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BOROUGH OF NOTTINGHAM.

ANNUAL HEALTH REPORT

FOR

1893,

— BY —

PHILIP BOOBBYER, M.B.

MEDICAL OFFICER OF HEALTH;
MEDICAL SUPERINTENDENT OF ISOLATION HOSPITAL.

Nottingham :

THOMAS FORMAN AND SONS, PRINTERS, SHERWOOD STREET.

BOROUGH OF NOTTINGHAM.

1893-94.

HEALTH COMMITTEE.

ALDERMAN PULLMAN, Mayor.

Chairman—

ALDERMAN BLACKBURN.

Vice-Chairman—

ALDERMAN BENNETT.

ALDERMAN JELLEY

COUNCILLOR S. O. ABBOTT

„ G. ABBOTT

„ ADAMS

„ BAILEY

„ BAGGALEY

„ BENTLEY

COUNCILLOR FLEEMAN

„ HUNTER

„ MUTCH

„ ROBERTS

„ G. ROBINSON

„ SUTTON

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

GENTLEMEN,

I have now the pleasure of laying before you my fourth Annual Health Report for the County Borough of Nottingham.

Taken as a whole, our record for 1893 is certainly satisfactory, and especially does it appear so when compared with that of many other large towns in the Kingdom.

Our recorded death-rate, per thousand living from all causes, was 18·4, or 2·3 below the average rate for the ten years, 1883-1892; and this notwithstanding the presence of much epidemic disease in the country.

We have heard a great deal about Asiatic cholera during the past year, but our own death-rate from diarrhoeal diseases shows but a relatively small advance upon the average rate of other recent years, when compared with the rates of many other large towns in the Kingdom. I must, however, draw attention to the fact that during the past year, as for several years prior to 1892, enteric fever has been far more prevalent than we should ordinarily expect to find it in a town so free from the grosser insanitary abuses of city life as Nottingham.

The Public Hospital accommodation of the town available for patients suffering with this disease is at the present time altogether inadequate. The local prevalence and fatality of enteric fever would both alike be diminished were ampler provision of this kind made.

The capacity of the Borough Isolation Hospital has on several occasions during the year been taxed to the utmost in affording shelter to scarlet fever and small-pox patients, but

principally the former. No less than 70% of all the notified cases of scarlet fever were admitted, but less than half the total deaths from scarlet fever registered in the Borough during the year took place in the Hospital.

A glance at the lists of places visited, nuisances abated, and other matters dealt with, which are given at the end of this Report, will show that the officers of the several sections of the Health Department have not been idle during the year. Year by year the duties thrown upon the department increase in number and widen in scope, and such development must be met by a corresponding increase in the staff if the work is to be properly done. The more efficient system of inspection and supervision will often prevent the occurrence of nuisance, whereas the less efficient system will wait for its occurrence to secure its tardy, expensive, and perhaps, after all, only partial abatement.

The special inspection of workshops, introduced by the 1891 addition to the Factory and Workshop Acts, has been instrumental in improving the condition of, or closing a large number of insanitary workplaces.

Sixty-eight dilapidated and unwholesome dwellings have been condemned during the year, and this beneficent work of destruction, it is pleasing to note, will be largely assisted by the work of cutting the new line of the Manchester, Sheffield, and Lincolnshire Railway through the town.

I may specially remind you of three local questions of sanitary importance awaiting solution at the present time. They are:—

- (a) What is to take the place of the pail system of excremental disposal?
- (b) Where is the new Cemetery to be?
- (c) What is to become of the Leen?

PHILIP BOOBYER.

TABLE I.

Nottingham. Population, Inhabited Houses, Marriages, Births,
and Deaths for 1893, and for the 10 years 1883-92.

	* Estimated Population.	Inhabited Houses.	† Marriages.	Births.	DEATHS.			Deaths in Public Institu- tions.
					Total at all ages.	Under One Year.	Under Five Years	
1893	220,551	...	1638	6642	4061	1145	1569	610
1892	217,550	...	1672	6315	3961	1058	1613	561
1891	214,606	46,612	1615	6344	4162	1078	1646	540
1890	211,984	45,580	1549	6205	4031	985	1484	430
1889	237,812	...	1422	6636	3985	1216	1816	410
1888	230,912	...	1405	6879	3916	1039	1605	430
1887	235,000	...	1623	7395	4130	1265	1833	432
1886	233,000	47,834	1548	7820	4411	1406	2102	417
1885	230,000	...	1742	7932	4162	1256	1898	389
1884	218,950	...	1923	8329	4780	1632	2405	386
1883	208,432	...	2030	7846	4224	1284	1849	393
Average of the ten years 1882 to 1891.	223,414	...	1653	7170	4176	1122	1825	438

† The returns of Marriages do not include those in Bulwell, Basford or Wilford.

Population at Census 1881—186,575 ; at Census of 1891—213,877.

Average number of persons in each house, at Census 1881—4·8; at
Census 1891—4·6.

Area of Borough—10,935 Acres.

Average number of persons to an acre—19·7.

TABLE II.

Nottingham. Annual Rates for 1893 and the Ten years 1883-92.

	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.
1893	30.2	18.4	172	282	386	121
1892	29.4	18.4	167	267	407	141
1891	29.9	19.5	169	259	395	129
1890	29.2	19.0	158	244	368	106
1889	27.9	16.7	182	304	454	117
1888	29.9	17.3	151	264	419	110
1887	31.5	17.6	170	306	444	105
1886	33.6	18.9	181	319	477	95
1885	34.6	18.2	158	302	456	93
1884	36.7	21.1	196	341	503	81
1883	37.8	20.3	164	304	438	93
Average of the ten years 1883-92.	37.4	18.7	170	291	435	107

TABLE III.

Nottingham.—Deaths Registered from all causes during the year 1893.

NOTE.—The Deaths of Non-Residents occurring in Public Institutions situated in the District are excluded, and the Deaths of Residents occurring in Public Institutions situated beyond the limits of the District are included.

	AGES.													Totals.			
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards.	55 to 60*	1893	1892	1891	1890	
I. SPECIFIC FEBRILE, OR ZYMOTIC DISEASES ..	330	168	54	45	41	35	19	25	31	25	8	10	781	636	689	472	
II. PARASITIC DISEASES ..	4	2	1	..	..	..	..	2	1	..	..	..	10	6	9	8	
III. DIETIC DISEASES ..	2	..	..	..	3	3	5	1	1	..	..	..	15	16	20	16	
IV. CONSTITUTIONAL DISEASES	65	69	41	85	108	91	79	70	48	14	2	43	672	676	705	797	
V. DEVELOPMENTAL DISEASES	179	..	..	..	..	..	..	3	45	107	43	2	377	351	349	376	
VI. LOCAL DISEASES ..	312	162	62	48	94	123	188	283	321	182	14	125	1789	1913	1973	1982	
VII. DEATHS FROM VIOLENCE ..	35	12	17	13	10	11	14	17	10	9	1	5	149	129	122	107	
VIII. DEATHS FROM ILL-DEFINED and NOT SPECIFIED CAUSES	218	11	3	1	3	6	7	7	7	5	..	5	268	234	295	273	
TOTALS ..	1145	424	178	192	259	269	312	408	464	342	68	190	4061	3961	4162	4031	
1.—Specific Febrile, or Zymotic Diseases.																	
1.—MIASMATIC DISEASES.																	
Small-pox { Vaccinated ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Unvaccinated ..	..	..	1	..	1	..	1	1	..	..	..	..	4	..	..	..	
No Statement ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Measles ..	1	23	1	..	..	..	..	..	..	..	..	..	25	118	110	52	
Scarlet Fever ..	1	49	27	3	2	1	..	..	..	..	..	..	83	43	28	33	
Typhus ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Whooping Cough..	32	27	..	..	..	..	..	..	..	..	..	..	59	117	121	47	
Diphtheria ..	1	6	7	..	..	1	..	..	..	..	..	..	15	30	21	10	
Simple Continued and Ill-defined Fever ..	..	..	..	..	..	..	..	..	..	1	..	..	1	1	..	..	
Enteric or Typhoid Fever ..	1	5	12	19	12	8	5	6	..	..	..	2	68	36	70	58	
Other Miasmatic Diseases ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
Influenza ..	2	1	1	6	7	4	9	8	14	13	4	1	69	68	106	27	
Tetanus ..	1	..	..	..	..	1	..	..	..	..	..	..	2	1	..	..	
2.—DIARRHOEAL DISEASES.																	
Simple Cholera ..	..	..	..	..	1	..	1	..	..	..	..	..	2	1	..	..	
Diarrhoea, Dysentery ..	260	49	5	3	5	4	1	7	15	8	4	4	361	158	180	185	
3.—MALARIAL DISEASES.																	
Remittent Fever ..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	
Ague ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
4.—ZOOGENOUS DISEASES.																	
Cowpox and effects of Vaccination	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Other Diseases (e.g. Hydrophobia, Glanders, Splenic Fever)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
5.—VENEREAL DISEASES.																	
Syphilis ..	23	4	..	..	1	1	1	..	..	..	..	..	30	18	17	..	
Gonorrhœa, Stricture of Urethra	..	..	..	..	..	1	..	..	..	..	..	..	1	3	3	..	

* By filling in this column the Statistics of Table III. will be made comparable with those of the Weekly and Quarterly Returns of the Registrar-General, and also available for the Reports required by the Local Government Board.

	AGES.													Totals.			
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards.	55 to 60*	1893	1892	1891	1890	
6.—SEPTIC DISEASES.																	
Erysipelas.. .. .	7	2	..	2	1	1	1	2	2	3	..	2	21	10	9	20	
Pyæmia, Septicæmia	..	1	1	3	1	2	..	2	..	..	..	..	10	11	7	6	
Puerperal Fever	..	..	..	8	11	10	..	..	..	..	..	..	29	24	17	..	
II.—Parasitic Diseases.																	
Thrush, & other Diseases ..	4	2	..	1	..	..	..	1	..	..	..	..	8	3	9	7	
Worms, Hydatids, &c.	..	..	..	..	..	..	..	1	1	..	..	..	2	3	..	1	
III.—Dietic Diseases.																	
Want of Breast Milk, Starvation	2	..	..	..	..	..	..	1	..	..	..	..	3	4	10	3	
Scurvy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Chronic Alcoholism	..	..	..	..	2	3	4	..	1	..	..	..	10	10	8	11	
Delirium Tremens	..	..	..	..	1	..	1	..	..	..	..	..	2	2	2	2	
IV.—Constitutional Diseases.																	
Rheumatic Fever, &c.	..	..	5	6	3	2	..	2	1	..	..	2	19	16	21	7	
Rheumatism	..	..	1	..	..	2	1	3	5	2	..	1	14	10	6	11	
Gout	..	..	..	..	..	1	..	..	2	..	..	..	3	4	3	1	
Rickets	7	7	1	..	..	..	..	..	..	..	..	..	15	14	11	20	
Cancer, Malignant Disease ..	..	..	..	..	5	26	27	36	34	12	2	21	142	180	161	173	
Tabes Mesenterica	31	9	3	1	..	..	..	..	..	..	..	..	44	41	45	55	
Tubercular Meningitis, Hydrocephalus	14	26	5	2	1	..	1	..	..	..	..	..	49	54	51	88	
Phthisis	..	7	21	63	91	57	42	23	1	..	..	16	305	306	360	400	
Other forms of Tuberculosis, Scrofula	11	16	4	11	6	1	1	1	..	..	..	..	51	16	14	12	
Purpura, Hæmorrhagic Diathesis	2	3	..	..	1	..	..	..	..	..	..	..	6	..	3	2	
Anæmia, Chlorosis, Leucocythæmia	..	..	..	2	1	1	1	2	..	..	..	1	7	14	11	7	
Glycosuria, Diabetes Mellitus ..	..	1	1	..	..	1	5	2	5	..	..	2	15	21	19	19	
Other Constitutional Diseases ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	
Myxœdema	..	..	..	..	..	..	1	1	..	..	..	..	2	..	..	..	
V.—Developmental Diseases.																	
Premature Birth	156	..	..	..	..	..	..	..	..	..	..	..	156	152	135	139	
Atelectasis	1	..	..	..	..	..	..	..	..	..	..	..	1	7	1	2	
Congenital Malformations ..	22	..	..	..	..	..	..	1	..	..	..	1	23	15	12	13	
Old Age	..	..	..	..	..	..	..	2	45	107	43	1	197	177	201	222	
VI.—Local Diseases.																	
I.—DISEASES OF NERVOUS SYSTEM.																	
Inflammation of Brain or Mem- branes	7	17	8	2	2	1	4	5	..	2	..	1	48	51	54	34	
Apoplexy, Softening of Brain, Hemiplegia, Brain Paralysis	3	1	..	..	1	12	22	50	72	41	5	22	207	210	204	215	
Insanity, General Paralysis of the Insane	..	..	..	..	4	4	4	..	..	..	..	..	12	15	20	19	
Epilepsy	..	1	..	1	4	1	..	1	2	1	..	1	11	12	14	21	
Convulsions	104	12	1	..	..	..	..	..	..	..	..	..	117	123	133	117	
Laryngismus Stridulus (Spasm of Glottis)	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	1	
Disease of Spinal Cord, Para- plegia, Paralysis Agitans ..	1	..	1	..	2	3	..	4	1	..	..	1	12	18	8	16	
Other Diseases of Nervous System	..	..	1	..	..	..	1	1	..	..	..	1	3	8	1	2	

	AGES.													Totals.			
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards.	55 to 60*	1893	1892	1891	1890	
2.—ORGANS OF SPECIAL SENSE.																	
(<i>e.g.</i> , of Ear, Eye, Nose)	2	2	1	..	..	..	..	..	..	..	..	..	5	9	4	2	
3.—CIRCULATORY SYSTEM.																	
Pericarditis	..	..	..	..	..	1	..	..	..	..	..	..	1	4	1	4	
Acute Endocarditis	..	..	..	1	..	..	..	..	..	..	..	..	1	2	7	6	
Valvular Diseases of Heart	2	..	7	8	16	20	29	12	9	3	..	7	106	111	134	143	
Other Diseases of Heart	1	1	1	1	..	4	15	39	41	24	1	14	128	143	103	114	
Aneurism	..	..	..	..	..	3	..	3	1	..	..	1	7	15	13	11	
Embolism, Thrombosis	..	..	..	..	1	..	2	1	2	3	..	1	9	4	13	6	
Other Diseases of Blood Vessels	..	..	..	..	..	..	3	2	5	2	1	2	13	2	1	..	
4.—RESPIRATORY SYSTEM.																	
Laryngitis	4	7	2	..	1	..	1	1	..	..	..	1	16	3	8	12	
Croup	2	9	1	..	..	..	..	..	..	..	..	..	12	12	4	19	
Emphysema, Asthma	..	..	2	..	..	..	2	4	1	1	..	3	10	7	7	9	
Bronchitis	84	38	2	6	3	10	24	74	109	69	6	31	425	524	619	514	
Pneumonia	44	59	17	7	17	18	34	19	22	16	..	10	253	298	286	314	
Pleurisy	..	..	2	2	1	3	..	2	2	1	..	..	13	12	20	12	
Other Diseases of Respiratory System	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	1	
5.—DIGESTIVE SYSTEM.																	
Dentition	12	2	..	..	..	..	..	..	..	1	..	..	15	32	12	27	
Sore Throat, Quinsy	1	3	1	..	1	..	..	..	1	..	..	..	7	..	1	..	
Diseases of Stomach	20	3	1	4	..	3	1	5	3	2	1	2	43	23	23	13	
Enteritis	3	1	1	1	..	1	1	1	..	..	..	..	9	10	15	22	
Obstructive Diseases of Intestine	5	1	1	2	4	2	7	4	6	2	..	2	34	28	30	20	
Peritonitis	..	1	3	4	5	7	2	2	..	..	..	1	24	12	23	26	
Ascites	..	..	..	..	..	..	..	1	..	..	..	..	1	2	2	1	
Cirrhosis of Liver	..	..	..	..	2	5	9	7	13	..	..	3	36	25	37	30	
Jaundice and other Diseases of Liver	6	..	..	..	1	..	3	6	4	1	..	2	21	14	10	38	
Other Diseases of Digestive System	1	..	..	..	..	..	..	..	1	1	..	..	3	3	..	4	
6.—LYMPHATIC SYSTEM.																	
(<i>e.g.</i> , of Lymphatics and of Spleen)	..	..	1	..	..	2	..	..	..	..	..	..	3	1	3	7	
7.—GLAND-LIKE ORGANS OF UNCERTAIN USE.																	
(<i>e.g.</i> , Bronchocele, Addison's Disease)	..	..	..	..	2	..	1	2	..	..	..	1	5	6	2	3	
8.—URINARY SYSTEM.																	
Nephritis	1	3	2	3	6	4	3	5	6	1	..	2	34	31	44	32	
Bright's Disease, Albuminuria	..	..	2	1	4	5	9	17	3	4	..	7	45	54	43	46	
Disease of Bladder or of Prostrate	..	..	..	..	..	1	3	5	10	3	..	1	22	23	16	15	
Other Diseases of the Urinary System	..	..	..	..	..	..	1	1	..	..	..	1	2	3	2	2	

	AGES.													Totals.			
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and upwards	55 to 60*	1893	1892	1891	1890	
9.—REPRODUCTIVE SYSTEM.																	
A. Organs of Generation.																	
Male Organs	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	
Female Organs	..	..	..	1	2	4	3	5	2	1	..	4	18	19	11	16	
B. Of Parturition.																	
Abortion, Miscarriage	..	..	..	..	5	2	..	..	..	..	..	..	7	7	7	6	
Puerperal Convulsions	..	..	..	1	..	..	..	..	..	..	..	..	1	2	..	6	
Placenta prævia, Flooding	..	..	..	..	2	1	..	..	..	..	..	..	3	1	5	3	
Other Accidents of Child Birth.. .. .	..	..	..	..	3	2	..	..	..	..	..	..	5	10	13	28	
10.—BONES AND JOINTS.																	
Caries, Necrosis	..	..	3	2	1	2	1	2	..	2	..	2	13	12	12	12	
Arthritis, Ostitis, Periostitis	..	..	..	..	2	..	..	..	2	..	..	..	4	1	3	5	
Other Diseases of Bones & Joints	..	..	..	1	1	..	1	..	..	..	..	..	3	1	1	..	
11.—INTEGUMENTARY SYSTEM.																	
Carbuncle, Phlegmon	4	1	1	..	1	1	2	2	1	..	..	1	13	2	2	3	
Other Diseases of Integumentary System	5	..	..	..	..	1	..	..	2	1	..	..	9	3	6	6	
VII.—Deaths from Violence.																	
1.—ACCIDENT OR NEGLIGENCE.																	
Fractures and Contusions	2	2	10	6	5	3	6	7	6	7	1	4	55	45	30	34	
Gunshot Wounds.. .. .	..	..	1	..	1	..	..	..	..	..	..	..	2	..	..	1	
Cut, Stab	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	
Burn, Scald	3	5	3	..	1	..	1	..	1	1	..	..	15	20	21	20	
Poison	..	..	..	..	1	..	..	..	..	..	..	..	1	3	7	5	
Drowning	..	2	2	2	1	2	..	2	..	1	..	1	12	12	12	9	
Suffocation	25	2	2	..	..	..	..	1	..	..	..	..	30	14	14	18	
Otherwise.. .. .	4	..	..	..	..	..	..	..	..	..	..	..	4	3	1	4	
2—HOMICIDE.																	
Manslaughter	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	
Murder	1	..	..	1	..	..	..	..	..	..	..	..	2	5	4	2	
3.—SUICIDE.																	
Gunshot Wounds.. .. .	..	..	..	..	..	..	1	..	..	..	..	..	1	2	1	1	
Cut, Stab	..	..	..	1	..	1	1	..	1	..	..	..	4	3	6	2	
Poison	..	..	..	..	1	..	2	2	..	..	..	..	5	4	2	2	
Drowning	..	..	..	1	..	1	..	1	..	..	..	..	3	2	2	..	
Hanging	..	..	..	1	1	4	3	4	2	..	..	..	15	11	9	8	
Otherwise	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	
4.—EXECUTION.																	
Hanging	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
VIII.—Ill-Defined Causes.																	
Dropsy	..	1	..	..	..	..	..	1	..	..	..	..	2	..	5	4	
Debility, Atrophy, Inanition	184	10	..	..	..	..	..	..	..	..	..	..	194	153	182	178	
Mortification	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	
Tumour	..	..	..	..	2	..	1	..	..	..	..	..	3	..	..	..	
Abscess	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	
Hæmorrhage	..	..	..	..	..	1	..	1	..	..	..	..	2	..	1	1	
Sudden Death (cause not ascer- tained).. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	
Causes not specified (Ill-defined)	1	..	1	..	..	..	..	1	2	1	..	..	6	4	10	32	
Uncertified	33	..	2	1	1	5	6	5	4	4	..	5	61	75	95	57	

SUMMARY OF TABLE III.

						No. of Deaths.			
						1893	1892	1891	1890
I.—Specific Febrile, or Zymotic Diseases.									
1. Miasmatic Diseases	..	..	..	..	..	326	414	456	238
2. Diarrhoeal	"	..	..	..	..	363	159	180	185
3. Malarial	"	..	..	..	..	1	..	..	..
4. Zoogenous	"	..	..	..	..	..	..	..	..
5. Venereal	"	..	..	..	..	31	21	20	23
6. Septic	"	..	..	..	..	60	45	33	26
II.—Parasitic Diseases						10	6	9	8
III.—Dietic Diseases						15	16	20	16
IV.—Constitutional Diseases..						672	676	705	797
V.—Developmental Diseases						377	351	349	376
VI.—Local Diseases—									
1. Diseases of Nervous System	..	..	..	..	..	410	437	438	425
2. Diseases of Organs of Special Sense	..	..	..	..	..	5	9	4	2
3. Diseases of Circulatory System	..	..	..	..	..	265	281	272	287
4. Diseases of Respiratory System	..	..	..	..	..	729	859	944	899
5. Diseases of Digestive System..	..	..	..	..	..	193	149	153	181
6. Diseases of Lymphatic System	..	..	..	..	..	3	1	3	7
7. Diseases of Gland-like Organs of uncertain use	..	..	..	..	..	5	6	2	3
8. Diseases of Urinary System	..	..	..	..	..	103	111	105	93
9. Diseases of Reproductive System	..	..	..	..	..				
(a). Diseases of Organs of Generation	..	..	..	..	..	18	20	11	16
(b). Diseases of Parturition	..	..	..	..	..	16	20	25	43
10. Diseases of Bones and Joints..	..	..	..	..	..	20	14	16	17
11. Diseases of Integumentary System	..	..	..	..	..	22	5	8	..
VII.—Violence—									
1. Accident or Negligence	..	..	..	..	..	119	99	87	92
2. Homicide	..	..	..	..	..	2	6	6	2
3. Suicide	..	..	..	..	..	28	24	21	13
4. Execution	..	..	..	..	..	..	..	..	..
VIII —Ill-Defined and Not Specified Causes.						268	234	295	273
TOTAL						4061	3961	4162	4031

TABLE IV.

Nottingham, 1893. 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 Zymotic Diseases	618	2.62	152
2. Pulmonary Diseases	729	3.3	179
3. Tubercular Diseases	449	2.0	110
B. Infants under 1 year of Age.	Deaths.	Deaths per 1000 Births.	Deaths per 1000 Deaths under 1 year.
4. Wasting Diseases ...	342	51.4	298
5. Convulsive Diseases	127	19.1	110

NOTES.

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

TABLE V.
Nottingham. Deaths from the Principal Zymotic Diseases in the ten years 1883-92 and in the
Year 1893.

DISEASE.	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	Ten years, 1883-92.		1893.	
											Annual Average.	Proportion of Deaths to 1000 Deaths.	Deaths.	Proportion of Deaths to 1000 Deaths.
Small-pox	2	..	2	2	..	12	..	..	..	..	1.8	0.43	4	0.98
Measles	14	145	112	175	58	115	86	52	110	118	98.5	23.5	44	10.8
Scarlet Fever	59	37	31	13	22	25	32	33	28	43	32.3	7.7	83	20.7
Diphtheria	34	39	28	10	10	34	11	16	21	30	23.2	5.5	15	3.6
Whooping Cough	76	129	116	90	153	81	153	47	121	117	108.3	25.9	59	14.5
{ Typhus Enteric Simple Continued Diarrhoea	2	..	..	..	..	..	..	..	..	..	0.2	0.04	..	..
	58	60	42	61	74	89	66	58	70	36	61.4	14.7	68	16.7
	14	7	2	2	2	1	2	4	..	..	3.4	0.81	1	0.24
	168	377	163	328	315	157	263	185	180	158	229.4	54.9	361	88.9
TOTAL	427	794	496	681	634	514	613	395	530	503	558.7	133.8	616	151.7
TOTAL, LONDON	10,801	13,629	11,261	11,121	12,684	10,803	9,709	12,279	9,675	11,983	11,498	126.1	13,223	144.4
TOTAL, ENGLAND AND WALES	58,972	71,762	57,726	62,859	64,676	50,684	61,027	59,698	53,221	56,032	59,665	110.9	73,499	128.8

**Birth Rate, Death Rate, Infantile Death Rate, and Death Rate from
Zymotic Diseases and Phthisis.**

I. NOTTINGHAM.

In five yearly periods, 1856—1885, and in single subsequent years.

	Birth Rate.	Death Rate.	Infantile Death Rate.	DEATH RATE FROM								
				7 Prin. Zymotic Diseases	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	"Fever."	Diarrhoea.	Phthisis
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	33·6	18·9	180	2·92	0·01	0·75	0·06	0·04	0·39	0·27	1·41	1·61
1887	31·4	17·6	170	2·55	0·00	0·24	0·10	0·03	0·66	0·32	1·30	1·43
1888	29·9	17·3	151	2·08	0·05	0·50	0·11	0·14	0·34	0·40	0·54	1·42
1889	27·9	16·7	182	2·57	0·00	0·36	0·13	0·04	0·64	0·28	1·10	1·28
1890	29·2	19·0	158	1·86	0·00	0·24	0·15	0·07	0·22	0·29	0·87	1·88
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

II. ENGLAND & WALES.

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

1858—1860	34·3	22·2	153	4·3	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	1·59
1892	30·5	18·9	148	2·78	0·01	0·46	0·19	0·22	0·45	0·14	0·50	1·46

Principal Vital Statistics of the 33 Greater English Towns for 1893 (taken from the Registrar-General's Quarterly Reports and Annual Summary). Populations revised by Census Returns of 1891.

	Census Population 1891.	Birth Rate.	Recorded Death Rate.	Corrected Death Rate.	DEATH RATES AT AGE PERIODS.			Death Rate from seven chief zymotic diseases.	Percentage of uncer-ified 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	29,001,018	30.8	19.2	19.2	159	10.0	71.1	2.47	2.5
33 Large Towns..	10,188,449	31.9	21.6	23.3	181	12.0	79.6	3.18	1.8
London ..	4,231,431	31.0	21.3	22.7	164	12.3	79.3	3.08	0.9
Liverpool ..	517,951	35.0	27.3	30.3	211	16.6	83.8	3.90	3.7
Manchester ..	505,343	33.6	24.9	28.2	203	14.6	92.7	3.72	1.3
Birmingham ..	429,171	32.7	21.9	24.3	198	11.6	86.2	3.04	4.9
Leeds ..	367,506	32.4	22.3	24.7	206	12.2	81.7	3.47	1.0
Sheffield ..	324,243	34.8	22.3	24.8	191	12.1	87.0	3.52	3.5
Bristol ..	221,665	30.4	18.9	19.8	141	9.9	79.7	1.65	1.6
West Ham ..	217,113	35.6	18.9	20.4	170	10.2	76.6	3.39	4.5
Bradford ..	216,361	27.7	20.9	23.9	197	11.7	84.0	3.43	1.5
Nottingham ..	213,877	30.2	18.4	19.8	170	9.2	75.0	2.62	1.7
Hull ..	199,991	34.2	21.8	22.9	206	11.1	77.9	4.14	3.3
Salford ..	198,136	34.7	24.1	27.1	210	13.4	92.5	4.14	3.3
Newcastle ..	186,345	33.7	21.0	22.9	174	12.0	79.6	2.55	0.9
Portsmouth ..	159,255	28.2	18.2	18.6	161	9.9	61.5	2.81	0.8
Leicester..	142,051	32.6	20.0	21.7	220	9.4	72.5	3.95	3.7
Oldham ..	131,463	28.6	21.0	24.0	187	12.6	78.7	2.48	1.1
Sunderland ..	130,921	35.6	22.5	23.6	188	12.3	80.1	3.36	0.9
Cardiff ..	128,849	36.1	19.7	21.9	179	11.0	67.6	3.30	1.0
Blackburn ..	120,064	30.9	23.3	26.1	241	12.1	89.9	4.08	3.4
Brighton ..	115,402	25.4	18.4	18.6	169	9.7	63.4	1.85	2.7
Bolton ..	115,002	33.1	24.1	27.3	199	13.7	97.6	4.65	0.8
Preston ..	107,573	35.1	26.4	28.9	269	13.4	81.0	6.01	3.8
Croydon ..	106,152	26.2	16.3	16.9	155	8.2	67.1	2.21	—
Norwich ..	100,964	30.9	19.3	18.5	195	8.5	63.9	3.05	1.1
Birkenhead ..	99,184	33.1	20.5	22.6	196	10.4	82.3	2.82	1.1
Huddersfield ..	95,422	23.8	17.2	20.0	141	10.0	75.4	1.24	2.9
Derby ..	94,146	32.2	18.2	20.1	156	9.7	76.9	2.07	0.8
Swansea ..	92,344	35.1	19.6	21.4	170	10.6	74.7	1.84	2.0
Burnley ..	90,589	33.9	21.9	25.1	223	11.7	76.7	3.80	1.4
Gateshead ..	88,588	36.5	19.3	20.7	170	10.3	71.4	3.46	2.5
Plymouth ..	84,179	29.9	21.2	20.6	169	11.4	66.6	2.77	0.5
Halifax ..	82,864	24.6	17.3	19.3	173	9.0	73.0	1.71	4.3
Wolverhampton..	82,620	34.5	23.3	24.3	208	11.7	81.2	2.84	1.0

GENERAL VITAL STATISTICS.

Population.—The fact that our present estimate of the population of Nottingham is based upon the assumption that it has increased since the census of 1891 at the same rate as during the decennium immediately preceding that year, renders it probable that we have not exceeded the true figure, for the rate of increase between 1881 and 1891 was a very moderate one.

The unrevised census return gave our population as 211,984, whereas by the revised return it stands at 213,877, the difference being no less than 1,893. This error has given rise to others in some of our published statistics, but they are altogether too small to call for anything in the way of correction beyond this passing comment.

The population of Nottingham, estimated as above, for the middle of 1893 is 220,551, made up of 101,011 males, and 119,550 females (*i.e.*, provided the sexual ratio discovered at the census is still maintained).

According to this estimate Nottingham still occupies the tenth place in order of magnitude of population among the 33 greater towns of England: London, Manchester, Liverpool, Birmingham, Leeds, Sheffield, West Ham, Bristol, and Bradford, standing above it (all the last three, however, having populations under 230,000); and Hull, Salford, and Newcastle coming next below (with populations ranging from 208,709 to 196,997). Nottingham, in short, is almost level with Bradford and Bristol, and 12,000 ahead of Hull.

Marriages.—The number of marriages registered during 1893 in the four sub-districts of the Nottingham Registration District was 1,638. This number is 34 below the total of 1892, and 15 less than the average annual number of the past ten years. The numbers registered in each of the four quarters of the year were:—1st quarter, 297; 2nd, 467; 3rd, 436; 4th, 438. Prior to 1893 the annual number of marriages had continuously increased from 1888 onwards.

Owing to the fact that no separate returns of marriages are made for those parts of the Registration Sub-Districts of Basford, Bulwell, and Wilford lying respectively within and without the borough boundary, the marriages registered in these portions of the borough are necessarily omitted from this report. The population of these portions of the borough, which amounts to rather more than 36,000, contains a large number of coal-miners and other operatives among whom the marriage rate is always comparatively high, so that this omission affects the record of marriages more than the simple ratio of the population would imply.

Births.—The number of births registered in Nottingham during 1893 was both absolutely and relatively larger than in any year since 1888. The actual number was 6,642, and the birth-rate, per 1,000 of population per annum, 30·2. There were 3,390 male births, and 3,242 female; 5 % of all were illegitimate. The illegitimate birth-rates of Nottingham and Notts. are about 1·5% higher than those of the country as a whole, and 2% higher than those of London. The total number of births in Nottingham during 1892 were 6,315, and the rate 29·4. The average annual number and the rate for the preceding decennium in Nottingham had been 7,170 and 37·4 respectively.

On comparing the 32 other great towns of England with Nottingham, we find that 24 have higher birth-rates,—and among these are, London (31·0), Manchester (33·6), Liverpool (36·0), Birmingham (32·7), Leeds, (32·4), and Sheffield (34·8)—whereas only eight have lesser rates—and Bradford is the largest of these.

The average birth-rate of all the 33 towns for the year was 31·9, and that of England and Wales as a whole 30·8.

Deaths.—The total number of deaths at all ages in Nottingham during 1893 was 4,061. The general death-rate of the borough per 1,000 of population per annum, calculated upon this number without correction, was 18·46. This figure, when multiplied by the Registrar-General's correcting factor for sex and age distribution, rises to 19·85.

The death-rate of males was equal to 20·2, and that of females to 16·6 per thousand of each sex living in the town.

Classed either according to its recorded or corrected death-rate, Nottingham occupies the seventh place from the lowest on the list of the 33 towns. The highest rate is that of Liverpool at 27·3, the lowest that of Croydon at 16·3. The mean rate of England and Wales was 19·17, that of the 33 towns 21·57, and that of London 21·3 during 1893.

Expressed by the comparative figures of the Registrar-General, the mortality in Nottingham during the past year is represented by 1,035, as compared with a standard thousand in England and Wales, 1,185 in London, and 1,216 in the 33 greater towns.

The deaths under 1 year per thousand births, in Nottingham during 1893, amounted to 172. This rate is 5 per thousand higher than that of 1892, and 2 per thousand higher than the mean rate for the preceding ten years. Twenty-one of the greater towns had a higher rate than Nottingham, and the mean rate for all of these was 181. The rate for London was 164.

The mortality during the year among persons between 1 and 60 years of age was equal to a rate of 9·2 per thousand living. No less than 29 of the 33 greater towns had higher rates than Nottingham; the mean rate for all was 12·0, and that of London 12·3.

The last death-rate, I need hardly say, is from an economic point of view, at any rate, the most important. It will be seen that this rate in Nottingham, during 1893, was equal to only half of the general rate; a very low ratio.

Registration Sub-Districts.—No alteration has been made in the sub-districts of the town during the past year. Their titles and populations will be found on the accompanying table. The names Basford and Bulwell are sufficiently descriptive of the districts to which they apply, except that Basford here also includes Sherwood; Wilford refers to a small part of that village projecting, for registration purposes, into the town; the other sub-districts are practically the geographical divisions of the rest of the borough.

NOTTINGHAM SUB-DISTRICTS.

Summary of Statistics for 1893.

	Census Population		Births.	Birth Rate.	Deaths.			Death Rate.			DEATHS FROM									Notified Cases of			
	1881.	1891.			Total.	Under 1 Year.	From 7 prin. Zymotic Diseases.	Total per 1000 of Population.	Under 1 Year per 1000 Births.	From 7 prin. Zymotic dis. pr 1000 Pop.	Small Pox.	Measles.	Scarlet Fever	Diphtheria.	Whooping Cough.	"Fever."	Diarrhoea.	Influenza.	Cancer.				Phthisis.
Bulwell ..	8,575	11,400	526	46.1	231	93	46	20.2	176	4.0	..	4	15	1	2	8	16	..	2	12	175	5	62
Basford ..	18,137	22,900	730	31.8	386	98	*92	16.8	134	4.0	4	..	44	2	3	11	28	9	13	31	168	10	41
N.W. ..	39,574	54,885	1615	29.0	879	286	143	15.9	177	2.6	..	7	14	1	19	17	85	16	24	91	464	23	92
N.E. ..	53,911	52,749	1505	28.5	1099	236	96	20.8	156	1.8	..	3	2	1	12	12	66	23	50	116	339	8	87
S.W. ..	25,483	28,558	801	28.0	693	182	119	24.2	227	4.1	..	10	3	4	14	10	78	6	35	66	168	10	96
S.E. ..	40,295	40,886	1399	34.2	751	240	111	18.3	171	2.7	..	1	4	5	9	10	82	15	18	83	196	23	108
Wilford ..	597	2,064	82	39.7	22	10	4	10.6	121	1.9	..	..	..	1	..	..	3	..	..	2	1	2	4
The whole BOROUGH ..	186,572	213,442	6658	30.2	4061	1145	618	18.4	172	2.6	4	25	82	15	59	68	358	69	142	401	1511	81	490

* This total includes the deaths in Bagthorpe Isolation Hospital.

The birth-rates in each of the divisions were as follows:— Bulwell, 46·1; Wilford, 39·7; S.E., 34·2; Basford, 31·8; N.W., 29·0; N.E., 28·5; S.W., 28·0. These figures are calculated upon the census population of 1891, owing to the difficulty attending a just estimation of local population changes since that date. The number of births and the birth-rate alike show a marked increase in all the sub-districts excepting S.W. and Wilford. Wilford is numerically unimportant, but S.W. contains a growing population of some 29,000, and, notwithstanding this, a decline in the number of registered births of over 3 per cent. is recorded.

The general death-rates in all these sub-districts were:— S.W., 24·2; N.E., 20·8; Bulwell, 20·2; S.E., 18·3; Basford, 16·8; N.W., 15·9; Wilford, 10·6. The most noticeable point here is the advance in the death-rate of the S.W. division. No less than 693 deaths have been registered, as compared with 578 in 1892, giving a rate reckoned as above of 24·2, against 20·2 in the previous year. A glance at the accompanying table will show that the increase has occurred in the infant and zymotic deaths, the infant death-rate per 1,000 births being no less than 227, and the zymotic rate per 1,000 living, owing to excessive mortality from diarrhoea, typhoid fever, measles, and whooping-cough, as much as 4·1. The other general death-rates show but little change from last year.

I have commented on the infant and zymotic rates of the S.W. district. Of the other infantile death-rates those of Basford and Wilford are the most noticeable, being only 134 and 121 respectively; but owing to the small population of Wilford its figures are the less significant. The zymotic rates of Bulwell and Basford are unusually high; both are equal to 4·0 per 1000 per annum. But it is only fair to Basford to mention that its zymotic rate is swelled by the deaths registered in Bagthorpe Isolation Hospital, and that by the elimination of these its excess will be removed.

Nottingham, 1893. Temperature, Rainfall, and Seasonal incidence of Zymotic Diseases.

THIRTEEN FOUR-WEEKLY PERIODS, ENDING ON														
	Jan. 28.	Feb. 25.	Mar. 25.	April 22.	May 20.	June 17.	July 15.	Aug. 12.	Sep. 9.	Oct. 7.	Nov. 4.	Dec. 2.	Dec. 30.	TOTAL.
Mean Temperature	35.5	41.5	46.0	48.2	55.1	58.0	64.0	62.3	66.1	55.2	50.3	40.5	39.4	..
Rainfall in Inches..	1.20	2.31	0.58	0.29	2.44	1.11	2.10	2.40	1.53	1.20	1.30	1.35	2.16	20.16
Onsets of Cases of														
Small-pox	5	9	9	6	7	5	..	..	..	..	1	..	9	51
Scarlet Fever	88	65	59	56	83	89	100	119	134	175	202	179	151	1511
Diphtheria	11	5	7	6	9	3	3	5	7	6	6	7	8	81
Enteric Fever	25	33	19	26	17	11	20	48	59	76	41	60	48	483
Measles	12	2	1	1	..	..	..	1	..	1	2	2	4	25
Deaths from Whooping Cough	10	12	14	5	3	2	1	2	..	1	1	4	4	59
Diarrhoea	6	3	8	5	11	10	67	109	76	40	8	10	5	*358
Influenza	1	..	1	4	4	4	2	1	..	..	..	14	29	+60

* Total number of primary deaths from Diarrhoea.

† Total number of deaths certified as due to Influenza, without correction.

GENERAL REPORT.

Zymotic Diseases.—The aggregate sickness, and death rates from diseases in this group have risen in Nottingham during 1893 almost to a level with the mean rate of the last ten years. The actual number of deaths in the year from the seven principal diseases of this class was 616, as compared with a ten years' annual average of 559; the rate for the year per 1000 of population was 2·62, against an average annual rate for the ten years of 2·64.

Compared with London and the rest of the 33 greater towns during 1893, Nottingham does not appear to a disadvantage in this respect, for the annual zymotic rate in London was 3·08, and the mean rate in the 33 towns 3·18. Only nine of the towns have lower zymotic rates for the year than Nottingham.

It will be seen that four deaths from small-pox are recorded in the tabular part of this report, and five mentioned in the part giving a description of the local epidemic. The explanation of this is, that one death occurred just after the end of the year, and is included to complete the history of a part of the epidemic.

These small-pox deaths were the first that had occurred since 1888. The deaths from measles were only 44, against a ten years' annual average of 98, and 118 in 1892. There was a corresponding decline in the whooping-cough mortality, the deaths numbering 59, as compared with an annual average of 108, and a previous year's record of 117. These two diseases together, during 1893, contributed only 0·38 to the zymotic rate, as compared with 1·1 in 1892. The deaths from scarlet fever numbered 83, against 43 in the previous year. The deaths from diphtheria declined from 30 in 1892 to 15 in 1893; the ten years' annual average of diphtheria deaths had been 23. The deaths ascribed to enteric fever were 68 in number; there had been only 36 in the preceding year, and the ten years' average was 61. The largest advance was in the diarrhœa deaths, which numbered 361, as compared with 158 in 1892, and a ten years' average of 229. The total for 1893 is larger than any recorded since 1884.

Influenza has once more made its presence felt, especially towards the end of the year; but, although its presence was associated with a certain increase of mortality, both from its own effects and from the complications so often associated with it, the disease as an epidemic scourge appears for the present at any rate to have lost its sting.

Zymotic Death Rates, 1893.

		Nottingham.			London.			33 Towns.	
		10 years 1883-92.	1893.		10 years 1883-92.	1893.		10 years 1883-92.	1893.
Small Pox	...	0.01	0.02	...	0.07	0.05	...	0.06	0.07
Measles	...	0.48	0.11	...	0.61	0.39	...	0.63	0.44
Scarlet Fever	...	0.16	0.37	...	0.27	0.37	...	0.33	0.29
Diphtheria	...	0.11	0.07	...	0.30	0.76	...	0.21	0.43
Whooping Cough	...	0.53	0.27	...	0.65	0.54	...	0.59	0.48
Enteric Fever	...	0.32	0.31	...	0.18	0.17	...	0.23	0.24
Diarrhoea	...	1.03	1.47	...	0.72	0.80	...	0.86	1.23
Total Zymotic rate		2.64	2.62	...	2.80	3.08	...	2.91	3.18

Small-Pox.—In my last annual report I drew attention to the increased prevalence of small-pox in the country generally, and in neighbouring towns and districts; but stated that up to the close of 1892 no fresh cases had arisen in Nottingham. A town such a centre for traffic as Nottingham, however, cannot expect to remain long free from a disease like this when other places in its vicinity are infected; and, although the Birmingham epidemic did not commence till the second quarter of 1893, there were several other and nearer, though smaller centres of population already suffering considerably. Chesterfield, for instance, had three deaths from small-pox in the third quarter of 1892, five in the fourth quarter, and no less than ten deaths in the first quarter of 1894. Leicester, on the opposite side of Nottingham to Chesterfield, was also suffering at the same time.

I have already in former reports discussed the subject of tramps in connection with the spread of such diseases as small-pox, and pointed out the special liability of such infectious diseases to spread through single social strata, on account of the freer intercourse which naturally takes place among the

several members of the latter. We have recently had many examples of this among tramps, railway employées, and the Lace Market people, all of whom in turn have suffered from outbreaks of disease, for a time at any-rate, more or less confined to themselves.

But to return to the epidemic of 1893. The first local small-pox case developed in the Workhouse during the second week of the year, after being infected at Chesterfield; and from this time onwards, for a period of five months, a dropping fire of fresh cases continued at short intervals, until a total of 42 had been admitted to our hospital. Of these 42, nine were tramps or other inmates from the Nottingham Workhouse, two were tramps from the Basford Workhouse, two were persons of the same class serving short terms in the Bagthorpe Jail, one was a police officer having charge of prisoners in the police cells of the Guildhall, ten were persons, also more or less of the tramp class, from common lodging-houses and other like refuges, two were skilled artisans infected while following their trades within the enclosures of small-pox hospitals, and one was a lady "of no occupation" recently returned from a visit to London; the remainder were working people variously employed in and about Nottingham borough. The last case of this group had onset about June 10th, and from this date onwards to the 15th of December, a period of more than six months, there was, except for a single imported case, a complete cessation.

On the 15th of December, however, an outbreak occurred in the County Lunatic Asylum on the Carlton Road, affecting, between that date and the end of the year, ten of the inmates and attendants of that Institution, and one person outside, and causing two deaths.

The accompanying tables give full particulars, so far as they could be obtained, respecting age-incidence, mortality, vaccination, nature of attack, and the like; but a short analysis of these may not be out of place here.

History of Small-pox cases discovered in the borough during the year.

No.	Initials of Name.	Sex.	Age.	Address.	Condition as to Vaccination.		Nature of Attack.	Date of Eruption.	Date of Admission.	Result.	Date of Death or Discharge.
					— = unvaccinated.	Vi = vac'd in infancy, unless otherwise stated.					
1	H.B.	M	31	Nottingham Workhouse	Vi	Two faint marks	Semi C	11. 1. 93	12. 1	Recovery	25. 3. 93
2	F.G.	M	25	Nottingham Workhouse	Vi	One large mark	D	11. 1. 93	13. 1	Recovery	24. 2. 93
3	B.R.	M	44	Union Offices	Vi	Two good marks	Semi C	23. 1. 93	24. 1	Recovery	25. 3. 93
4	G.J.	M	27	Nottingham Workhouse	Vi	Three small marks	D	23. 1. 93	25. 1	Recovery	8. 4. 93
5	J.B.	M	51	Nottingham Workhouse	Vi	Two very good marks	D	24. 1. 93	28. 1	Recovery	8. 4. 93
6	J.S.	M	45	Nottingham Workhouse	Vi	Two faint marks	Semi C	6. 2. 93	6. 2	Recovery	12. 4. 93
7	J.S.	M	83	Nottingham Workhouse	Vi	At about five years; three good marks	D	6. 2. 93	6. 2	Recovery	22. 4. 93
8	W.K.	M	19	Nottingham Workhouse	Vi	Three marks	D	6. 2. 93	9. 2	Recovery	18. 3. 93
9	R.W.	F	31	Deptford Street, Bulwell	Vi	Two small marks	D	8. 2. 93	11. 2	Recovery	11. 3. 93
10	A.S.	M	64	Eastford Workhouse	Vi	One very faint mark	D	15. 2. 93	15. 2	Recovery	8. 4. 93
11	G.R.	M	33	29, Mill Street, Old Basford	Vi	Two fair marks	D	16. 2. 93	17. 2	Recovery	25. 3. 93
12	J.L.	M	18	153, Beech Avenue	Vi	Two fair marks	D	14. 2. 93	17. 2	Recovery	30. 3. 93
13	E.C.	F	42	17, Narrow Marsh	Vi	Two fair marks	D	17. 2. 93	20. 2	Death	25. 2. 93
14	K.H.	M	29	Dewsbury, and Bagthorpe Prison.	Vi	Two fair marks	C (Intermittent person)	19. 12. 92	22. 2	Recovery	27. 2. 93
15	C.H.	M	21	15, Bellar Gate, and Mansfield	Vi	Two fair marks	C (Haemorrhagic)	27. 2. 93	28. 2	Death	6. 3. 93
16	R.L.	M	61	153, Beech Avenue	Vi	20. 2. 93	D	27. 2. 93	2. 3	Recovery	30. 3. 93
17	M.C.	F	23	153, Beech Avenue	Vi	Last on 23. 2. 93; two marks	D	2. 3. 93	3. 3	Recovery	18. 3. 93
18	B.S.	M	40	Nottingham Workhouse	Vi	History also of re-vaccination, but only one large mark visible altogether.	Semi C	7. 3. 93	7. 3	Recovery	29. 4. 93
19	J.B.	M	25	17, Narrow Marsh	Vi	Three fair marks	D	8. 3. 93	8. 3	Recovery	26. 4. 93
20	E.J.B.	F	10	10, Albert Street, Bulwell	Vi	Three good marks	D	11. 3. 93	12. 3	Recovery	3. 5. 93
21	F.H.	F	37	9, Parker Street	Vi	Three good marks	D	19. 3. 93	21. 3	Recovery	15. 4. 93
22	N.S.	M	17	Bagthorpe Priory	Vi	Two good marks	D	22. 3. 93	23. 3	Recovery	22. 4. 93
23	D.W.	M	16	8, Leopold Place, Pierpoint Street	Vi	Two good marks	D	23. 3. 93	26. 3	Recovery	10. 5. 93
24	R.L.	M	26	63, Oxford Street, Bulwell	Vi	Two good marks	D	25. 3. 93	28. 3	Recovery	29. 4. 93
25	H.F.	M	16	1, Deering Square, Deering Street	Vi	Two fair marks	D	27. 3. 93	29. 3	Recovery	24. 5. 93
26	L.L.	M	46	Westgate, Old Basford	Vi	Two faint marks	D	30. 3. 93	3. 4	Recovery	6. 5. 93
27	A.W.	F	27	Nottingham Workhouse	Vi	Two faint marks	D	10. 4. 93	11. 4	Death	25. 4. 93
28	C.S.	M	41	Gunhall Police Station	Vi	And history of re-vaccination; 2 good marks	D	19. 4. 93	19. 4	Recovery	10. 6. 93
29	T.L.	M	47	80, Wicklow Street	Vi	Three fair marks	D	3. 5. 93	4. 5	Recovery	17. 6. 93
30	S.H.	M	49	Basford Workhouse	Vi	Two good marks	D	1. 5. 93	5. 5	Recovery	24. 6. 93
31	J.W.	M	28	14, Hazel Street, Bulwell	Vi	One faint mark	Semi C	3. 5. 93	5. 5	Recovery	24. 6. 93
32	J.T.	M	17	184, Wilford Road	Vi	Three fair marks	D	11. 5. 93	13. 5	Recovery	8. 7. 93
33	G.L.	M	28	3, Crown Place, Park Lane	Vi	Two good marks	D	16. 5. 93	17. 5	Recovery	10. 6. 93
34	J.R.	M	40	33, Egypt Road	Vi	Last at puberty; three good marks	D	16. 5. 93	17. 5	Recovery	18. 6. 93
35	G.B.	M	31	Common Lodging House, Narrow Marsh	Vi	Two good marks	D	23. 5. 93	26. 5	Recovery	27. 6. 93
36	C.D.	F	27	12, Belgrave Square	Vi	Three good marks	D	25. 5. 93	27. 5	Recovery	10. 6. 93
37	M.B.	F	13	17, Beresford Street	Vi	Two fair marks	D	1. 6. 93	3. 6	Recovery	1. 7. 93
38	M.T.	M	24	14, Hazel Street	Vi	Three good marks	D	7. 6. 93	10. 6	Recovery	15. 7. 93
39	J.E.	M	49	182, Waterway St., & Hucknall Torkard	Vi	Last on 29. 5. 93; very successfully	D	10. 6. 93	12. 6	Recovery	24. 7. 93
40	A.W.	M	25	9, Gt. Eastern Terrace, Gt. Eastern St.	Vi	Two fair marks	D	28. 10. 93	31. 10	Recovery	13. 12. 93
41	A.E.	M	11	17, Beresford Street	Vi	Two fair marks	D	15. 12. 93	19. 12	Death	6. 1. 94
42	E.S.	F	61	1, Rifle Street	Vi	One good mark	C	20. 12. 93	20. 12	Death	26. 12. 93
43	G.P.	M	31	County Asylum	Vi	Two good marks	Semi C	20. 12. 93	20. 12	Recovery	30. 1. 94
44	J.W.L.	M	3	13, Thorneywood Lane	Vi	Two good marks	D	21. 12. 93	21. 12	Recovery	20. 1. 94
45	H.K.	M	44	County Asylum	Vi	Three fair marks	D	22. 12. 93	22. 12	Recovery	20. 1. 94
46	H.K.	M	30	County Asylum, and Blake Street	Vi	Two good marks	D	23. 12. 93	23. 12	Recovery	20. 1. 94
47	W.N.	M	20	County Asylum	Vi	Three fair marks	D	24. 12. 93	24. 12	Recovery	20. 1. 94
48	L.B.	M	35	County Asylum	Vi	Two good marks	D	24. 12. 93	24. 12	Recovery	20. 1. 94
49	H.P.	M	50	County Asylum	Vi	Two good marks	D	31. 12. 93	31. 12	Recovery	20. 1. 94
50	W.C.	F	25	County Asylum	Vi	Two good marks	D	31. 12. 93	31. 12	Recovery	20. 1. 94
51	M.B.	F	31	County Asylum	Vi	Two good marks	D	31. 12. 93	31. 12	Recovery	20. 1. 94
52	E.L.	F	31	County Asylum	Vi	Two good marks	D	31. 12. 93	31. 12	Recovery	20. 1. 94
53	J.W.	M	40	County Asylum	Vi	Last on 21. 12. 93; successfully	D	31. 12. 93	31. 12	Recovery	20. 1. 94

The youngest case was that of an unvaccinated boy 3 years old; its attack was confluent and ended fatally. There were three cases between 5 and 15 years of age; one male and one female, aged 11 and 13 respectively, were well vaccinated, had mild attacks with discrete rashes, and recovered; one female, unvaccinated, had also a mild attack and recovered. There were 12 cases between 15 and 25; nine of these were well vaccinated in infancy; one only of the nine had a semi-confluent attack, and all of them recovered: the three remaining cases were unvaccinated; one had a confluent attack and died; the other two had mild attacks and recovered. There were 18 cases between 25 and 35; 15 had been vaccinated in infancy, and three of them also re-vaccinated; three only were unvaccinated: three of the vaccinated had sharp attacks, but all recovered; one of the unvaccinated died. There were nine cases between 35 and 45; seven of these had been vaccinated, three of them twice; two only were unvaccinated, and the attacks in these cases were severe. One death occurred in this group, that of a broken-down female denizen of Narrow Marsh; she had been vaccinated in infancy, and her attack was not exceptionally severe, but her constitution was much damaged by previous excesses. There were six cases between 45 and 55; five had been once vaccinated; all of these had mild attacks: the only unvaccinated case in this group was that of a highly respectable anti-vaccinator, and ended fatally. There were four cases between 55 and 65; three had been vaccinated once, and one was unvaccinated; all had mild attacks and made good recoveries.

To summarize briefly:—there were 53 cases; of these only one was under five years, and this was unvaccinated and ended fatally. Forty-one of the cases were vaccinated; and, of these, although eight were severe, one only ended fatally, giving a mortality per cent. of 2.4. Twelve of the cases were unvaccinated; six of these were severe, and four of them ended fatally; the mortality per cent. is here 33.3.

Our figures are small, but, so far as they go, they teach once more unmistakably the value of vaccination. We had no

young vaccinated children among our patients, although such children abound in the workhouses and other places from which our patients came. We had an unusually large proportion of severe cases among our vaccinated, and of mild cases among our unvaccinated; but, still, severity of attack was $2\frac{1}{2}$ times more common in the latter than in the former, and no re-vaccinated case suffered a severe attack. Again, had the death-rate among the vaccinated patients above mentioned been equal to that among the unvaccinated, the deaths of the former would have been 14, instead of one only.

I may mention that no case of small-pox has occurred among the members of our hospital staff, all of whom have been re-vaccinated, although a large proportion have been passed in successive drafts through the small-pox section of the hospital. On the other hand, one of two workmen, who refused vaccination before being employed in the small-pox enclosure, contracted the disease after working there for two days in the open air.

In a future report I hope to give in detail an account, already furnished in brief, of a still more interesting small-pox epidemic than the above, an epidemic exclusively confined to Lace Market employées and their friends, and propagated for the most part by contact with infected cotton material. Forty cases of small-pox were traced and isolated within the space of a few days, by following the movements of this material and of the persons who manipulated it.

Vaccination.—There is a very slight recovery in the proportion of successful vaccinations to total births recorded in Nottingham Union during 1893, as compared with the previous year, but the proportion is almost exactly 10 per cent. below the average of the five years 1883—1888, and, excepting that of 1892, is lower than any annual record of the previous ten years.

Since the commencement of the local epidemic, public notices have been posted in all parts of the town urging the desirability of vaccination or revaccination in all cases where it has not been thoroughly and successfully performed during the previous ten years. Upon the occurrence of small-pox in any house or neigh-

bourhood, I have arranged for the immediate vaccination of all persons there found who could be induced to undergo the operation. I am pleased to say that in the vast majority of cases, even in those of tramps, I have met with very little opposition.

Vaccination in Nottingham Union. Summary of Statistics, 1883-93.

	Births.	PER CENTAGE.			Certified as Insusceptible of Vaccination.	Had Small Pox.
		Successfully Vaccinated.	Died Unvaccinated.	Not finally accounted for*		
Average of 5 years 1883-88	6194	74.3	12.4	13.0	10	0
1889	5398	67.3	12.0	12.1	12	0
1890	5084	69.8	11.7	14.0	11	0
1891	5033	67.1	12.0	16.0	8	0
1892	5142	63.8	12.0	16.2	15	0
1893	5193	64.4	13.4	17.7	24	0

* Up to July 31st of the next year.

Measles.—After two consecutive years of epidemic, this disease declined in Nottingham during 1893. The measles deaths of 1891 and 1892 were respectively 110 and 118; during 1893 they numbered 25 only. This last is the lowest annual total recorded since 1883, in which year it fell to 14.

The period or periods (June or June and December) of maximum prevalence, which have been observed when and where the disease has obtained a firm footing, do not necessarily occur where it exists in a more or less sporadic form. The winter maximum has been exceedingly well marked in both years. There were 25 deaths out of a year's total of 120 in four weeks of December, 1892, and 18 out of a year's total of 25 in the first and last months of 1893. The two maxima were observable in the first year, but no deaths at all occurred in the town from May to August of 1893.

The disease was prevalent at the beginning of 1893 in Bulwell, N.W., N.E., and S.W., but especially Bulwell and S.W., and almost entirely absent from Basford, S.E., and Wilford. The same may be said of its incidence, Bulwell only excepted, at the close of the year. Of the nine deaths which occurred in the last quarter, eight were equally divided between N.W. and S.W., and one was in N.E.

The age distribution of the fatal cases was as follows :—under 1 year, 1 case; 1 to 5 years, 23 cases; 5 to 15 years, 1 case. The smallness of the number of deaths under 1 year is remarkable, and especially at the end of a long epidemic period, but the vast preponderance of those under 5 years is in accordance with common experience. The unusual fall in the measles mortality during 1893 is likely to be followed by a corresponding rise when the disease again becomes strongly epidemic.

One powerful plea in favour of the provision of Hospital isolation for measles is the undoubted fact that its mortality is largely increased by insanitary surroundings; but, while much might be done for individual cases by this provision, the difficulties in the way of obtaining early notification, and prompt removal or quarantine, are such, that in all probability the result obtained would hardly be considered by the community at large as sufficient return for the outlay. I have referred elsewhere to the early age of the patients, the long incubation period, and the early period of the disease at which infection appears; all these must necessarily stand much in the way of the effective preventive treatment of measles by isolation.

Whooping Cough.—I had occasion in my last Annual Report to comment upon the concurrent prevalence of measles and whooping cough. I have now to point to their concurrent decline. I may remark that there is nothing exceptional in this, as it has been frequently observed elsewhere.

The number of deaths during 1893 was 59. The annual average of the past ten years has numbered 108, and the only year of all these during which the deaths fell below 59, was 1890, when they amounted to 47 only. The seasonal incidence of the disease was well marked; thirty-six of the total deaths were pretty evenly distributed over the first twelve weeks of the year, and eight over the last eight weeks; the remaining fifteen deaths were sparsely scattered through the intervening 32 weeks. The disease was almost confined to the N.W., N.E., and S.W. sub-districts in the earlier part of the year, but it extended somewhat in S.E. towards the close. Thirty-two of the deaths ascribed to primary whooping cough were those of children under one year,

and the remaining twenty-seven were confined to the age period between one and five years. I should perhaps explain, after speaking of "primary" whooping cough, that the majority of the deaths certified as due to this disease are in reality brought about by the secondary affections of the lungs—such as bronchitis and catarrhal pneumonia—with which its later stages are so commonly associated. When we consider the vast number of children who suffer from this disease and its complications, and the small proportion to whom it proves fatal, we are struck with the large amount of permanent damage that must accrue to many of the lungs of the rising generation from this periodic disorder. As with measles so with whooping cough, we are at present doing very little to stop the spread of infection among the poor.

Scarlet Fever.—The endemic prevalence of this disease, so long existent in Nottingham, has once again risen during the past year notwithstanding our efforts to abate it. The history of the disease in relation to the hospital will be found in the section of the Report which deals with that institution. The epidemic, which began in a neighbouring township in the earlier part of the year and extended to its close, causing 78 deaths in a population of some 13,000 persons, is an interesting object lesson to ourselves at the present time; showing how the disease might be expected to behave if left to itself in Nottingham, and suggesting the impossibility of one authority dealing with it satisfactorily by isolation, when others in the same neighbourhood are making no effort to do so.

The local distribution of the disease in the borough during the year has been generally as follows:—It was endemic in the N.W. sub-district, especially about Old Radford, during the whole twelve months, but the cases were most numerous here in the first and last quarters; N.E. suffered next in degree of intensity, but the majority of its cases occurred in the earlier part of the year; S.W. and S.E. suffered about equally, and most in the second quarter; Bulwell and Basford were attacked towards the close of the year, but Bulwell the more severely.

The seasonal incidence of the disease was a striking illustration of the normal curve in this country. 440 cases only

occurred during the six four-weekly periods ending with June 17th, whereas 909 developed during the 24 weeks ending December 2nd. The smallest number of cases recorded in any four-weekly period was 56, during that ending on April 22nd; the largest 202, in that ending on November 4th.

The total number of cases recorded during the year was 1511; the deaths were 83 in number; the case mortality therefore amounts to 5·4 per cent, assuming that the recorded cases represent the total number which occurred.

The following is the age distribution of the cases, fatal and otherwise:—0-5 years, 412 cases and 50 deaths; 5-15 years, 918 cases and 27 deaths; 15-25 years, 145 cases and 3 deaths; 25-35 years, 25 cases and 2 deaths; 35-45 years, 8 cases and 1 death. There were three undoubted cases above this age period, but no deaths. The death rate from scarlet fever in London during 1893 was practically equal to that in Nottingham, at 0·37 per thousand living, while the rates in Liverpool, Leicester, and Burnley exceeded the Nottingham rate.

The age and sex distribution of non-fatal and fatal cases admitted to Bagthorpe Hospital during 1893 will be found in a table contained in the Hospital section of this Report.

With the view of ascertaining whether the Public Elementary Schools were acting as infecting centres for scarlet fever, I was deputed, with Drs. Cattle and Wynne, to make examination of the children at some of the largest of them, in Bulwell, Basford, and St. Ann's districts, during the height of the local epidemic, in September, October, and November. Some thousands of children were examined, and three were found to be peeling. Such a result, after the searching examination that was made, says much for the care exercised by the school teachers and other officers.

Diphtheria.—In my last annual notice of diphtheria I mentioned the very high ratio of deaths to reported cases of this disease during 1892, and stated that in my opinion the case mortality was in reality lower than represented by that ratio. During 1893—it may be partly on account of a public intimation to

this effect—the number of notified cases has risen by five above those recorded in 1892 (76), while the deaths have amounted to only 15, or exactly half the number registered in that year. The mortality of true diphtheria is always high, and highest in the 0-5 years age period, but, if our returns for 1892 were correct, all the cases in that age-period proved fatal, which is scarcely conceivable.

It is gratifying to note that, while this disease is increasing so ominously in London and many other large towns, it manifests no tendency to advance in Nottingham. The death-rate per thousand living from diphtheria in London, during 1893, was 0·76, this being the highest rate yet recorded, and exceeding the decennial average by as much as 0·46 per thousand. The rate in the 33 larger towns taken together was 0·43, or more than double the decennial rate. The Nottingham rate was only 0·07, as compared with a decennial average of 0·11.

The parts of the town most affected by the disease during 1893 were those comprised by the N.W., S.W., and S.E. sub-districts; but the mortality was highest in the S.E. Five of the total fifteen deaths occurred in the latter. There was scarcely any concentration of cases at any period of the year, but two small groups of cases, apparently traceable to a common source of infection, occurred during the spring at Old Radford and Old Lenton, in the S.W. sub-district. During 1893 there has been a marked decline in the number of cases of "secondary diphtheria" among our scarlet fever cases in Bagthorpe Isolation Hospital, as compared with other recent years. The percentage of all cases of secondary sore throat in the hospital has fallen continuously during the past three years from nearly 7 per cent. to 3·8 per cent.

Enteric Fever.—Nottingham, in common for the most part with the rest of the country, has suffered from an increased prevalence of enteric fever during 1893. The number of deaths in England and Wales, according to the Registrar-General's Quarterly Report, which is subject however to correction, were 6,988, a larger annual number than has been recorded since 1889, and equal to a rate per thousand living of 0·24. The rate

in the larger towns of England and Wales varied from 0.11 in Croydon and in Bristol, and 0.12 in Plymouth and in Huddersfield, to 0.46 in Preston, 0.48 in Hull, 0.49 in Salford, 0.53 in Liverpool, and 0.98 in Sunderland. The corresponding rate in Nottingham, during 1893, was 0.31. The actual number of deaths in Nottingham during the year was 69.

The disease invaded all parts of the town, but its victims were most numerous, in proportion to the population, in Bulwell and N.W.; and this is especially noticeable when the correction for removal from home to hospital is made, *i.e.*, when the deaths occurring in hospital are allocated to the districts in which they originated.

In two instances, in the 3rd and 4th quarters, and in Sneinton and Radford respectively, the identity of the milk supply in the case of several infected families gave rise to a suspicion that the milk was the source of infection, but further inquiry failed in any way to confirm the suspicion.

Perhaps the most noticeable incidents in the local history of the disease during the year was the occurrence of two street epidemics, one at Bulwell in the summer and autumn, the other at Sneinton in the summer. The Bulwell epidemic was almost confined to Hazel Street, off Main Street; it began May 15th, and ended about October 1st. No less than 26 persons out of about 250 were attacked, and six of these died. Hazel Street proper, excluding terraces branching off on either side and odd houses at the ends which were not invaded, is a fairly well-built street, of modern, attached, five-roomed houses. It is furnished throughout with pail-closets, clean and in good repair, and the paving and drainage of the street and yards are apparently all that could be desired. The inhabitants are mostly coal miners, earning good wages. Notwithstanding the above facts, and the entire absence of suspicion from the food and water supply, the disease continued to hang about the street for a period, as I have stated, of four months.

During the progress of the epidemic, the sewers and drains, and the pavement of yards and street, were repeatedly flushed, and the closet pails frequently changed and cleansed; the interiors

of several of the houses also were disinfected and cleaned down. I directed special attention to these precautionary measures because I was of opinion, as I still am, that the disease was communicated by direct or indirect infection of the houses, and their offices and surroundings, with the patients' discharges. In one house, No. 35, occupied by the Roberts family, the father and six children, of ages ranging from 40 to 3 years, were attacked within a period of some three weeks, and were all removed to Bagthorpe Hospital. The father had an extremely severe attack, and died in his third week; all the children recovered.

The epidemic in Carlton Road and about Sneinton Elements was very similar in character to the above. Eighteen persons were attacked in 12 houses within a period of six months, and no common infecting agent could be discovered beyond those mentioned in the case of Hazel Street.

Such epidemics as these, and such outbreaks as have recently occurred in our own General Hospital and others in neighbouring towns, all point to the conclusion that, in the preventive treatment of typhoid fever, it is highly important to attend with the utmost vigilance to nursing details and isolation.

Assuming that all the notifications received during the year were correct, the mortality per cent. of all the cases was 14. The following were the numbers of notified cases and deaths at certain age periods:—0 to 5 years, 30 cases and six deaths; 5 to 15 years, 170 cases and 12 deaths; 15 to 25 years, 146 cases and 19 deaths; 25 to 35 years, 71 cases and 12 deaths; 35 to 45 years, 42 cases and eight deaths; 45 years onwards, 31 cases and 11 deaths.

The highest proportion of deaths to cases is usually observed from puberty up to about the 30th year. My discrepant figures are in all probability accounted for by errors in the diagnosis of cases at the lower age periods.

Diarrhœa.—The year 1893 was a diarrhœa year. The total number of deaths recorded in England and Wales was 28,755, as compared with 14,893 and 13,653 in the two immediately preceding years; they were more numerous indeed than in

any year since 1880. The known existence of cholera in several sea-port and other towns of this country, notably Hull and Grimsby, gave a sinister significance to this excessive diarrhœa prevalence which it would not otherwise have possessed. As stated in the Annual Summary of the Registrar-General, this excess of mortality from diarrhœa was doubtless due to the prolonged period of dry weather which characterised the summer and autumn of 1893.

Our local rain-fall does not appear much reduced when examined month by month, for the monthly average of the summer works out at 1·79 inches, but the total fall for the year is 5 inches below the average of the past 27 years.

Our highest temperature, 90·40°, was not reached till August 19th, but the mean temperature of the summer, prior to this and during which the maximum mortality from diarrhœa occurred, was nearly 8° above that of the preceding year.

The tables of deep and superficial earth temperatures and deaths from diarrhœa, in weekly periods of the diarrhœa seasons of the past five years, which accompany this article, will be found useful for purposes of comparison.

Nottingham, 1889—93.

Temperature of Soil, and Deaths from Summer Diarrhœa.

1889.

	WEEK ENDING															
	June 22	June 29	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
Temperature 1ft. thermometer.	59·6	61·8	63·3	62·6	61·6	59·4	61·4	60·8	58·8	58·0	56·3	59·0	59·6	56·3	51·2	50·2
Temperature 4ft. thermometer	54·9	56·1	57·9	58·8	58·7	57·9	57·8	59·0	58·6	58·3	57·3	57·3	57·7	57·8	55·8	54·0
Deaths from Diarrhœa	3	2	6	17	26	21	17	20	24	21	12	7	7	6	7	3

Temperature of Soil, and Deaths from Summer Diarrhœa.

1890.

	WEEK ENDING													
	July 19	July 26	Aug. 2	Aug. 9	Aug. 16	Aug. 23	Aug. 30	Sept. 6	Sept. 13	Sept. 20	Sept. 27	Oct. 4	Oct. 11	Oct. 18
Earth Temperature 1 ft. below surface of ground	59.3	59.8	61.0	62.3	60.5	58.7	56.1	56.5	59.1	59.0	57.7	56.4	56.9	..
Earth Temperature 4 ft. below surface of ground	55.9	56.9	57.6	58.6	59.2	58.6	57.8	56.8	57.8	58.0	58.0	57.8	57.2	..
Deaths from Diarrhœa..	1	8	8	12	16	15	11	17	5	13	9	15	11	4

1891.

	WEEK ENDING														
	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
Earth Temperature 1 ft. below surface of ground.. ..	58.5	58.1	58.6	59.5	57.9	56.8	57.7	58.7	56.5	54.7	53.7	52.1	49.2	47.6	46.0
Earth Temperature 4 ft. below surface of ground.. ..	57.9	57.2	57.1	57.7	57.5	57.0	56.7	57.7	57.2	56.2	55.1	54.3	52.5	51.2	49.6
Deaths from Diarrhœa	5	5	8	4	6	5	6	12	13	15	10	5	5	4	3

1892.

	WEEK ENDING													
	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
Earth Temperature 1 ft. below surface of ground	55.6	57.4	58.0	57.7	59.2	61.5	59.7	55.7	55.8	54.2	54.0	50.0	48.5	47.7
Earth Temperature 4 ft. below surface of ground	56.0	55.8	56.1	56.5	57.1	58.2	58.8	58.1	56.7	56.0	55.2	53.5	51.4	47.5
Deaths from Diarrhœa..	3	4	5	5	8	10	10	12	13	12	10	10	3	1

Temperature of Soil, and Deaths from Summer Diarrhœa.

1893.

	WEEK ENDING																
	June 17	June 24	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
Earth Tem- perature1ft. below sur- face ..	59.2	67.4	59.7	63.1	62.1	60.7	61.2	61.2	62.5	66.8	63.1	60.2	61.1	56.8	56.0	53.4	51.4
Earth Tem- perature4ft. below sur- face ..	55.0	56.8	57.4	58.0	59.5	58.7	59.0	59.5	60.0	62.1	62.3	61.2	61.0	59.5	58.6	56.6	55.6
Deaths from Diarrhoea..	2	9	12	15	31	41	29	11	28	22	18	20	16	14	14	9	3

The effect of residence in dense and poor neighbourhoods on low-lying porous soils, in promoting a high prevalence of summer diarrhœa, was strikingly illustrated in the N.W., S.W., and S.E. sub-registration districts during 1893. The disease, so far as the death returns enable us to judge, appears to have been some 30 to 40 per cent. more prevalent on these flats than the rest of the town as a whole. In the S.W. sub-district, which includes Radford Marsh, Lenten, Dunkirk, and the greater part of the Meadows, the deaths were 78 in number, the population being 28,558; whereas, in the N.E. sub-district, which embraces a large amount of very poor and dense neighbourhoods, but stands for the most part on higher and less porous soil between Mansfield Road and Gordon Road, or Long Hedge Lane, in one direction, and the Meadow Platts and Mapperley Plains in the other, the deaths were 66, with a population of 52,749. In short, of two districts in the town, the less poor and dense, situated on a low porous soil with a high and impure sub-soil water, has a death rate from diarrhœa nearly $2\frac{1}{2}$ times greater than that of the poorer and denser, which stands at a higher level on a less porous soil.

The proportion of the deaths which occurred during the summer was unusually large. 292 out of 358, or 81 per cent., took

place in the sixteen weeks ending October 7th; 260, or 72 per cent. of the deaths, were those of infants under 1 year, and 309, or 85 per cent., of those under five years of age.

During the summer a short handbill respecting diarrhœa (a reprint of which will be found in the appendix of this Report), containing simple directions for the guidance of the public, which I published in 1890, was again distributed in all parts of the town, and posted at police stations and in other public positions. Diarrhœa mixture was also provided gratuitously by the Health Department, and given away at police stations and at the central office of the Health Department. This last provision was very generally appreciated among the poor.

In the appendix to this Report will also be found a short report, furnished to your Committee and the Local Government Board in September, setting forth the principal precautionary measures I should recommend to be adopted in Nottingham in times of cholera or excessive diarrhœa prevalence, and which for the most part were adopted during the greater part of the summer of 1893.

Epidemic Influenza.—While there is very little doubt about the diagnosis of this disease when strongly epidemic, it is certainly credited with a good deal of sickness due to other causes while it is passing, or after it has passed away. That such has recently been the case in this country admits of no doubt; still, though probably passing for the time being, it has not yet entirely passed from among us.

Several deaths in this town were certified as due to influenza during the spring and summer, but these, owing to their sparseness, and other suspicious circumstances connected with them, I am inclined to class in the dubious catalogue already alluded to. During the last eight weeks of the year, however, an unmistakable outbreak occurred, and 48 deaths were registered as due to this complaint during that period. At the same time an increase took place in the number of deaths from those disorders which are commonly associated with influenza as complications. A similar outbreak that occurred in London gave rise to no less than 546 influenza deaths in the last four weeks of the year.

Nottingham. Weekly number of deaths from Influenza in each of the Registration Sub-Districts of the Borough, during the epidemics of 1890, 1891, 1892, & 1893.

Deaths from Influenza, 1890.

Registration Sub-District.	DURING THE WEEK ENDING										
	Jan. 25	Feb. 1	Feb. 8	Feb. 15	Feb. 22	Mar. 1	Mar. 8	Mar. 15	Mar. 22	Mar. 29	April 5
Bulwell	..	..	..	..	..	..	..	..	..	..	..
Basford	..	..	..	..	..	..	2	..	..	..	..
N.W.	..	..	..	1	3	1	2	2	3	..	..
N.E.	..	..	..	1	3	..	1	1	1	2	..
S.W.	1	..	1	..	..	..	..	..	..	..	..
S.E.	..	..	..	..	..	2	..	..	..	..	1
Wilford	..	..	..	..	..	..	..	..	..	..	..
Totals	1	..	1	2	6	3	5	3	4	2	1 = 28

Deaths from Influenza, 1891.

Registration Sub-District.			DURING THE WEEK ENDING									
			April 30	May 7	May 14	May 21	May 28	June 4	June 11	June 18	June 25	July 2
Bulwell	..	..	..	..	..	..	..	..	..	..	..	..
Basford	..	..	1	1	..	2	1	..	1	..	..	1
N.W.	..	..	2	3	6	1	3	3	1	1	1	..
N.E.	..	..	1	2	12	2	10	2	5	3	2	..
S.W.	..	..	..	1	3	3	3	..	3	..	..	..
S.E.	..	..	2	3	1	2	6	5	..	..	..	..
Wilford	..	..	..	..	..	..	..	..	1	..	..	..
Totals	..	..	6	10	22	10	23	10	11	4	3	1 = 100

Deaths from Influenza, 1892.

Registration Sub-District.	DURING THE WEEK ENDING											
	Jan. 9	Jan. 16	Jan. 23	Jan. 30	Feb. 6	Feb. 13	Feb. 20	Feb. 27	Mar. 5	Mar. 12	Mar. 19	Mar. 26
Bulwell	..	..	..	..	..	..	1	..	..	..	..	..
Basford	..	..	1	..	..	1	..	..	..	..	..	2
N.W.	..	..	1	2	4	3	2	1	2	2	1	2
N.E.	..	..	..	1	3	2	2	..	1	2	..	1
S.W.	..	1	..	1	3	2	1	..	3	1	..	2
S.E.	1	..	..	2	..	2	1	4	..	2	..	..
Wilford	..	..	..	..	..	..	..	..	1	..	..	..
Totals	1	1	2	6	10	10	7	5	7	7	1	5

= 65

Deaths from Influenza, 1893.

Registration Sub-District.	DURING THE WEEK ENDING												
	Oct. 21	Oct. 28	Nov. 4	Nov. 11	Nov. 18	Nov. 25	Dec. 2	Dec. 9	Dec. 16	Dec. 23	Dec. 30	Jan. 6	Jan. 13
Bulwell .	..	..	..	..	..	..	..	..	..	..	..	..	..
Basford .	..	..	..	..	1	1	..	2	..	1	..	..	..
N.W. ..	..	..	..	..	..	1	3	2	1	2	2	1	..
N.E. ..	..	1	..	..	1	1	2	2	3	1	1	..	..
S.W. ..	..	..	..	..	..	..	2	..	2	..	..	..	..
S.E. ..	..	..	..	1	..	..	1	3	4	3	..	..	1
Wilford .	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals .	..	1	..	1	2	3	8	9	10	7	3	1	1 = 46

The accompanying tables shew the distribution of fatal cases of influenza in Nottingham, both as regards time and place, during each of the years over which its recent epidemic range has extended, *i.e.*, during 1890, 1891, 1892 and 1893.

Constitutional Diseases.—Once more the total number of deaths from this group of diseases have fallen below the average. The decline, however, has not affected all members of the group. Both acute and chronic rheumatism proved somewhat unusually fatal. Gout and rickets, as such, affect our death returns very slightly; eighteen deaths only, the same number as in 1892, were ascribed to these complaints. The deaths from cancer and other malignant growths which, according to our returns, have been steadily increasing during the past few years, have fallen during 1893 no less than 38 below the total for 1892; the number certified during 1893 was 142. Whether the advance be only apparent or real, the recorded decline cannot fail to gratify. The tubercular group of diseases has proved somewhat more fatal than in 1892, but the deaths, 449 in number, have not exceeded the average of other recent years. The deaths attributed to anæmia and diabetes have declined, the first numbering 7, the second 15 only.

Developmental Diseases.—The deaths ascribed to premature birth numbered 156, a slight advance as compared with other recent years. Those under the head of “congenital malformations” were also slightly more numerous than usual.

The deaths from "old age" are still maintained at about the same figure; other more satisfactory explanation of death being omitted from the certificate, the death is included under this heading.

Local Diseases.—The diseases of the nervous system have apparently proved somewhat less fatal during 1893 than for some seven years past; they numbered only 410. The diseases of the circulatory system, together with those of the respiratory system, manifest a considerable abatement as compared with their behaviour in the years of acute influenza prevalence, though the decline in the former, as might be expected, is much less marked than in the latter. Diseases of the digestive system have apparently been considerably more fatal than in any year since 1888. Diseases of the urinary system have increased in fatality of late, but not during 1893.

Both the diseases of the organs of generation and those of parturition have proved less fatal than in the preceding year. The deaths from the first, however, have been rather above the average of the past five years, whereas those from the last have been considerably below.

Violence.—The deaths from accident or negligence numbered 119, and exceeded the past quinquennial average by no less than 27. The deaths from homicide again receded, being only two in number, as compared with six in each of the two immediately preceding years. The number of suicides is certainly on the increase. There were 28 in 1893, as compared with 24 in 1892, and a quinquennial average of 18.

Ill-Defined Causes.—Once again I have to note an advance in the number of deaths the causes of which were not definitely specified upon the death certificates. The number during 1893 was 268, against 234 in 1892.

Uncertified Deaths.—These amounted to 68, and constituted 1·7 per cent. of all deaths. The corresponding percentage in London was 0·9, and that in the 33 greater towns 1·8.

Coroners' Inquests.—240 inquests were held by the Borough Coroner during the year, a larger annual number

than has been recorded for many years past. The numbers in successive quarters were 73, 42, 57, and 68. With so large an annual number as this, it is certainly desirable that a room or rooms should be specially provided for the purpose of inquests.

Meteorological and Mortality Chart.—This chart, prepared, as before, under the supervision of the Borough Engineer and myself, will be found in the appendix of the Report.

THE BOROUGH ISOLATION HOSPITAL, BAGTHORPE.

The capacity of the hospital during the past year has been taxed to the utmost. No less than 1175 patients have been admitted, and these, with an average residence of 7 weeks, give a mean of 156 patients resident in hospital on any day in the year. The actual number of patients in hospital has varied from 115 to 232. With this last number, it is hardly necessary to say, the hospital was very much over-crowded.

Of the cases isolated during the year, 49 were suffering from small-pox, 1065 from scarlet fever, 32 from enteric fever, 24 from other diseases, such as whooping cough and measles, and 3 were taken in during their period of 14 days quarantine after exposure to the infection of small-pox.

A full account of the small-pox epidemic is given under the heading of "Small-pox." I shall therefore say very little about it here. All the cases were removed to hospital almost directly after their discovery, excepting of course those, 5 in number, at the end of my small-pox table, who remained in the new Isolation Pavilion of the County Asylum. Of the cases removed to hospital, 10 were removed on the same day as the appearance of the eruption, 12 on the first day after, 10 on the second day, 12 on the third day, 3 on the fourth day, and 1 on the fifth day.

Nottingham. Numbers of Scarlet Fever cases notified, and removed to Hospital in 1893, and other recent years respectively.

		Known cases.		Removed to Hospital.		Per cent. isolated.
*1882	..	1029	..	—	..	—
1883	..	428	..	—	..	—
1884	..	384	..	—	..	—
1885	..	390	..	47	..	12
1886	..	351	..	51	..	15
1887	..	615	..	275	..	45
1888	..	643	..	318	..	49
1889	..	1047	..	745	..	71
1890	..	984	..	800	..	81
1891	..	895	..	771	..	86
1892	..	1163	..	1025	..	88
1893	..	1511	..	1065	..	70

* First year of the practice of compulsory notification.

Total Cases in Isolation Hospital, 1893.

	Remaining in at end of 1892.	Admitted during 1893.	Recovered.	Died.	AVERAGE RESIDENCE IN DAYS.		Remaining in at end of 1893.
					Non-fatal Cases.	Fatal Cases.	
Small Pox ..	1	49	44	4	38	9	4
Scarlet Fever	170	1065	1024	40	52.8	12.5	171
Enteric Fever	—	32	28	3	48	8	1
Other diseases	—	24	22	2	15	10	—
Quarantine ..	—	3	—	—	14	—	—
TOTAL ..	171	1173	1118	49	—	—	176

Age and sex distribution of non-fatal and fatal cases of Scarlet Fever admitted to Bagthorpe Hospital during 1893.

	Males.		Died.		Females.		Died.
Under 1 year ..	9	..	1	..	2	..	—
Between 1 and 2 years	14	..	—	..	10	..	2
" 2 and 3 "	31	..	2	..	25	..	1
" 3 and 4 "	40	..	2	..	45	..	10
" 4 and 5 "	40	..	4	..	41	..	3
" 5 and 10 "	200	..	3	..	244	..	8
" 10 and 15 "	115	..	—	..	108	..	2
" 15 and 20 "	36	..	—	..	40	..	—
" 20 and 25 "	13	..	—	..	19	..	—
" 25 and 30 "	5	..	—	..	12	..	1
" 30 and 35 "	6	..	—	..	2	..	—
" 35 and 40 "	3	..	1	..	—	..	—
" 40 and 45 "	3	..	—	..	1	..	—
" 60 and 65 "	—	..	—	..	1	..	—
Totals	515		13		550		27

It must not be supposed that the removal of all these patients was secured without any difficulty; in several instances very strong opposition was offered. The system which I have lately introduced, with your permission, of paying for the maintenance of persons recently exposed to small-pox infection, during a period of some 16 days quarantine after exposure, has done much to reconcile the patients' friends to the removal of patients.

The number of scarlet fever cases notified and admitted to hospital, respectively, are larger than any previous annual records since the commencement of notification and hospital isolation in the borough. No less than 1065 cases were removed, but, large as this number is, it constituted only 70 per cent. of all the notified cases.

During November, owing to the rapid increase in the local epidemic, it became necessary to stop for a time the indiscriminate admission of all cases, and the decline in the ratio of admissions to notifications is entirely due to this cause.

In a special report upon the epidemic of scarlet fever in Bulwell, which I furnished to your Committee and the Local Government Board in December, 1893, I gave it as my opinion that the partial break-down in our system of isolation for scarlet fever was to be ascribed to the general infection of the borough from the county, among the various local authorities of which there are at present no isolation hospitals for the treatment of this disease. I gave an example of a very general and fatal epidemic in a small neighbouring town, with a population about one-twentieth of our own, between which and Nottingham the freest intercourse exists. In this town, during the eight months intervening between April 30th and December 31st of 1893, there occurred a number of deaths almost equal to the total number recorded in Nottingham during the full year. My report was sent to the Local Authority of the place, and its facts remain unchallenged.

Owing to the temporary stoppage of admission to hospital towards the end of the year, the proportion of early removals has been much reduced. Only 11 per cent. of our cases of scarlet

fever were removed on the day of rash, against 16 per cent. in 1892, and only 70 per cent. within the first week after, as compared with 86 per cent. in 1892.

The accompanying table, headed "Scarlet Fever in Houses of Various Classes," shews the incidence of the disease upon houses classed according to their rentals and room capacities, and the numbers and percentages of patients remaining at home, and removed to hospital, respectively, in each.

The principal change since last year, brought out by this table, is necessarily the increase, already alluded to, in the number of cases remaining at home; this increase taking effect most markedly upon the inmates of houses under a £10 rental.

NOTTINGHAM, 1893.

Scarlet Fever in Houses of various Classes.

Annual Rental of Houses	Under £10.	£10 to £15.	£15 to £20.	£20 to £30.	£30 to £40.	£40 to £60.	£60 to £80.	£80 to £100.	£100 to £200.	£200 and over.
Average number of rooms in each class of houses ..	3	5	6	6	7	8	8	12	14	18
Nos. of Patients admitted to Hospital from each class ..	394	480	183	74	18	15	4	7	..	..
Per-centage of Patients admitted to Hospital from each class ..	33·5	40·8	15·5	6·3	1·5	1·2	0·3	0·6	..	..
Nos. of Patients not removed to Hospital in each class ..	101	120	65	33	7	2	5	..	3	..
Per-centage of total Patients not removed to Hospital in each class ..	30·0	35·7	19·3	9·8	2·1	0·6	1·5	..	0·9	..

The table, however, also shows a considerable increase in the number of cases in the poorer houses. The percentage proportion of removals from this group to total removals was 33·5, as compared with 29·3 in the previous year, an increase of 4·2 per cent.; but the corresponding proportion among the home cases had risen from 7·1 to 30·0, an increase of 22·9 per cent. Taking the two together, we find that the percentage of cases in houses under a rental of £10 to total cases had risen from 27 to 33 per cent. between the two years, an increase of 6 per cent. This increase appears to have taken place in the latter part of the year, and is therefore probably due to the partial closure of the hospital, which would naturally take most effect upon the poorer class.

Although we have not been able to isolate so large a proportion of scarlet fever cases during the year 1893 as in other recent years, the actual result of our hospital isolation, as estimated by its effect on the spread of the disease in the patients' homes, has been even more satisfactory than in the preceding year.

NOTTINGHAM, 1893.

Table shewing the results of hospital and home isolation respectively, during the year 1893, both with regard to the development of secondary cases, and to mortality in each class of cases.

Class of Cases.		No. of Cases	% of Cases	No. of Deaths	Deaths % of Cases
Hospital cases.	(a) Primary	875	58 % of all notified cases	30	3·4
	(b) Secondary in houses from which (a) came, within 21 days of their removal	137	15 % additional to (a)	7	5·1
	(c) Secondary after return home from hospital, and within 21 days of return	53	5 % additional to (a) & (b)	3	5·6
Home cases.	(d) Primary	307	20 % of all notified cases	28	9·1
	(e) Secondary during progress of case at home	139	45 % additional to (d)	12	8·6
					Total death-rate per cent. 3·7
					Total death rate % 9·7

The number of secondary cases in houses from which primary cases were removed has amounted to only 15 per cent. of the former, and the number of so called "return" cases, or those apparently resulting from the return of hospital cases to their homes, has been equal to only 5 per cent. of the rest of the hospital cases, and this too notwithstanding the inclusion of several groups of cases among the latter which were all infected together by the same returned infection.

Comparing both classes of secondary cases occurring after hospital isolation with those resulting from home-nursing, we find that, while the first produced only 20 per cent., the last gave rise to 45 per cent. of known cases; but, as it is highly improbable that all the secondary cases occurring as the result of home-nursing came to my knowledge, it is fair to presume that the difference in favour of the hospital was much greater even than here represented.

The card, referred to in former Reports, warning patients and patients' friends of the necessity for a further partial isolation at home after discharge from hospital, is still sent out with each scarlet fever patient discharged.

We are frequently told that the aggregation of scarlet fever cases in hospital must necessarily increase the tendency to complications, and to a fatal issue. I can only state once more that, by judicious treatment and the exercise of a little care in the distribution of cases of different degrees of acuteness and severity and at various stages of the disease, our hospital, during the few years it has been in use, has been made to furnish a result comparing very favourably with that of home-treatment.

The scarlet fever death-rate of the hospital for the whole year was only 3·7 per cent., while that among the known cases which were not admitted was 9·7 per cent., a difference of no less than 6 per cent. in the hospital's favour.

The mortality among a large number of consecutive cases at Bulwell, during the epidemic I have already described, was

equal to 15·5 per cent. With such figures as these before us, it is futile to say that the hospital "is doing harm in increasing the mortality from scarlet fever."

The following are the ordinary recorded complications of our scarlet fever patients, with the percentage of the latter that suffered from each:—

	1892.	1893.
Otorrhœa (ear inflammation)	9 per cent.	13·8 per cent
Nephritis (kidney inflammation) ..	3·5 "	6·7 "
Secondary Sore Throat	5 "	3·8 "
Rheumatism	6 "	3·0 "
Glandular Abscesses	4 "	3·1 "

I have but little to say of other cases isolated. Thirty-two cases of enteric fever were admitted to the isolation block; of these 28 recovered and 3 died, one remaining in hospital at the end of the year, which ultimately recovered. The age distribution of the cases and deaths were as follows: 0 to 5 years, one case; 5 to 15, 11 cases; 15 to 25, 10 cases and one death; 25 to 35, 7 cases and one death; 35 to 45, 3 cases and one death.

I cannot but regret the decision of the Hospital Committee to exclude cases of typhoid fever from the hospital. The accommodation for this disease provided by the General Hospital is altogether inadequate for town and county, both of which it is intended to serve. I have spoken elsewhere of the need for isolation in the treatment of typhoid fever; I would only say here, therefore, that much of the sickness and many of the deaths from this disease in the poorer parts of the town could be obviated by the provision of more hospital accommodation.

The cost of the hospital, during the year ending with March 31st, 1894, is returned by the Borough Accountant as £5969, but only £4900 of this was expended for maintenance. The balance, belonging strictly to the capital account, was expended in—(a) the erection and equipment of a 20-bed Humphrey's Iron Hospital, (b) the erection of a permanent shelter for patients' friends at the

hospital entrance, and (c) the payment of a royalty on the Disinfecting apparatus.

The actual increase in the expenditure proper of the hospital, as compared with the previous year, is only £342, and this is accounted for by increased admissions to the number of 143.

The annual cost per bed has been about £31, estimating the mean number of patients in hospital on any day of the year at 156.

The average cost of maintenance per patient, with a residence in hospital of $7\frac{1}{2}$ weeks, was £4 3s. 6d., a very low figure indeed.

In November of 1892, Dr. H. Meredith Richards, M.D. London, was appointed first Resident Medical Officer of the Hospital, and retained the post till July, 1893, when he was appointed General Superintendent of the City Hospital for infectious diseases in Birmingham.

Dr. Augustine Griffith, M.D. London, was appointed to succeed Dr. Richards at Bagthorpe, and he still retains the appointment.

I wish to acknowledge my own indebtedness, and that of the town, to both these gentlemen for their valuable and able assistance.

Notification.—The general subject of compulsory notification is already sufficiently noticed under the headings of the separate diseases contained in our schedule, in the Hospital section, and in the tables accompanying this section; but I may mention a small addition to our local system which we have recently made. We are now providing all schools with notification cards, to be filled up by the teachers in charge of children who may be suspected to be suffering from any dangerous infectious disease, and given to the children for presentation to their parents or guardians, reminding the latter of their legal obligations in the matter, and advising them to call in a medical man.

Nottingham. Notified Infectious Diseases; cases and deaths in age periods.

1890.

	0-5 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 <i>Cases</i>	314	585	59	22	2	2	..	..	..	984
<i>Deaths</i>	24	8	1	..	..	..	..	..	..	33
Diphtheria <i>Cases</i>	21	25	6	9	2	1	..	..	..	64
<i>Deaths</i>	14	1	1	..	..	..	..	..	..	16
Enteric Fever <i>Cases</i>	24	110	100	64	26	10	7	3	1	348
<i>Deaths</i>	5	11	15	12	7	4	1	2	1	58

1891.

	0-5 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 <i>Cases</i>	302	466	80	31	10	6	..	..	..	895
<i>Deaths</i>	14	13	1	..	..	..	..	..	..	28
Diphtheria <i>Cases</i>	31	33	13	16	6	1	..	..	..	100
<i>Deaths</i>	14	6	..	1	..	..	..	..	..	21
Enteric Fever <i>Cases</i>	29	150	99	66	26	15	8	1	1	396
<i>Deaths</i>	5	15	19	12	4	7	6	1	1	70

1892.

	0-5 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 <i>Cases</i>	313	711	108	24	6	1	..	..	..	1163
<i>Deaths</i>	17	23	3	..	..	..	..	..	..	43
Diphtheria <i>Cases</i>	25	20	11	13	5	1	..	..	1	76
<i>Deaths</i>	25	3	..	..	1	1	..	..	..	30
Enteric Fever <i>Cases</i>	20	64	58	32	16	10	3	1	1	205
<i>Deaths</i>	3	7	12	6	5	1	1	..	1	36

1893.

	0-5 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 <i>Cases</i>	1	3	12	18	9	6	4	..	..	53
<i>Deaths</i>	1	..	1	1	1	1	..	..	..	5
Scarlet Fever <i>Cases</i>	412	918	145	25	8	2	1	..	..	1511
<i>Deaths</i>	50	27	3	2	1	..	..	..	..	83
Diphtheria <i>Cases</i>	14	35	13	12	7	..	..	..	..	81
<i>Deaths</i>	7	7	..	..	1	..	..	..	..	15
Enteric Fever <i>Cases</i>	30	170	146	71	42	23	7	1	..	490
<i>Deaths</i>	6	12	19	12	8	5	6	..	..	68

Nottingham. Notification Data up to the end of 1893.

	SCARLET FEVER. *			ENTERIC FEVER. †			SMALL POX. *			DIPHTHERIA. ‡			Deaths from Non-Notified Zymotic Diseases.			
	Deaths.	Known cases	Ratio of known cases to Deaths.	Deaths.	Known cases	Ratio.	Deaths.	Known cases	Ratio.	Deaths.	Known cases	Ratio.	Measles.	Whooping Cough.	Diarrhoea.	TOTAL.
1878	72	..	..	62	..	..	..	..	..	6	..	..	47	83	197	327
1879	180	..	..	42	..	..	1	..	..	1	..	..	73	68	93	234
1880	134	..	..	58	..	..	..	..	..	6	..	..	265	87	273	625
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

* 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.

Disinfection.—Notwithstanding the damage entailed upon a large number of articles of every day use by exposure to current or super-heated steam, the number of articles sent to the two disinfecting apparatus, at the Bagthorpe Hospital and Eastcroft Depôts respectively, still continues to increase. Owing to the large use now made of the disinfecting apparatus by all classes, for the destruction of moth, vermin, and the like, in clothes, bedding, and furniture, it has been found necessary to impose a small but regular charge for all disinfecting work other than that rendered necessary by the occurrence of dangerous infectious diseases; but, when I say that consumption and measles are included in the list of such diseases for this purpose, it will be seen that we have not drawn the line too narrowly. I have now for some time past regularly offered to disinfect the dwellings and goods of persons suffering from tubercular consumption, when the existence of such cases has come to my knowledge by the Death Returns or otherwise; but lately, by your authority, I have also issued a handbill (the contents of which are given in the appendix of this Report) setting forth the necessity for the utmost care and

cleanliness in all cases where phthisical patients are domiciled with others not so suffering, and offering disinfection at the public expense in cases of death or removal. This public notice has already had the effect of increasing the work of the Department, and there can be no doubt that this effect will continue.

Articles Disinfected at the Public Stations in Nottingham, 1883–1893.

	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
Bedding ..	1614	1767	2154	2411	4956	5250	5683	6020	5357	6735	8521
Clothing ..	771	1025	944	1316	3674	4827	5513	7577	4741	10253	11266
Furniture & Hangings }	380	492	687	572	1091	799	757	585	401	439	726
Miscels. Articles }	765	1127	2378	2147	6273	7565	10118	11548	8586	13319	10573
TOTAL ..	3530	4411	6163	6446	15994	18441	22071	25730	19085	30746	31086

An examination of the list of articles disinfected during the year will shew a considerable decrease under the heading “Miscellaneous Articles.” The decrease is only apparent, and due to more careful classification.

Mortuary.—Again this year I have to record a large increase in the number of bodies sent to our one public mortuary at the Eastcroft dépôt. The number deposited during 1893 was 87, shewing an increase of 16 upon the record of 1892, and maintaining the steady advance in the annual number admitted which has been observed since 1887. The mortuary was opened in 1883, and 514 bodies have been deposited in it since the opening.

It is hardly necessary, perhaps, to point out that the increasing use of the mortuary indicates a growing demand for the accommodation it affords, but, this fact once fully realized, there will probably be less hesitation about the erection of further mortuaries, and places for post mortem examinations, to meet the requirements of other parts of the borough. The new mortuary which is to be built at Hyson Green will scarcely serve for Bulwell and Lenton, and yet both these places have

felt the need of one during the past year as in other previous years. The Eastcroft mortuary, useful as it has proved, is not by any means a model structure. Its interior is, to say the least of it, unnecessarily plain, and the fact that both chambers are only approachable through the room used for post mortem examinations, does not add to its attractiveness.

The Public Health Act, 1875, section 143, specially provides for the erection of "proper places (otherwise than at a workhouse, or at a mortuary) for the reception of dead bodies during the time required to conduct any post mortem examination ordered by a coroner or other constituted authority," and the desirability of such a provision will be apparent to any one who has had experience in the use or management of such establishments.

Common Lodging Houses.—During the past two years, these houses, with "houses let in lodgings" and other places of temporary shelter, have been under more constant supervision than usual on account of the prevalence of small-pox in the country, and this supervision has had the effect, on several occasions, of bringing cases of small-pox to light which might otherwise have escaped detection.

Section 83 of the Public Health Act, 1875, which requires the keepers of lodging houses to furnish the Medical Officer of Health, when so desired, with lists of their previous day's lodgers, was early put in force during 1892, but the practical utility of this return has not proved as great as was anticipated, and my experience of the past two years goes to show that nothing can take the place of actual and continual supervision, for the early detection and prompt isolation of cases among the inmates requiring removal. I may say here that my only assistant in this work, during the past two years, has been an experienced and trustworthy Inspector. I mention this because I know that many authorities are of opinion that all tramps and occasional lodgers should be daily examined by a medical man in these places of sojourn.

In the casual wards of our local workhouses this has been done for some time past, but the daily medical examination

of the lodging-house and shelter population is a very different, and a very much more difficult matter.

There are now 53 registered lodging-houses in the borough, registered in the names of 38 separate lodging-house keepers. Six houses have been closed during the year, two re-opened, and one new house has been added to this list. Six transfers have been granted. These houses contain, altogether, bed space for 1038 persons. There are 650 single, and 194 double beds.

I give the usual list of admissions to the Corporation lodging-houses during the past year, together with the numbers for other recent years.

It will be seen that my prediction of last year has been fulfilled in the case of the Millstone Lane house; the number of lodgers admitted has markedly declined. For this and other sufficient reasons, you have decided to close the house. The slight reduction in the number of lodgers at Popham Street is probably accounted for by the improvement which has recently taken place in the accommodation of some of the private houses. The women's lodging-house in Parliament Street steadily increases in popularity year by year. Exception is sometimes taken to the use of this house by single lodgers for considerable periods at a stretch, but there can be no objection to this practice so long as it does not interfere with the admission of casuals.

Situation of lodging-house.	No. of beds.	No. of Lodgers admitted in each of the years.					
		1888.	1889.	1890.	1891.	1892.	1893.
Millstone Lane	18	3,828	3,696	3,803	3,786	4,276	3,769
Popham Street	38	6,151	5,172	5,810	6,442	7,708	7,273
Parliament Street (for women only)	20	3,597	3,804	4,107	4,720	5,110	5,387
		13,576	12,672	13,720	14,948	17,094	16,429

Insanitary Dwellings, Housing of the Working Classes Act, 1890, &c.—Probably at no period in the history of the town has there been, from the people's standpoint, a more favourable time than the present – or recent past—for the demolition of unhealthy dwellings, for at no previous

period have there been so many empty houses as during the past four years. At the 1891 census, there were 7000 empty houses in Nottingham, or dwelling space for some 30,000 more persons than the town then contained.

Sixty-eight houses have been closed as unfit for habitation during the past year, and a large number of these are already demolished.

The following are the localities in which these houses were situated:—(1) Duke Street, Main Street, Bulwell; (2) Canal Yard, Canal Street; (3) Byron Yard and Taylor's Yard, Narrow Marsh; (4) Hose Court, Coalpit Lane, and Cherry Yard, Coalpit Lane; (5) Vassal Street and Patriot Street, Southwell Road.

Many of the poorer houses become unfit for habitation as much through absorption of filth by the porous material of which they are built, and through accumulation in hollow floor spaces and elsewhere, as through dilapidation. It is clearly a mistake to build houses with hollow spaces accessible to the air but which cannot be cleaned, and of porous material to the interstices of which the same remark applies. The farcical nature of the operation of so-called cleansing and disinfecting, as ordinarily carried out in these dwellings, becomes apparent when their plan of construction is considered.

In referring to the destruction of insanitary houses, I am reminded that the cutting of the new line of the Manchester, Sheffield, and Lincolnshire Railway through the town, the commencement of which we are led very shortly to expect, will involve the demolition of a large number of unwholesome and inferior dwellings. In passing, as it does, over Narrow Marsh, one can only regret that it does not do so lengthwise instead of across.

Public Baths.—In the appendix of this Report will be found a short report upon the condition of Sneinton Baths, which I furnished to the Baths Committee at the request of the Chairman in October of 1893.

The projected extension and improvement of the public bathing accommodation of the town has certainly been much needed for a long time past.

Factory & Workshop Acts, 1878-1891.—

I give once more in detail a tabulated statement of the work carried out under the superintendence of each of the inspectors under this Act, and also lists of the places of work inspected during the year, together with the number of visits paid by each of the inspectors, and the approximate number of persons employed in each of the trades mentioned. The value of the services of these officers is not to be estimated by a simple return of work done. The influence for good exerted by competent and conscientious inspection is unusually great in this special department. Employers of all classes are now frequently found, of their own accord, suggesting or making alterations for the benefit of their employées, which but a few years ago they would hardly have been induced to do under pressure. Without going into other details, I may mention one subject under this heading which has attracted a good deal of attention of late; I refer to that of underground bakehouses. There can be no doubt that the tendency of current legislation is to do away with these altogether; but, while they are suffered to be used at all, it devolves upon us to see that they are used and maintained under conditions as little insanitary as possible. The Acts of 1878 and 1883 did much to exclude the grosser insanitary abuses. But even when an under-ground bakehouse is a clean, spacious, and well-ventilated chamber with a high roof, and is used only for its legitimate purpose, it still retains one radical defect, unless indeed it be hermetically sealed against the soil at all parts of its interior. It must act, and particularly when heated and in use, as a ventilator to the surrounding soil, a most undesirable thing in any workroom, and especially so in one where the "staff of life" is manufactured. Section 16 of the Factory and Workshop Act, 1883, attaches heavy penalties to the use of any insanitary place as a bakehouse. These penalties are very seldom imposed, but it cannot be for lack of offenders.

Shop Hours Acts, 1892, 1893.—Thirteen infringements of these Acts, which forbid the employment of young persons under the age of 18 years in either single or multiple occupations for a longer aggregate period than 74 hours per week, have been reported during the year; but it has not been found necessary to take proceedings against any of the offending employers.

Employment of Women in Factories before and after Childbirth.—I shall have something to say, in a later report, upon this subject; but, while fully agreeing as to the necessity for legislation to protect both mother and child, I may say that the necessity for such legislation is less felt in Nottingham than in most other large manufacturing towns, and this notwithstanding the employment of a very large amount of female labour. In this connection I may point to the fact that our infantile death-rates are by no means excessively high. The general infant death-rate for 1893 was only 170—almost identical with that of Brighton, and 11 per 1000 births below the average rate of the great towns.

Our Day Nursery in Heathcote Street is now extremely well managed and largely used. The establishment of such an institution in Radford and in Bulwell would undoubtedly prove a great boon to these neighbourhoods.

Canal Boats Acts.—The Inspector has visited the canals on 89 occasions during the year, and has inspected 192 canal boats. He reports a generally improved condition of almost all the boats coming under his inspection. It was found necessary to issue thirteen notices during the year having reference to infringements of the Acts and Regulations; all were promptly complied with.

A few children of school age were found, from time to time, on the boats, and their presence there was notified by the Inspector to the School Board Officer. No case of infectious disease was discovered on any of the boats coming into the town.

The Nottingham register now contains 127 boats, and four of these have been added during the year 1893.

H. M. Inspector has again expressed himself as more than satisfied with the manner in which your Inspector has performed his duties.

Dairies and Cowsheds.—There are now 853 dairies and milkshops on our town register. Twenty-one have been removed during the year, and twenty-three added. The number of registered cowsheds is now 156. One only has been added to the register during 1893.

The regulations affecting the construction and management of the above, which have been so long under the consideration of yourselves and the Local Government Board, have at length been adjusted so as to meet with the approval of both, and will now shortly come into force in the borough.

Slaughter Houses.—The number of these remains unchanged at 157. One application for a new permit was made during the year, and this would have been granted had the owner been willing to comply with the requirements of the Health Department in effecting certain necessary structural alterations, but this he declined to do. One slaughter-house in Warser Gate, which had been disused for some time, was allowed to be re-opened under certain conditions. Seven transfers of annual permits were made during the year.

Offensive Trades.—Two gut-cleaning businesses, coming under this designation as laid down by sec. 112 of the Public Health Act, 1875, have caused much nuisance at Old Lenton during 1893. They are both now in course of removal to another part of the town where they will be placed under conditions which, if they cannot abolish, will at any rate minimize the nuisance arising from them. Other offensive trades, many on the list contained in the above section, such as those of soap boilers, bone boilers, fellmongers, are carried on at various

parts of the borough with little comparative nuisance; but the reason for this is that they are almost all at some distance from dwellings. After general cleanliness, the consumption by fire of all fumes, the protection of sewers, the avoidance of all accumulations, and the like precautions, the one essential for the protection of the public against the majority of these trades is their isolation from human dwellings or places of resort.

Contagious Diseases (Animals) Acts.—

Two diseases of importance, Anthrax and Swine Fever, on the schedule of the above Acts, have broken out in the town during the past year.

ANTHRAX.—Two animals, an ox and a pig, died from this disease. Their carcasses were burnt in the destructor, and the premises from which they were removed were thoroughly cleansed and disinfected.

SWINE FEVER.—Six outbreaks of swine fever occurred during the year, but the infected pigs were altogether only 16 in number. Thirteen of them were slaughtered by the Inspector's orders, and for these the owners received the usual compensation from the Agricultural Department. Three of the pigs died a natural death, and for these of course no compensation was paid.

The very stringent regulations affecting the movement of swine of all classes, recently imposed by the Agricultural Department, are still in force in the borough.

Food Stuffs.—The following are the amounts of food of various kinds condemned and destroyed at the instance of the Department during 1893. Much of the "fish" included in the list is allowed to remain at the Railways Goods' Depôts till it decomposes, because the town dealers are afraid to undertake the sale of it, fearing to glut the market if they do so. The amount, however, is not so large as usual, and the falling off is doubtless in some measure due to the partial closure of the Hull and Grimsby markets on account of cholera.

MEAT.							
Beef ..	..	..	155 stones	Periwinkles ..	..	..	10 stones
Plucks ..	..	..	99 "	Cockles ..	..	..	8 "
Mutton ..	..	..	21 "	Cod ..	..	..	8 "
Veal ..	..	..	4 "	Finneys ..	..	..	8 "
FISH, &c.				Kippers ..	..	..	8 "
Herrings ..	..	..	446 "	Crabs ..	..	..	2 "
Mussels ..	..	..	208 "	Haddocks ..	..	..	2 "
Halibut ..	..	..	93 "	VEGETABLES.			
Ling ..	..	..	62 "	Tomatoes ..	..	..	18 "
Shrimps ..	..	..	48 "	Peas ..	..	..	8 "
Conger Eel ..	..	..	38 "	Mushrooms ..	..	..	5 "
Hake ..	..	..	33 "	FRUIT.			
Whelks ..	..	..	32 "	Cherries ..	..	..	1 "
Skate ..	..	..	30 "	Plums ..	..	..	1 "
Oysters ..	..	..	25 "	SMALL ANIMALS.			
Bloaters ..	..	..	10 "	Fowls ..	..	..	100
Mackerel ..	..	..	10 "	Rabbits ..	..	..	28 couples

Sale of Food and Drugs Act, 1879-1884. —

The following table shews the amount of analysis undertaken during the past year with the general results obtained. The prosecutions instituted and the results of them are given in a later paragraph. The number of these it will be seen is somewhat less than usual, but the indication is by no means a bad one.

Description.	No. of Samples.	Pure.	Adulterated.
Bread	4	4	0
Butter	25	19	6
Lard	8	6	2
Milk	36	22	14
Vinegar	12	12	0
Whiskey	9	8	1
TOTALS	94	71	23

Notices issued by the Health Department in 1893 :—

Statutory Notices under the Public Health Act	519
Other Notices	940
	1459

The number of formal notices issued during 1893 for the abatement of nuisances and for other purposes is slightly less than

in the previous year; but, as may be seen by the table on a later page, this simply means that during 1893 more work has been done with less difficulty than in 1892.

Prosecutions:—		Cases.		Fines.		
				£	s.	d.
Sale of adulterated Milk.	2 cases: 2 fines of £2 each	..	2	..	4	0 0
Sale of Margarine as Butter.	1 case: fine of £1 10s.	..	1	..	1	10 0
Sale of adulterated Whiskey.	2 cases: 2 fines of £2 each	..	2	..	4	0 0
Slaughter of Animals on unlicensed premises.	2 cases: 2 fines of £1 each	..	2	..	2	0 0
Exposure in a public place of persons suffering from Scarlet Fever.	1 case: fine of £1	..	1	..	1	0 0
			8		£12	10 0

Routine Work of the District Inspectors.

—The return of “Sanitary work” done at the instance of the District Inspectors during the past year shews an increase as compared with that of 1892. Although there is a general tendency for this work to increase in a growing town, a considerable advance in the recorded items, like that which will be noticed by comparing the table on page 65 with others of previous years, is usually due to some special cause or causes. The special causes during 1893 have probably been:—(a) a small rainfall, (b) the hot summer, and (c) the unusual prevalence of enteric fever and diarrhœa. Enteric fever however acquired is generally ascribed, by the laity at any rate, to some defects of drainage. In looking down the list on the table we find that the number of “drains repaired and cleansed” has advanced from 867 in 1892, to 1236 in 1893. The next item shews an even larger proportional increase: “drains trapped,” have gone up from 254 to 501. We find lower down that 337 “offensive accumulations” have been removed, as compared with 195 in the preceding year. The total items of work satisfactorily dealt with have risen from 3533 in the one year, to 4189 in the other.

The Leen.—The condition of this stream has seldom failed to inspire a paragraph in the Health Reports of recent years, but, since the appointment of a special committee of the Town Council to consider the question of its radical reformation, I have left the Leen alone. The state of the stream, however, at the present time is such as, in my opinion, to call imperatively for immediate action. The whole stream, with the Tinkers Leen and the Canal from Lenton to the Trent, is simply an open

sewer with an extremely bad fall, and, as a necessary consequence, a large amount of deposit throughout. This deposit continually adds to the floating pollution whenever the swiftness of the current is increased. I have hitherto referred only to the stream inside the borough; I must now make mention of that part outside, running between Hucknall Torkard and Bulwell. This portion, more than two miles long, is deeply silted at all parts with the sewage of Hucknall Torkard. There are numerous dams between Hucknall and Bulwell, and the flow at ordinary times is very sluggish; but, when the volume of the stream is increased, the flow becomes more rapid, and parts of the deposit are carried down towards the town.

Hucknall Torkard is now provided with all the plant and gear of the "International System" for the precipitation and filtration of its sewage, which, if properly worked, should in the future greatly diminish the pollution of the Leen between Hucknall Torkard and Bulwell; but, even if no further discharge of sewage were to take place,—a consummation hardly to be looked for at present—the vast deposits of past years remain to pollute the stream for generations to come. The removal of this deposit should, if possible, be included in any future scheme of improvement for the Leen.

It is not in my province to suggest the engineering methods by which the necessary alteration in the Leen is to be effected, but I would point out, that so long as the stream is suffered to run in an open channel through poor and populous neighbourhoods, so long must we expect to find it used as a convenient *cloaca* for refuse of various kinds.

The cesspits of houses and piggeries on the banks of the Leen have often proved only a means of delaying, between their periods of emptying, the transit of sewage to the stream.

We are frequently asked to produce evidence of the damage to health resulting from unmistakable pollution nuisances of this character. For reply, we are too often obliged to content ourselves with stating that anything which pollutes air and soil must necessarily render them less healthy for their human inhabitants at any rate. It is often almost impossible to obtain

statistical evidence of damage respecting the existence of which there can be no doubt. A whiff of foul air, or a draught of foul water may sow seeds of disease which take effect at a distance. During 1893, however, with a long and hot summer, and small rainfall, there was an unusually large amount of diarrhœa in this town and most other populous places in the country. Our local epidemic was not by any means confined to the Leen valley, but the cases were between 30 and 40 per cent. more numerous upon the low-lying and porous flats on either side of this stream, and in the meadows, than elsewhere in the town. Further particulars of the diarrhœa epidemic will be found under the heading "Diarrhœa."

Refuse and Sewage Disposal.—A sanitary authority which does its duty at the present day cannot fail to be exercised about the disposal of its sewage and other refuse, for, whatever system or method be adopted, there must occasionally be a certain amount of difficulty and nuisance associated with this disposal. Anyone who has seen the dry refuse depôts almost in the heart of London, the old sewage outfalls at Barking Creek and Crossness, and the stormweirs from Putney to the Isle of Dogs, will have realized the existence of both of these as affecting the largest and wealthiest city in the world.

The experience of trouble and anxiety then, in the disposal of refuse, is not peculiar to Nottingham. The exceptional circumstance, here, lies in the huge relative number of pail closets which have been introduced, to the exclusion of other forms, since the adoption of the pail system in 1868, and the resulting mass of material which daily calls for removal from the town, in the absence of all means for destroying or converting it.

There are now no less than 40,097 of these closets in use in the borough; the water closets number about 6,000, and the privies less than 500. The weight of the so-called night soil annually exported from the town, for use as manure in the surrounding agricultural district, amounts to about 50,000 tons.

There is much talk at the present time of the expense of the pail system, and outcry for its abolition; but even if it could be abolished by a stroke of the pen, which it cannot, there would yet remain

the greater part of the household refuse, which in the poorer neighbourhoods finds its way into the closet pails, to be disposed of.

This cannot be sold as manure without the dejecta, and it only remains to burn the greater part of it, with the rest of the dry house and trade refuse, in the destructor. But, before this could be done, the latter would require to be very greatly enlarged. The cost of scavenging the dry refuse, less the dejecta, would be less than that of removing and replacing the pails as at present, because the contents would alone be taken away in large carts, while the empty pails were returned to houses; but the staff of men employed in managing the destructors and tips, and in looking after the latrines or other closets which must take the place of the pail closets, would certainly prove larger and more expensive than many imagine. But, as I have said, the pail system cannot be abolished by a stroke of the pen. The only practical way of dealing with it in Nottingham at the present time, after deciding that it has had its day, as it undoubtedly has, is to stop its further extension and decide what is to take its place, and then slowly but persistently proceed, whenever opportunity offers, to replace the pails with the other form of closet adopted.

There are many waste, or slop-water closets in the market at the present time, and, although none are perhaps altogether satisfactory, it is easy to select several that have been tried and found workable elsewhere. This, indeed, has been done already, and the town is dotted with these closets, all working more or less satisfactorily. It only remains for your committee to approve some form or forms of closet, and encourage the conversion of the pails on every possible occasion.

Should slop-closets and a slop-water flush be found to work satisfactorily, the bulk of the sewage on the Stoke farm will not be greatly increased; but if, as seems more than possible, the slop water has to be replaced, or at any rate largely augmented, by fresh water, there will be no alternative but to enlarge the area of the farm.

I have said nothing here about existing privies, as their numbers have now dwindled almost to insignificance.

Abatement of Nuisances.

(a) General Table.

Description of Work done.	Inspector COPLEY.	Inspector OLD.	Inspector BYRNS.	Inspector BETTS.	TOTAL.
Houses repaired	18	3	10	15	46
Houses cleaned	8	1	5	5	19
Houses overcrowded	4	6	3	3	16
Bath-wastes disconnected	24	2	18	11	55
Sink-wastes disconnected	60	7	62	26	155
Sink-wastes trapped	3	..	1	1	5
Drains repaired and cleansed	306	188	453	289	1236
Drains trapped	137	87	181	96	501
Water closets repaired	37	13	41	58	149
Pail closets repaired	205	50	215	177	647
Pail closets provided	45	73	36	47	201
Ashpits abolished	39	42	44	32	157
Privies abolished	53	62	50	46	211
Water closets provided in lieu of privies..	12	7	12	5	36
Soft water cisterns cleansed	21	9	17	11	58
Courts and yards paved	93	50	44	33	220
Piggeries abolished	7	17	22	9	55
Stables, etc., drained	1	6	3	3	13
Urinals repaired, etc.	..	..	6	4	10
Manure pits repaired, etc.	6	4	7	5	22
Offensive accumulations removed	82	96	93	66	337
Miscellaneous	11	7	9	13	40
TOTALS ..	1172	730	1332	955	4189

(b) Workshops.

INSPECTOR WM. FLINT. (MALE.)

Work done.

Bakehouses and other workshops limewashed	272
Underground and insanitary bakehouses closed	4
Underground and insanitary workshops closed	2
Drains removed from bakehouses.. .. .	26
Bakehouses repaired	6
Workshop repaired	1
Defective drains repaired	4
Overcrowding abated in workshops	6
Additional ventilation provided in workshops	4
Offensive refuse removed from bakehouse	1
W. C. removed from interior of bakehouse	1

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INSPECTOR HAWKESLEY. (FEMALE.)

Work done.

Workrooms limewashed	115
Workroom painted	1
Additional ventilation provided in workrooms	4
Overcrowding abated in workrooms	10
Fire escapes provided	6
Additional exit provided	1

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Inspection of Workshops in which Males are employed.

INSPECTOR FLINT.					
Trade.		Number of Workshops.		Number of Employees.	Number of Visits.
Aerated Water Manufacturers		12	..	156	20
Bakers and Confectioners	..	250	..	420	1452
Basket Makers	.. ..	30	..	270	62
Beer Bottlers	.. ..	3	..	45	6
Bicycle Makers	.. ..	8	..	80	10
Blacksmiths	.. ..	57	..	120	84
Boat Builder	.. ..	1	..	2	1
Bobbin and Carriage Maker	..	1	..	12	1
Brass Founders	.. ..	2	..	5	2
Brickmaker	.. ..	1	..	80	1
Brush Makers	.. ..	6	..	38	14
Brass Workers	.. ..	2	..	13	2
Boot and Shoe Makers	..	55	..	350	94
Cabinet Makers	.. ..	30	..	406	83
Card Punchers	.. ..	7	..	45	9
Carvers and Gilders	.. ..	2	..	7	2
Coach Builders and Wheelwrights		31	..	206	74
Coopers	.. ..	6	..	64	10
Coppersmith	.. ..	1	..	2	2
Corn Merchant	.. ..	1	..	8	2
Chair Makers	.. ..	3	..	28	6
Cement Manufacturer	..	1	..	4	1
Chemists (Manufacturing)	..	2	..	58	4
Cycle Enamellers	.. ..	2	..	4	4
Clock Maker	.. ..	1	..	5	1
Clog Maker	.. ..	1	..	4	2
Dropper and Box Makers	..	2	..	9	4
Druggist (Wholesale)	..	1	..	12	1
Engineers and Machinists	..	7	..	80	7
Engravers	.. ..	2	..	4	4
Fellmonger..	.. ..	1	..	7	1
Firewood Merchants..	..	5	..	23	5
Framesmith	.. ..	1	..	9	3
Framework Knitters..	..	21	..	155	52
Furniture Painters and Polishers		6	..	30	13
General Smiths	.. ..	9	..	38	20
Hatter	.. ..	1	..	1	1
Hosiery Manufacturers	..	6	..	149	6
Iron Foundries	.. ..	3	..	34	5
Implement Maker (Agricultural)		1	..	6	2
Intestine Cleaners	.. ..	7	..	15	16
Ice Cream Makers	.. ..	4	..	6	8
Joiners and Builders..	..	109	..	405	198

Trade *		Number of Workshops.		Number of Employees.		Number of Visits.
Lace Manufacturers ..	..	6	..	159	..	6
Lace Designers ..	..	2	..	10	..	2
Lath Benders ..	..	2	..	3	..	3
Leather Dressers and Tanners		4	..	15	..	5
Lime-Light Operator ..	..	1	..	5	..	2
Maltsters ..	..	6	..	35	..	6
Marine Stores ..	..	8	..	28	..	10
Mattress Makers ..	..	4	..	19	..	5
Needle Makers ..	..	4	..	12	..	14
Nail Maker..	..	1	..	1	..	1
Packing Case Makers ..	..	5	..	29	..	7
Painters ..	..	12	..	64	..	14
Picture Frame Makers ..	..	3	..	10	..	3
Perambucot Makers ..	..	6	..	98	..	11
Pipe Clay and Pipe Makers ..	..	4	..	12	..	8
Plate Measure Makers ..	..	3	..	7	..	10
Plumbers ..	..	35	..	140	..	54
Paper Rulers ..	..	2	..	8	..	4
Rope and Twine Makers ..	..	2	..	15	..	4
Saddlers ..	..	18	..	55	..	23
Sack and Cover Makers ..	..	2	..	4	..	2
Sauce Manufacturers ..	..	3	..	10	..	4
Screw Makers ..	..	2	..	4	..	2
Sculptors ..	..	9	..	22	..	16
Sign Painters ..	..	2	..	6	..	2
Sinker Makers ..	..	3	..	11	..	7
Setter-up of Lace Machines ..	..	1	..	3	..	2
Silk Hosiery Makers..	..	3	..	24	..	4
Spring and Point Makers ..	..	2	..	21	..	2
Soap Makers ..	..	2	..	8	..	4
Size and Glue Makers ..	..	2	..	15	..	2
Steel Bar Makers ..	..	2	..	6	..	2
Stone Masons ..	..	8	..	6	..	16
Sugar Boilers and Confectioners		8	..	80	..	26
Surgical Hosiery Makers ..	..	3	..	15	..	5
Tailors ..	..	62	..	390	..	212
Tallow Chandlers ..	..	2	..	4	..	4
Tin-plate Workers ..	..	25	..	55	..	47
Trimmer (Hosiery) ..	..	2	..	12	..	6
Ticket Writers ..	..	3	..	7	..	5
Trunk Maker ..	..	1	..	1	..	1
Upholsterers ..	..	6	..	35	..	10
Undertakers ..	..	12	..	36	..	17
Venetian Blind Makers ..	..	3	..	30	..	5
Watch Maker ..	..	1	..	2	..	1
Waggon Builder ..	..	1	..	8	..	1

Trade.			Number of Workshops.		Number of Employees.		Number of Visits.
Warpers	..	..	2	..	3	..	3
Whitesmiths ..	..	..	7	..	21	..	10
Whip Makers ..	..	..	4	..	16	..	7
Yeast Manufacturer ..	..	..	1	..	5	..	1
			1010		5049		2909

Inspection of Workshops in which Females are employed.

INSPECTOR HAWKSLEY.

Trade.			Number of Workshops.		Number of Employees.		Number of Visits.
Box Makers	..	..	21	..	323	..	52
Boot Maker	..	..	1	..	3	..	2
Bed and Mattress Makers ..	..	..	2	..	8	..	4
Bonnet Shape Manufacturers..	..	..	5	..	57	..	10
Cigar Box Maker	..	..	1	..	10	..	2
Curtain Dressers	..	..	2	..	3	..	3
Corset Maker	..	..	1	..	3	..	2
Cork Sock Manufacturers ..	..	..	2	..	24	..	4
Clippers and Chenille Spotters	..	..	45	..	561	..	90
Chair Maker	..	..	1	..	16	..	2
Dressmakers	..	..	210	..	1160	..	398
Flour Merchant	..	..	1	..	22	..	4
Embroiderers	..	..	3	..	84	..	5
Frilling, Mob Cap and Sun Bonnet Makers	..	..	12	..	111	..	24
Hat and Cap Makers	..	..	2	..	22	..	4
Hosiery Manufacturer	..	..	28	..	1148	..	50
Hosiery Makers-up	..	..	35	..	165	..	60
Lace Manufacturers	..	..	236	..	3620	..	361
Lace Menders	..	..	10	..	186	..	21
Launderers.. ..	..	..	14	..	71	..	18
Makers-up of Underclothing ..	..	..	2	..	3	..	2
Marine Store Keepers	..	..	5	..	46	..	12
Milliners	..	..	58	..	108	..	75
Paper Bag Makers	..	..	4	..	28	..	6
Shirt Makers	..	..	4	..	25	..	6
Surgical Appliance Makers ..	..	..	3	..	122	..	3
Tailors	..	..	54	..	309	..	94
Upholsterers	..	..	12	..	56	..	17
			774		6891		1435

APPENDIX.

Mr. SWAINE, the General Manager of the Sanitary Depôts, furnishes the following statistics:—

Collection and Disposal of Refuse.

Number of Pails Collected, 13 Years ending
31st December, 1893.

YEAR.	NOTTM.	BASFORD AND BULWELL.	RADFORD AND LENTON.	TOTAL.	WEEKLY AVERAGE.
1881	1,009,323	168,105	117,432	1,294,860	24,901
1882	1,162,665	301,833	184,107	1,648,605	31,703
1883	1,309,917	407,820	254,667	1,972,404	37,930
1884	1,431,399	480,443	329,057	2,240,899	43,094
1885	1,473,833	513,822	365,211	2,352,866	45,247
1886	1,505,784	541,086	375,270	2,422,140	46,579
1887	1,555,937	535,950	423,885	2,515,772	48,380
1888	1,514,633	532,730	417,186	2,464,549	47,395
1889	1,482,102	535,206	418,806	2,436,114	46,848
1890	1,485,880	547,659	425,586	2,459,125	47,290
1891	1,503,674	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

Pails in use	-	-	-	-	-	-	-	40,097
Ashpits cleared (exclusive of Basford and Bulwell)	-							3,644
Dry-Ash-Tubs in use	-	-	-	-	-	-	-	3,681
Dry-Ash-Covers in use	-	-	-	-	-	-	-	943

Number of Loads Collected.

	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
NOTTINGHAM.—Pail Closets ..	62,377	68,161	70,182	71,704	74,092	72,125	70,576	70,756	71,603	72,570	72,657
Night Ashpits ..	7,184	7,403	5,034	4,116	3,645	3,408	3,056	2,775	2,939	2,896	2,418
Dry Ashpits and Dry Ash Tubs ..	6,115	5,935	7,704	8,153	8,038	7,495	7,588	7,170	7,199	7,463	8,301
Slaughter House ..	717	885	887	858	906	867	884	907	975	973	969
Pot Cart ..	371	502	483	489	490	485	483	499	849	916	1,229
BASFORD AND BULWELL.—											
Pail Closets ..	19,420	22,878	24,467	25,766	25,521	25,368	25,485	26,079	26,672	27,622	27,986
RADFORD & LENTON } Pail Closets ..	12,127	15,669	17,391	17,870	20,185	19,866	19,943	20,266	20,587	21,271	21,141
Night Ashpits..	4,642	3,916	3,324	3,062	2,271	2,206	2,238	2,163	2,182	2,047	1,973
TOTALS ..	111,953	125,349	129,472	132,018	135,148	131,820	130,253	130,615	133,006	135,758	136,674
WEEKLY AVERAGES	2,152	2,410	2,489	2,538	2,599	2,535	2,504	2,511	2,557	2,610	2,629

Disposal of Refuse.

	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893
Number of Wagons sent out ..	2,027	1,863	2,653	3,203	4,022	4,628	4,753	4,940	4,994	4,999	4,342	3,669	3,510	4,481
Average Weight of Night-soil per Truck ..	..	..	..	..	..	T. c. q. 8-1-2	T. c. 8-2	T. c. q. 7-19-2	T. c. q. 7-17-2	T. c. 7-16	T. c. 7-16	T. c. 8-0	T. c. q. 8-1-1	T. c. q. lbs. 7-17-3-20
Number of Boats sent out ..	550	576	554	585	646	555	327	371	350	293	278	247	547	320
Average Weight of Night-soil per Boat ..	..	..	..	..	..	T. c. 35-10	T. c. 37-0	T. c. 35-10	T. c. q. 38-11-2	T. c. q. 37-10-3	T. c. q. 36-13-1	T. c. q. 35-0-2	T. c. q. 34-10-3	T. c. q. lbs. 32-10-3-21

Borough 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 waters 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 kind. 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 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 and 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 persons' use. Any case suspected to be one of Cholera should be at once notified to me at the Health Department in the Guildhall.

The amount of Diarrhœa in Nottingham at the present time is not greater than it has been in the corresponding seasons of previous years, but such is not the case in other towns at no great distance from us. It behoves us, therefore, to take all possible precautions to prevent a local epidemic; and, if the efforts now being made by the Corporation are seconded by the inhabitants of Nottingham upon the lines laid down above, the town will have little to fear from epidemic Diarrhœa or Cholera.

Diarrhœa mixture may be obtained without payment, by poor persons, at the Police Stations of the Borough, or in the Health Department at the Guildhall.

PHILIP BOOBBYER,

Guildhall, Nottingham.

Medical Officer of Health.

Tubercular Consumption.

This disease is infectious, and liable to spread among persons living in contact with those suffering from it.

Where the lungs are principally affected, the spit of the patients contains most of the poison. This should be received into a vessel containing a strong solution of Carbolic Acid (1 of Carbolic to 40 of Water), and all washing materials and utensils soiled by the patients should be soaked in the same solution before being washed.

Consumptive patients should always sleep alone.

The rooms of consumptive patients should be aired every day, and disinfected and cleaned at least once a month.

In case of the death or removal of any consumptive patient, the Health Department will undertake the disinfection of the infected house and materials.

PHILIP BOOBBYER,

Guildhall, Nottingham.

Medical Officer of Health.

Special Report furnished to the Health Committee and the Local Government Board, September, 1893.

The following report is based upon one which was furnished by myself to the Health Committee in October, 1892, setting forth the principal precautionary measures I would advocate in times of Cholera prevalence. The principal recommendations contained in this report have been adopted for the whole area of Nottingham Borough, except where it is otherwise stated below.

GENERAL SUGGESTIONS.

It must be recognised at the outset that but little protection can be looked for from systems of quarantine, when once epidemic Cholera has obtained a footing in our neighbourhood. Cleanliness of person and surroundings, and purity of food and water supplies can alone be relied upon to stop its inroads. These conditions indeed at once deprive the disease of all soil in which to grow.

Water Supply.—Within the borough of Nottingham this is almost exclusively derived from deep borings in the Bunter sandstone, and is constant. Except, therefore, in the case of accidents to the pipes or conduits, no danger is to be apprehended from this source. A few private wells remain in the borough, chiefly in connection with works and factories. The Health Department has a list of these wells, and every effort is made to restrict the use of their waters to trade purposes. I should advise that samples of these waters be analysed, and, if found to be polluted, that the use of the waters for drinking or cooking purposes should be forbidden by printed notice. A strict supervision should be exercised over all workmen and plant employed in the manipulation of water intended for or in course of distribution to the public. I should advise that a daily return be obtained of the

condition of health of all workmen in the Water Department. Workmen employed in reservoirs and other like works should at all times, but especially at times like these, be warned on pain of instant dismissal against passing their motions in the works upon which they are engaged.

Drainage.—Defective drainage at these times assumes a graver importance, and the public should be invited to co-operate with the Health Department in bringing to light, and securing the repair of all defects. Complete disconnection between the house and the sewer should in all cases be insisted upon. Unless the rainfall should reach an aggregate of half-an-inch during a week, all drains, public and private, and all courts, alleys, and streets should be flushed at least once in that period. All Cholera, or suspicious Diarrhœa stools should as far as possible be excluded from the drains, special iron pails being provided for their reception. I may mention that the Cholera microbe is stated to have been detected in impure harbour water at Marseilles twelve weeks after its passage from the body.

Closets.—Privies and wooden pails are out of date. Iron pails, and various forms of W.C.'s, and water latrines are taking their places. The public provided with pail-closets should be urged to disinfect the pail contents with crude carbolic acid each night; those having W.C.'s and latrines should also be warned of the danger of neglecting their flushing apparatus, especially when these offices are situated within the dwellings. A special iron pail should be provided (as in the case of typhoid fever) for every house in which a case of Cholera exists, to receive the dejections of all the inmates, whether affected with the disease or not. The pail should be furnished with a spring lid, and be accompanied by a drum of crude carbolic acid for disinfecting the contents. The pail should be removed for scavenging once in the twenty-four hours, and its contents burnt in the destructor. Before being returned, it should be thoroughly cleansed with an iron wire scrubber and 1 in 10 solution of carbolic acid. In towns such as Nottingham, where the pail system is still in use, a huge bulk of nightsoil (more than 1000 tons a week in Nottingham) has to be disposed of, and

a great part of it must still be used as manure in the neighbouring rural districts. Special precautions as described above must be confined to specifically infected dejections; but all the rest of this material should be immediately exported from the town, and there should be no tip or other deposit within one mile of any populous places.

Scavenging.—Four fresh carts should be put in constant service (one for each division of the town), to remove refuse of an accidental or exceptional character which might otherwise remain or accumulate for a considerable period. The refuse, for example, which is so frequently deposited in the night time upon waste lands, may sometimes, under ordinary circumstances, accumulate to a considerable extent before it is discovered and removed. By a standing order maintained throughout the period of epidemic prevalence all other regular collections of refuse within the borough should be reduced to a minimum. Horse manure and dry house refuse, for instance, should be scavenged at least twice a week; offensive trade refuse should be removed by the trader daily, and all that cannot immediately be disposed of as manure should go to the Destructor.

This was not done as a regular practice.

Importation of possible fomites.—An excellent system of notification is now in force in our seaports for bringing the fact of such importation to the knowledge of the inland local authority. Nottingham has only to do with a small quantity of lace, hosiery, and the like material, under this heading, and this can be readily looked after.

The Keeping of Pigs, Poultry, etc., in populous places should, as far as possible, be curtailed; but curtailment of this practice is, I regret to say, an extremely difficult thing to accomplish in Nottingham, where pig-keeping has come to be regarded as the prescriptive right of almost every owner of a manure pit.

Several of the most insanitary piggeries in the old town have lately been done away with, but others remain.

Milk Supplies.—All milk at these times, whatever its source, should be boiled before use. By an understanding lately arrived at with Sanitary Authorities outside the borough, my department is now in a position to obtain an immediate

notification of any condition or occurrence likely to affect, in a detrimental way, the milk supplies of the town.

Food Supplies.—The public should be warned of the danger of ingesting infected, tainted, or unwholesome food. This can best be done by means of handbills, such as that which accompanies this Report. But the Sanitary Inspectors of the borough should also exercise the strictest possible supervision over all food supplies.

This recommendation was not adopted; but the boats were inspected as regularly as possible without special notification of arrivals.

Canal Boats.—During the prevalence of cholera, a daily return should be furnished by each of the Canal Boat Stations in the borough to myself, giving a list of the boats expected to arrive in the town upon each day. There are three principal wharves, the keepers of which could certainly be relied upon to give this information.

Acting upon the latter, the Canal Boat Inspector would visit and examine the boats and their crews.

Handbills and Posters.—Probably nothing but good can result from the issue of these, warning the public of the principal sources of danger, and particularly enjoining the necessity of protecting their mouths, and all going into them, against infected or tainted materials. Typhoid fever is often acquired by attendants through simple carelessness, or uncleanness, and cholera can of course be communicated in a similar manner. The handbill already mentioned, which accompanies this Report, should be published by hand distribution and wall posting.

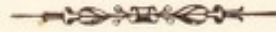
Notification.—This should of course be as prompt as possible, by messenger, telephone, or telegraph. Such notification has been obtained for small-pox; it can doubtless be secured for cholera. In the case of cholera, promptitude is especially desirable if removal to hospital is contemplated, because, unless the patient is taken in the first stage, removal is often out of the question. Sec. 83 of the Public Health Act, 1875, should be put in force for cholera as it has been for small-pox, the lodging-house Inspector looking after the return of the schedules.

Hospitals.—Accommodation for some thirty cases can be provided in the old buildings upon the Bagthorpe Hospital enclosure, at twenty-four hours' notice. Patients should be removed in one of our own ambulances, and this should be thoroughly cleaned with a solution of perchloride of mercury after each time of using. The stools of cholera patients in hospital should be absorbed by sawdust and burnt in the hospital incinerator. Everything soiled with stools should be soaked in a 1 in 750 solution of perchloride of mercury, or destroyed by fire. The bodies of cholera victims should, if possible, be buried in nine feet graves, outside the town, within twelve hours of death.

*Guildhall, Nottingham,
September 5, 1893.*

PHILIP BOOBBYER.

Special Report to the Chairman and Members of the
Public Baths Committee of the Nottingham
Corporation, October, 1893.



GENTLEMEN,

I have been requested to furnish your Committee with a report upon the condition of Sneinton Baths as viewed from a sanitary standpoint. The obsolete pattern of many of the baths and bath-fittings, and the generally unsatisfactory state of the premises are so well-known that I need not dwell upon them here. All that I propose to do is to discuss the purely sanitary aspect of the bathing establishment in its present condition, giving only sufficient detail to render my remarks intelligible and justify my conclusions.

The first thing that strikes one on entering the Bath premises is the extreme state of dilapidation of all parts of them, excepting the first-class swimming bath. This bath, so far as the class and style of its structure permits, is in good condition. It is, however, lined with red brick instead of enamelled tiles, and has one serious sanitary defect in its drainage. There is a common drain to the overflow pipe at its lower end, and the three W.C.'s and seven urinals situated within its walls. This drain appears to be trapped between the bath and the sewer, but there is no trap or ventilator between the bath and the junction of its drain with those of the W.C.'s and urinals, so that all the noxious emanations incidental to the drainage of these are free to pass up the open waste pipe into the atmosphere of the bath. As I have already said, the other parts of the internal structure of this bathing establishment are almost without exception extremely dilapidated. The dilapidation is perhaps most marked in the flooring of the small (private) baths, which in several instances indeed has actually given way. The floor of a bath should not be constructed

of wood, but when it is formed of wood, and this has become rotten with age and soakage, it should certainly be renewed or the use of the bath discontinued. An offensive smell is to be detected in almost all the small baths: this smell is partly due to the defects in the drainage (of which I shall have something to say later on), and partly to the state of the flooring, which it is impossible to cleanse effectually in its present condition. The arrangement for the ventilation of the small baths by means of windows is fairly satisfactory, but it is always desirable to provide other means of ventilation, in addition to the windows, which shall not be under the bathers' control. I have examined the majority of the drains with some care, and have applied the smoke test to their interiors, wherever these were sufficiently accessible, in order to ascertain: firstly, whether the drain was defective or not, and, secondly, whether it was furnished with a trap between the bath-waste and the sewer. I may say briefly that the baths on the Bath Street side discharge into the Bath Street sewer by a common pipe passing beneath the Bath Street urinal, while those at the rear converge to an intercepting chamber situated at the S.E. corner of the garden plot in that position. The first-class swimming bath has a separate drain of its own connected with the Colwick Street sewer. I went beneath the corridors with which the men's small baths communicate, and satisfied myself that the waste pipes were in no cases trapped between the baths and the drain common to all, although a trap was placed in the latter, at the point of its emergence to join the street sewer, to protect the baths against the access of gas from the sewer. This was the case alike with those baths discharging into the street sewer direct and those passing as above described to the garden intercepting chamber. A considerable part of the offensive smell noticed in the baths must arise from the fouling of the long lengths of waste pipe lying between the baths and the traps which separate their common drains from the sewer. It must, however, be remembered that a single unventilated trap cannot be regarded as an adequate protection against the access of sewer gas in a situation like this, for such a trap may at any time be forced by a strong draught of air in the sewer, and, during the passage of water through it, will frequently allow of an up current from the sewer into the drain.

In constructing a new set of baths at the present time each waste would be separately dis-connected, or, failing this, it would be considered essential to provide a trap for each bath immediately beneath its outlet, with a ventilating chamber beyond these traps, and between them and that protecting the system from the sewer. I mention this to show how entirely antiquated and defective the existing arrangement is.

Considerable difficulty was experienced in the garden in ascertaining the exact position of the intercepting chamber, but the spot was discovered at last with the aid of an iron boring rod. This intercepting chamber is situated in the south-east corner of the garden, and, before it was opened, was covered by stone slabs buried at a depth of about 1 foot 6 inches from the surface. The chamber is well-constructed of brickwork in cement, and measures about 6 feet $\times$ 6 feet $\times$ 3 feet. It receives the drainage of the bath manager's house, and of the urinals and W.C.'s of the baths round the garden enclosure, as well as the waste water of all the baths on this side, among which is included the small private swimming bath; and, being entirely without ventilation and directly connected with the sewer, would be very likely at times to discharge its gaseous contents into the atmosphere of the baths and other buildings connected with it by their drainage. The smaller swimming baths may be dismissed in a few words. Their condition is less objectionable on account of the free ventilation of their atmospheres; but the same drainage defects exists in them as in the other (small private) baths, and they possess the further disadvantage of having their basins lined—except in the case of the private swimming bath—and their surrounding platforms paved—in all cases—with red brick instead of glazed tiles or other non-absorbent material; a disadvantage which becomes the more pronounced from the fact that a very large amount of urine is passed by the bathers—and especially those of the poorer class—in the most careless manner in and around the baths while bathing.

Your Committee have desired me to state whether I consider the baths in a sanitary condition or not, and, if in an insanitary condition, whether I think this sufficiently pronounced to necessitate or justify their closure.

Your Committee, I understand, will not for a moment entertain any proposal for repairs to, or alterations of, the existing structures.

In answer to your queries, I may say at once that I have no doubt about the insanitariness of the baths. The only question with me is: which is the greater evil?—to deprive a large number of poor people, who have no other washing place, for a long period at any rate, of the privilege of washing and bathing, or to allow them to wash and bathe in places so unwholesome as these baths. After careful consideration I have arrived at the decision that the greater evil would be to deprive them of their washing place. I must therefore recommend that, for the present at any rate, the use of the baths should be continued, excepting, of course, those baths which are so dilapidated as to render them dangerous or otherwise altogether unfit for use.

Since the date of my last visit the intercepting chamber above referred to has been left open to the air, and it should certainly be allowed to remain so.

I am,

Your obedient servant,

PHILIP BOOBBYER.

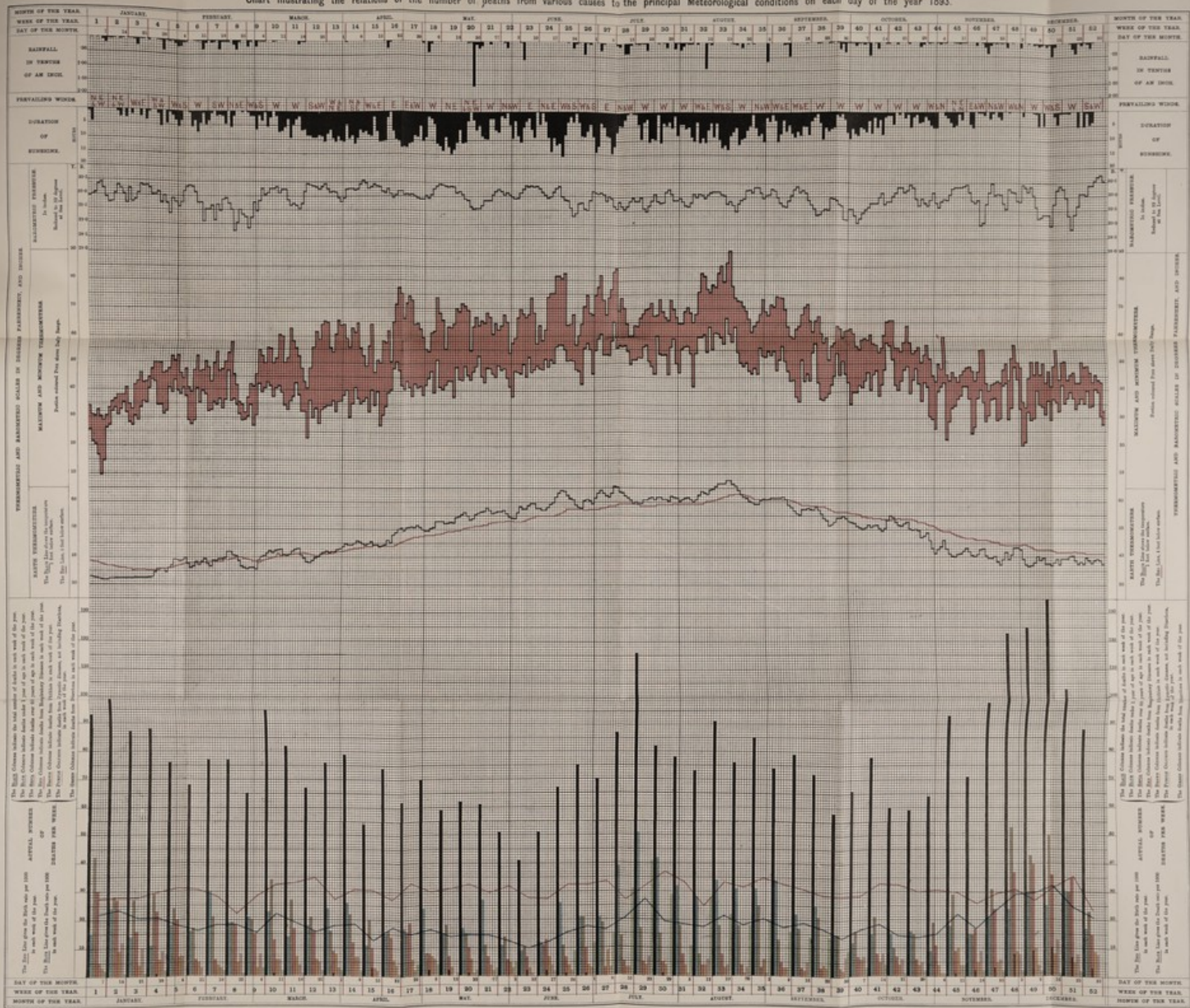
*Guildhall, Nottingham,
20th October, 1893.*

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BOROUGH 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 1893.



ARTHUR BROWN, M. Inst. C.E.,
Borough Engineer.
PHILIP SCOBBER, M.B.,
Medical Officer of Health.

