issued to them.

The number of registered cow-keepers in the City at the end of 1909 was 54, as compared with 58 at the close of 1908, 6 persons having retired from the business and 2 others entered it afresh during the intervening 12 months. But although the number of cowkeepers has thus diminished, the aggregate number of cows kept in the City has increased from about 829 at the close of 1908 to about 860 at the close of 1909.

The condition under which the dairy cows of the City are kept is steadily improving, and a large part of this improvement is due to the assiduity with which Inspector J. A. Sutton, Cert. R. San. I., performs his duties.

Every milch cow in these cowsheds is examined from time to time, special attention being paid to the udder. Mr. W. Taylor, V.S., when necessary, accompanies Inspector Sutton on his rounds.

The following table furnishes particulars of the microscopic and bacteriological examinations of milk

carried out during 1909, with the result of such examinations in each case. The number of cows with apparent symptoms of disease in our City byres diminishes steadily year by year, as a comparison of the accompanying table with the tables of past years clearly shows. This fact also speaks well for the quality of the inspectorial work.

Bacteriological Examination of Milk taken from suspected Cows.

No.	Result of Examination.	Action taken.
1	Tubercle not found	—
2	Ditto ditto	—
3	Ditto ditto	—
4	Ditto ditto	—
5	Ditto ditto	Animal afterwards found to be suffering from Tuberculosis and destroyed
6	Pus cells; few in number	—
7	Tubercle not found	—
8	Ditto ditto	—
9	Ditto ditto	—
10	Ditto ditto	—
11		
12	These samples were all taken from cattle at one farm; the milk having been reported as having a bad smell and decomposing rapidly. The milk on examination was found to contain a mobile bacillus which gave the peculiar odour.	The source of contamination was ultimately discovered and remedied.
13		
14		
15		
16		
17		
18	Tubercle bacilli not found; small amount of pus; colon bacilli present	Reported to Health Committee.
19	Tubercle bacilli not found; small amount of pus; staphylococci present	Ditto.
20	Culture; various cocci and bacilli found	Ditto.

It may be well to mention that the Tuberculosis Order of 1909, which was to come into operation on January 1st, 1910, has been (temporarily) withdrawn by the Local Government Board. The general provisions of this Order may be summarised as follows:—

Every person who has in his possession or under his charge—

(1) any cow which is, or appears to be, suffering from tuberculosis of the udder, indurated udder, or other chronic disease of the udder; or

(2) Any bovine animal which is, or appears to be, emaciated from tuberculosis;

shall without avoidable delay give information of the fact to a constable or inspector of the Local Authority.

Further provision is made for veterinary inspection on behalf of the Local Authority, and for slaughter and compensation, with certain reservations and exceptions.

Slaughter-Houses.—The number of slaughter-houses in the City at the end of 1909 was 155, the same number, and the same houses, as at the close of 1908.

There appears to be no prospect of a revival in the near future of the abattoir scheme so actively discussed a few years back. This is certainly much to be regretted, as many of the old slaughter-houses are seriously inimical to health and comfort in the neighbourhood where they are situated, and many new slaughter-houses must soon inevitably be constructed to meet the requirements of the butchering trade in the various parts of the City where the population is increasing.

It should be remembered that every new slaughter-house put up will necessarily increase the difficulty of substituting abattoirs for private slaughter-houses when the time comes for making the change.

Lethal Chamber for Dogs, Cats, &c., at the Eastcroft Sanitary Depôt.—This lethal chamber is still worked and managed by the Health Department on behalf of the Watch Committee. The lethal agents used are carbonic acid gas and chloroform vapour, and the animals to be destroyed are placed in

wire cages and lowered into a tank containing these gases. Death in every instance is instantaneous, painless, and absolutely without premonition. The regular times of working for the chamber are Monday and Friday afternoons, but it is put in operation also by special arrangement, or according to necessity, at other times.

The numbers and description of the animals destroyed in the chamber every year since its establishment are given in the accompanying table. The only animals sent for destruction are for the most part dogs and cats, but during 1905 some monkeys, rabbits, and birds were brought in. The aggregate total of animals destroyed in 1909 was the largest on record.

	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
Dogs ..	422	472	731	770	856	1073	1325	1507	1448	1531	1435	1502
Cats ..	64	108	180	297	371	455	735	548	428	531	614	718

2 monkeys, 3 rabbits, and 4 birds also destroyed during 1905.

Offensive Trades.—One application was received for permission to establish the business of a rag and bone dealer in Walker Street, Sneinton ; this was refused. In another case, such a business was established, without leave, in Lowdham Street. This business was discontinued on receipt of notice from the Health Department.

The scheduled offensive trades at present carried on in the City are as follows :—

Trade.	No. of Establisments.
Bone-boilers	3
Fellmongers	3
Tallow-melter	1
Gut-scrapers	3
Soap-boilers	4

All these existent establishments have been frequently inspected during the year, and reported to be in a fairly satisfactory condition. It is, however,

highly desirable that trades of this character should, as far as possible, be carried on at a distance from human dwellings. Their presence in congested districts is not only productive of offensive nuisance, but is distinctly injurious to health.

Unwholesome Food-stuffs.—The description and amount of the various food-materials seized or surrendered during 1909 are set out in the table below. The greater part of the butchers' meat was again condemned on account of disease (especially tuberculous disease) in the animals from which it was derived; but the other foods are very largely spoilt by carelessness and want of promptitude on the part of those responsible for its delivery to the retailer and consumer.

The utmost vigilance has once more been exercised by Messrs. Samuel Billington, Cert. R. San. I., and H. T. Moore, each in his own department, during the year under review; but, as I have often previously stated, it is altogether out of the question for either, without assistance, to cover effectively the whole field of inspection which falls to his share in so large and scattered a community as that of Nottingham.

BUTCHERS' MEAT.

Description.	Weight. Imp. Stones.	lbs.
Beef	7164	2
Mutton	112	1
Pork	568	10
Veal	199	8
Lamb	4	12
Viscera	2265	13
Cooked Beef	6	6
Sausages	3	4
Tripe	128	12
Total	10453	12

GAME.

	Stones.	lbs.
Rabbits	286	3½
Rooks	15	0
Hares	10	7
Green-Plover	1	0
	312	10½

POULTRY.

	Stones.	lbs.
Chickens	44	3½
Ducks	15	7
Turkeys	8	0
Pigeons	6	0
Geese	2	0
	75	10½

WET FISH.

	Stones.	lbs.
Sprag	1131	0
Hake	776	0
Mixed Fish	751	0
Herrings	730	3½
Cod	601	7
Coalfish	451	3½
Mackerel	306	0
Fish Roes	225	0
Sprats	222	0
Halibut	143	10½
Lemon Soles	119	0
Plaice	106	3½
Whiting	81	7
Skate	50	0
Soles	37	0
Salmon	34	7
Ling	26	3½
Haddocks..	23	0
Conger Eel	20	0
Sea Trout	15	0
Red Gurnards	14	0
Dabs	5	7
Smelts	5	7
Turbot	0	7
	5875	10½

SHELL FISH.

Mussels	4975	3½
Shrimps	311	10½
Whelks	183	0
Crabs	83	7
Oysters	79	0
Prawns	63	0
Periwinkles	62	0
Cockles	21	0
Clams	12	0
Lobsters	7	3½
	5797	10½

DRY FISH.

Kippers	149	0
Bloaters	142	0
Fish Fillets	138	0
Haddocks	34	0
Smoked Herrings ..	32	0
,, Mackerel ..	5	0
	530	0

FRUIT.

Pears	832	0
Gooseberries	383	0
Strawberries	100	0
Cocoa Nuts	90	0
Raspberries	64	7
Damsons	54	0
Lemons	40	0
Cherries	22	0

FRUIT—*continued.*

	Stones.	lbs.
Plums	10	0
Grapes	8	0
Bananas	4	0
Oranges	4	0
	1611	7

VEGETABLES.

Potatoes	5010	0
Turnips	1490	0
Carrots	860	0
Cabbages	780	0
Kidney Beans	605	0
Cauliflowers	484	0
Lettuces	267	0
Tomatoes	164	0
Celery	150	0
Red Cabbage	88	0
Watercress	88	0
Parsley	68	0
Brussels Sprouts ..	55	0
Onions	24	0
Asparagus	14	0
Vegetable Marrows ..	8	0
	10155	0

PROVISIONS.

Tinned Tomatoes ..	1695	0
,, Milk	303	0
,, Pineapple ..	241	0
,, Lobster	215	0
,, Beef	208	0
,, Salmon	108	3½
,, Tongue	94	10½
,, Apricots.. ..	80	7
,, Pears	70	3½
,, Sardines ..	27	0
,, Damsons ..	17	3½
, Peaches	16	7
,, Mutton	10	3½
,, Herrings ..	5	7
,, Plums	5	7
,, Rabbit	5	0
,, Cherries.. ..	3	7
,, Raspberries ..	3	3½
,, Brawn	3	0
,, Apples	2	0
,, Strawberries ..	1	0
	3116	0

MISCELLANEOUS

Eggs	4	7
Potted Shrimps	1	0
Yeast	1	0
Shrimp Paste	0	7
	7	0

Sale of Food and Drugs Acts, 1875 to 1899. Adulterations and Abstractions.—The number of samples officially taken by Inspector J. A. Sutton, and sent to Mr. S. R. Trotman, the City Analyst, for analysis, during 1909, was 600. The number of samples to be officially taken each year has been definitely fixed at 600, or a little more, by resolution of the Health Committee.

Of the 600 samples taken, 521, or 86·7 per cent. were found to be practically pure or satisfactory. The proportions of all samples found in the latter condition during each of the three immediately preceding years were, 80 per cent., 81·5 per cent., and 78·5 per cent., respectively.

A list of cases in which proceedings were taken, in respect of offences under the Sale of Food and Drugs Acts, will be found under the heading of prosecutions.

	No. of Samples.	No. Pure.	No. Deficient or Adulterated.	
			Deficient in Fat.	Added Water.
Milk, New ..	301 ..	272 ..	1. 32%	1. 17%
			1. 31%	2. 14%
			1. 30%	1. 13%
			2. 22%	1. 12%
			1. 19%	1. 10%
			1. 16%	1. 9%
			1. 15·5%	1. 8%
			1. 14%	1. 7%
			1. 10%	1. 6·5%
			1. 9%	3. 5%
			2. 8%	1. 4·5%
			1. 7·5%	——
			1. 7%	14
			1. 6·5%	
			2. 6%	
			1. 4·3%	
			1. 4%	
			1. 3·5%	
			1. 3·3%	
			22	

	No. of Samples.	No. Pure.	No. Deficient or Adulterated.
			With added Water.
Milk, Separated	5	4	1. 8%
Milk, Condensed	3	3	All Pure.
			With Boric Acid.
Cream	7	2	1. 0·20% 1. 0·11% 1. 0·10% 1. 0·07% 1. 0·05% 5
			With Boric Acid. / With Foreign Fat. / With added Water.
Butter	60	54	1. 0·48% / 1. 95% / 1. 1·5% 1. 0·22% / 1. 80% 1. 0·19% 1. 0·13% 4 / 2
			With Boric Acid. / With added Water.
Butter Substitute	1	—	1. 0·49% / 1. 5%
			With Boric Acid.
Margarine	8	6	1. 0·35% 1. 0·14% 2
Nut Margarine	1	1	Pure.
Dripping	1	1	Pure.
Lard	3	3	All Pure.
Cheese	5	5	All Pure.
			With excess Water. / With Alum.
Bread	25	23	1. 7·4% / 1. 0·5 grs. per lb.
Cocoa Nut Cakes	1	1	Pure.
			With Salicylic Acid.
Mince Meat	4	3	1. 0·88 grs. per lb.
			With mineral matter.
Rice	7	3	1. 0·35% 1. 0·28% 1. 0·20% 1. 0·11% 4
Honey	1	1	All Pure.
Treacle	9	9	All Pure.
Demerara Sugar	2	2	All Pure.
Sweet Coffee (Sweetmeat)	1	1	All Pure.
Raspberry Jam	3	3	All Pure.
Black Curr't Jam	2	2	All Pure.
			With Salicylic Acid.
Greengage Jam	1	—	1. 0·9 grs. per lb.
Mixed Fruit Jam	2	2	All Pure.
			With Salicylic Acid.
Greengages (Preserved)	1	—	1. 0·95 grs. per lb.

	No. of Samples.	No. Pure.	No. Deficient or Adulterated.
Tripe	1	1	
Potted Turkey and Tongue	1	1	All Pure.
Potted Shrimps	1	1	
			With Boric Acid.
Potted Lobster	3	2	1. 0·29%
			With Boric Acid.
Potted Salmon	2	1	1. 0·20%
Coffee	10	10	All Pure.
			Excess of Chicory.
Coffee & Chicory	12	8	2. 30%
			1. 27%
			1. 21%
			4
Cocoa	2	2	
Ground Almonds	3	3	
Ess. of Almonds	1	1	All Pure.
Oil of Almonds	2	2	
Ground Ginger	4	4	
			With added Starch.
Pepper	8	7	1. 58%
Mustard	3	3	All Pure.
			Vinegar, other than Malt.
Vinegar	11	10	1. 25%
Olive Oil	1	1	All Pure.
Ale	5	5	All Pure.
			Deficient in Proof Spirit.
Rum	3	1	1. 8%
			1. 4%
			2
Port Wine	1	1	Pure.
			With Salicylic Acid.
Ginger Wine	4	1	1. 3·5 grs. per pint.
			1. 3·0 " "
			1. 0·5 " "
			3
			With Salicylic Acid.
Raisin Wine	1	—	1. 0·8 grs. per pint.
Orange Wine	1	1	All Pure.
Cowslip Wine	1	1	All Pure.
			Deficient in Ethyl Nitrite.
Sweet Nitre	1	—	1. 8%
Cream of Tartar	1	1	
Tartaric Acid	2	2	
Liquorice Powder	3	3	All Pure.
Sulphonal	4	4	
			Deficient in Lime.
Lime Water	10	9	1. 17·8%
Friar's Balsam	2	2	All Pure.
			Deficient in Alcohol.
Ammoniated Tincture of Quinine	6	5	1. 17%

	No. of Samples.	No. Pure.	No. Deficient or Adulterated.
Precipitated Sulphur	3	3	All Pure.
Antipyrin	2	2	
Camphorated Oil	1	1	
Tincture of Iodine	3	3	
Tincture of Myrrh	2	2	
Tincture of Ferric Chloride	2	1	Deficient in Iron. 1. 9·9%
Ammoniated Mercurial Ointment	5	3	Mixture of Salicylic Acid and Zinc Sulphate. 1 — Zinc Ointment. 1
Prescription containing Sal Volatile	6	2	Deficient in Ammonia. 1. 10% — Excess of Ammonia. 3. 8%
Prescription containing Bromide of Potassium	3	3	All Pure.
Prescription containing Salicylate of Soda	4	3	Deficient in Ammonia. 1. 8%
Prescription containing Bicarbonate of Soda.	5	4	Deficient in Bicarbonate of Soda. 1. 7%
	600 Total Samples.	521 Pure	88 Adulterated or Deficient.

The list of samples particularized below were taken unofficially during the past year. No proceedings are taken in respect of adulterations or deficiencies discovered in any of these samples, but the information afforded by their analysis is frequently of much service to the Department.

UNOFFICIAL SAMPLES.

No.	Article.	Reported Result of Examination.	Action taken.
1.	Butter	Genuine	—
2.	"	"	—
3.	"	"	—
4.	"	"	—
5.	"	"	—
6.	"	"	—
7.	"	"	—
8.	Jam	"	—
9.	Sweets	Contain $\frac{1}{12}$th grain arsenic, and some Oxide of Iron	Manufacturer cautioned.

No.	Article.	Reported Result of Examination.	Action taken.
10.	Spice	Genuine	—
11.	Butter	"	—
12.	"	"	—
13.	Potted Lobster	Contains Boric Acid 0·28%	Official sample taken.
14.	Potted Shrimps	Contains Boric Acid 0·31%	" "
15.	Shrimp Paste	Genuine	—
16.	Greengage Jam	Contains Salicylic Acid	—
17.	Milk	Deficient in non-fatty solids	Vendor cautioned.
18.	Coffee	Genuine	—
19.	"	"	—
20	"	"	—
21.	Milk	"	—
22.	Butter	Contains Boric Acid	Official sample taken.
23.	"	Contains 90% Margarine	" "
24.	Bread	Contains Alum	" "
25.	Butter	Genuine	—
26.	Cream	Contains Boric Acid 0·10%	—
27.	"	Contains Boric Acid 0·19%	—
28.	"	Contains Boric Acid 0·14%	—
29.	Butter	Genuine	—
30.	"	"	—
31.	"	"	—
32.	Milk	"	—
33.	Patent Mixture for Bread Making	Powdered Gelatine Phosphates & Barley Meal	—
34.	Milk	Deficient in fat 18% and Added Water 30%	Official sample taken
35.	Vinegar	Genuine Malt, badly kept	—
36.	Milk	Offensive smells, probably sewage	Submitted for Bacteriological Examination.
37.	Butter	Genuine	—
38.	"	"	—
39.	"	"	—
40.	"	"	—
41.	"	"	—
42.	"	"	—

		Water.	Salt and Curd.	Fat.	Boric Acid.
43.	Butter, Irish ..	11·99 ..	1·91 ..	86·09 ..	0·00
44.	" Finnish ..	13·90 ..	2·41 ..	83·69 ..	0·00
45.	" Siberian ..	12·89 ..	1·67 ..	85·43 ..	0·00
46.	" Danish ..	12·62 ..	1·61 ..	85·75 ..	0·00
47.	" Australian	12·21 ..	2·36 ..	85·42 ..	0·00
48.	" Swedish ..	12·26 ..	1·85 ..	85·87 ..	0·00
49.	" New Zealand	8·89 ..	1·52 ..	89·57 ..	0·00
50.	" Argentine	10·78 ..	2·84 ..	85·06 ..	0·36
51.	" Canadian ..	14·50 ..	3·47 ..	85·02 ..	0·00

These samples of Colonial and Foreign Imported Butters were taken to ascertain the respective quantities of moisture and preservatives contained therein, for comparison with manipulated butters purchased locally.

Fertilizers and Feeding Stuffs Act, 1906.—The number of samples taken for analysis and other purposes, under the above Act during the past year, was 30. Particulars of these, and of action taken in respect of offences, are given below.

Fertilizers and Feeding Stuffs taken for Analysis or Other Purpose.

No.	Article.	Report on Sample.	Action taken.
1.	Dairy Cake	Genuine	—
2.	Oat Flour	"	—
3.	Cod Liver Oil Condiment	"	—
4.	Bone Meal	"	—
5.	Nitrate of Soda	"	—
6.	Bastol	"	—
7.	Fatanox	"	—
8.	Rice Meal	Excess of Mineral Matter 2·91 % Silica or Sand	Vendor cautioned.
9.	Dissolved Bones	Genuine	—
10.	Peruvian Guano	"	—
11.	Dairy Meal	"	—
12.	Cakettes	"	—
13.	Soya Cakes	"	—
14.	Native Guano	"	—
15.	Cod Liver Oil Condiment	"	—
16.	Barley Flour	"	—
17.	Barley Meal	2·46 % of Sand	Vendor cautioned.
18.	Cotton Cake	Genuine	—
19.	Linseed "	No invoice or warranty given	Vendor cautioned.
20.	Oat Feed	" "	" "
21.	" "	Genuine	—
22.	Linseed Cake	"	—
23.	Peruvian Guano	"	—
24.	Dissolved Bones	"	—
25.	Nitrate of Soda	"	—
26.	Dissolved Bones	"	—
27.	Peruvian Guano	"	—
28.	Dissolved Bones	"	—
29.	Nitrate of Soda	"	—
30.	Bone Meal	No invoice or warranty given	Vendor cautioned.

Prosecutions.—The cases in which legal proceedings were taken during 1909 are given in the following table, together with the result in each case:—

PUBLIC HEALTH ACTS.

Offence.	Result.
Exposure of Diseased Pig for Sale. ..	Summons dismissed on payment of costs (£2).

SALE OF FOOD AND DRUGS ACTS.

Offence.	Result.
Sale of Milk containing 9 % added water	Fine of £1.
" " 17% " and 22% deficient in fat	" £3.
" " 14% " " 30% " "	Summons dismissed.
" " 14% " " 8% "	Fine of £1/10.
" " 12% " " 9% "	Summons withdrawn.
" " 10% " " 8% "	Summons withdrawn.
" " 7% " " 6% "	Fine of £1.
Sale of Milk 31% deficient in fat	" 5/-
" 22% "	" £1
" 19% "	Summons dismissed on payment of costs, £1/1
" 15% "	Fine of 10/-
" 14% "	" £1
Refusal to sell Milk to Inspector	Summons dismissed.
Neglect of precautions to secure the cleanliness of Milk Vessels	Defendant discharged with a caution.
Sale of Coffee Mixture containing 30% excess of Chicory	Summons dismissed.
" " " 30% " "	" "
" " " 27% " "	" "
" " " 21% " "	" "

Notices.—The notices issued from the Health Department during 1909 were as follows:—

Statutory Notices	....	105
Non-statutory or ordinary notices	....	1,317
Total	....	1,422

In addition, however, to these, there are numerous informal notices and suggestions variously conveyed, by letter, by word of mouth, directly and indirectly, in response to which much work is carried out. On pages 168 to 170 will be found tables of the principal works carried out at the instance of the Health Department, during 1909.

The Inspectorial Staff.—The majority of the Inspectors have already been referred to under the headings of the particular departments of work in which they are specially engaged. There are, however, certain exceptions.

I have not referred to the District Inspectors of Nuisances, Messrs. W. C. Betts, W. M. Hughes, Cert. R. San. I., Geo. Old, and Harry Womersley, Cert. R. San. I. These officers are continually engaged upon work which, when properly performed, is necessarily of the highest importance to the community, and in a town like Nottingham, containing specially old and congested slum districts, and furnished for the most part with dry closets, their function is particularly arduous and responsible. It is indeed only by continuous and intelligent attention to details of scavenging, cleansing, and drainage, that such districts can be maintained in a moderately healthy condition. The work of improving the dwellings of the poor must go hand in hand with such work as this if it is to show those results of improved health, vigour, and morale and diminished mortality, which are the best test of its efficacy.

I have much pleasure in expressing my appreciation of the manner in which Mr. Herbert Read, Cert. R. San. I., Supernumerary Inspector, Statistical Clerk, and Clerk in Charge of the General Office of the Health Department, has performed the very important duties devolving upon him during the past year.

ANNUAL REPORT of the MEDICAL OFFICER OF HEALTH for the year 1909, for the County Borough of NOTTINGHAM (City) on the administration of the Factory and Workshop Act, 1901, in connection with

FACTORIES, WORKSHOPS, WORKPLACES, AND HOME-WORK.

[Inspectors William Flint and Sophie A. Buckoll, Cert. R. San. I.]

1.—Inspection of Factories, Workshops, and Workplaces.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Prosecutions (4)
Factories (Including Factory Laundries.)	218	17	..
Workshops (Including Workshop Laundries.)	3,242	103	..
Workplaces (Other than Outworkers' premises included in Part 3 of this Report.)	..	..	..
Total	3,460	120	..

2.—Defects Found in Factories, Workshops, and Workplaces.

Particulars. (1)	Number of Defects.			Number of Prosecutions. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
*Nuisances under the Public Health Acts :—**				
Want of Cleanliness	264	254	..	..
Want of Ventilation	24	24	..	..
Overcrowding	3	3	..	..
Want of drainage of floors	2	2	..	..
Other nuisances	289	281	..	..
†Sanitary accommodation — insufficient	7	7	..	..
†Sanitary accommodation — unsuitable or defective	108	105	..	..
†Sanitary accommodation — not separate for sexes	2	2	..	..
Offences under the Factory and Workshop Act :—				
Illegal occupation of underground bakehouse (S. 101)	..	..	..	..
Breach of special sanitary requirements for bakehouses (SS. 97 to 100)	183	177	..	..
Other offences (Excluding offences relating to outwork which are included in Part 3 of this Report.)	..	..	..	..
Total	882	855	..	..

* Including those specified in sections 2, 3, 7 and 8, of the Factory and Workshop Act as remediable under the Public Health Acts.

† Section 22 of the Public Health Acts Amendment Act, 1890, has been adopted by the Nottingham City Council, but the standard of sanitary accommodation enforced is that of the Sanitary Accommodation Order of the Home Office, dated 4th February, 1903.

3.—Home Work.

Nature of Work.	Outworkers' Lists, Section 107.											Inspections of Outworkers' premises.	Outwork in Unwholesome Premises, Section 108.			Outwork in Infected Premises, Sections 109, 110.		
	Lists received from Employers.						Addresses of Outworkers.		Notices served on Occupiers as to keeping or sending lists.	Prosecutions.								
	Sending twice in the year.			Sending once in the year.						Failing to keep or permit inspection of lists.	Failing to send lists.		Instances.	Notices served.	Prosecutions	Instances.	Orders made (S. 110).	Prosecutions (Sections 109,110)
	Lists.†	Outworkers.†		Lists.	Outworkers.		Received from other Councls	Forwarded to other Councls										
		Contractors	Workmen.		Contractors	Workmen.												
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Wearing Apparel—																		
(1) making, &c.	70	26	888	18	3	384	21	330	60	..	..		..	..	..	51	51	..
(2) cleaning and washing ..	..	..	..	..	..	..	..	..	..	..	..	1450	..	..	..	33	33	..
Lace, lace curtains and nets ..	340	218	3944	75	41	693	6	213	400	..	..		..	..	..	109	109	..
Total ..	410	224	4832	93	44	1077	27	543	460	..	..	1450	..	..	..	193	193	..

† The figures required in columns 2, 3 and 4 are the *total* number of the lists received from those employers who comply strictly with the statutory duty of sending *two* lists each year, and of the entries of names of outworkers in those lists. The figures in columns 3 and 4 will usually be (approximately) double of the number of individual outworkers whose names are given, since in the February and August lists of the same employer the same outworker's name will often be repeated.

4.—Registered Workshops.

Workshops on the Register (s. 131) at the end of the year. (1)	Number. (2)
Important classes of workshops, such as workshop bakehouses, may be enumerated here. — Bakehouses (including 35 underground)	183
Important classes of workshops, such as workshop bakehouses, may be enumerated here. — Other Workshops	1,386
Total number of Workshops on Register ..	1,569

5.—Other Matters.

Class. (1)	Number. (2)
Matters notified to H.M. Inspector of Factories:—	
Failure to affix Abstract of the Factory and Workshop Act (S. 133)	16
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5) .. .. .. — Notified by H.M. Inspector ..	52
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5) .. .. .. — Reports (of action taken) sent to H.M. Inspector ..	52
Other	4
Underground Bakehouses (S. 101):— Certificates granted during the year	..
In use at the end of the year	32

(Signature) PHILIP BOOBBYER, *Medical Officer of Health.*

NOTE.—The Factory and Workshop Act, 1901 (s. 132), requires the Medical Officer of Health in his Annual Report to the District Council to report specifically on the administration of that Act in workshops and workplaces, and to send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State (Home Office). If the annual report is presented otherwise than in print, it is unnecessary to include in the copy sent to the Home Office the portions which do not relate to factories, workshops, workplaces or homework. The duties of Local Authorities and the Medical Officer of Health under the Act of 1901 are detailed in the Home Office Memorandum of December, 1904. A further Memorandum, on the Homework Provisions of the Factory Act, was issued to all District Councils and Medical Officers of Health in October, 1906.

NOTTINGHAM, 1909.

Abatement of Nuisances (in Districts).

Description of Work Done.	Inspr. for Womersley, Cert. R. San. I.	Inspector Old.	Inspector Hughes, Cert. R. San. I.,	Inspector Betts.	Inspector Sutton, Cert. R. San. I.	Total.
Houses Repaired	31	20	34	114	..	199
,, Cleansed	65	..	23	45	..	133
,, Overcrowding of, Abated	9	..	1	2	..	12
Bath Wastes Disconnected ..	1	..	1	2	..	4
,, Trapped	..	4	5	..	..	9
Sink Wastes Disconnected ..	2	1	6	2	..	11
,, Trapped	10	3	3	3	..	19
Drains Repaired and Cleansed ..	112	146	165	193	4	620
,, Trapped	127	46	243	60	2	478
Water-Closets Repaired, &c. ..	86	55	60	98	1	300
Pail-Closets Repaired	148	180	260	213	1	802
,, Provided	..	..	..	..	..	..
Waste-water-Closets Repaired, &c.	58	20	46	14	..	138
Ashpits Abolished	17	18	42	25	..	102
Privies Abolished	16	36	20	35	..	107
Water-Closets provided in lieu of Privies	18	43	20	35	..	116
Water-Closets provided in lieu of Pail-Closets	20	23	15	23	1	82
Soft-water Cisterns Cleansed ..	2	4	9	5	..	20
Courts and Yards Paved	102	84	104	88	3	381
Piggeries Abolished	3	19	4	2	2	30
Stables, etc., Drained	2	13	4	..	1	20
Cowsheds, Cleansed, Limewashed, Repaired, &c.	..	..	..	..	163	163
Urinals Repaired, etc.	14	10	3	5	..	32
Manure-Pits Repaired, etc. ..	1	8	11	5	3	28
Offensive Accumulations Removed	19	47	37	30	16	149
Miscellaneous	178	57	158	88	78	559
Totals	1041	837	1274	1087	275	4514

APPENDIX A.

Home Office Inquiry as to Industrial Employment of Married Women and Infant Mortality.

Abstract note on results of Inquiry (1908) in Nottingham.

The number of cases in which we have been able to complete our investigations, and record all necessary particulars, is 200 only, and is therefore too small to afford material for any very general deductions.

There are many thousands of industrially employed women in Nottingham, but a very large majority of these women are home-workers. Comparatively few married women are employed outside their homes, but a very large number of married women are engaged upon homework in the lace and hosiery trades, principally the former.

As a result of a special inquiry, we have found that, while a considerable number of married women are engaged in factories and workshops, child-bearing women are for the most part excluded from employment.

We have records showing that considerable numbers of women have pursued their industrial occupation up to the birth of their first child, and then abandoned it altogether.

In Nottingham, it is very unusual to find a baby nursed away from its own home. Only one such case has been discovered here among 200 families of workpeople.

The more recent figures—so far as they go—seem to indicate that the mortality of the infants varied inversely as the family wages, rather than with the method of feeding (as such).

A. Particulars of Births and Infant Deaths, with occupation of mothers, 1908 — 200 cases.

The following are the proportional mortalities of infants grouped according to the special circumstances of the mothers as regards industrial occupation* or non-occupation :—

(1) Mothers industrially employed at home (principally in Lacework).

90 (living) births, 11 deaths = 1 death in 8 cases.

* No cases discovered of mothers "employed in lead."

(2) Mothers industrially employed in Factory or Workshop (principally Lace and Hosiery work).

28 (living) births, 2 deaths = 1 death in 14 cases.

(3) Mothers industrially employed elsewhere (principally as charwomen).

7 (living) births, 1 death = 1 death in 7 cases.

(4) Mothers not industrially employed.

75 (living) births, 8 deaths = 1 death in 9 cases.

B. Particulars *re* Confinements of same mothers (in cases where previous confinements had occurred) prior to 1908.

(1) Mothers industrially employed at home (principally in Lacework).

315 (living) births, 42 deaths = 1 death in 7·5 cases.

(2) Mothers industrially employed in Factory or Workshop (principally Lace and Hosiery Work).

32 (living) births, 5 deaths = 1 death in 6·4 cases.

(3) Mothers industrially employed elsewhere (principally as charwomen).

24 (living) births, 3 deaths = 1 death in 8 cases.

(4) Mothers not industrially employed.

244 (living) births, 40 deaths = 1 death in 6·1 cases.

It will be seen (by the tables) that more than half ($\frac{1}{2}\frac{3}{2}$) of the total Infant Mortality occurred during the first three months of life. This preponderant mortality in the first three months, as compared with the other quarters of the year, is in accordance, of course, with common experience. A large part of the preponderance is undoubtedly explained by the operation of ante-natal conditions inimical to survival. Premature birth in Nottingham, as elsewhere, is the commonest alleged cause of death in this category.

PHILIP BOOBBYER.

APPENDIX B.

HANDBILLS AND LEAFLETS.

City of Nottingham. The Feeding and Care of Infants.

1.—The natural and best food for a young infant is its mother's milk.

2.—The child should be suckled once every two hours during the day, and once every four hours during the night, until it is about three months old, and at gradually lengthening intervals after the lapse of this period.

3.—The child should, if possible, receive no other food than its mother's milk until it is at least six or seven months old.

4.—During the suckling period the mother should take plenty of good, plain, nourishing food, but should avoid alcoholic stimulants and spices.

5.—The mother should wash her nipples after each time of suckling. If they become sore she should apply some glycerine or lanoline to them, and, if necessary use a nipple-shield carefully cleaned with soap and warm water after each time of using.

The following instructions may be advantageously followed, at the earlier ages in cases where the mother is unable to suckle her infant, and at the later ages in all cases.

(*a*) During the first six weeks after birth the child should be fed every two hours throughout the day, reckoned between 4 a.m. and 10 p.m., and once again between these hours in the night. Its food should consist of one part of fresh, pure cow's milk, and two parts of water, mixed and boiled, and, after boiling, sweetened with a small teaspoonful of Porto Rico sugar to each pint (of the mixture). Barley water may sometimes with advantage be used instead of plain water, but lime water is better avoided. The mixture should be kept in a clean covered vessel, and in a clean cool place, between meals. The temperature of the food given to a young child should be 95 degrees Fahrenheit, *i.e.*, about the heat of the human hand. One-and-a-half ounces (three tablespoonfuls) to two ounces (four tablespoonfuls) should be given to a child each time it is fed.

Two bottles should always be used, each alternately; one being scalded and rinsed, and afterwards left to soak, while the other is in actual use. The bottles should have no tube or neck, but have a mouth large enough to admit the first finger, and this should be fitted with an india-rubber teat only. The teats should be washed inside and out, after each time of using, with soap and warm water.

(*b*) From six weeks to three months old the child should be fed with a mixture of equal quantities of cow's milk and water, with sugar as above; but two teaspoonfuls of cream may now be advantageously added to each meal. The quantity given at each meal should be about four ounces (eight tablespoonfuls). The interval between meals should now be gradually but continually lengthened.

(*c*) From three months to seven months old the child should have a mixture of two parts of cow's milk to one of water. About four ounces (eight tablespoonfuls) should at first be given at each meal, but, the intervals between meals being still lengthened, a larger quantity than this will soon be required for each. The quantity of cream given with each meal may now be increased from two to three or four teaspoonfuls.

The following is a useful working rule for the feeding of a child, with such substitutes for mother's milk as mentioned above, during the period in which liquids should be exclusively used:—

Begin with about 16 oz. a day of twenty-four hours, as under (*a*). Increase this by the addition of 1 oz. to 2 oz. a week up to the end of the first month. After the first month add 4 oz. a month up to the end of the seventh month. At this period, unless the child is regularly to have some quantity of the farinaceous food mentioned in the next paragraph, its milk should amount to at least 40 oz. a day. At nine months a milk-fed child should have three pints in the twenty-four hours.

(*d*) From seven months to twelve months old the child should be given five meals in a day of twenty-four hours. The number of meals will thus have been reduced by a little more than one-half (from eleven to five) in the first seven months. Each meal should consist at the first of about five or six ounces (ten or twelve tablespoonfuls) of undiluted cow's milk, with cream as under (*c*); but three of the meals may also each contain about a teaspoonful or more of some whole-meal farinaceous food, well boiled and stirred up with the milk. All the meals in this period should be given between 6 or 7 a.m. and 9 or 10 p.m.

(*e*) From twelve months to eighteen months old the child should again be fed only during the day, and at about the same intervals (on five occasions) between early morning and night. The amount of milk should be about twice as great as given under (*d*), and porridge, bread and milk, bread and gravy, bread and butter, and a lightly boiled egg occasionally, may with advantage be given with, or in place of the milk as time goes on. It must not be forgotten, however, that pure fresh cow's milk, well boiled, is an excellent and sustaining food, as well as a palatable drink for human beings at all ages.

The quantities of food given above are those generally suitable, but the capacity of children for food varies much, and signs of indigestion due to over-feeding should not be overlooked because a comparatively moderate amount of food is being taken.

It is unwise for a mother to undertake the medical treatment of her child, except, perhaps, to the extent of giving it a little opening medicine occasionally. She should never give it sleeping or quieting medicine except under medical advice.

A young child should not on any account sleep in the same bed with nurse or parents.

A young child should be warmly but loosely clothed over the whole of its body and limbs, and as few pins as possible should be used in dressing it.

It should be remembered that a young child is exceedingly liable to suck or to swallow anything within its reach which admits of being so treated.

It should also be borne in mind that a young child has no dread of fire or hot things unless or until it is actually burnt.

PHILIP BOOBBYER, M.D.,
Medical Officer of Health, Nottingham.

City of Nottingham Prevention of Diarrhœa and Cholera.

These diseases may in great measure be avoided by the exercise of common care. Cleanliness of person and surroundings and a judicious diet are the best possible safeguards against them. Their germs enter the system through contaminated air, water, and food; it is most important, therefore, to secure the utmost possible purity of these three vital agents.

All parts of a house should be freely ventilated both by day and night:—there is as a rule much less harm to be apprehended from too much than too little fresh air, whatever its temperature or degree of moisture. No decomposing refuse should be allowed to remain in the house or its neighbourhood; all vegetable refuse should be burnt in the kitchen fire. The floors of all rooms, passages, and stairways should be frequently washed with soap and water, and all private courts, alleys, and yards should be flushed with fresh water, as often as possible. All dirty walls should be scraped and limewashed. All drains in the neighbourhood of the house should be flushed at short intervals, and all obstructions to the drainage and faults in the drains, which cannot be dealt with by the tenant, should be reported at once to the **Health Department in the Guildhall.** It is most important that all house drains should be completely disconnected from the sewers. All other offensive nuisances which are not receiving the necessary attention should also be at once reported.

The Public Water Supply of the town is now happily above the suspicion of contamination, but no water even from this source should be allowed to stand before being used for drinking purposes, and all water from private wells or other like sources should invariably be boiled before use.

Only sound and fresh flesh of any kind should be used as food, and this should be well cooked. The same remark applies to cooking vegetables of every description. Unripe or over-ripe fruit should be rigorously avoided. Infants under nine months of age should receive nothing but milk, or milk and water, well boiled, when the milk is from any other source than the mother's breast. All food utensils, and especially milk vessels and babies' feeding bottles, should be well washed and soaked before use, in clean, and, if possible, boiling water.

A qualified medical man should be at once called in to every case of severe bowel disturbance. It is a wise precaution to disinfect with strong solution of carbolic acid the bowel discharges of all Diarrhœa patients, before placing them in the closet pan or pail. All articles or material soiled with such discharges should be at once soaked and cleansed with the same solution.

After it has been ascertained that a patient is suffering from Asiatic Cholera it is essential that the strictest isolation should be maintained at home or in hospital, and that all discharges from the patient's body should be disinfected and placed in a separate receptacle, which will be provided and scavenged by the Corporation; and, further, that all articles soiled with such discharges should be promptly disinfected, or destroyed by fire. Persons attending upon Cholera patients should not touch with their hands, their own or other persons' faces, or any food or food utensil intended for their own or other unaffected person's use. Any case suspected to be one of **Cholera** should be at once notified to me at the **Health Department in the Guildhall.**

PHILIP BOOBBYER, M.D.,

Guildhall, Nottingham. *Medical Officer of Health.*

(Circulated during recent Small-Pox Outbreak.)

City of Nottingham. Small-Pox and Vaccination.

Small-Pox is once more prevalent in this District and many other parts of the Country, and numerous fresh cases are reported daily. It is, therefore, desirable for people resident in Nottingham (and elsewhere) to seek protection against it.

Good Recent Vaccination is an Efficient Protection against Small-Pox, and the degree of protection it confers is directly proportional to the recentness and thoroughness of the operation.

All persons who have not been properly vaccinated or re-vaccinated within the past ten years, should be well vaccinated without delay.

The risk of injury from vaccination when considered in relation to the total amount of vaccination work done, is altogether insignificant.

PHILIP BOOBBYER, M.D.,
Medical Officer of Health.

Guildhall, Nottingham.

Official Notice under the Shop Hours Acts, 1892 to 1895, to amend the Law relating to the Employment of Young Persons in Shops.

Notice is Hereby Given that, under the above Acts, a young person cannot be employed in or about a shop for a longer period than seventy-four hours, including meal times, in any one week.

A young person cannot, to the knowledge of his employer, be employed in a shop who has been previously on the same day employed in any factory or workshop, as defined by the Factory and Workshop Act, 1878, for the number of hours permitted by the said Acts, or for a longer period than will, together with the time during which he has been so previously employed, complete such number of hours.

In every shop in which a young person is employed, a Notice must be kept exhibited by the employer in a conspicuous place, referring to the provisions of these Acts, and stating the number of hours in the week during which young persons may be lawfully employed therein. If any employer fails to keep exhibited this Notice in the manner required, he is liable to a fine not exceeding forty shillings.

Where any young person is employed in or about a shop contrary to the provisions of these Acts, the employer will be liable to a fine not exceeding one pound for each person so employed.

The Council of any County or Borough, and in the City of London the Common Council, may appoint such Inspectors as they may think necessary for the execution of these Acts within the areas of their respective jurisdictions, and Sections 68 and 70 of the Factory and Workshop Act, 1878, shall apply in the case of any such Inspector as if he were appointed under that Act, and as if the expression "Workshop," as used in those sections, included any shop within the meaning of these Acts.

In these Acts, unless the context otherwise requires, "Shop" means retail and wholesale shops, markets, stalls, and warehouses, in which assistants are employed for hire, and includes licensed Public-houses and Refreshment-houses of any kind.

"Young person" means a person under the age of eighteen years.

Other words and expressions have the same meanings, respectively, as in the Factory and Workshop Act, 1878.

Nothing in these Acts applies to shops where the only persons employed are members of the same family dwelling in the building of which the shop forms part, or to which the shop is attached, or to members of the employer's family so dwelling, or to any person wholly employed as a domestic servant.

And Notice is Hereby Given, that no young person can be employed in or about these premises for a longer period than seventy-four hours, including meal times, in any one week.

City of Nottingham. Prevention of Tuberculous Consumption.

This disease is infectious, and liable to spread among persons living in contact with those suffering from it. It is, however, in many cases entirely curable under appropriate treatment.

Where the lungs are principally affected, the spit of the patients contains most of the poison. This should, as far as possible be received into a vessel containing a strong solution of Carbolic Acid (1 of Carbolic to 20 of Water), and all washing materials and utensils soiled by the patients should be soaked in the same solution before being washed. Pocket spit bottles, containing the above Carbolic Acid and water mixture, should be used out of doors; they should be emptied into a fire and washed out with hot water after use.

The spit and other infectious matters from consumptive patients, whether disinfected or not, should always be destroyed (if possible by fire) before they become dry. They are most dangerous when dried, especially when taking the form of dust.

Consumptive patients should not kiss other persons on the face. They should have a set of table utensils for their own separate use. They should always sleep alone.

The rooms of consumptive patients should be freely ventilated both by day and night, and should be disinfected and cleaned (with damp cloths soaked in disinfecting liquid) at short intervals.

Consumptive patients should spend as much time as possible in the open air.

In case of the death or removal of any consumptive patient, the Health Department will, if desired, undertake the disinfection of the infected house and materials free of charge.

A considerable proportion of milch cows suffer from tuberculous disease, and the milk of such cows, especially when the udders are affected, is liable to be highly charged with the tuberculous poison. It has been shown that animals taking tuberculous milk in the raw state are exceedingly liable to contract the disease; all ordinary cow's milk, therefore, should be sterilized or boiled before use.

PHILIP BOOBBYER, M.D.,

Guildhall, Nottingham. *Medical Officer of Health.*

Nottingham Corporation. Bagthorpe Hospital. Scarlet Fever.

To Parents, Guardians, and Others.

Although every care is exercised to prevent the carriage of infection by persons discharged from Bagthorpe Hospital, it is impossible in some instances to insure against such an accident, for no one can say with certainty how long the scarlet fever poison may lurk in the system. Parents and others are warned against allowing recently discharged patients to come into unnecessarily intimate contact with others. No person discharged from a Fever Hospital should be allowed to sleep in the same bed as another until at least a fortnight after such discharge. A short holiday in the country, spent as far as possible apart from others and in the open air, is always desirable for persons convalescing from scarlet fever. But all persons recovering from scarlet fever should be warmly clothed, and otherwise protected against cold. Any recently discharged person who complains of sore throat, nose, or ears, or who has a breaking out on the skin, should be at once isolated, and placed under the care of a medical man. In any case the Corporation cannot accept responsibility or liability for the outbreak of infection occurring among the companions of persons recently discharged from hospital.

PHILIP BOOBBYER, M.D., *Medical Superintendent.*

The Sanitary Accommodation Order of 4th February, 1903.

In pursuance of Section 9 of the Factory and Workshop Act, 1901, I hereby determine that the accommodation in the way of sanitary conveniences provided in a factory or workshop shall be deemed to be sufficient and suitable within the meaning of the said section if the following conditions are complied with and not otherwise:—

1. In factories or workshops where females are employed or in attendance there shall be one sanitary convenience for every 25 females.

In factories or workshops where males are employed or in attendance there shall be one sanitary convenience for every 25 males: provided that—

(*a*) In factories or workshops where the number of males employed or in attendance exceeds 100, and sufficient urinal accommodation is also provided, it shall be sufficient if there is one sanitary convenience for every 25 males up to the first 100, and one for every 40 after;

(*b*) In factories or workshops where the number of males employed or in attendance exceeds 500, and the District Inspector of Factories certifies in writing that by means of a check system, or otherwise, proper supervision and control in regard to the use of the conveniences are exercised by officers specially appointed for that purpose it shall be sufficient if one sanitary convenience is provided for every 60 males, in addition to sufficient urinal accommodation. Any certificate given by an Inspector shall be kept attached to the general register, and shall be liable at any time to be revoked by notice in writing from the Inspector.

In calculating the number of conveniences required by this order, any odd number of persons less than 25, 40, or 60, as the case may be, shall be reckoned as 25, 40, or 60.

2. Every sanitary convenience shall be kept in a cleanly state, shall be sufficiently ventilated and lighted, and shall not communicate with any work-room except through the open air or through an intervening ventilated space: provided that in work-rooms in use prior to 1st January, 1903, and mechanically ventilated in such a manner that air cannot be drawn into the work-room through the sanitary convenience, an intervening ventilated space shall not be required.

3. Every sanitary convenience shall be under cover and so partitioned off as to secure privacy, and if for the use of females shall have a proper door and fastenings.

4. The sanitary conveniences in a factory or workshop shall be so arranged and maintained as to be conveniently accessible to all persons employed therein at all times during their employment.

5. Where persons of both sexes are employed, the conveniences for each sex shall be so placed or so screened that the interior shall not be visible, even when the door of any convenience is open, from any place where persons of the other sex have to work or pass; and, if the conveniences for one sex adjoin those for the other sex, the approaches shall be separate.

6. This order shall come into force on the 1st day of July, 1903.

7. This order may be referred to as the Sanitary Accommodation Order of 4th February, 1903.

A. AKERS DOUGLAS,
One of His Majesty's Principal
Secretaries of State.

Home Office, Whitehall,
4th February, 1903.

APPENDIX C.

The Public Health (Tuberculosis) Regulations, or Order, 1908, open with the following preamble:—

Whereas We, the Local Government Board, are empowered by Section 130 of the Public Health Act, 1875, as amended by the Public Health Act, 1896, from time to time, to make, alter, and revoke Regulations for preventing the spread of endemic or infectious disease; and to provide for the enforcement and execution of the Regulations;

And whereas Tuberculosis is an endemic disease and that form of the disease which is known as Pulmonary Tuberculosis is an infectious disease;

And whereas it appears to Us to be expedient that for preventing the spread of Tuberculosis, including Pulmonary Tuberculosis, such Regulations as are herein-after set forth be made in relation to that disease:

Now therefore, We, by this Our Order and in the exercise of the powers conferred upon Us by the Public Health Act, 1875, the Public Health (London) Act, 1891, and the Public Health Act, 1896, and of every other power enabling Us in that behalf, do make the following Regulations, that is to say:—

Then follow the actual Regulations, of which the circular letter, below, serves as an abstract.

Circular.—Guardians, Joint Committees, and Managers of Asylum and School Districts.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1908.

LOCAL GOVERNMENT BOARD,
WHITEHALL, S.W.,
18th December, 1908.

SIR,

I am directed by the Local Government Board to state that they have had under consideration the desirability of affording facilities for the extension of administrative action for the prevention of tuberculosis, and that with this view they have issued an Order in pursuance of Section 130 of the Public Health Act, 1875, as amended and extended by the Public Health (London) Act, 1891, and the Public Health Act, 1896, to provide for the notification to the Medical Officer of Health of Sanitary Authorities of cases of pulmonary tuberculosis occurring amongst the inmates of Poor Law Institutions, or amongst persons under the care of District Medical Officers, and for the taking of certain measures in such cases.

NOTIFICATION BY MEDICAL OFFICERS OF POOR LAW INSTITUTIONS.

Article IV. of the Order directs that the Medical Officer of a Poor Law Institution, as defined by Article I., shall within 48 hours after his first recognition of the symptoms of pulmonary tuberculosis in the case of a poor person who is an inmate of the institution, post to the Medical Officer of Health of the sanitary district in which the person resided immediately before he became an inmate of the Poor Law Institution a notification of the case.

The notification must be made on a printed form as set out in the Schedule to the Order.

NOTIFICATION BY DISTRICT MEDICAL OFFICERS.

Article V. directs that a similar notification shall be posted to the Medical Officer of Health by the District Medical Officer in the case of any poor person suffering from pulmonary tuberculosis on whom he is in medical attendance according to his agreement with a Board of Guardians.

The notification must be sent within 48 hours after the District Medical Officer has first recognised the symptoms of pulmonary tuberculosis, and must be addressed to the Medical Officer of Health acting for the sanitary district in which the residence of the poor person is situate.

NOTIFICATION BY SUPERINTENDING OFFICERS OF POOR LAW INSTITUTIONS.

Under Article VI. it will be the duty of the Superintending Officer of a Poor Law Institution to post to the Medical Officer of Health on a printed form as set out in the Schedule to the Order a notification of the actual or intended place of destination and address at that place of any person leaving the institution in respect of whom a notification has been made by the Medical Officer of the institution under Article IV.

The notification must be posted within 48 hours after the departure of the person to whom it relates, and must be sent to the Medical Officer of Health of the sanitary district in which the intended destination of the person is situate. The term "Superintending Officer" is defined in Article I. (*h*)

NOTIFICATION OF CHANGES OF ADDRESS BY RELIEVING OFFICERS.

Article VII. provides that a Relieving Officer shall notify any change of address (other than by admission to a Poor Law Institution) of a person in respect of whom a notification has been made under Article V. by a District Medical Officer.

The notification must be made on a printed form as set out in the Schedule to the Order, and must be sent to the Medical Officer of Health for the sanitary district in which the address to which the person moves is situate.

The notification must be posted within 48 hours after the Relieving Officer has obtained accurate information respecting the change of residence.

REMUNERATION TO BE ALLOWED.

Provision is made by Article VIII. for the remuneration of the Officers who have to make notifications under the Order. In the case of the Medical Officer of a Poor Law Institution or a District Medical Officer, the remuneration will be at the rate of one shilling for every notification, but where in relation to any one case two or more notifications have been posted by the Medical Officer to the same Medical Officer of Health, his remuneration will be at the rate of sixpence for every such notification after the first.

In the case of a Superintending Officer of a Poor Law Institution or a Relieving Officer, the remuneration will be at the rate of threepence for every notification.

The remuneration will be payable by the Council of the sanitary district for which the Medical Officer of Health acts, it will be deemed to cover the cost of postage, and it will be payable in the manner and subject to the conditions prescribed by the Article.

SUPPLY OF FORMS.

Under Article III. of the Order, it will be the duty of the Guardians to provide a sufficient supply of printed copies of each of the Forms A, B, C, D, and E, set forth in the Schedule to the Order, and to furnish to each of the officers who are required to use them a book containing a sufficient number of those copies for the requirements of the officer. The book must be so arranged that every notification can be readily detached from the counterfoil. They must also keep a

record of the name and address of the Medical Officer of Health appointed by each Council, and of such other particulars as are necessary to facilitate the prompt delivery of a notification to any such Medical Officer of Health in the ordinary course of post.

Joint Committees constituted under Section 8 of the Poor Law Act, 1879, and the Managers of Asylum Districts and School Districts must keep a like record, and must also provide and furnish their officers with books similar to those above referred to, but containing only Forms A, C, and E.

EXPENSES OF POOR LAW AUTHORITIES.

Article X. provides that all expenses incurred by a Board of Guardians, a Joint Committee, or a Board of Managers under the Order shall be defrayed as part of their establishment expenses.

DETERMINATION OF QUESTIONS OR DIFFERENCES.

Article XI. will enable the Board to determine any question or difference in relation to anything done under the Order on the application of any of the parties affected.

PULMONARY TUBERCULOSIS NOTIFIABLE UNDER LOCAL ACTS.

Article XII. deals with those cases in which powers have been obtained with respect to pulmonary tuberculosis by a Local Act.

Nothing in the Regulations will have effect in derogation of any power or obligation under any such Act, but subject to this the Regulations will apply to any district in which a Local Act containing provisions with respect to pulmonary tuberculosis is in force.

The Board may, however, direct that so much of the Regulations as relates to a notification by a Medical Officer of a Poor Law Institution or a District Medical Officer shall not have effect in relation to that district.

DATE ON WHICH THE ORDER COMES INTO EFFECT.

The Order will take effect on and after January 1st next, and it is desirable that the arrangements which are necessary to facilitate carrying it out should be made without any delay. In fixing January 1st as the date when the Order shall come into operation the Board have had regard to the convenience, from a statistical point of view, of the Order taking effect at the commencement of a calendar year.

If, however, any delay occurs in the printing of the forms, it may be understood that it will not be necessary to carry out the Regulations until these can be obtained.

Copies of the Order and Circular are enclosed, and I am to request that a copy of each may be given to every Officer on whom the duty of notifying rests under Articles IV. to VII. of the Order. Further copies will be supplied for this purpose on application to the Board, if required.

The Order and Circular will be placed on sale so that copies may shortly be obtained, either directly or through any bookseller, from Messrs. Wyman & Sons, Limited, Fetter Lane, London, E.C.

I am, Sir,

Your Obedient Servant,

S. B. PROVIS,

Secretary.

The Clerk to the Guardians, *or*
to the Joint Committee *or*
to the Board of Management.

APPENDIX D.

From Mr. John Terry, Wharf Superintendent:—

COLLECTION OF REFUSE.

Pail Closets.—The pail closets now on the books number 36,313, as against 36,531 in 1908, and 36,697 in 1907. The whole of the pails in use are made of galvanized steel, and these are found to be much more cleanly than the old wooden tubs (which have now entirely disappeared), whilst the cost remains practically the same.

Each pail is brought to the depôt to be emptied, and before being returned is washed out and sprinkled with Carbolic Powder. Considering the large number emptied, the number of complaints as to dirty pails is extremely small.

There have been emptied during the year 2,463,429 pails, equal to 47,373 per week. Each pail has been emptied on an average 67·83 times during the year.

The following table gives the number of pails emptied during each of the past 19 years:—

Number of Pails Collected, 19 Years ending December 31st, 1909.

Year.	Nottingham	Basford and Bulwell.	Radford and Lenton.	TOTAL.	Weekly Average.
1891	1,593,674	560,127	432,324	2,496,125	48,002
1892	1,523,965	580,061	446,687	2,550,713	49,052
1893	1,525,804	587,718	443,960	2,557,482	49,182
1894	1,559,608	605,349	445,606	2,610,563	50,203
1895	1,594,130	631,219	432,450	2,657,799	51,111
1896	1,598,814	636,951	441,126	2,676,891	51,478
1897	1,568,172	636,744	444,859	2,649,775	50,957
1898	1,542,856	638,493	468,070	2,649,419	50,950
1899	1,529,546	637,420	478,475	2,645,441	50,874
1900	1,522,549	640,976	475,195	2,638,720	50,745
1901	1,510,423	640,653	476,124	2,627,200	50,523
1902	1,496,922	638,370	481,970	2,617,262	50,332
1903	1,488,385	641,390	482,289	2,612,064	50,232
1904	1,477,526	644,031	481,018	2,602,575	50,049
1905	1,450,262	636,984	474,180	2,561,426	49,258
1906	1,440,157	636,002	474,355	2,550,514	49,048
1907	1,417,894	527,153	572,677	2,517,724	48,418
1908	1,403,423	454,754	635,970	2,494,147	47,964
1909	1,386,476	444,668	632,285	2,463,429	47,373

Ashpits.—The number of ashpits in the City is now about 1,000; a number of these are very large, holding ten or twelve loads each, and are not emptied more than about once per year. During the year there have been emptied 2,403 pits, and there have been removed therefrom 2,387 loads of wet refuse, and 1,544 loads of dry ashes. There have also been removed 1,715 loads of liquid from 370 cesspools, giving a total of 5,646 loads. This is a decrease of 331 loads from the previous year, due to the conversion of a number of privies to W.C.'s. The work of emptying cesspools has again increased, and one horse and man are kept constantly employed on this work.

The numbers of loads of Ashpit contents for the previous eight years were as follows:—

1901	1902	1903	1904	1905	1906	1907	1908
4650	7933	8031	6473	5655	5362	5533	5977

Dry Ash Bins.—There are now on the books 23,749 ash pans or tubs (12,421 worked from the Eastcroft depôt and 11,328 from the district depôts), showing an increase for 1909 of 1,465, and of 9,507 during the past five years. This increase is a very large one (and is principally due to new property). It is also spread over a very large area, necessitating an increased number of horses and men, and re-organisation of the collections.

The number of loads collected by the dry ash carts during the year was 22,179, and by the pot carts 2,658; a total of 24,837, or 477 per week, as against 381 per week during 1904.

Slaughter House Refuse.—991 loads, weighing 946 tons, have been collected from 272 galvanized steel pails at 62 slaughter-houses. These pails are brought to the depôt to be emptied, and before being returned are thoroughly washed. The amount received for the hire of pails during the past year was £34 0s. 0d.

The following table shows the total number of loads collected in each district during each of the past 15 years.

Number of Loads Collected.

	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
NOTTINGHAM:—															
Pail-Closets	75,911	76,134	74,675	73,469	72,835	72,502	71,925	71,282	70,876	70,358	69,060	68,579	67,519	66,830	66,023
Night Ashpits ..	2,460	2,278	2,391	2,406	2,263	2,372	2,291	2,148	1,758	1,293	1,325	1,161	1,138	958	983
D.A. Pits & D.A. Tubs	8,820	9,518	10,230	11,851	13,275	14,055	15,018	11,000	11,673	11,658	12,016	12,482	12,959	13,116	13,061
Slaughter-houses ..	975	1,037	1,021	1,034	1,023	1,058	1,123	1,060	918	964	970	975	981	990	991
Pot Carts	1,348	1,379	1,390	1,360	1,371	1,817	2,043	2,215	2,421	2,515	2,582	2,608	2,643	2,662	2,658
BASFORD and BULWELL:—															
Pail-Closets	30,058	30,331	30,321	30,404	30,353	30,522	30,507	30,398	30,543	30,668	30,332	30,286	25,103	21,655	21,175
Night Ashpits ..								1,037	2,047	2,032	1,648	1,597	1,273	1,190	1,134
D.A. Tubs								5,035	6,346	5,603	5,806	6,705	6,776	6,038	5,989
RADFORD and LENTON:—															
Pail-Closets	20,593	21,006	21,183	22,289	22,784	22,628	22,673	22,951	22,966	22,906	22,580	22,588	27,270	30,284	30,109
Night Ashpits ..	1,951	2,666	2,844	3,276	2,779	2,083	2,363	2,426	2,003	1,507	939	817	699	553	270
D.A. Tubs										1,772	2,026	2,442	2,752	4,044	4,663
TOTALS	142,116	144,349	144,055	146,089	146,683	147,037	147,943	149,552	151,551	151,276	149,284	150,240	149,113	148,320	147,066
WEEKLY AVERAGES	2,733	2,775	2,770	2,809	2,821	2,828	2,845	2,876	2,914	2,909	2,871	2,889	2,867	2,852	2,828

Disposal of Refuse.—The past year has been the most difficult I have experienced for the disposal of refuse. The continual wet weather made it almost impossible for farmers to work the land, with the result that all orders for the delivery by rail were cancelled, and the only methods of disposal left open were transmission by boat or burning in the destructor; and, with both these alternatives available, we were able to manage without having more than one or two days' stock on hand at once. It will be seen from the following table that 76 more boat loads were sent off than during 1908, and 1,317 more tons of nightsoil consumed in the destructor than in the previous year.

The Eastcroft Destructor has been at work 5,528 hours, and has consumed 34,921 tons, as against 31,481 tons in 1908, 32,109 in 1907, and 25,939 in 1906. It has produced 1,195,279 units of electricity, and evaporated 9,861,000 gallons of water. Of the above refuse 8,491 tons were brought by rail from Basford, at a cost of £577, and 1,193 tons (nightsoil) from Radford, at a cost of £72.

There has been an increased demand for clinkers produced at the Eastcroft, and during a portion of the year we have been able to keep the place clear without any cost to the Committee.

The Radford Destructor has been kept at work throughout the year, and has consumed 5,241 tons of dry ashes, 1,633 tons of pail closet refuse, 348 tons of ash-pit refuse, and 811 tons of trade refuse; a total of 8,033 tons, as against 8,117 tons during 1908.

2,622 tons of clinker and flue dust have been produced, at Radford, and a large quantity of this has been sent away by rail for sewage works, road making, etc. The remainder has had to be carted to the nearest tip—Dunkirk.

In addition to the 6,197 tons of nightsoil destroyed, there have been sent away by boat, 14,181 tons; by rail from Eastcroft 6,925 tons, from Basford 3,882 tons, and Radford 5,809 tons; by traction engine from Eastcroft, Basford and Radford, 6306 tons. This gives a total sent to farmers of 37,103 tons, being 1,609 tons less than the previous year.

The following table shows the quantities of nightsoil sent out by rail and boat during each of the past 15 years:—

Disposal of Refuse.

	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909
No. of Wagons sent out ..	4,109	3,134	3,091	3,595	3,145	1,984	3,077	3,151	3,130	3,142	3,289	3,009	2,041	2,229	1,999
	T. C. Q.	T. C.	T. C. Q.	T. C. Q.	T. C. Q.	T. C.	T. C. Q.	T. C. Q.	T. C. Q.	T. C. Q.	T. C. Q	T. C. Q.	T. C. Q.	T. C. Q.	T. C. Q.
Average Weight per Wagon	7 17 2	7 18	7 19 3	7 19 1	8 1 2	8 0	8 1 2	8 2 2	8 3 0	8 2 1	8 3 0	8 1 0	8 2 3	8 7 0	8 6 1
No. of Boats sent out ..	359	574	514	479	592	734	633	580	613	491	415	492	648	445	521
	T. C. Q.	T. C.	T. C.	T. C. Q.	T. C. Q.	T. C. Q.	T. C. Q.	T. C. Q.	T. C. Q.	T. C. Q.	T. C. Q.	T. C. Q	T. C. Q.	T. C. Q	T. C. Q.
Average Weight per Boat..	32 10 0	32 10	32 17	33 6 1	33 2 2	31 10 1	29 17 2	29 3 2	29 13 3	29 17 0	28 9 3	28 19 0	28 13 3	28 0 1	27 4 1

The whole of the refuse received at the Eastcroft (excepting that from pail closets) is weighed, and the figures for the past six years have been as follows :—

	1904	1905	1906	1907	1908	1909
	Tons	Tons	Tons	Tons	Tons	Tons
Dry Ashes	14,139	13,959	14,266	14,887	15,017	15,616
Wet Ashpit Refuse	1,242	1,373	1,128	1,103	854	655
Trade Refuse (General) ..	3,687	3,283	3,450	3,603	2,867	3,178
Trade Refuse (Butchers, &c.)..	2,597	2,383	2,335	2,588	2,382	2,475
Ashes from Basford & Bulwell	3,251	2,852	4,024	7,817	6,994	8,492
Rammel, &c., from Radford ..	126	—	—	—	899	1,194
TOTALS ..	25,042	23,850	25,203	29,998	29,013	31,610

In dealing with the refuse, the following materials have been collected from it and sold, realizing the sum of £256 15s. 9d., as against £229 10s. 11d. in 1908.

	Tons.	cwts.	qrs.
Solder (recovered from old tins)	0	17	2
Light tins (from solder furnace)	66	8	0
Light iron and tins...	97	5	3
Galvanized scrap	93	4	2
Paper	6	11	0
Heavy scrap	19	3	2
Enamelled ware	3	2	0

Depôts.—These are three in number, situated as follows :—The Eastcroft, London Road; Ilkeston Road, Radford; and Vernon Road, Basford.

The workshops at Eastcroft have been extended and improved. A new woodworking machine has been added to the wheelwright's shop, and this has already proved a useful acquisition. The roof of the washing shed, which had not been repaired since its erection, has been replaced by an almost entirely new roof. The whole of the premises at Radford, including the destructor, have been thoroughly overhauled and painted, and the office there, which was very unhealthy, has been enlarged. Since this was done the office staff have enjoyed much better health than previously.

HORSES.

Total number of Horses, December 31st, 1908	109
Disposed of during 1909	9
Purchased during 1909	8
Number of Horses at Eastcroft	64
,, ,, Basford	22
,, ,, Radford	20
,, ,, Bagthorpe	2
Total number ...	108

The average working life of the horses sold was just over 9 years and 10 months. Owing, however, to the early commencement of severe winter weather, a considerable number of horses suffered from bad colds from October to December. We lost two very young ones from Pneumonia, and a very young one also from Tetanus, and this brought down the average life of those disposed of to 7 years and 11 months, as against 7½ years for 1908, and 8 years for 1907.

The Horses purchased cost £424. Deducting the sum of £83 3s. 0d. for horses sold, and calculating on the above life average, the horses cost £5 7s. 7d. per year each, which, considering the work they do, is a very small sum.

The cost of horsekeep during the year has been 14/6 per horse per week, as against 14/4 during 1908. During the year under review the cost of oats has been 2/3, and beans 4/9 per quarter, more than the previous year, and this accounts for the extra 2d. per week.

Rolling Stock —The Health Committee now own 62 drays, 60 carts, 1 wagon, 31 railway trucks, and 7 canal boats, this showing an increase of 2 carts during the year. One new dry-ash cart has been built on a different principle from the others in use, and has proved very satisfactory. It is possible to load it without the use of ladders, which are the cause of many accidents, and it allows of an improved cover to be fitted which it is impossible to fix to the old style of carts in use.

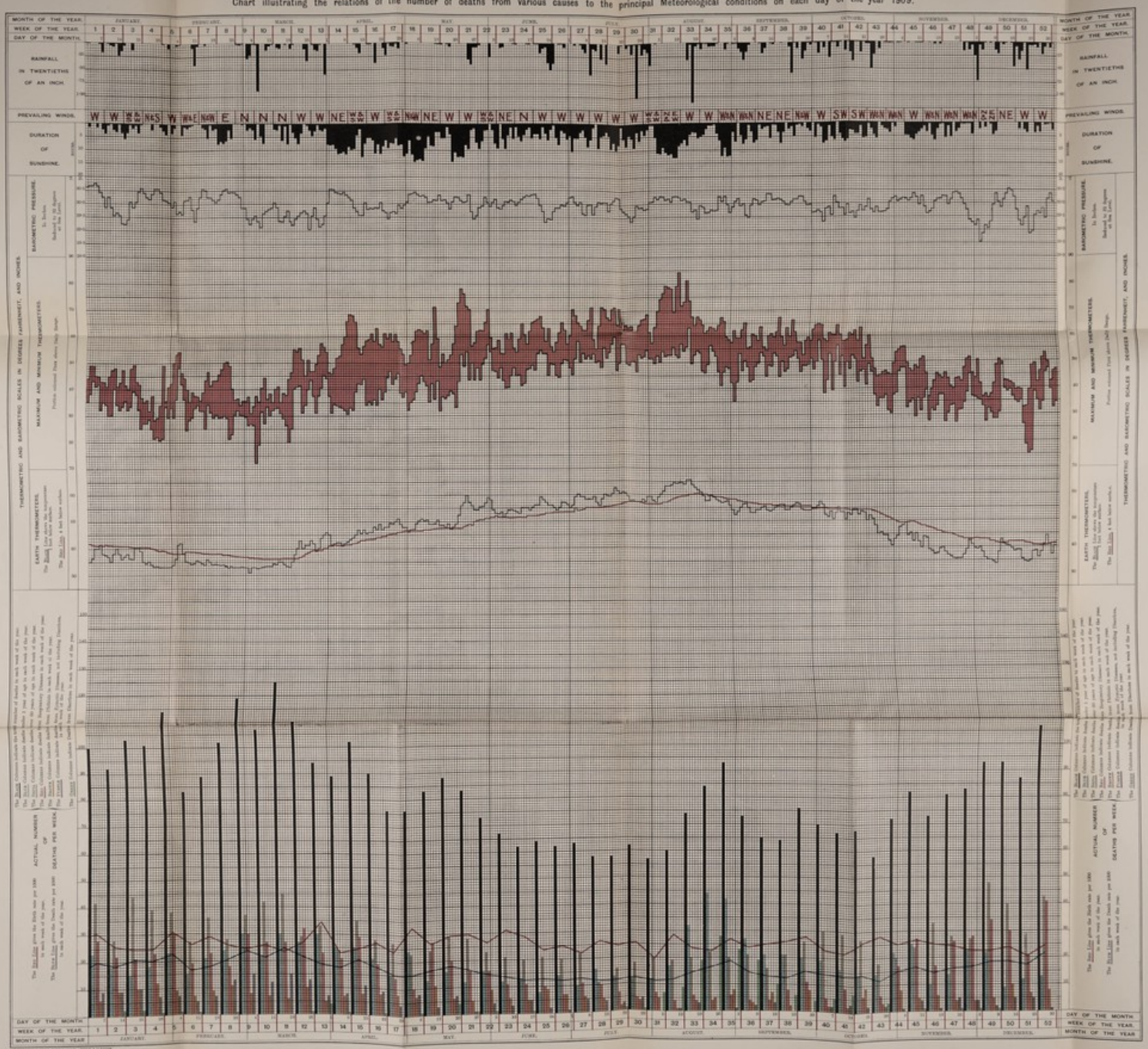
Cleansing of Courts, Passages, etc.—This important branch of your work has exceeded the high standard reached during the previous year, and the number of passages and closets washed and disinfected weekly has now reached 402 and 1,923 respectively, as against 388 and 1,861 in 1908.

This work keeps 8 men constantly employed, and, if the area of their operations is to be further extended, their number also will have to be increased.

INDEX.

City of Nottingham.

Chart illustrating the relations of the number of deaths from various causes to the principal Meteorological conditions on each day of the year 1909.



Readings taken at 9 a.m.
Rainfall, Sunshine and Maximum Temperature are entered to previous day.

Estimated Population of the City, middle of 1909, 263,441.
" " " 1910, 266,466.
Area of the City — 10,393 acres.

Total Births during the year 1909, 6,744.
Birth Rate per 1000 of population per annum, 25·61.

Total Deaths during the year 1909, 4,373.
Death Rate per 1000 of population per annum, 16·23.

ARTHUR BROWN, M. Inst. C.E., F. R. Met. Soc., City Engineer.
PHILIP BOOBBYER, M.D., Medical Officer of Health.