[Report 1898] / Medical Officer of Health, Nottingham City.

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CITY OF NOTTINGHAM.

ANNUAL HEALTH REPORT

FOR

1898,

— BY —

PHILIP BOOBBYER, M.B.,

MEDICAL OFFICER OF HEALTH;
MEDICAL SUPERINTENDENT OF ISOLATION HOSPITAL.

Nottingham:

THOMAS FORMAN AND SONS, PRINTERS, SHERWOOD STREET.

CITY OF NOTTINGHAM.

1898-99.

HEALTH COMMITTEE.

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, SUTTON
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TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

GENTLEMEN,—

The following Annual Report is the ninth I have had the honour to present as Medical Officer of Health for Nottingham.

The health of the City during 1898 presents no feature of special interest or importance.

The general birth-rate, calculated upon an estimated population of 236,137, works out at 28·8 per 1000 living (*i.e.*, practically the same as last year), and the crude death-rate at 17·2 (*i.e.*, 1·2 per 1000 less than last year). While referring to rates, however, I must not omit to mention that with a decennial census only to guide us the value of rates becomes extremely uncertain towards the end of the decennium.

The prevalence and fatality of infectious diseases taken as a whole were alike somewhat below the average, and the variations in individual cases above and below the mean of other recent years were less marked than usual. Measles, diphtheria, and diarrhœa were the only zymotic diseases shewing any excess above the past ten years average, and the excess was very slight in each case. Influenza was present once again, and responsible, according to the death certificates, for 63 deaths.

Diseases of tuberculous origin, which are attracting much attention at the present time, have shown but little tendency to a continuous decline in recent years, though the mischief they do is small compared with that they caused before the days of modern sanitation. The death-rate from these diseases in Nottingham during 1898 was 1·82, and the average rate for the past five years 1·89.

Turning now to some of the special requirements of the city as regards its sanitary equipment, we find at the head of the list:—

1. A Small-pox Hospital.
2. A Public Abattoir.
3. Additional Refuse Destructors.

With the first should also go an extension of the existing isolation hospital, which has never been large enough for the town, and is now—relatively to the population—much more insufficient than when first put up.

The public abattoir question has long had your serious consideration, and although the time is probably not ripe for the erection of a complete abattoir to take over the function of all the existing slaughter-houses, there can, I think, be no doubt that it is very desirable to provide without delay so much accommodation of this character as will meet the requirements of tradesmen having insufficient or unsuitable slaughter-houses at the present, and at the same time be capable of further extension, and thus save both now and in future the necessity for the erection of other slaughter-houses by private persons.

The necessity for additional refuse destructors must be apparent to everyone acquainted with our Sanitary Depôt at the Eastcroft.

PHILIP BOOBBYER.

TABLE I.

Nottingham. Population, Inhabited Houses, Marriages, Births and Deaths for 1898, and for the 10 years 1888-97.

	Estimated Population.	Inhabited Houses.	† Marriages.	Births.	Deaths.			Deaths in Public Institutions.
					Total at all ages.	Under One Year.	Under Five Years	
1898	236,137	52,051	1912	6796	4058	1209	1689	636
1897	232,935	...	1895	6742	4277	1362	1869	587
1896	229,775	...	1749	6758	3987	1136	1709	594
1895	226,659	...	1658	6717	4195	1269	1640	522
1894	223,584	...	1635	6373	3728	1108	1609	547
1893	220,551	...	1638	6612	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	*	...	1549	6205	4031	985	1484	430
1889	*	...	1422	6636	3985	1216	1816	410
1888	*	...	1405	6879	3916	1039	1605	430
Average of the *ten* years 1887-96.	*	...	1624	6558	4031	1140	1656	523

* The variations in the number of the population were very great in these years owing to trade fluctuations. The unoccupied houses ranged from a few hundreds, in some years, to more than 7000 at the Census of 1891.

† 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—21·6.

TABLE II.

Nottingham. Annual Rates for 1898 and the 10 years 1888-97.

	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.
1898	28·8	17·2	178	298	416	157
1897	28·9	18·4	202	318	437	137
1896	29·4	17·5	168	278	418	145
1895	29·7	18·5	189	302	391	139
1894	28·6	16·7	174	336	432	147
1893	30·2	18·4	172	282	386	150
1892	29·4	18·4	167	267	407	141
1891	29·6	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
Average of the *ten* years 1888-97.	29·28	18·0	173	285	411	132

TABLE III.

Nottingham.—Deaths Registered from all causes during the year 1898.

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*	1898	1897	1896	1895
I. Specific Febrile, or Zymotic Diseases ..	381	217	31	16	32	22	22	18	27	14	3	5	783	846	645	769
II. Parasitic Diseases ..	8	1	..	..	..	1	..	..	..	..	..	..	10	2	2	14
III. Dietic Diseases	5	..	..	..	3	7	6	6	1	..	..	3	28	19	12	24
IV. Constitutional Diseases	48	57	44	77	74	100	101	99	73	18	4	41	695	702	688	747
V. Developmental Diseases	199	..	..	..	..	..	..	2	28	77	27	1	333	337	340	363
VI. Local Diseases	369	182	58	55	77	158	180	249	337	175	28	104	1868	1758	1898	1847
VII. Deaths from Violence ..	26	14	12	13	14	16	15	17	7	7	2	7	143	140	133	127
VIII. Deaths from Ill-Defined and Not Specified Causes	173	9	..	..	..	3	2	4	2	3	2	9	198	273	269	304
Totals	1209	480	145	161	200	307	326	395	475	294	66	163	4058	4277	3987	4195
1.—Specific Febrile, or Zymotic Diseases.																
1.—Miasmatic Diseases.																
Small-pox { Vaccinated ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Small-pox { Unvaccinated ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Small-pox { No Statement ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	24	75	5	..	..	..	..	..	..	..	..	..	104	49	203	1
Scarlet Fever	5	21	7	..	..	..	..	..	..	..	..	..	33	34	27	50
Typhus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough..	20	37	2	..	..	..	..	..	..	..	..	..	59	117	91	33
Diphtheria	5	16	2	..	..	..	..	..	..	..	..	..	23	21	12	11
Simple Continued and Ill-defined Fever	1	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..
Enteric or Typhoid Fever ..	1	7	8	11	13	6	5	1	1	1	..	1	54	45	75	55
Influenza	2	5	3	..	6	5	9	10	15	7	1	1	63	14	17	115
2.—Diarrhœal Diseases.																
Simple Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
Diarrhœa, Dysentery	309	53	3	..	1	1	2	3	6	5	2	2	385	530	175	448
3.—Malarial Diseases.																
Remittent Fever	..	..	..	1	1	..	..	..	..	..	..	..	2	..	..	..
Ague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
4.—Zoogenous Diseases.																
Cowpox and effects of Vaccination	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases (*e.g.* Hydrophobia, Glanders, Splenic Fever) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5.—Venereal Diseases.																
Syphilis	12	2	..	..	..	..	2	..	..	..	..	..	16	12	15	16
Gonorrhœa, Stricture of Urethra	..	..	..	..	..	..	2	..	1	1	..	..	4	3	..	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+	1898	1897	1896	1895
6.—Septic Diseases.																
Erysipelas	1	..	..	..	..	4	1	2	2	..	..	..	10	8	10	5
Pyæmia, Septicæmia	1	1	1	1	1	3	1	2	2	..	..	..	13	1	8	9
Puerperal Fever	..	..	..	3	10	3	..	..	..	..	..	..	16	10	6	20
II.—Parasitic Diseases.																
Thrush & other Vegetable Parasitic Diseases	8	1	..	..	..	1	..	..	..	..	..	..	10	..	2	14
Worms, Hydatids &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
III.—Dietic Diseases.																
Want of Breast Milk, Starvation	5	..	..	..	..	..	..	..	..	..	..	..	5	1	1	7
Scurvy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chronic Alcoholism	..	..	..	..	3	6	4	6	1	..	..	3	20	16	7	16
Delirium Tremens	..	..	..	..	..	1	2	..	..	..	..	..	3	2	4	1
IV.—Constitutional Diseases.																
Rheumatic Fever, &c.	..	..	5	1	2	2	3	..	..	1	..	..	14	16	12	5
Rheumatism	..	..	1	1	..	..	1	..	4	..	..	..	7	13	5	7
Gout	..	..	..	..	..	..	1	..	3	1	..	..	5	..	2	1
Rickets	4	11	..	..	..	..	..	..	..	..	..	..	15	25	19	33
Cancer, Malignant Disease	..	2	..	2	4	22	42	64	49	14	4	28	203	191	185	200
Tabes Mesenterica	20	3	1	..	..	..	..	1	..	..	..	1	25	35	25	34
Tuberculous Meningitis, Hydrocephalus	8	18	7	5	3	1	..	..	..	1	..	..	43	46	56	55
Phthisis	5	12	17	62	63	70	50	24	9	..	..	7	312	322	344	364
Other forms of Tuberculosis, Scrofula	9	11	11	3	1	4	1	6	2	1	..	3	49	34	10	18
Purpura, Hæmorrhagic Diathesis	1	..	..	..	..	..	1	..	..	..	..	..	2	3	3	5
Anæmia, Chlorosis, Leucocythæmia	..	..	1	1	..	1	1	1	1	..	..	..	6	4	10	9
Glycosuria, Diabetes Mellitus	1	..	1	2	1	..	1	3	5	..	..	2	14	13	17	16
V.—Developmental Diseases.																
Premature Birth	152	..	..	..	..	..	..	..	..	..	..	..	152	145	155	147
Atelectasis	16	..	..	..	..	..	..	..	..	..	..	..	16	10	2	6
Congenital Malformations	31	..	..	..	..	..	..	..	..	..	..	..	31	18	13	24
Old Age	..	..	..	..	..	..	..	2	28	77	27	1	134	164	170	186
VI.—Local Diseases.																
I.—Diseases of Nervous System.																
Inflammation of Brain or Membranes	20	19	10	2	4	2	1	2	..	..	..	2	60	54	62	45
Apoplexy, Softening of Brain, Hemiplegia, Brain Paralysis	..	..	1	1	7	16	30	38	81	39	6	11	219	210	206	220
Insanity, General Paralysis of the Insane	..	..	..	1	2	10	5	5	3	1	..	2	27	31	28	22
Epilepsy	1	..	2	4	2	3	1	3	2	..	..	1	18	25	22	12
Convulsions	106	7	..	..	..	..	..	..	..	..	..	..	113	123	109	102
Laryngismus Stridulus (Spasm of Glottis)	1	..	..	..	..	..	..	..	..	..	..	..	1	5	..	1
Disease of Spinal Cord, Paraplegia, Paralysis Agitans	1	..	1	1	2	3	1	1	2	..	..	..	12	26	14	10
Other Diseases of Nervous System	..	..	..	1	..	1	1	1	2	..	..	..	6	5	6	..

	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*	1898	1897	1896	1895
2.—Organs of Special Sense.																
(*e.g.*, of Ear, Eye, Nose)	3	3	4	1	1	..	..	..	..	..	..	..	12	7	4	7
3.—Circulatory System.																
Pericarditis	..	..	..	..	..	..	..	..	..	..	..	..	..	1	4	5
Acute Endocarditis	..	..	..	..	2	..	..	..	..	..	..	..	2	3	3	1
Valvular Diseases of Heart ..	..	2	7	9	8	17	17	22	16	7	..	11	105	107	55	180
Other Diseases of Heart	3	1	5	3	5	19	26	47	67	27	2	16	205	260	264	134
Aneurism	..	..	..	1	..	3	2	1	2	1	..	..	10	10	3	14
Embolism, Thrombosis	..	..	..	..	..	1	1	2	..	3	1	1	8	6	9	23
Other Diseases of Blood Vessels	..	..	..	..	1	..	..	1	5	1	..	..	8	3	8	2
4.—Respiratory System.																
Laryngitis	6	3	3	1	..	2	..	1	..	..	..	..	16	10	8	10
Croup	2	5	..	..	..	..	..	..	..	..	..	..	7	5	12	10
Emphysema, Asthma	..	..	..	..	1	..	3	4	1	..	..	3	9	3	11	18
Bronchitis	78	37	2	..	5	7	15	49	83	61	14	18	351	369	402	467
Pneumonia	102	79	9	9	9	27	29	25	24	12	3	13	328	293	288	238
Pleurisy	..	1	..	..	1	1	3	..	1	1	..	..	8	10	15	13
Other Diseases of Respiratory System	..	1	..	..	..	1	1	..	1	..	..	..	4	5	6	2
5.—Digestive System.																
Dentition	9	4	..	..	..	..	..	..	..	..	..	..	13	14	23	15
Sore Throat, Quinsy	..	2	1	..	..	..	..	..	..	..	..	..	3	4	..	..
Diseases of Stomach	14	..	2	2	..	3	1	3	2	..	..	2	27	41	34	39
Enteritis	5	3	1	2	..	3	..	1	2	1	..	1	18	17	20	15
Obstructive Diseases of Intestine	2	3	1	..	..	3	5	6	2	4	..	4	26	44	23	24
Peritonitis	1	..	3	3	1	..	5	1	5	..	..	1	19	17	19	12
Ascites	..	..	..	..	..	1	..	..	..	..	..	..	1	1	1	1
Cirrhosis of Liver	..	..	..	..	2	4	6	6	5	..	..	1	23	33	41	30
Jaundice and other Diseases of Liver	2	1	..	..	..	5	1	2	5	1	..	2	17	19	22	12
Other Diseases of Digestive System	1	..	1	1	..	..	1	..	..	..	..	..	4	5	5	..
Appendicitis	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
6.—Lymphatic System. (*e.g.*, of Lymphatics and of Spleen)	1	..	..	2	..	..	1	1	2	..	..	1	7	4	..	6
7.—Gland-like Organs of Uncertain Use. (*e.g.*, Bronchocele, Addison's Disease)	..	..	..	1	..	..	2	1	1	..	..	..	5	9	5	4
8.—Urinary System.																
Nephritis	2	5	2	3	3	3	6	10	11	3	..	7	48	39	28	35
Bright's Disease, Albuminuria ..	3	2	1	..	4	5	11	9	5	7	1	2	48	38	48	47
Disease of Bladder or of Prostate	..	..	..	..	..	..	..	..	4	4	1	..	9	18	16	20
Other Diseases of the Urinary System	..	..	..	..	..	1	..	..	..	..	..	..	1	8	1	..
Stone in Kidney	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1

	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*	1898	1897	1896	1895
9.—Reproductive System.																
A. *Organs of Generation.*																
Male Organs	..	..	..	1	..	..	..	2	1	..	..	..	4	2	4	..
Female Organs	..	..	..	..	1	6	3	5	1	1	..	..	17	21	17	8
B. *Of Parturition.*																
Abortion, Miscarriage	..	..	..	..	..	..	..	..	..	..	..	..	..	4	4	3
Puerperal Convulsions	..	..	1	..	2	2	..	..	..	..	..	..	5	3	2	2
Placenta prævia, Flooding	..	..	..	1	5	3	1	..	..	..	..	..	10	5	5	6
Other Accidents of Child Birth	..	1	..	..	1	8	6	..	..	..	..	..	16	13	14	2
10.—Bones and Joints.																
Caries, Necrosis	..	..	..	..	2	1	3	1	..	1	..	1	..	..	..	..	9	13	9	20
Arthritis, Ostitis, Periostitis	....	..	1	..	..	..	..	..	..	..	..	..	..	1	4	6	2
Other Diseases of Bones & Joints	..	1	..	1	..	..	..	..	..	..	..	..	2	..	..	..
Osteo-malacia	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..
11.—Integumentary System.																
Carbuncle, Phlegmon	..	..	..	..	..	..	..	..	..	1	..	..	1	3	2	4
Other Diseases of Integumentary System	...	5	..	..	..	..	..	..	..	..	..	..	5	6	9	2
VII.—Deaths from Violence.																
1.—Accident or Negligence.																
Fractures and Contusions	..	2	5	5	10	7	8	6	7	5	6	2	3	63	39	34	43
Gunshot Wounds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cut, Stab	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	3
Burn, Scald	..	..	..	..	1	7	6	..	1	..	1	1	..	..	17	13	20	20
Poison	..	..	..	..	1	..	..	1	1	1	..	..	..	..	5	5	6	5
Drowning	..	..	..	..	..	1	1	2	1	..	..	1	..	..	7	14	6	8
Suffocation	..	..	..	..	18	1	..	..	..	..	1	1	1	1	..	..	23	37	29	19
Otherwise	..	..	..	..	3	..	..	..	1	..	1	..	..	..	1	5	5	5	3
2.—Homicide.																
Manslaughter	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
Murder	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1
3.—Suicide.																
Gunshot Wounds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	1
Cut, Stab	..	..	..	..	..	..	..	1	1	1	..	..	..	1	3	6	3	6
Poison	..	..	..	..	..	..	1	4	3	1	3	..	..	1	12	9	11	10
Drowning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1
Hanging	..	..	..	..	..	..	..	1	4	1	..	..	..	1	6	9	10	4
Otherwise	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1	1	1
4.—Execution.																
Hanging	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
VIII.—Ill-Defined Causes.																
Dropsy	..	..	..	..	..	..	..	1	1	..	..	..	..	2	..	..	4
Debility, Atrophy, Inanition	..	155	7	..	..	..	..	..	..	1	..	..	163	235	209	250
Mortification	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..
Tumour	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..
Abscess	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Hæmorrhage	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	1	..
Sudden Death (cause not ascertained)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Causes not specified (Ill-defined)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Uncertified	..	..	..	17	2	..	..	..	3	1	2	2	2	2	..	31	35	56	50

SUMMARY OF TABLE III.

	No. of Deaths.			
	1898	1897	1896	1895
I.—Specific Febrile, or Zymotic Diseases.				
1. Miasmatic Diseases	337	282	429	268
2. Diarrhœal „	385	530	177	448
3. Malarial.. „	2	..	..	1
4. Zoogenous „	..	..	..	..
5. Venereal „	20	15	15	18
6. Septic „	39	19	24	34
II.—Parasitic Diseases	10	2	2	14
III.—Dietic Diseases	28	19	12	24
IV.—Constitutional Diseases..	695	702	688	747
V.—Developmental Diseases	333	337	340	363
VI.—Local Diseases—				
1. Diseases of Nervous System	456	479	447	412
2. Diseases of Organs of Special Sense.. ..	12	7	4	7
3. Diseases of Circulatory System	338	390	346	359
4. Diseases of Respiratory System	723	695	742	758
5. Diseases of Digestive System	151	196	188	148
6. Diseases of Lymphatic System	7	4	..	6
7. Diseases of Gland-like Organs of uncertain use	5	9	5	4
8. Diseases of Urinary System	106	103	93	103
9. Diseases of Reproductive System—				
(*a*). Diseases of Organs of Generation ..	21	23	21	8
(*b*). Diseases of Parturition..	31	25	25	14
10. Diseases of Bones and Joints	12	18	16	22
11. Diseases of Integumentary System	6	9	11	6
VII.—Violence—				
1. Accident or Negligence	121	113	101	101
2. Homicide	..	..	2	3
3. Suicide	22	27	28	23
4. Execution	..	..	2	..
VIII.—Ill-Defined and Not Specified Causes. ..	198	273	269	304
TOTAL	4058	4277	3987	4195

TABLE IV.

Nottingham, 1898. 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	659	2·79	162
2. Pulmonary Diseases	723	3·06	178
3. Tuberculous Diseases	429	1·82	106
B. Infants under 1 year of Age.	Deaths.	Deaths per 1000 *Births*.	Deaths per 1000 *Deaths under 1 year*
4. Wasting Diseases ...	312	45·9	258
5. Convulsive Diseases	136	20·0	112

NOTES.

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

TABLE V.

Nottingham. Deaths from the Principal Zymotic Diseases in the ten years 1888-97, and in the Year 1898.

Disease.	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	Ten Years, 1888-97. Annual Average.	Ten Years, 1888-97. Proportion of Deaths to 1000 Deaths.	1898. Deaths.	1898. Proportion of Deaths to 1000 Deaths.
Small-pox	12	..	..	..	..	4	4	..	..	..	2·0	0·49	..	..
Measles	115	86	52	110	118	25	134	1	203	49	89·3	22·16	104	25·6
Scarlet Fever	25	32	33	28	43	83	49	50	27	34	40·4	10·02	33	8·1
Diphtheria	34	11	16	21	30	15	22	11	12	21	19·3	4·79	23	5·7
Whooping Cough	81	153	47	121	117	59	119	33	91	117	93·8	23·27	59	14·5
Fevers. Typhus	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fevers. Enteric	89	66	58	70	36	68	61	55	75	45	62·3	15·46	54	13·3
Fevers. Simple Continued ..	1	2	4	..	..	1	..	..	..	1	0·9	0·22	1	0·25
Diarrhœa	157	263	185	180	158	361	152	444	177	530	260·7	64·68	385	9·49
Total	514	613	395	530	503	616	541	594	585	797	568·7	141·10	659	162·4
Total, London	10,083	9,709	12,279	9,675	11,983	13,223	11,549	11,544	14,100	11,525	11,567	138·0	12,565	149·7
Total, England and Wales	50,684	61,027	59,698	53,221	56,032	73,499	52,771	64,901	66,936	67,051	60,582	111·2	69,714	126·3

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

I. NOTTINGHAM.

In five yearly periods, 1856—1890, 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."	Diarrhœa.	Phthisis, and other tuberculous Diseases.
1856—1860	36·8	27·2	209	5·98	0·21	0·80	1·08	0·13	0·76	1·02	2·00	3·22
1861—1865	34·8	24·9	192	3·83	0·09	0·43	0·98	0·12	0·51	0·78	1 09	3·19
1866—1870	31·3	23·8	200	4·34	0·07	0·44	0·73	0·09	0·51	0·92	1·57	2·78
1871—1875	34·1	24·9	192	4·30	0·79	0·31	0·53	0·02	0·26	0·84	1·53	2·42
1876—1880	34·6	21·7	175	3·00	0·00	0·35	0·62	0·03	0·43	0·34	1·06	1·85
1881—1885	36·6	20·9	174	3·22	0·06	0·41	0·77	0·12	0·46	0·31	1·09	1·99
1886—1890	30·4	17·9	168	2·39	0·01	0·42	0·11	0·06	0·45	0·31	1·04	1·52
1891	29·8	19·5	169	2·49	0·00	0·51	0·13	0·09	0·56	0·32	0·84	1·69
1892	29·4	18·4	167	2·33	0·00	0·55	0·19	0·13	0·54	0·16	0·73	1·42
1893	30·2	18·4	172	2·62	0·02	0·11	0·37	0·07	0·27	0·31	1·47	1·81
1894	28·6	16·7	174	2·42	0·01	0·60	0·23	0 08	0·53	0·28	0·60	1·80
1895	29·7	18·5	189	2·64	..	0·00	0·23	0·04	0·14	0·24	1·97	2·10
1896	29·4	17·5	168	2·47	..	0·88	0·11	0·06	0·39	0·34	0·69	1·89
1897	28·9	18·4	202	2·81	..	0·21	0·15	0·09	0·49	0·21	1·66	1·88
1898	28·8	17·2	178	2·37	..	0·44	0·14	0·10	0 25	0 24	1·20	1·82

II. ENGLAND AND WALES.

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

1858—1860	34·3	22·2	153	4·03	0·22	0·48	0·89	0·37	0·49	0·79	0·78	2·57
1861—1865	35·1	22·6	151	4·22	0·22	0·46	0·98	0·25	0·52	0·92	0·87	2·53
1866—1870	35·3	22·4	159	4·08	0·10	0·43	0·96	0·13	0·55	0·85	1·06	2·45
1871—1875	35·5	22·0	153	3·76	0·41	0·37	0·76	0·12	0·50	0·60	1·00	2·22
1876—1880	35·4	20·8	144	2·94	0·01	0·39	0 68	0·12	0·53	0·38	0·83	2·04
1881—1885	33·4	19·3	139	2·32	0·01	0·41	0·43	0·16	0·46	0·27	0·65	1·82
1886—1890	31·4	18·9	145	2·25	0·01	0·46	0·24	0·17	0·44	0 20	0·66	1·63
1891	31·4	20·2	149	2·70	0·00	0·43	0·17	0·17	0·46	0·16	0·46	1·60
1892	30·5	18·9	148	2·78	0·01	0·46	0·19	0·22	0·45	0·14	0·50	1·47
1893	30·8	19·2	159	3·16	0·05	0·37	0·23	0·31	0·34	0·23	0·95	1·47
1894	29·6	16 6	137	2·25	0·02	0·39	0·16	0·29	0·41	0·16	0·36	1·38
1895	30·3	18·7	161	2·14	0·00	0·38	0·15	0·26	0·32	0·18	0·87	1·40
1896	29 7	17·1	148	2·18	0·02	0·56	0·18	0·29	0·41	0·17	0·55	1·31
1897	29·7	17·4	156	2·15	0·00	0·40	0·14	0·24	0·35	0·16	0·86	1·34
1898	29·4	17·6	161	2·22	0·01	0·41	0·11	0 24	0 31	0·18	0·96	

Principal Vital Statistics of the 33 Greater English Towns for 1898 (taken from the Registrar-General's Quarterly Reports and Annual Summary).

(Populations as at Census of 1891, and also estimated to middle of 1898.)

	Census Population, 1891.	Populations estimated to middle of 1898.	Birth-Rate.	Recorded Death-Rate.	Corrected Death-Rate.	Death-Rates at Age Periods.			Death Rate from seven chief zymotic diseases.	Percentage of uncertified Deaths.
						Deaths under one year per 1000 Births.	Deaths 1 to 60 years per 1000 living at those ages.	Deaths over 60 years per 1000 living at those ages.		
England & Wales	29,001,018	31,397,078	29·4	17·58	17·58	161	8·8	67·4	2·22	1·9
33 Large Towns	10,188,449	11,218,378	30·3	19·03	20·58	178	10·2	71·2	2·85	1·2
London ..	4,231,431	4,504,766	29·5	18·68	19·91	167	10·2	69·8	2·78	0·6
Liverpool ..	517,951	633,645	35·2	23·98	26·33	184	14·1	83·0	3·22	3·4
Manchester ..	505,343	539,079	32·7	21·89	24·80	197	12·3	82·6	3·11	0·8
Birmingham ..	429,171	510,343	34·0	20·00	22·10	191	10·4	70·9	2·78	2·9
Leeds	367,506	416,618	31·2	19·21	21·29	182	10·4	73·1	3·12	0·4
Sheffield ..	324,243	356,478	33·9	20·24	22·51	195	10·5	77·6	3·82	2·3
Bristol.. ..	221,665	316,900	28·6	17·20	17·85	164	8·7	65·4	2·69	0·7
West Ham ..	217,113	286,654	30·6	15·41	16·62	170	8·2	59·3	2·68	2·4
Bradford ..	216,361	233,737	24·0	17·60	20·14	185	9·7	74·3	2·12	1·2
Nottingham ..	213,877	236,137	28·9	17·67	19·00	178	8·9	67·4	2·37	0·8
Hull	199,991	229,887	33·4	18·36	19·29	182	8·8	70·9	2·99	1·4
Salford ..	198,136	215,702	34·7	22·70	25·52	212	12·5	79·7	4·03	1·0
Newcastle ..	186,345	223,021	31·7	21·42	23·33	190	12·0	85·1	2·84	0·7
Portsmouth ..	159,255	186,618	26·7	16·30	16·67	156	8·6	60·4	2·16	1·0
Leicester ..	142,051	208,662	29·6	16·93	18·38	191	8·2	64·6	3·35	2·4
Oldham ..	131,463	148,288	25·3	17·58	20·13	175	9·9	77·3	2·15	0·1
Sunderland ..	130,921	143,849	35·4	22·63	23·75	202	12·5	71·8	3·69	0·7
Cardiff.. ..	128,849	177,770	31·1	14·82	16·54	158	7·9	57·3	2·24	0·7
Blackburn ..	120,064	133,228	27·1	18·45	20·72	206	9·6	78·8	2·57	3·3
Brighton ..	115,402	122,310	24·8	16·91	17·10	181	8·3	58·3	2·36	0·5
Bolton.. ..	115,002	122,495	30·9	19·38	21·96	168	10·6	88·1	2·93	0·3
Preston ..	107,573	116,356	31·0	19·35	21·27	225	9·1	71·4	3·07	2·9
Croydon ..	106,152	124,421	25·4	13·89	14·48	150	6·1	63·5	1·99	—
Norwich ..	100,964	111,699	29·9	18·96	18·16	192	8·5	63·6	3·26	0·8
Birkenhead ..	99,184	113,189	30·4	17·44	19·17	186	9·1	63·8	2·53	0·8
Huddersfield ..	95,422	102,454	22·5	15·92	18·51	153	8·4	77·8	1·61	2·2
Derby	94,146	104,834	27·4	16·82	18·55	169	8·6	75·1	2·26	—
Swansea ..	92,344	102,001	28·9	18·57	20·29	184	10·8	62·4	3·21	1·5
Burnley ..	90,589	109,546	27·1	16·30	18·72	195	8·3	73·7	2·04	1·7
Gateshead ..	88,588	103,775	35·5	20·61	22·14	208	10·3	73·4	3·10	0·3
Plymouth ..	84,179	99,136	29·7	19·54	18·99	170	9·4	67·6	2·15	0·6
Halifax ..	82,864	96,729	22·9	17·87	19·89	163	9·7	78·7	2·15	2·7
Wolverhampton	82,620	88,051	35·8	21·27	22·26	200	10·7	66·0	3·19	1·1

GENERAL VITAL STATISTICS.

Population.—Assuming that the rate of increase in the population which obtained between 1881 and 1891 has continued uniformly since 1891, the inhabitants of Nottingham at the middle of 1898 would number 236,137. Provided also that the relative numbers of each sex has remained unaltered, this total would be made up of 109,032 males and 127,105 females. In other words, there would have been 117 females to every 100 males.

Most people in this country upon whom it devolves to prepare vital statistics based upon population figures, have been for many years impressed with the necessity for a census of greater than decennial frequency.

The Registrar-General's method of calculating the growth of population as above stated is certainly found to afford results of singular accuracy when applied to very large populations variously constituted, but a comparison of the individual estimates of population in our great towns for 1891, obtained by this method, with the census figures for that year, is sufficient to shew how little capable it is of taking the place of actual enumeration for individual centres of population undergoing continual variations.

The following examples are sufficient evidence of the truth of these statements:—

	1891.	
	Estimated Population prior to Census.	Census Population.
England and Wales ...	29,804,983 ...	29,002,525
London	4,492,707 ...	4,211,743
Liverpool...	620,443 ...	517,980
Nottingham	252,217 ...	213,877
Salford	251,024 ...	198,139
Bradford	246,101 ...	216,361

The error in the case of the large population of England and Wales is comparatively small, whereas in some of the lesser populations—notably that of Liverpool—the discrepancy is very serious indeed.

The new houses certified by the City Engineer's Department during 1898 numbered 945, as compared with 733 in 1897, 558 in 1896, and 560 in 1895.

It has been urged that the demolition of houses necessitated by the new railway works is sufficient to account for the recent renewed activity in building operations in and about the city, but this is very far from being the case. The greater part of the population displaced by the railway operations found shelter in houses previously unoccupied in various parts of the town (there were more than 7,000 unoccupied houses in Nottingham at the time of the census of 1891); and most of the dwellings recently put up have been of a class altogether superior to those demolished, and thus for the most part out of the reach of the migrating population.

According to existing estimates of population (in Nottingham and other towns of England and Wales), Nottingham now takes ninth place, from the highest, among the 33 great towns. It has fallen one place since last year, owing to the extension of the City of Bristol.

Marriages.—The marriages celebrated in the Sub-Districts of Nottingham Union, during the year, numbered 1912. Of these 1,218 were celebrated in churches, and 694 in chapels and elsewhere.

The quarterly numbers were as follows:—1st quarter, 309; 2nd, 524; 3rd, 491; 4th, 588.

The total for the year is the highest on record. It is 17 in advance of the number for 1897, and no less than 288 above the annual average of the ten years 1888—97. There was a slow but steady increase from 1888 (1405) to 1892 (1672), then a decline during 1893 (1638) and 1894 (1635), and, lastly, a rapid advance from 1895 (1658) to 1898 (1912).

Births.—The births registered in Nottingham during 1898 amounted to 6,800, as compared with 6,742 in 1897, and an annual average of 6,558 during the decennium ending with that year.

The birth-rate per 1000 living was 28·8, *i.e.*, practically the same as last year, and the lowest rate yet recorded except that of 1884 (28·6).

Of the births, 3,431 were male, and 3,369 female. 219 of the male, and 202 of the female were illegitimate; the illegitimate births constituting 6·2 per cent. of all.

The birth-rate of England and Wales during 1898 was 29.4; the lowest on record, and 1·1 per 1000 below the average of the ten years, 1888–97.

The birth-rate of London was 29·5, which is 0·5 below that of 1897, and again (as last year) the lowest on record. The birth-rate of the 33 greater towns taken together was 30·3, *i.e.*, 0·4 per 1000 below the rate of 1897.

Deaths.—The deaths of *strictly Nottingham people* registered during 1898 amounted, so far as I have been able to ascertain, to 4,058. This number is equal to a rate per 1000 living of 17·2. The Registrar-General makes this rate 17·6, the amount of his abatement for the deaths of non-residents being less than mine.

If, however, we apply the correcting factor furnished in the Registrar-General's Annual Summary, we obtain a figure representing what the death-rate would have been had the age and sex constitution of the local population during the year been the same as that of England and Wales. The recorded death-rate thus corrected rises to 19·0 per 1000.

Should the relative proportion of each sex in the population of the city have undergone no change since the date of the last census in 1891, the deaths among males in 1898 will correspond

with a rate of 19·0 per 1000, and those of females with one of 15·6. In other words the deaths of males in Nottingham will represent 122, and those of females 100, out of equal numbers of either sex living during the period. The corresponding figures for England and Wales are some 112 and 100 respectively.

According to Table A in the Registrar-General's Annual Summary, there are thirteen of the great towns with lower recorded death-rates than Nottingham, and nineteen with higher recorded rates. By its corrected rate Nottingham takes the thirteenth instead of the fourteenth place from the lowest.

Croydon, Cardiff, and West Ham head the list of the great towns for smallness of death-rates both recorded and corrected. Their corrected rates are 14·48, 16·54, and 16·62 respectively.

Liverpool, Salford, and Manchester figure at the other end, with corrected death-rates of 26·33, 25·52, and 24·80 respectively.

If the recorded death-rate, at all ages, of England and Wales be expressed as a standard 1000, the comparative mortalities of Croydon and Liverpool, respectively, would be expressed by 824 and 1,498, while the rate in Nottingham would stand a little above the standard rate at 1,081.

The deaths in Nottingham under 12 months, per 1000 of the total births (or approximately of the infantile population), amounted to 178. The average annual rate of the ten years 1888–97 was 174. The excess above the average was once more due to diarrhœa.

The infantile death-rate in London during 1898 was 167; the average rate in the 33 great towns 178 (*i.e.*, the same as Nottingham); and that of England and Wales 161.

The death-rate in Nottingham among persons aged from 1 to 60 years was equal to 8·9 per 1000 living. This rate in London amounted to 10·2 per 1000, in the 33 towns also to 10·2, and in England and Wales to 8·8.

Among persons aged 60 years and upwards the death-rate in Nottingham was 67·4 (per 1000 estimated to be living at this age-period), as compared with 69·8 in London, 71·2 in the 33 towns, and 67·4 in England and Wales.

Registration Sub-Districts.—The unification of our municipal area is at length approaching completion, but meanwhile it is once more necessary to deal with the statistics of the registration sub-districts of Bulwell, Basford, and Wilford under the old conditions. These are not only very confusing to persons unacquainted with the locality, but are also liable to lead to errors in the registration of births and deaths, and actually prohibit an accurate return of marriages taking place within the city. With the other anomalies, connected mainly with Poor Law administration and assessment, I have of course nothing to do.

In December, 1898, certain alterations were made in the boundaries of the four Nottingham districts proper, the principal effect of which was to add 10,834 and 1,264 persons respectively to the N.E. and S.W. Districts, and to take 10,912 and 1,186 persons respectively from the S.E. and N.W. Districts. As, however, these changes were only effected at the end of the year which is under special consideration in this report, I shall take no further notice of them here.

I have pursued the same method as last year in calculating the populations of the several sub-districts. Finding the rate of increase in certain typical areas, I have assumed that this has been general and constant throughout the city. The rate (1·5 per cent.) furnished by this method has the radical defect of being undoubtedly too low for some districts and too high for others; but, as the sum of the population estimates thus obtained is somewhat less than the figure yielded by the Registrar-General's method, I am justified at least in claiming for mine that it does not exaggerate the aggregate local population. More, I fear, I cannot say in its favour. I have already alluded to the necessity for a quinquennial census. I need, here, therefore, only point to this paragraph and the table which accompanies it as affording further evidence of such necessity.

Births in Registration Sub-Districts. 1898.

District.	Legitimate.		Illegitimate.		Total of each Sex.		Total of both Sexes.
	M.	F.	M.	F.	M.	F.	
Bulwell	250	230	15	11	273	241	514
Basford	323	345	44	38	368	383	751
N.W.	757	759	36	38	793	797	1590
N.E.	705	698	58	46	763	744	1507
S.W.	451	412	18	19	469	431	900
S.E.	654	664	48	49	702	713	1415
Wilford	61	57	..	1	61	58	119
Totals ..	3201	3165	219	202	3429	3367	6796

There was an increase of 58 in the total number of births registered in the city during 1898, as compared with the previous year. The districts in which an increase occurred were N.W., S.W., and Wilford, the advance upon the figures for 1897 being 79, 109, and 30 respectively in each of these. There was a decrease in the case of each of the others, as follows:—Bulwell, 59; Basford, 14; N.E., 12; S.E., 89. The birth-rates per 1000 of the population (estimated as above-described to be living in the several sub-districts) were as follows:—Bulwell, 40·9; Basford, 29·8; N.W., 26·3; N.E., 25·9; S.W., 28·6; S.E., 31·8; Wilford, 52·3. Although these rates are necessarily subject to the same criticism as the estimates of population, they are of sufficiently approximate accuracy to justify us in comparing them roughly. Those of the more central and populous parts of the town range from about 26·0 to 32·0, with a mean (29·0) approaching very nearly to the rate of the town as a whole (28·9). If now we turn to the small divisions of Bulwell and Wilford, we find altogether higher rates; and that the comparative highness of these rates is not entirely erroneous or accidental is shewn by the fact, that during the last census year and for each year since the rates

for these sub-districts have been consistently higher than those of other parts of the town. The explanation of this, as I have said elsewhere, is to be found in the class of the major part of the inhabitants of these districts, with whom those causes of diminished fecundity which are observed in so many sections of the community are not as yet in operation.

The uncorrected death-rates in the several sub-districts, calculated from the weekly returns of the local registrars and the above-described estimates of population, were as follows:— Bulwell, 14·6; Basford, 24·3; N.W., 13·7; N.E., 17·5; S.W., 22·9; S.E., 17·0; Wilford, 19·3.

The inequalities noticeable in the crude local death-rates are in great measure due to the fact that the deaths in public institution have not been re-distributed to the districts from which the persons dying came. The rates, for example, in Basford and S.W., 24·3 and 22·9 respectively, are swollen by deaths in the Beech Avenue Workhouse and Bagthorpe Isolation Hospital in the first case, and by those in the General and other Hospitals in second.

It is only the birth-rates and the total death-rates, however, that are made in this manner from current returns, without residential correction; the rest of the table is so corrected as far as possible.

The infantile death-rates (per 1000 births) in the several divisions were more uniform than usual. With the exception of the rate in S.E. (200), which was inflated by the large number of deaths occurring in the district from measles and diarrhœa, these rates ranged only from 160 in Wilford to 185 in N.E.

The deaths from diarrhœa, which largely affect the infant death-rate, were much less numerous than in 1897, but still much above the average. Relatively to the population they were most numerous in Bulwell and S.E., and especially in Bulwell.

Measles was almost confined to the eastern side of the town. Over 70 per cent. of the deaths occurred in the N.E. and S.E

districts. There were but 12 deaths from measles in Nottingham during the first two quarters of the year, 10 in the third quarter, and no less than 82 in the fourth.

Scarlet fever was once more notified from all parts of the town, but S.E. suffered more than other districts. Although 131 cases were notified from the S.W. district, not one of them appears to have proved fatal.

The distribution of diphtheria was very general, although the cases were comparatively few. Only 85 reputed cases were notified, but these came from almost all parts of the city.

Of the 59 deaths registered as due to whooping-cough, 38, or 64 per cent., occurred in N.W. and N.E. There was no death in Bulwell, but all the other districts suffered slightly.

Enteric fever was more evenly distributed than usual throughout the divisions of the city, although, of course, the heavier incidence was as usual upon the poor and dense and dirty neighbourhoods.

For many years past both cancer and tuberculous diseases have been both actually and relatively more fatal, and presumably more prevalent, in the N.E. district than elsewhere in the city. This higher incidence was once more exemplified during 1898.

NOTTINGHAM SUB-DISTRICTS.

Summary of Statistics for 1898.

The total Births and Deaths are made up from the Weekly Returns of the Registrars without correction. The Deaths in detail from the seven principal Zymotic Diseases, and the Notifications, are distributed to the districts in which the cases originated.

	Population.			Births.	Birth-Rate.	Deaths.			Death-Rate.			DEATHS FROM										Notified Cases of			
	Census.		Estim't'd			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."	Diarrhœa.	Influenza.	Cancer.	Phthisis.	Small-Pox.	Scarlet Fever	Diphtheria.	Enteric Fever.
	1881.	1891.	1898.																					
Bulwell ..	8,575	11,400	12,560	514	40·9	184	87	37	14·6	169	2·9	..	..	1	..	..	4	32	4	4	13	..	31	2	21
Basford ..	18,137	22,900	25,229	751	29·8	614	134	53	24·3	178	2·1	..	3	1	1	5	2	41	9	15	21	..	50	5	32
N.W. ..	39,574	54,885	60,468	1590	26·3	829	265	134	13·7	167	2·2	..	15	8	4	18	8	81	22	47	65	..	196	10	108
N.E. ..	53,911	52,749	58,116	1507	25·9	1015	279	187	17·5	185	3·2	..	41	11	12	20	17	86	11	62	91	..	261	29	99
S.W. ..	25,483	28,558	31,455	900	28·6	721	150	69	22·9	167	2·2	..	7	..	..	6	11	45	9	26	39	..	131	10	79
S.E. ..	40,295	40,886	44,429	1415	31·8	754	283	165	17·0	200	3·7	..	32	11	5	9	12	96	8	47	71	..	255	24	79
Wilford ..	597	2,064	2,274	119	52·3	44	19	13	19·3	160	5·7	..	5	..	1	1	1	5	..	2	4	..	7	5	5
The whole City.	186,572	213,877	* 234,531	6796	28·9	4161	1217	658	17·7	179	2·8	..	103	32	23	59	55	386	63	203	304	..	931	85	423

See page 20.

GENERAL REPORT.

Zymotic Diseases.—I have once more to note a large discrepancy between my total of deaths ascribed to these diseases and that given by the Registrar-General. The difference is due to the same cause as I have mentioned on former occasions —the apparent omission, that is, by the latter authority, from his list of diarrhœa deaths, of all but such as are definitely described as due to diarrhœa, dysentery, or cholera. It is the custom of many medical men to describe simple diarrhœa of infants by such terms as enteritis, gastro-enteritis, lientery, and a score of other names, all of which I, in common with most other medical officers, unhesitatingly class as synonyms for diarrhœa—so far at least as the intention of the certifiers is concerned.

So far as the other infectious diseases are concerned, the Registrar-General's figures and my own are almost exactly identical. Owing, however, to the discrepancy between our totals of deaths from diarrhœa, I have found it necessary in this report to adopt the usual compromise with regard to the zymotic death-rate; *i.e.*, I have taken the Registrar-General's estimate when making comparison between our rate and the rates of other towns computed by him, but have adhered to my own when dealing only with local figures.

The Registrar-General returns our diarrhœa deaths at 282, whereas I make them 385. The higher number is equal to a rate of 1·63 per 1000 per annum, the lower to one of 1·20. With the higher number the total zymotic deaths yield a rate of 2·79 per 1,000, with the lower, one of 2·37.

According to the Registrar-General's Annual Summary, no less than 21 of the great towns had higher zymotic death-rates than Nottingham during 1898, the remaining 11 having lower rates.

Nottingham, 1898. Temperature, Rainfall, and Seasonal incidence of Zymotic Diseases.

		Thirteen Four-weekly Periods, Ending on													
		Jan. 29	Feb. 26	Mar. 26	April 23	May 21	June 18	July 16	Aug. 13	Sept. 10	Oct. 8	Nov. 5	Dec. 3	Dec. 31	Total.
Mean Temperature		42·4	40·6	40·1	45·0	48·6	53·4	58·7	60 5	63 8	57·2	51·6	44·3	45·1	..
Rainfall in Inches		0·76	0 87	0·68	1·84	2·27	1·04	2·17	2·01	1·36	0·46	2·97	1·56	1·63	19·62
Onsets of ascertained Cases of	Scarlet Fever	40	43	52	26	39	30	44	88	77	88	136	146	126	935
	Diphtheria	8	6	2	8	7	2	5	5	7	7	7	12	14	90
	Enteric Fever	40	56	29	27	14	13	14	24	41	57	53	27	18	413
Recorded Deaths from	Measles	4	2	1	1	1	4	1	1	6	4	10	22	46	103
	Whooping-Cough ..	4	6	8	3	4	7	..	1	2	2	4	8	10	59
	Diarrhœa..	5	7	8	6	7	7	10	33	114	136	29	10	12	384

The figures in this table are compiled from the weekly returns, and therefore subject to slight correction.

Zymotic Death Rates.

(Average) for past Ten Years, and for 1898.

	Nottingham.			London.			33 Towns.	
	10 years. 1888-97.	1898.		10 years. 1888-97.	1898.		10 years. 1888-97.	1898.
Small Pox	0·01	...	...	0·01	0 00	...	0·02	0·00
Measles	0·41	0·44	...	0·62	0·68	...	0·59	0·56
Scarlet Fever ...	0·19	0 14	...	0·23	0·13	...	0·25	0 14
Diphtheria	0 08	0·10	...	0·48	0·39	...	0·31	0·31
Whooping-Cough ...	0·43	0·25	...	0·56	0·48	...	0·52	0·42
Enteric Fever ...	0·29	0 24	...	0·15	0·13	...	0·20	0·20
Diarrhœa	0 98	1·20	...	0·67	0·97	...	0·86	1·22
Total Zymotic rate	2·39	2·37	...	2·72	2·78	...	2·75	2·85

The lower rates ranged from 1·61 in Huddersfield to 2·36 in Brighton, and the higher from 2·53 in Birkenhead to 4·03 in Salford.

The mortality from diarrhœa was again very much above the average in all the great towns—as also in the country generally. In all but one of these towns the diarrhœa death-rate for 1898 was higher than the rate for the preceding ten years. The exception was in the case of Preston, where the rates for 1898 and the ten years 1888–97 were identical, at 2·05—a very high figure.

Small-Pox.—No cases of small-pox was reported in Nottingham during 1898, but 254 deaths from this disease were registered in England and Wales in the course of the year. Thirteen of these occurred in six of the larger towns, viz., London (1), Liverpool (2), Leeds (3), Newcastle (3), Sunderland (2), and Gateshead (3); and 203 in the lesser group, viz., 199 in Middlesborough, and 1 each in York, West Hartlepool, Bootle, and Darlington. The only considerable local epidemic during the year was that of Middlesborough, to which I made some reference in my report for 1897, and of which I need only say here that a study of its statistics brings home to us forcibly the following facts:—(1) that vaccination affords protection against small-pox; (2) that the operation of vaccination requires to be repeated in the majority of cases if the protection is to be maintained; (3) that the amount and duration of the protection afforded varies directly as the thoroughness of the operation.

Vaccination.—I am pleased to say that the Vaccination Returns for 1897–98 indicate a slight increase in the practice of vaccination in Nottingham as compared with the preceding year. This is not, however, saying much for the practice of vaccination locally, as the recovery is but slight, and the percentage of children born during the year who were successfully vaccinated before its close was only 23.

Vaccination in Nottingham Union. Summary of Statistics, 1883–98.

	Births.	Percentage.			Certified as Insusceptible of Vaccination.	Had Small-Pox.
		Successfully Vaccinated.	Died Unvaccinated.	Not finally accounted for.*		
Average of 5 yrs. 1883–88 ...	6194	74·3	12·4	13·0	10	...
1889	5398	67·3	12·0	12·1	12	...
1890	5084	69·8	11·7	14·0	11	...
1891	5033	67·1	12·0	16·6	8	...
1892	5142	63·8	12·0	16·2	15	...
1893	5193	64·4	13·4	17·7	24	...
1894 1st half year	2632	62·5	12·7	11·2	9	...
1895 do.	2758	43·1	14·2	15·3	11	...
1896 do.	2728	29·4	11·7	16·4	3	...
†1896–97 ...	5313	18·97	15·60	52·88	3	...
†1897–98 ...	5391	23·05	17·23	30·47	4	..

* Up to July 31st of the next year.
† June of first year to July of second.

Those who are interested in the Vaccination Act of 1898 will find an account of its principal provisions in my Annual Report for 1897, excepting only the so-called conscience clause which was introduced into the then Bill after the completion of my report. I may remark, in passing, (*a*) That a very much larger number of persons availed themselves at once of the conscience clause to avoid the vaccination of children than was anticipated by those responsible for its introduction, (*b*) That domiciliary visitation on the part of the public vaccinator, and the use of glycerinated calf lymph, with antiseptic precautions, may do something to popularize the practice of vaccination, but, (*c*) That so long as one-mark vaccination is recognized as vaccination, and so long as re-vaccination is not provided for, the great mass of our population must be held to remain perilously open to the attacks of epidemic small-pox.

It may be of interest here to study the following short account of the latest available vaccination statistics for England and Wales which I recently drew up for another report:

"An analysis of the latest complete vaccination returns compiled by the Medical Officer of the Local Government Board, those for 1895, reveals the disquieting fact that the neglect of vaccination, which had been growing during the previous fifteen years, was steadily maintained during the year under review. The proportion of children born during the year who were not finally accounted for as regards vaccination were: (1) for England and Wales as a whole, 20·5 per cent.; (2) for London alone, 24·9 per cent.; and (3) for the country, less the metropolis, 19·8 per cent. This proportion has risen from about 5·0 per cent. to 20·0 per cent. in the course of the ten years ending with 1895.

"The county of Anglesea had the smallest proportion, with 3·0 per cent., but Westmoreland, 3·4, Denbigh, 3·7, Carmarthen, 4·1, Rutland, 4·5, Pembroke, 4·6, and Montgomery, 4·7, are all returned as having less than 5·0 per cent. not accounted for. The county of Leicester had no less than 76·5 per cent. on the wrong side, and in the union of Barrow-on-Soar, in this county, the proportion rose to 87·3 per cent. Bedford county comes next to Leicester, with 75·4 per cent. not accounted for, and four out of its six unions (Biggleswade, Bedford, Luton, and Leighton-Buzzard) have such deficits ranging from 75·0 per cent. to 86·8 per cent. Northampton county ranks next in the same order, with an average of 63·0 per cent. not accounted for. The Wellingborough union has no less than 87·0 per cent., and Northampton, Thrapston, and Kettering unions all have over 84·0 per cent. With reference to the subject of reputed insusceptibility to vaccination, 2,962 cases of which were registered during 1895, Sir Richard Thorne observes that the number of primary vaccinations by the Board's officers without the discovery of a single instance of insusceptibility now amounts to 107,180."

Measles.—This disease existed in only a comparatively few scattered cases at the close of 1897. During the first quarter of 1898 what cases did exist were confined to the N.W. District. During January, February, and March, there were respectively 4, 2, and 1 deaths ascribed to measles in this district. In the 2nd quarter its distribution became more general, although the total number of deaths amounted to six only. The districts now affected were Basford, N.W., S.W., and S.E. During the third quarter the number of deaths amounted to 10. They were confined to the Basford and S.E. sub-districts, but a considerable number of cases were reported towards the end of the period in N.W., N.E., and S.W. In the last quarter there was a rapid increase in the number of cases, fatal and otherwise; there were 10 deaths in October, 22 in November, and 46 in December. All the districts were now affected excepting Bulwell, but 61 out of the 80 deaths occurred in N.E. and S.E.

Deaths from Measles, during each of the Four Quarters of 1898, in the Registration Sub-Districts of the City.

District.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
Bulwell	..	..	..	..	..
Basford	..	1	1	1	3
N.W.	7	1	..	7	15
N.E.	..	..	..	41	41
S.W.	..	1	..	6	7
S.E.	..	3	9	20	32
Wilford	..	..	..	5	5
Totals	7	6	10	80	103

Schools were closed in both the latter districts in December, and leaflets, giving instruction in the management of measles cases and infected households, were circulated in the usual way by the district Inspectors. The voluntary notification of measles (and other infectious diseases) by the school authorities, now in

operation, brings to my knowledge a large number of cases which would otherwise escape notice, but it is altogether out of the question for the district inspectors, upon whom the work of visitation now devolves, to give that attention to individual cases and households which is requisite if any considerable advantage in the way of prevention is to accrue from such agency.

The proper persons to undertake work of this kind are lady visitors, and preferably those with a knowledge of nursing and elementary hygiene, such as are employed in Manchester, Birmingham, and other towns. I may mention that a lady visitor, so trained and instructed, has been employed by a private Infant Life Protection Society in the small neighbouring town of Chesterfield during the past two years, and that the Town Council of that borough have recently decided to take over this lady and her work. This incident in Chesterfield is the more interesting to Nottingham people for the fact that the lady in question is the daughter of a prominent citizen of this town.

The deaths from measles in Nottingham during 1898 were equal to a rate of 0·44 per 1000 living, as compared with an average rate of 0·41 for the ten years 1888–97. The corresponding rate in London was 0·56, and that in the 33 great towns taken together 0·56 during 1898. The lowest rates in individual towns on this list were, 0·02 in Preston, and 0·07 in Burnley, and the highest, 0·97 in Bristol, and 1·03 in Leicester. The average rate in the 33 great towns during the ten years 1888–97 was 0·59. This disease was responsible for more deaths in the 33 great towns during this period than both scarlet fever and diphtheria taken together.

Whooping-Cough.—The distribution of this disease in Nottingham was very general during the year, excepting only the third quarter. The quarterly numbers of deaths were respectively, 18, 14, 5, and 12. Deaths occurred in all the sub-districts but Bulwell, and in the first, second, and fourth quarters, five out of the seven districts had fatal cases of the disease.

The fifty-nine deaths from whooping-cough in Nottingham during 1898 correspond to a rate of 0·25 per 1000 living; the average rate in Nottingham for the ten years 1888–97 was 0·43. The whooping-cough death-rate in London for 1898 was 0·48, and in the 33 towns taken together 0·43. The average rate in these towns for the ten years 1888–97 was 0·52, *i.e.*, rather more than double the rate for Nottingham during 1898.

Deaths from Whooping-Cough, during each of the Four Quarters of 1898, in the Registration Sub-Districts of the City.

District.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
Bulwell	..	..	..	..	..
Basford	3	1	..	1	5
N.W.	3	5	..	10	18
N.E.	6	4	1	9	20
S.W.	5	1	..	..	6
S.E.	1	3	4	1	9
Wilford	..	..	..	1	1
Totals	18	14	5	22	59

Although we have done and can do very little to check the spread of this disease, there can be no doubt that the ministrations of such a lady visitor as I have referred to in the preceding section (that devoted to measles) might do much to diminish the mortality it causes, by bringing a little common sense to bear upon the treatment of the disease and its complications. I do not suggest that such a lady should usurp the function of a medical man, but only that she should give advice in cases where no medical man is called in, and these constitute a large majority of all.

Whooping-cough is one of the "minor infectious diseases" now regularly notified to me by the school authorities of the town.

Scarlet Fever.—In the section devoted to the Isolation Hospital there will be found an account of the cases admitted to that institution. In this section I shall as usual deal with the disease as it affected the different parts of the town during the year 1898.

The number of ascertained cases, notified in the usual way or otherwise, brought to my notice in the course of the year, was 931, or 414 more than in 1897. These occurred in 614 separate houses: the ratio of multiple cases in single houses, therefore, shews an extraordinary advance as compared with the previous year. I am not here referring to return cases, but to multiple primary and secondary cases. It may be that one person is attacked at first, and that others fall ill of the disease in more or less rapid succession in the same house, or perhaps several children of one family will be simultaneously or almost simultaneously attacked. One of the most inexplicable phenomena I have recently observed is a succession of secondary cases in single houses, after the removal of persons suffering from the disease and the very careful cleansing and disinfection of goods and premises, and without the return of hospital or other cases to the houses. We have had four and five cases reported in one house, with intervals of a week to a fortnight between successive cases, and each successive case being promptly removed as it occurred.

Notwithstanding the increased number of cases, however, as compared with the previous year, 931 against 517, the certified deaths numbered only 33, and actually fell short, by one, of those for 1897. The case death-rate, therefore, works out at the extremely low figure of 3·5 per cent.

The cases and deaths in the ordinary age-periods were as follows:—0–1 year, 14 cases and 5 deaths; 1–5 years, 267 cases and 20 deaths; 5–15 years, 549 cases and 7 deaths; 15–25 years, 70 non-fatal cases; 25–35 years, 20 non-fatal cases; 35–45 years, 9 non-fatal cases; 45–55 years, 2 non-fatal cases.

The diminution of fatality, it will be seen, occurs only in and after the 5–15 years age period.

The cases were distributed with something more than the usual evenness over all parts of the town, although of course certain districts necessarily suffered somewhat more than others. The accompanying table gives the distribution of the disease in the seven sub-districts during the four quarters of the year. The common seasonal curve—falling from the winter to the spring, rising through the late summer and autumn, and again falling towards the end of the year—was well illustrated, except in the winter's decline: there was no falling off in the number of cases at the year's end.

Notifications of Scarlet Fever, during each of the four quarters of 1898, in the Registration Sub-Districts of the City.

District.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
Bulwell	8	11	10	2	31
Basford	9	8	12	21	50
N.W...	39	32	48	77	196
N.E.	26	19	73	143	261
S.W.	16	12	38	65	131
S.E.	44	29	81	101	255
Wilford	2	..	1	4	7
Total	144	111	263	413	931

The death-rate in Nottingham per 1000 living during 1898 was 0·14, as compared with a mean rate of 0·19 for the ten years 1888–97. The rate in London was 0·13, and in the 33 great towns 0·14 during 1898. The individual town rates ranged from 0·03 in Preston, and 0·04 in Bristol and Plymouth, to 0·28 in Birkenhead, and 0·29 in Leeds and Salford. The average rate in the 33 towns as a whole, during the ten years 1888–97, was 0·25.

Diphtheria.—There was again a slight increase both in cases and deaths ascribed to this disease during 1898 as compared with other recent years, but the increase is no more than can be accounted for by the growth of population, and it may be either

only apparent or purely accidental. Cases were notified in all parts of the town except Bulwell, but N.E. and S.E. suffered more severely than the other districts affected. The numbers of cases notified in successive quarters were:—First quarter, 16; second, 18; third, 19; fourth, 32.

The total number of cases notified was 83, and the deaths registered, 23. The cases and deaths in the ordinary age-periods were as follows:—0–1 year, 3 cases and 3 deaths; 1–5 years, 33 cases and 16 deaths; 5–15 years, 27 cases and 4 deaths; 15–25 years, 10 non-fatal cases; 25–35 years, 7 non-fatal cases; 35–45 years, 2 non-fatal cases; 55–65 years, 3 non-fatal cases.

Notifications of Diphtheria, during each of the Four Quarters of 1898, in the Registration Sub-Districts of the City.

Districts.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
Bulwell	..	..	..	..	..
Basford	..	2	1	4	7
N.W.	2	2	3	3	10
N.E.	8	7	4	10	29
S.W.	1	2	2	5	10
S.E.	4	4	8	8	24
Wilford	1	1	1	2	5
Total	16	18	19	32	85

The deaths from diphtheria in Nottingham during 1898 correspond to a rate per 1000 living of 0·10: the average rate for the preceding ten years had been 0·08. The rate in London for 1898 was 0·39, and for the ten years, 0·48, and that in the 33 great towns, alike for 1898 and the ten years, 0·31. The lowest rate among these towns was 0·06 in Sunderland, and the highest 1·22 in Swansea. It will be seen that the death-rate from diphtheria in Nottingham during 1898 was less than one-third of the average rate in the 33 great towns, and only slightly more than one-fourth of that in London during the same period.

Enteric Fever.—The corrected number of cases of enteric fever recorded in Nottingham during 1898 was 423—a large total certainly, but still 21 below the annual average of the preceding five years. The cases were very evenly distributed so far as the shares of the several sub-districts were concerned, but, as it was for the most part only the poorer neighbourhoods of these districts which actually suffered from the incidence of the disease, the distribution was not by any means even with regard to the city as a whole. The total number of deaths was 56—a higher total by 11 than in 1897, but still below the average of other recent years. The quarterly numbers of cases and

Notifications of Enteric Fever, during each of the Four Quarters of 1898, in the Registration Sub-Districts of the City.

Districts.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
Bulwell	10	3	4	4	21
Basford	12	5	8	7	32
N.W.	37	16	25	30	108
N.E.	28	13	27	31	99
S.W.	22	12	19	25	78
S.E.	24	12	16	27	79
Wilford	3	2	1	..	6
Totals	136	63	100	124	423

deaths were as follows:—First quarter, 136 cases and 22 deaths; second quarter, 63 cases and 8 deaths; third quarter, 100 cases and 10 deaths; fourth quarter, 124 cases and 16 deaths. The case mortality for the whole year was 13 per cent. The death-rate from enteric fever per 1000 living was equal to 0·24 for the same period. The following table gives the cases and deaths for 1898 in the usual age-periods.

NOTTINGHAM, 1898.

Enteric Fever. Cases and Deaths in Age Periods.

	0-1 yrs.	1-5 yrs.	5-15 yrs.	15-25 yrs.	25-35 yrs.	35-45 yrs.	45-55 yrs.	55-65 yrs.	65-75 yrs.	Total
Cases	2	45	130	95	80	39	22	7	3	423
Deaths	1	7	8	11	13	6	5	1	2	54

I have dealt with the subject of enteric fever at such length and so frequently in previous annual reports and elsewhere, that I shall content myself here with a comparatively short section. I wish, however, to introduce two tables which I recently prepared to illustrate an historic account of this disease in Nottingham during the ten years 1889–98, and also certain conclusions at which I have arrived in considering this disease.

TABLE I.—NOTTINGHAM, 1889–1898.

General Enteric Fever Data.

YEAR.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Population ..	208,826	211,695	214,606	217,550	220,551	223,584	226,659	229,775	232,935	236,139
Cases of enteric fever	367	337	375	198	479	334	422	444	428	423
Deaths from enteric fever ..	66	58	70	36	68	61	55	75	45	53
Death-rates from enteric fever..	0·31	0·27	0·33	0·15	0·31	0 28	0·24	0·34	0·21	0·22
Mean air temperature ..	47·2	47·3	50·4	45·5	49·0	47·9	47·0	48·2	48·1	49·2
Rainfall in inches	25·606	17·698	25·889	21·579	20·165	20·252	20·753	22·992	23·726	19·750
Death-rates from enteric fever in great towns ..	0·20	0·19	0·20	0·15	0·24	0·19	0·20	0·19	0·18	0·20

"My first Table shows in successive years, from 1889 onwards, the typhoid cases, deaths, and death-rates, the mean annual temperatures, and the annual rainfalls. There has been a good deal of fluctuation in the annual number of cases and deaths, but it will be noticed that there was only one year in which they fell to anything like a low figure. This year was 1892; and there is a good deal that is remarkable, by way of coincidence and otherwise, about the figures for this year. The cases and deaths were alike unusually low; the numbers of male and female cases and deaths were respectively identical; the death-rate was identical with the mean rate for the great towns; and, lastly, the mean temperature of the air was no less than two degrees below the average. Of the rainfall there is not much to be said. It was somewhat below the average, but neither in distribution nor amount did it differ greatly from the falls in several other years in which the typhoid mortality was high. It is to the temperature I wish to direct special attention. If we look at the monthly records, we see that the low mean temperature was maintained throughout the year, excepting only the month of August; but even in this month it rose to only 58°, and it fell away rapidly afterwards. I have looked back over past years (prior, that is, to 1889) for records of low annual mortality from enteric fever and low temperature, and have found an almost parallel case to that of 1892 in 1879, and another similar but not so striking in 1888. The typhoid deaths in 1879 were only 30 in number, and that at a time too when the local prevalence of the disease was even greater than at present, and the mean temperature of the air was 44·9°. In 1888 the annual total of cases was high, because the seasonal rise of the preceding year was prolonged to the following March; but, if we neglect the usual limits of the year, and examine the monthly records from March 1888 till June 1889, we see at once that we have to do with a period of very low comparative prevalence. In this year the highest mean temperature was recorded (as is very usual) in August, but this highest mean was only a little over 56°, and in no other month did the mean temperature reach 55°. Although there is not, of course, a complete parallelism between seasonal diarrhœa and typhoid fever,

it goes almost without saying that in these years (with deep earth temperatures scarcely touching 56°) the diarrhœa mortality was remarkably small. The actual number of deaths attributed to primary diarrhœa in these three years were: in 1879, 93; in 1888, 157; and in 1892, 158. The average annual number of deaths from diarrhœa in Nottingham during the past ten years has been something over 250.

"I am aware that Mr. Hart and others have recorded the inhibiting influence of cold winters on water-borne outbreaks; but I am drawing special attention here to the coincidence of low air temperature and diminished prevalence of enteric fever in connection with endemic, soil-bred disease.

"**Age-Incidence of Enteric Fever Cases and Deaths.**—My second Table, giving case-mortality of males and females in four age-periods, during the years 1889–98, is put in mainly with the object of increasing the somewhat scanty statistics hitherto published under this heading.

TABLE II.—NOTTINGHAM, 1889–1898.

ENTERIC FEVER.

Cases, Deaths, and Case-Mortality, Male and Female.

	Sex.	Age-Periods (years).			
		0-5.	5-15.	15-35.	35 and over.
Cases	Male	160	635	812	231
	Female	143	563	584	222
Deaths	Male	29	62	165	79
	Female	25	56	140	67
Case-mortality (per cent.) ..	Male	16·8	8·9	19·4	34·4
	Female	15·4	9·8	22·8	26·8

"If comparison be made of my figures with those on page 26 of the report of the Registrar-General for 1888 (dealing with 5,716 cases in the Metropolitan hospitals), it will be seen that the only at-all-noticeable difference between the two sets of figures is in the female rates in the 0-5 years and 5-15 years age-periods.

In the first period my case mortality works out at 15·4 per cent., as compared with 12·5 of the Registrar-General; and in the second, my figure is 9·8, against his 14·0. There is a very close correspondence between all the male rates in the two Tables."

* * * * * *

"**Summary.**—I will now endeavour to summarise briefly the principal conclusions to be drawn from our local experience of enteric fever in recent years. So far as I am able to judge, they appear to be to the following effect:—

(1) That a sustained air temperature above 55° Fahr. is commonly associated as a precedent condition with an autumnal rise of enteric fever prevalence; and that a lower average temperature in the summer months is commonly followed by a comparative diminution of the disease.

(2) That the disease is endemic in thickly-inhabited and poor urban districts situated upon various geological formations (alike on the dense and the porous, the wet and the dry), and at various elevations, wherever those conditions obtain which are likely to lead to soil-pollution.

(3) That good neighbourhoods, even when their dwellings are built thickly upon old made ground, and furnished with such soil-polluting agencies as pail-closets, are far less liable to the endemic form of the disease than poorer neighbourhoods similarly circumstanced.

(4) That the incidence of endemic enteric fever is far heavier upon houses furnished with dry closets than upon those with w.c.'s, and upon midden-privy than pail-closet houses; and that this heavier incidence upon houses with dry closets is very much more marked in poor than well-to-do neighbourhoods.

(5) That enteric fever infection is liable to spread from person to person, even in well managed hospitals, and therefore very much more so in the dwellings of the poor.

The moral of all this, for towns like Nottingham, may, I think, be briefly stated as follows, viz. :—

(*a*) That the soil beneath the houses, and over all roadways, courts, alleys and yards in their vicinity, should be sealed with impermeable and cleanable material (like Portland cement concrete).

(*b*) That all refuse should be frequently and completely scavenged, and that the curtilage of all poor houses should be periodically flushed and cleansed with water—if necessary, at the public expense.

(*c*) That water-carriage should be substituted for all conservancy methods of excrement disposal.

(*d*) That hospital accommodation should be provided for all cases of enteric fever which cannot be properly isolated or nursed at home."

NOTE.—Water-supply and drainage find no mention in this summary, because their condition at the present time in Nottingham calls for so little adverse criticism.

Tables giving the cases and deaths, in age periods, of the notifiable infectious diseases, the ratio of deaths to cases, and the deaths from the non-notifiable infectious diseases, which have occurred in Nottingham during 1898 and other recent years. Further Notification Tables will be found under the special sections dealing separately with notifiable infectious diseases.

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

1894.

		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	*Cases*	2	8	21	11	13	2	1	..	..	58
	Deaths	1	2	..	..	1	..	..	..	..	4
Scarlet Fever	*Cases*	364	705	67	19	7	2	..	..	..	1164
	Deaths	24	22	1	1	1	..	..	..	..	49
Diphtheria	*Cases*	20	23	6	5	1	..	..	1	..	56
	Deaths	16	4	1	..	..	..	..	1	..	22
Enteric Fever	*Cases*	25	114	101	66	34	10	9	3	1	363
	Deaths	1	11	21	8	10	5	2	3	..	61

1895.

		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	*Cases*	..	1	1	..	1	..	..	..	..	3
	Deaths	..	..	..	..	..	..	..	..	..	..
Scarlet Fever	*Cases*	438	707	76	20	8	1	..	..	..	1250
	Deaths	32	17	1	1	..	..	..	..	..	51
Diphtheria	*Cases*	13	16	12	3	2	..	1	..	..	47
	Deaths	8	3	..	..	..	..	..	..	..	11
Enteric Fever	*Cases*	42	158	124	71	43	17	4	1	1	461
	Deaths	6	6	24	11	4	3	..	..	1	55

1896.

		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	*Cases*	225	423	67	10	5	1	..	..	..	731
	Deaths	15	10	2	..	..	..	..	..	..	27
Diphtheria	*Cases*	22	23	4	3	..	..	1	..	..	53*
	Deaths	5	6	1	..	..	..	..	..	..	12
Enteric Fever	*Cases*	46	172	115	80	22	13	9	2	..	459*
	Deaths	7	19	19	16	7	3	4	..	..	75

* Total number of cases of which particulars as to age are forthcoming.

1897.

	0-1 yr.	1-5 yrs.	5-15 yrs.	15-25 yrs.	25-35 yrs.	35-45 yrs.	45-55 yrs.	55-65 yrs.	65-75 yrs.	Over 75 yrs.	Total.
Scarlet Fever *Cases*	9	152	291	55	9	1	..	..	..	..	517
Deaths	1	21	10	2	..	..	..	..	..	..	34
Diphtheria *Cases*	2	25	21	17	7	3	..	..	..	..	75
Deaths	2	13	5	1	..	..	..	..	..	..	21
Enteric Fever *Cases*	..	41	136	116	73	38	18	4	1	1	428
Deaths	..	7	9	11	7	6	4	1	..	..	45

1898.

	0-1 yr.	1-5 yrs.	5-15 yrs.	15-25 yrs.	25-35 yrs.	35-45 yrs.	45-55 yrs.	55-65 yrs.	65-75 yrs.	Over 75 yrs.	Total.
Scarlet Fever *Cases*	14	267	549	70	20	9	2	..	..	..	931
Deaths	5	20	7	..	..	..	..	..	..	..	32
Diphtheria *Cases*	3	33	27	10	7	2	3	..	..	..	85
Deaths	3	16	4	..	..	..	..	..	..	..	23
Enteric Fever *Cases*	2	45	130	95	80	39	22	7	3	..	423
Deaths	1	7	8	11	13	6	5	1	2	..	54

Nottingham. Notification Data up to the end of 1898.

	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.	Diarrhœa.	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
1894	51	1164	22·8	62	363	5·8	4	59	15·8	18	56	3·1	134	118	134	386
1895	51	1250	24·5	55	461	8·3	..	3	..	11	47	4·2	1	33	444	478
1896	27	731	27·1	75	478	6·4	..	..	..	12	60	5·0	203	91	175	469
1897	34	517	15 2	45	428	9·5	..	..	..	21	75	3·6	49	117	530	696
1898	32	931	29·1	54	423	7·8	..	..	..	23	85	3·7	104	59	385	548

* 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.

Diarrhœa.—The annual number of deaths from this disease according to my computation was 385. The total for 1897 was 530, and the annual average of the ten years 1888–97, 261. I have already explained that my total invariably exceeds that given by the Registrar-General, and for the reason that I include under the heading "diarrhœa" many deaths described under what I believe to be synonymous terms, but which the former authority classifies differently.

The disease was very general throughout the city during the period of summer and autumn prevalence, *i.e.*, from about the middle of July till the beginning of November; but the parts which suffered most severely were, as usual, those upon porous, damp, and low-lying ground. Such parts in the Meadows, Sneinton, Lenton, the St. Ann's Well Road neighbourhood, and Radford suffered very heavily indeed.

No less than 80 per cent. of all the deaths from diarrhœa (309 out of 385) were those of infants under one year, and nearly 14 per cent. (53 out of 385) were those of children between 1 and 5 years. The ratio of deaths under 5 years to the total from this cause, therefore, is almost exactly the same as during 1897, *i.e.*, 94 per cent. It is hardly necessary to say that this proportion is a very large one, and the actual mortality among the children very great. The waste of life, moreover, from the point of view of the economist and humanitarian, becomes the more lamentable from the fact that a very large part of it is distinctly preventable. The hand-fed infants of the poor are by far the greatest sufferers, and it is largely improper feeding which lays them open, in more ways than one, to the attacks of the diarrhœa microbe.

In this connection I may mention that there is now reason for thinking that Dr. Klein has at length brought the latter organism to light.

It is described by him as an anærobic bacillus forming very resistant spores. It does not occur in the fæces of healthy persons or those suffering from simple diarrhœa, but it is found in great abundance, and of specially virulent character, in many solids and liquids polluted with excreta, such as sewage-polluted water and milk, liquid house-refuse, and manured earth.

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 Temperature 1 ft. below surface ..	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 Temperature 4 ft. below surface ..	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 Diarrhœa ..	2	9	12	15	31	41	29	11	28	22	18	20	16	14	14	9	3

1894.

	WEEK ENDING																	
	July 7	July 14	July 21	July 28	Aug. 4	Aug. 11	Aug. 18	Aug. 25	Sept. 1	Sept. 8	Sept. 15	Sept. 22	Sept. 29	Oct. 6	Oct. 13	Oct. 20	Oct. 27	Nov. 3
Earth Temperature 1 ft. below surface ..	62·3	61·1	59·4	61·1	61·8	60·0	58·8	57·1	57·9	56·0	54·6	55·3	53·8	51·1	53·2	49·8	47·0	48·4
Earth Temperature 4 ft. below surface ..	56·7	58·0	57·9	58·1	59·1	58·9	58·7	57·7	57·4	57·3	56·1	55·7	55·4	53·9	53·4	53·2	51·1	50·2
Deaths from Diarrhœa ..	3	3	5	6	13	13	10	16	3	4	5	3	5	8	7	4	2	8

1895.

	WEEK ENDING																	
	July 6	July 13	July 20	July 27	Aug. 3	Aug. 10	Aug. 17	Aug. 24	Aug. 31	Sept. 7	Sept. 14	Sept. 21	Sept. 28	Oct. 5	Oct. 12	Oct. 19	Oct. 26	Nov. 2
Earth Temperature 1 ft. below surface ..	60·6	61·5	60·8	60·5	61·0	60·5	62·0	63·4	60·5	60·8	59·4	57·5	58·0	56·5	51·6	50·0	44·5	43·2
Earth Temperature 4 ft. below surface ..	58 5	58·9	59·0	59·3	59·5	59·5	59·5	60·4	60·3	60·1	60·0	59·1	58·5	58·4	56·7	54·2	52·0	49·0
Deaths from Diarrhœa ..	5	9	20	25	27	29	28	27	28	33	24	33	32	15	26	7	8	10

1896.

	WEEK ENDING													
	June 27	July 4	July 11	July 18	July 25	Aug. 1	Aug. 8	Aug. 15	Aug. 22	Aug. 29	Sept. 5	Sept. 12	Sept. 19	Sept. 26
Earth Temperature 1 ft. below surface of ground	60·6	60·6	62·4	63·7	63·0	60·7	59·4	59·5	58·8	57·7	57·4	58·4	57·2	53·2
Earth Temperature 4 ft. below surface of ground	57·8	58·0	58·3	59·7	60·1	59·9	59·8	59·1	59·0	58·7	58·0	57·8	58·1	56·8
Deaths from Diarrhœa	6	4	13	13	20	16	14	12	13	8	2	7	6	2

1897.

	WEEK ENDING												
	July 10	July 17	July 24	July 31	Aug. 7	Aug. 14	Aug. 21	Aug. 28	Sept. 4	Sept. 11	Sept. 18	Sept. 25	Oct. 2
Earth Temperature 1 ft. below surface of ground	59·9	62·7	63·3	63·8	64·9	63·1	61·6	59·2	57·4	53·7	55·0	53·1	53·6
Earth Temperature 4 ft. below surface of ground	57·6	57·8	58·8	59·5	60·3	61·0	60 6	60·0	59 3	57·7	56·7	55·9	55·3
Deaths from Diarrhœa ..	4	5	15	40	88	95	81	57	29	23	12	8	5

1898.

	WEEK ENDING																		
	July 9	July 16	July 23	July 30	Aug. 6	Aug. 13	Aug. 20	Aug. 27	Sept. 3	Sept. 10	Sept. 17	Sept. 24	Oct. 1	Oct. 8	Oct. 15	Oct. 22	Oct. 29	Nov. 5	Nov. 12
Earth Temperature 1 ft. below surface ..	59·8	60·6	61·8	60·9	60·9	59·4	62·8	62·2	58·7	63·2	61·4	58·7	53·4	54·7	51·7	52 3	52·4	49·4	47·1
Earth Temperature 4 ft. below surface ..	56·3	56·9	57·7	58 2	58·4	58·3	59·1	59·8	59·4	59·4	60·3	59·9	58·5	56·9	56·2	54·8	54·4	53·6	51·8
Deaths from Diarrhœa..	5	2	2	9	8	14	13	28	34	39	53	41	27	15	11	9	6	3	5

Accompanying this section will be found the usual tables of superficial and deep earth temperatures (1ft. and 4ft. respectively below the surface), recorded during the period of diarrhœa prevalence. It will be noticed that, owing to the maintenance of a high temperature of air and soil until late in the autumn, the diarrhœa season was continued to a somewhat later date than usual.

In dealing in detail with the ensuing groups of diseases, as classified in Table 3, I shall once more adopt the practice of giving actual numbers instead of rates. The former are found to afford equally satisfactory results with the latter so far as comparison with past local statistics is concerned, for it must be remembered that our population estimates on which the rates are calculated are only approximate at best, and there are no contemporary figures for other towns to contrast with our own and render the reduction to rates desirable.

Venereal Diseases.—The deaths registered as due to syphilis again convey but a very inadequate idea of the actual amount of damage done by this disease. Large numbers of deaths primarily and secondarily due to syphilis are for obvious reasons returned as due to other ailments. Sixteen deaths were certified as caused by this disease during 1898, as compared with 12, 15, and 16 respectively during the three immediately preceding years.

The same observations apply to gonorrhœa, although this disease operates as a death-cause for the most part in an indirect manner, and long after its primary manifestations have disappeared. The deaths from gonorrhœa are returned as four only.

Septic Diseases.—There was a considerable advance in the number of deaths ascribed to this group of diseases as compared with the preceding year. The total for 1898 was 39, against 19 the year before. Each of the three diseases (erysipelas, septicæmia, and puerperal fever) shewed an increased fatality. This movement in the wrong direction is the more to be regretted on account of the fact that they (and especially the last two) are so largely preventable.

Dietic Diseases.—Once more it is my duty in this paragraph to call attention to the absurd inadequacy of the total number of recorded death from such diseases to represent the actual mischief they do.

The deaths registered as due to "want of breast milk and starvation" (all under 1 year) amounted to five only. If this number were multiplied by one hundred, the product in all probability would fall short of the actual total of deaths directly and indirectly due to improper feeding.

If we consider for a moment that a vast majority of the deaths from infantile diarrhœa are those of hand-fed infants of the poor, and then call to mind what hand-feeding mostly means among the poor, we shall at once realize that most of the infantile deaths attributed to diarrhœa would be more accurately relegated to improper feeding as their prime cause.

Almost the same might be said of infant deaths from reputed convulsions, marasmus, inanition, and even such diseases as pneumonia and tabes mesenterica. Children fed upon material they cannot digest not only suffer from the direct effects of want of proper food, but are also exposed to the attacks of a host of intercurrent ailments which descend like harpies upon the weak places of impaired constitutions.

Alcoholism is another death-cause having altogether too small a direct representation upon the death-registers. There can be no doubt in the mind of the most unobservant man in the street, that there is a great deal of habitual drunkenness, as well as excessive drinking short of this, among certain sections of the community. Excessive drinking, habitually practised, in the vast majority of cases means (sooner or later) disease and death, either directly from the poisonous effect of the alcohol, or indirectly (as in the case of improper feeding) through a loss of power of resistance to the attacks of intercurrent maladies. Only 23 deaths were certified as due to alcoholism during 1898. It is, however, hopeless to expect a more accurate return of deaths under this heading, and we must therefore be content to gauge the mortality

due to alcoholism, for the most part, by a study of the death-rates among persons engaged in occupations affording peculiar facilities for indulgence. According to the Supplement of the 54th Annual Report of the Registrar-General (1897),—to take only one example—the deaths from all causes among persons employed in public-houses in London are almost twice as numerous as those of all occupied males taken as a standard.

Constitutional Diseases.—The diseases grouped for convenience under this heading—several of which are simply infective disorders under another name—had a total for 1898 slightly in advance of the average for other years.

Rheumatism, acute and chronic, was credited with 21 deaths, gout with 5, and rickets with 15—all very average numbers as our returns go, but still altogether inadequate to express the actual mortality directly and indirectly due to these causes. The deaths from cancer and other malignant new growths were 203 in number, as compared with 191, 185, and 200 respectively during the three immediately preceding years. There is much discussion among pathologists at the present time as to the causation of cancer, and among statists as to the question whether the increased prevalence of the disease in recent years is real or only apparent. As to the causation I express no opinion, but I lean strongly to the view that the apparent increase of prevalence is only apparent, and due to the more accurate diagnosis and certification of modern times as compared with the past.

Tuberculous Diseases are included under this heading, but, while there are many diseases undoubtedly tuberculous which are described as due to other causes, there are also many deaths ascribed to tuberculous diseases, such, for instance, as tabes mesenterica, which are certainly not due to tubercle. Observations in the post-mortem room have not infrequently in my own experience disproved a previous diagnosis of tabes mesenterica. Chronic catarrh of the bowels in young children frequently simulates the latter disease.

The subject of the prevention and cure of consumption has lately been brought into public prominence in an almost unprecedented manner in this country, mainly through the public spirited enterprise of H.R.H. the Prince of Wales and other distinguished persons, inspired by eminent practising members of the medical profession and pathologists. A National Association has been formed, and a very large number of public meetings held, with the view of ventilating the subject and helping on the scheme of cure and prevention. The establishment of sanatoria, for the open-air treatment of consumption in various parts of these islands, is the principal aim of the Association, but it has also in view the prevention of the spread of the disease through food supplies and personal infection. It is, however, only fair to mention that the movement is not by any means a new one, and that the Health Authorities of many large towns for many years past have drawn attention to the infectiousness of tubercle, and indicated the best means for its treatment and prevention through the agency of printed leaflets and oral instruction. The disinfection of goods and premises has also been undertaken at the public cost, in the case of this as of other infectious diseases.

Work of this kind has been done in Nottingham since 1892. A reprint of our leaflet on the subject will be found in the Appendix of this Report. I do not claim as an immediate result of municipal action in this direction any very large amount of tangible benefit, but would rather urge that its value is principally educational and prospective. By such means the public are slowly brought to regard Consumption as an infectious and curable disease, and to reflect that pure air is better than foul to breathe both in health and disease. Our distinguished fellow-townsman, Dr. W. H. Ransom, has for many years fearlessly combated, in this town, the popular prejudice against fresh air both in health and disease, and is to be felicitated upon having seen at last the almost universal acceptance of his teaching.

The actual number of deaths referred to tuberculous disease has varied but little in Nottingham of late years. To depart for once from my rule in this section, of giving numbers to the

exclusion of rates, the local death-rate from tuberculous disease during 1898 was 1·82 per 1000, as compared with an annual average of 1·89 for the five years 1893–97. The actual number of deaths attributed to tubercle during 1898 was 429, the average for the previous five years being 439. It is probable that the figures for some earlier years are vitiated by errors of diagnosis and classification.

The deaths from the remaining diseases placed in the constitutional list call for little comment. Those referred to purpura, anæmia, and diabetes mellitus (2, 6, and 14 respectively) agree very closely with the average of other years.

Developmental Diseases.—The deaths registered under this heading are once again, as during 1897 and 1896, somewhat less than in any other year on record. The total was 333 (against 337, 340, and 363 in 1897, 1896, and 1895 respectively).

The number of deaths due to premature birth was 152. Such deaths vary in number very little indeed year by year. They have ranged only from 145 to 156 between 1893 and 1897.

Imperfect expansion of the lungs at birth and congenital defects gave rise, as usual, to a comparatively small number of early deaths.

Old age as a simple death-cause was made responsible for but 134 deaths of aged persons, as against 164, 170, and 186 respectively, in the years 1897, 1896, and 1895.

Local Diseases.—The total number of deaths classed under this heading was less than in 1897 and 1896, but higher than in the three years prior to 1896. This brings us back to the influenza period (1890–1892), during which the deaths under this heading were greatly augmented.

The deaths in the first group (that of nervous disorders) numbered 456, against 479 in 1897, 447 in 1896, and 412 in 1895.

Apoplexy and the like caused 219 deaths, as compared with 210, 206, and 220 in the three preceding years.

There was scarcely any deviation from the average in the deaths from insanity, general paralysis of the insane, epilepsy, and diseases of the spinal cord.

I am here able once more to introduce a table showing the admissions, discharges, and deaths at the City Asylum for the Insane, Mapperley Hill, during 1898. There was an increase of 11 male and 29 female inmates for the year, and the deaths numbered 53.

	Males.	Females	Total.
In the Asylum 1st January, 1898	305	309	614
Admitted during the year ..	82	95	177
Discharged	40	44	84
Died	31	22	53
Remaining, 1st January, 1899 ..	316	338	654
Average number resident ..	309	328	637
Private Patients resident ..	9	11	20

The deaths returned as due to diseases of the circulatory system were 338 in number, or no less than 52 below the total recorded for 1897. The deaths from diseases of the heart, which forms the principal item under this heading, appear to have increased somewhat more rapidly than the population in recent years, but this increase again is probably rather apparent than real.

Diseases of the respiratory organs appear to have been fatal in some 723 cases. This number, though 28 in advance of the previous year's total, was considerably below the average of other recent years. Bronchitis was certified as the death-cause in 351 cases, and pneumonia in 328. This last number is considerably in advance of the corresponding figure in other recent years.

The deaths from diseases of the digestive system showed a considerable falling off as compared with those of the year before. The total for 1898 was 151, and that for 1897, 196. The reduction is probably in great measure due to the falling off in the amount of summer diarrhœa during 1898 as compared with 1897. The diminution is apparent in almost all the items.

The deaths from urinary diseases show a singular invariability year by year. The number returned during 1898 was 106, and the average of the preceding 5 years was 102.

Diseases of the reproductive system were again, as certified, somewhat more fatal than usual. More than half the deaths, moreover, were those of women in childbirth, from accidents of that condition and other causes more or less preventable. The total number of deaths under this heading during 1898 was 52, and the annual average of the 5 years, 1893–97, was 36.

Violence.—The deaths classed as due to violence were 143 in number, or 10 in advance of the preceding five years' average (133). Accident or negligence was credited with 121, an almost unprecedented total, and, of these, 63 (a very large number) were caused by fractures and contusions.

The suicides numbered 22. The average annual number of suicides during the preceding five years was 25.

There were no deaths returned as homicidal.

Ill-and un-defined Death-Causes.—These amounted to 198, which is the smallest total of which I have any record. The number during 1897 was 273, and the annual average of the five years 1893–97 was 268. It is to be hoped that this reduction will continue, for ill-defined death-causes, when numerous, greatly detract from the value of vital statistics.

Uncertified Deaths.—According to my returns, these amounted to 31 during the year; the Registrar-General makes them 35. The last figure corresponds to 0.8 per cent. (or 8 per 1000) of all deaths in the city. The average percentage for the 33 towns during 1898 was 1·2, and the rate in London 0·6.

Inquest Cases.—There were 244 of these in Nottingham during 1898, and they constituted 5·9 per cent. of all deaths during the year. The numbers of inquest cases during the three years, 1897, 1896, and 1895, were respectively, 285, 283, and 236.

The percentage of inquests in London was 9·0, and in the 33 great towns, taken together, 7·5 during 1898.

Chart of Meteorology, Births, and Deaths in Nottingham for 1898.

This Chart, prepared as usual under the direction of the City Engineer and myself, will be found at the end of the report.

THE CITY ISOLATION HOSPITAL, BAGTHORPE.

The number of patients admitted to the hospital during 1898 was 762, being 243 more than those taken in during 1897. The average annual number of admissions during the five years, 1893-97, was 909. The number remaining at the end of 1897 was 111 (100 of scarlet fever, and 11 of enteric fever); and these with the 762 admitted give a total of 873 under treatment in the institution during the year. The corresponding figure for 1897 was 633, or 240 behind.

Total Cases in Hospital during 1898.

Disease.	Remaining at end of 1897.	Admitted during 1898.	Recovered.	Died.	Average residence in days.		Remaining at end of 1898.
					Non-fatal Cases.	Fatal Cases.	
Scarlatina..	100	666	601	24	61·9	17·5	141
Enteric Fever	11	73	57	5	62·9	25·3	22
Diphtheria	..	20	12	5	39·16	5·4	3
Other Diseases	..	3	2	1	29·0	9·0	..
Total	111	762	672	35	48·24	14·3	166

Of the total cases in hospital, 766 were of scarlet fever, 84 of enteric fever, 20 of diphtheria, and 3 of other diseases. The percentage of scarlet fever cases which proved fatal was 3·1, of enteric fever 5·9, and of diphtheria 25.

It should be noted here that in this section and table I give only the deaths occurring during the year, whereas in those dealing with the diseases separately I shall include also the deaths of those patients who were admitted during 1898 but who died after the close of the year.

Nottingham. Numbers of Scarlet Fever Cases notified and removed to Hospital, in 1898 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
1894	1164	934	80
1895	1250	1162	93
1896	731	631	86
1897	517	463	90
1898	931	666	71

* First year of the practice of compulsory notification.

The proportion of total cases of scarlet fever removed to hospital during 1898 was only 71 per cent., as compared with 90 per cent. and 86 per cent. in the two immediately preceding years. The falling off in the proportion of removals, up to the end of 1898, is principally due to the fact that you have recently instructed me not to remove cases, except when removal is urgently called for, from houses of good class.

The following table shows the highest and lowest number of beds occupied during each month of the year. The highest number was 199, in October, and the lowest 62, in June.

	Beds occupied. Highest.	Lowest.		Beds occupied. Highest.	Lowest.
January	127	117	July	99	69
February	130	106	August.....	139	103
March	109	89	September ..	181	136
April.....	98	78	October	199	176
May	88	74	November ..	187	170
June	79	62	December ..	184	164

A consideration of the figures in this table, and of our recent experience generally in connection with the hospital, leads one inevitably to the conclusion that the hospital is altogether too small for the needs of the town in epidemic times. The largest number of patients it can quite safely accommodate (even in the absence of intercurrent outbreaks of measles, whooping-cough,

chicken-pox, &c., among patients) is about 180, and, if it is to continue to serve at all successfully the purpose for which it was established, its accommodation must be increased by some fifty beds.

Also, as I have frequently pointed out, no scarlet fever hospital can do itself justice without a convalescent block, a block, that is, exclusively reserved and fitted for the accommodation of convalescent patients, and in which all patients must spend at least a fortnight before discharge.

Notwithstanding all that the opponents of hospital isolation for scarlet fever may say to the contrary, there can, I think, be no question that up to the present the hospital has sufficed to hold scarlet fever in check. We have heard a great deal about scarlet fever in recent years, and the disease is always more or less in evidence, but we have hitherto had no such general and fatal local outbreaks since notification and hospital isolation were adopted as commonly occurred before. I am of course aware that more or less sudden changes of type are, and have been always, characteristic of scarlet fever, but I am strongly disposed to think that the following facts are examples of something more than simple coincidence:—During the three years ending with 1882 (the first year of compulsory notification in Nottingham) there were, respectively, 134, 353, and 280 deaths from scarlet fever. During the fifteen years, 1883-97, the annual number of deaths ranged only from 13 to 82, and averaged something less than 38. During the current year (1899) scarlet fever is getting altogether out of hand, and the rate of increase of cases since the hospital first failed to afford accommodation to all those requiring admission has been infinitely more rapid than at any previous period.

I have said nothing hitherto about a small-pox hospital. Such an institution is absolutely indispensable to our equipment at the present time, and yet Nottingham has no such hospital. I would strongly recommend the erection of a small-pox hospital with permanent accommodation for some 30 patients, and facilities for further rapid extension in case of necessity, as near as conveniently may be, and as the Local Government Board Regulations will permit, to the existing Bagthorpe enclosure.

Of the 666 scarlet fever patients admitted during the year, 327 were males and 336 females—there were 3 cases of doubtful character, particulars of which are not entered here. The deaths among the males numbered 11, and were equal to 3·36 per cent. of all males. The deaths among females were 12 in number, and equal to 3·57 per cent. of all females. The case mortality, therefore, is almost identical in both sexes, and is very low.

There were 8 patients under 1 year, 5 males and 3 females. Cases under one year are by no means common. The male patients under 5 years were 107 in number, and constituted 33 per cent. of all males (as compared with a normal 40 per cent. for both sexes); the females were only 84 in number, or 25 per cent. of all females. The males between 5 and 10 years were 115 in number, or 35 per cent. of all males (the normal for this age period in both sexes is some 45 per cent.); the females numbered 155, or 46 per cent. of all females (thus approximating to the usual proportion). The males between 15 and 25 years numbered 29, and equalled 9 per cent. of all; the females at this period were 27 in number, and equal to 8 per cent.—both sexes here approaching the usual proportion.

Age and Sex Distribution of Non-fatal and Fatal Cases of Scarlatina admitted to Bagthorpe Hospital during 1898.

AGE.	MALES.		FEMALES.	
	Cases.	Deaths.	Cases.	Deaths.
Under 1 year ..	5	1	3	2
Between 1 and 2 years ..	4	2	8	4
" 2 and 3 " ..	25	2	12	1
" 3 and 4 " ..	31	1	26	1
" 4 and 5 " ..	42	2	35	1
" 5 and 10 " ..	115	3	155	4
" 10 and 15 " ..	67	–	65	–
" 15 and 20 " ..	23	–	18	–
" 20 and 25 " ..	6	–	9	–
" 25 and 30 " ..	4	–	3	–
" 30 and 35 " ..	2	–	–	–
" 35 and 40 " ..	2	–	1	–
Over 40 years ..	1	–	1	–
Totals ..	327	11 (3·36%)	336	12 (3·57%)

Total Cases, 666 (3 whose ages are not recorded: no deaths). Total Deaths, 23.
Case Mortality, 3·45 per cent.

Of the 8 cases under 1 year, one male and 2 female proved fatal. The case mortality under 1 year is often high, but it has not previously been so with us.

The proportion of fatal cases between one and two years in both sexes (50 per cent.) was unusually high, but the death rates at other age periods were comparatively low—so far as our recent experience goes. There were no deaths among the 202 patients of both sexes aged from 10 years upwards.

The table of complications occurring among the scarlet fever patients, with the percentages of all patients attacked, which follows this paragraph, shows that with the single exception of broncho-pneumonia the incidence of the graver complications has been light.

Recorded Complications among Scarlatina Cases admitted during 1898.

Complications.	Cases affected.	Percentage of all cases.
Otitis	42	6·3 per cent.
Nephritis	15	2·2 "
Rheumatism	15	2·2 "
Secondary Sore Throat	4	·6 "
Glandular Abscess	4	·6 "
Post Aural Abscess	2	·3 "
Second Attack	5	·75 "
Broncho-pneumonia	11	1·65 "
Erysipelas	4	·6 "

The next table gives a list of all the so-called return cases (fresh cases occurring in houses to which hospital cases have returned, within three weeks of their return) which have been recorded during the year, together with the cases through whose discharge they were supposed to have become infected, all extracted from our hospital register. The table also contains the dates of the admission and discharge of patients, the duration of their stay in hospital, and any complications from which they suffered during their stay.

Data of Return Cases, 1898.

Return Case.				Infecting Case.			
Date of Admission.	No. on Register	Days in Hospit'l	Remarks in Register.	No. on Register.	Days in Hospital.	Date of Discharge.	Remarks in Register.
Jan. 10	4649	52	—	4459	107	Jan. 1	Septic throat. Adenitis. Rhinitis.
"	4652	40	—	4504	81	Jan. 1	Rhin.
Jan. 11	4655	67	Otorrhœa	"	"	"	"
Jan. 20	4669	55	—	4524	75	Jan. 12	"
"	4670	"	—	"	"	"	"
Feb. 18	4708	92	Albuminuria Otorrh.	4619	50	Feb. 9	—
Mar. 19	4756	2	Sc. Maligna.	4601	87	Mar. 12	Rhin. Chronic tonsillitis.
June 18	4863	70	Chr. tonsil	4755	84	June 11	Rhin. Otorrh.
"	4864	56	—	4787	62	June 8	—
July 1	4876	47	—	4779	68	June 11	—
" 4	4880	65	—	4714	114	June 15	Rhin.
" 7	4884	55	—	"	"	"	"
" 14	4897	55	Urticaria	4817	64	July 6	—
" "	4898	48	—	"	"	"	"
" 21	4925	41	—	4782	94	July 9	Rhin. Otorrh. Eczema of Face
" 30	4941	53	—	4834	57	July 13	—
				4833	"	"	—
Oct. 4	5147	116	Albuminuria	4928	55	Sept. 16	Rhin.
" 21	5205	47	—	5003	52	Oct. 15	"
" 24	5214	65	—	5012	51	Oct. 19	—
" 27	5222	65	—	4995	47	Oct. 8	Rhin.
Nov. 21	5286	79	—	5129	43	Nov. 9	—
"	5287	57	—	5049	67	Nov. 16	Acute Rheumatism. Rhin.
" 22	5294	68	Chr. tonsil.				
" 24	5296	62	—	5019	66	Nov. 5	Rhin.
" "	5297	48	—				
Dec. 3	5319	69	—	5070	63	Nov. 16	Discharged by special request, throat injected.

The monthly distribution of the Return Cases during 1898 was as follows:—

January	5*	July	7†
February	1	August..	0
March	1	September	0
April	0	October	4
May	0	November	5*
June	2	December	1

* Associated with 3 infective cases.
† „ „ 5 „ „

There were 26 reputed return cases altogether, constituting 3·39 per cent of all. All the reputed infecting cases had been in hospital for long periods, ranging from 43 to 114 days. There was one death among the return cases, giving a case death-rate of 3·8 per cent.

Contrary to our usual experience in the past, the type of disease in almost all the return cases during 1898 was mild and normal.

The cases of enteric fever treated in the hospital during 1898 were only 84 in number—73 admitted during the year, and 11 remaining over from the preceding year—; but, by reason of (*a*) the greater gravity of the disease (as compared with the present type of scarlet fever), (*b*) the fact that a large majority of the patients are above the age of infancy, and (*c*) the tax upon the resources of the hospital which the nursing of such patients involves, this section acquires an importance which at first sight is apparently out of proportion to the number of patients dealt with.

The accompanying tables of the cases admitted during 1898 speak for themselves. All were removed from poor neighbourhoods, and none could obtain admission to the General or Children's Hospital. The case-mortality among the males was extraordinarily low—4·5 per cent., as compared with a normal 17 per cent.; that among females was much higher, but still also considerably less than the average death rate of females—17·2 per cent., that is, as compared with a normal 19·0 per cent.

Those who have had experience of the nursing of enteric fever patients at home among the poor will be able to appreciate the value of this section of the hospital work.

Age and Sex and Ultimate Issue of Enteric Fever Cases admitted to Bagthorpe Hospital during 1898.

MALES.

Initials.	Age.	Result.		Initials.	Age.	Result.	
L. B.	4 yrs.	Recovery	und. 5 yr.	W. S.	15 yrs.	Recovery	Between 15 and 20 yrs.
B. F.	5 yrs.	"		A. W.	15 yrs.	"	
H. W.	5 yrs.	"		J. N.	16 yrs.	Death	
H. S.	5 yrs.	"		J. P.	17 yrs.	Recovery	
H. N.	6 yrs.	"		H. W.	17 yrs.	"	
W. B.	7 yrs.	"		A. A.	19 yrs.	"	
G. B.	7 yrs.	"		A. W.	19 yrs.	"	
F. S.	7 yrs.	"		F. S.	19 yrs.	"	
W. B.	7 yrs.	"		B. T.	19 yrs.	Death	
T. P.	8 yrs.	"					
W. N.	8 yrs.	"		G. B.	20 yrs.	Recovery	Betw. 20–25 yrs.
A. S.	9 yrs.	"		E. C.	22 yrs.	"	
F. S.	9 yrs.	"		J. W.	23 yrs.	"	
S. H.	9 yrs.	"					
T. B.	9 yrs.	"		W. B.	26 yrs.	"	Betw. 25–30 yrs.
				G. R.	26 yrs.	"	
T. B.	10 yrs.	"					
H. W.	10 yrs.	"		J. C.	32 yrs.	"	Betw. 30–35 yrs.
A. B.	11 yrs.	"		N. F.	32 yrs.	"	
A. G.	11 yrs.	"		J. McC.	34 yrs.	"	
D. K.	12 yrs.	"					
G. S.	13 yrs.	"		F. E.	36 yrs.	"	Over 35 yrs.
W. W.	13 yrs.	"		J. K.	41 yrs.	"	
A. C.	14 yrs.	"		G. B.	44 yrs.	"	
C. S.	14 yrs.	"					

Between 5 and 10 yrs.

Between 10 and 15 yrs.

FEMALES.

Initials.	Age.	Result.		Initials.	Age.	Result.	
F. W.	1 yr.	Recovery	Under 5 yrs.	E. K.	17 yrs.	Death	Betw. 15 and 20 yrs.
N. D.	2 yrs.	"		M. E.	18 yrs.	Recovery	
M. S.	3 yrs.	"		E. O.	19 yrs.	"	
A. S.	3 yrs.	Death					
M. W.	3 yrs.	Recovery		E. C.	23 yrs.	"	Between 20 and 25 yrs.
K. F.	3 yrs.	Death		E. B.	23 yrs.	"	
				M. R.	23 yrs.	"	
F. S.	5 yrs.	Recovery	Between 5 & 10 yrs.	– E.	24 yrs.	"	
M. S.	6 yrs.	"					
D. S.	7 yrs.	"		A. B.	25 yrs.	"	Between 25 and 30 years.
A. F.	7 yrs.	"		E. C.	25 yrs.	"	
G. S.	9 yrs.	"		E. B.	26 yrs.	"	
				G. F.	26 yrs.	"	
M. M.	10 yrs.	"	Betw. 10 & 15 yrs.	E. S.	28 yrs.	"	
E. S.	10 yrs.	"					
F. B.	12 yrs.	"		M. H.	55 yrs.	Death	55 yrs. & over.
A. B.	14 yrs.	"		E. H.	58 yrs.	"	

44 Male cases. 2 deaths. *Case mortality*, 4·5%.

29 Female cases. 5 deaths. *Case mortality*, 17·2%.

Total cases, 73. Total deaths, 7. *Total case mortality*, 9·6%.

There were 20 cases of diphtheria under treatment in the hospital during the year, all admitted after January 1st. The following is a list of the cases of each sex, fatal and otherwise, in age periods.

Age and Sex of Diphtheria Cases admitted to Bagthorpe Hospital during 1898.

MALES.			FEMALES.		
W. S.	1 year	Death.	K. M. B.	under 1 year	Death.
W. W.	2 years	Recovery.	P. McC.	4 years	"
A. M.	4 "	Death.	G. S.	4 "	Recovery.
H. A. B.	11 "	Recovery.	J. P.	4 "	Death.
T. W.	27 "	"	M. S.	4 "	Recovery.
			S. M. K.	7 "	"
			M. M.	11 "	"
			S. D.	13 "	"
			E. T.	13 "	"
			C. M.	13 "	"
			A. K.	14 "	"
			A. M.	15 "	"
			G. G.	16 "	"
			H. D.	17 "	"
			M. P.	26 "	"

5 male cases: 2 deaths: case-mortality, 40 per cent.
15 female cases: 3 deaths: case-mortality, 20 per cent.
Total cases, 20: total deaths, 5.
Total case-mortality, 25 per cent.

All were treated with anti-diphtheritic serum on admission, but the serum is practically useless in severe cases unless used early, and three of our cases were extremely severe, and had been in progress without such treatment for several days before admission.

The total cost of the hospital for the year ending with March 31st, 1899, is given by the City Accountant as £5077. This amount is greater than that for 1897 by £644, and the increase is almost entirely due to the additional number of patients admitted during 1898.

I may once more remind you that, whereas I have up to this point dealt with statistics for the year ending with Dec. 31st, 1898, I have in my financial statement to reckon my year as from April 1st, 1898, to March 31st, 1899, in accordance with the practice of the City Accountant.

The average number of beds occupied per diem throughout the year was 137. The average cost per occupied bed, therefore, was £37 1s. 2d. The average cost per patient was £5 18s. 0d. Both these latter amounts are less than the corresponding figures for last year, and approximate more closely to those of other years during which the number of admissions was large. Other things being equal, the greater the number of patients dealt with in an institution like Bagthorpe Hospital, the less will be the cost per head.

In November of 1898 Dr. Thomas O'Neill Roe, who had held the post of Resident Medical Officer at Bagthorpe Hospital since November of 1896, obtained an appointment as Assistant Medical Officer under the Metropolitan Asylum Board, and therefore gave up his appointment with us. He had done his work at Bagthorpe Hospital in a thoroughly conscientious and capable manner, and we were, at once, sorry to lose his services and glad of his well-merited promotion.

Dr. James Doig McCrindle succeeded him at Bagthorpe in December. This gentleman, who had a very successful career at Edinburgh, comes to us with excellent credentials. He has held the post of House Surgeon at the Edinburgh Royal Infirmary, and that of Assistant Medical Officer at the City Hospital, Birmingham. His experience of hospital work, therefore, is of no mean order.

Miss Wallace continues to act as matron of the Hospital, and it is hardly necessary for me to say that the duties of her responsible position are performed in such a manner as to merit and receive your warmest approval.

Handbills, Leaflets, &c. *(Distributed from the Health Department).* Leaflet literature, distributed from the Health Department, and relating to (*a*) the feeding and care of infants, (*b*) the prevention of diarrhœa and cholera, (*c*) the prevention of tuberculous consumption, (*d*) the care of scarlet fever patients discharged from Fever Hospitals, and (*e*) the provisions of the Shop Hours Acts, will be found reprinted in the Appendix of this Report.

Disinfecting Stations, Disinfection of Houses, etc.—The amount of work done at the stations, situated at the Eastcroft and at Bagthorpe Hospital respectively, has again increased during 1898 with the increased prevalence of scarlet fever. The goods removed to the stations for disinfection (by exposure to steam) are classified as far as possible under separate headings in the accompanying table.

The work of disinfecting dwelling rooms (for which formalin is now almost exclusively used by us), after the death, convalescence, or removal of infectious persons, is still systematically carried out under the direction of Mr. F. G. Williams.

Articles Disinfected at the Public Stations in Nottingham, 1885-1898.

	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898
Bedding ..	2154	2411	4956	5250	5683	6020	5357	6735	8521	2943	10990	8822	4483	7550
Clothing ..	944	1316	3674	4827	5513	7577	4741	10253	11266	20579	12652	9012	4768	5554
Furniture & Hangings	687	572	1091	799	757	585	401	439	726	1541	1277	2184	1382	2130
Miscells. Articles	2378	2147	6273	7565	10118	11548	8586	13319	10573	10303	13272	8394	8341	7699
Total ..	6163	6446	15994	18441	22071	25730	19085	30746	31086	35366	38191	28392	18974	22933

Although the public disinfecting stations and means of disinfection were of course provided and intended principally to combat the infection of what are known as the principal infectious diseases, their use is freely and gratuitously offered for other and less infectious ailments. No charge indeed is made except in the case of work that can safely be undertaken by private persons,

such as the destruction of moth, vermin, etc., and even for work of this description only a nominal charge is made.

The Mortuaries.—The number of bodies taken in at these establishments during 1898 was 170—105 at the Eastcroft, and 65 at Hyson Green. The total numbers in the three immediately preceding years were respectively, 205, 106, and 154. The Hyson Green Mortuary was opened for use only in December, 1896. There has lately been an increase in the number of bodies taken to the latter, and a falling off in the number of those going to the Eastcroft. The Hyson Green establishment, with its modern appointments and decent surroundings, and furnished also with an excellent inquest room, is of course a far more fitting place, alike for the deposit of human bodies and for the holding of coroner's inquests, than that at the Eastcroft wharf.

THE MORTUARIES.

Bodies taken in during each Month of 1898.

Month.	Eastcroft.			Hyson Green.		
	Male Bodies.	Female Bodies.	Total.	Male Bodies.	Female Bodies.	Total.
January	1	6	7	2	1	3
February	3	4	7	1	1	2
March	9	7	16	5	3	8
April	2	1	3	4	1	5
May	2	3	5	4	2	6
June	5	2	7	5	4	9
July	2	4	6	3	1	4
August	9	4	13	5	3	8
September	3	1	4	2	2	4
October	2	2	4	3	2	5
November	9	4	13	4	2	6
December	15	5	20	0	5	5
	62	43	105	38	27	65

Total Bodies, 170.

Cemeteries and Burial Grounds.—The town is still unprovided with burial grounds away from populous districts, but, whereas the site to the south of the town has been definitely decided upon and steps actually taken towards its acquisition, that to the north, which is quite as urgently needed, is still altogether unfixed. Were it not that the soil on which the major part of the city stands is ideally suitable for burial purposes, we must have been in difficulties before this with some of our intramural burial grounds.

Towards the close of the year I was entrusted with the exhumation and reburial of a large number of bodies, several of which had been recently interred, at Holy Trinity Churchyard.

Owing to the dryness and porousness of the sand-rock, and the fact that all the bodies disturbed had been buried in wooden coffins only, there was scarcely any evidence of offensive decomposition remaining even in the case of the most recent bodies.

Common Lodging Houses.—At the end of December, 1898, there were 58 Common Lodging Houses on the register (two more than at the end of the previous year), entered to 38 Lodging House keepers.

Three transfers have been granted, two of these to persons already on the register.

Two houses in Taylor's Yard, Narrow Marsh, have been closed since March, but four fresh houses have been opened during the year, viz.:—two in Bulwell, one in Narrow Marsh, and one in Portland Place, Coalpit Lane. The keeper of the latter was brought before you for keeping an *un*registered lodging house, but the house was subsequently inspected and placed on the register.

The 58 registered houses have accommodation for 1086 persons, in 854 single, and 116 double beds.

The houses are situated as follows:—

In Narrow Marsh	45
„ Millstone Lane	5
„ Main Street, Bulwell	3
„ Canal Street and Leen Side	3
„ Water Street	1
„ Portland Place, Coalpit Lane	1
TOTAL	58

All the houses were whitewashed and cleaned throughout in April and October.

Nineteen notices were served during the year in respect of various insanitary conditions and dilapidations.

Legal proceedings were taken in three cases on account of breaches of the local Bye-laws, and convictions were obtained in each case. Fines of 30/-, 20/-, and 2/6 respectively were imposed.

The keepers appear to have had a fairly prosperous year, but there was certainly a falling off in the number of their lodgers towards the close, owing to the departure from the town of a large number of men previously employed upon the new railway works.

The improvement in the general condition of the lodging houses, to which I drew attention in my report for 1897, has been maintained during 1898. This improvement in great measure is doubtless due to the careful and regular supervision of your inspector, Mr. G. A. Read.

The following table shewing the numbers of lodgers admitted to the Corporation Lodging Houses, in 1898 and other recent years, calls for no special comment:—

Situation of lodging house.	No. of beds.	No. of Lodgers admitted in each of the years.								
		1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Millstone Lane (Closed).	18	3,803	3,786	4,276	3,769	—	—	—	—	—
Popham Street (men only).	38	5,810	6,442	7,708	7,273	7,813	7,492	7,331	6,568	6,608
Parliament St. (women only).	20	4,107	4,720	5,110	5,387	5,555	5,663	6,252	6,374	6,422
		13,720	14,948	17,094	16,429	13,368	13,155	13,583	12,942	13,030

Housing of the Working Classes Act, 1890.—Insanitary Dwellings.—The following is a list of the houses certified by me during the year, under Sec. 30, Part II. of the 1890 Act, as unfit for human habitation:—

HOUSES CONDEMNED DURING 1898.

July 30th, 1898.	1 house, known as 10, Click Lane, Parliament Terrace, Upper Parliament Street.
„	1 house, known as 3, Ashton's Court, Bridlesmith Gate.
August 18th.	1 house, known as 23, Park Road, Lenton.
September 21st.	1 House in a garden at the upper part of Colborn Street, known as 60, Colborn Street, St. Ann's Well Road.
November 21st.	2 houses, known as 108 and 124, Middle Avenue, Mills' Lane, Derby Road.
„	1 house, known as 299, Mills' Lane, Derby Road.

Closing orders were obtained from the city magistrates in respect of three of these houses.

A large number of houses were also cleaned, repaired, or otherwise improved during the year through the intervention of the District Inspectors. (See table, page 81).

Factory and Workshop Acts, 1878-91.— The usual tables of workshops devoted to various industries, of persons male and female employed in them, and of visits paid to the workshops by the Municipal Inspectors, Mr. Flint and Mrs. Exton, will be found at the end of this Report, together with tables of sanitary and other work carried out through the agency of these officers.

I am required, under Section 3 of the Factory and Workshop Act of 1891, to send written notice to H.M. Inspector of Factories for the district of any case of the employment of a child, young person, or woman in any workshop which may come to my knowledge. Fifty-four such cases have come to my knowledge during 1898, and all these have been reported to Mr. H. M. Robinson, H.M. Inspector for this district.

I desire to take this opportunity of acknowledging the courtesy, and cordial disposition to assist both myself and members of my staff, invariably displayed by this gentleman in all matters over which we have been brought into official contact.

Shop Hours Acts.—No legal action has been taken during the year against offenders under these Acts, but several persons strongly suspected to have been guilty of offences have been warned of the possible consequences. I may once more comment upon the difficulty of obtaining convictions against such persons. This could only be done with the open assistance of their servants, who, naturally enough, in most cases are unwilling to come forward.

A reprint of the official notice issued under these Acts will be found in the Appendix of this Report.

The gist of this notice, however, is contained in the two following paragraphs :—

> "Notice is hereby Given that, under the above Acts, a young person cannot be employed in or about a shop for a longer period than seventy-four hours, including meal times, in any one week."
>
> "In every shop in which a young person is employed a notice must be kept exhibited by the employer in a conspicuous place, referring to the provisions of these Acts, and stating the number of hours in the week during which young persons may lawfully be employed therein. If any employer fails to keep exhibited this notice in the manner required, he is liable to a fine not exceeding forty shillings."

Cleansing of Persons Act.—This Act, which received the Royal assent on August 6th, 1897, "permits local authorities to provide cleansing and disinfection for persons infected with vermin." We have, as yet, made no systematic

arrangements for carrying out the provisions of the Act, but we have in our steam disinfecting establishment, and in our disinfecting staff, almost all the organization required for doing the work, and we also already do incidentally, as part of our regular routine, a good deal of work of the same description. One important feature of the provisions made under this Act is, that they are not to deprive the person to whom the special assistance is given, or the parents of such person, of any civil rights or qualifications.

Canal Boats Acts, 1877 - 1884.—Mr. F. W. Franks, Chief Clerk and Inspector of Canal Boats, reports having examined 128 boats during the year. The following is a list of breaches of the Acts and Regulations which he discovered in the course of his inspections:—

Condition Complained of:—	No. of Cases.
Boat unmarked with registered number	1
Boat unregistered	1
Absence of Certificate	3
Water vessels defective	2
Want of paint	1
	8

Notice to fall in with the requirements of the Acts and Regulations was promptly complied with in each case, without resort to legal proceedings in any single instance.

The boats inspected carried 75 women, 58 children between 5 and 12 years of age, and 28 children under 5 years, but none of the boats carrying children belonged to this town.

The number of boats on the local register at the end of 1898 was 132, one having been added during the year.

The general condition of the boats plying in this district at the present time is excellent. Great improvement has taken place in them in recent years.

Diseases of Animals Act, 1894.—*Orders, Regulations, etc., of the Board of Agriculture.*—The following is a list both of the reputed and verified cases of the contagious diseases of animals notifiable by Local Authorities to the Board of Agriculture, which have come to our knowledge in Nottingham during 1898 :—

Disease.	Reputed Cases.	Verified Cases.
Swine Fever	58 ...	14
Sheep Scab	1 ...	1
Glanders	1 ...	0

The verified cases of these diseases had the following monthly distribution :—

Swine Fever: 5 cases in April, 5 in May, 1 in September, 1 in November, and 2 in December.

Sheep Scab: 1 case in October.

The regulations affecting the movement of swine into and out of Nottingham, which came into force in two separate parts in June and July 1898 respectively, and which are still in force in the city, may be briefly summarized in their essential effect as follows:—No living swine may pass into the city, except for immediate slaughter, and no living swine at all may pass out. Discretion is left to the local executive, however, to grant exemption in exceptional cases.

An order for the muzzling of dogs which came into force on May 11th, 1897, was revoked on May 3rd, 1898, since which time there has been no order for the local muzzling of dogs.

Lethal Chamber (Eastcroft).—This chamber, erected by the Watch Committee under my superintendence in June 1898, has been handed over to me for management. It is designed for the painless destruction of dogs, cats, and other small animals, by the agency of chloroform vapour and carbonic acid gas. It fulfils its purpose in an entirely satisfactory manner, and has been largely used during the year. No less than 422 dogs and 64 cats have been destroyed in this chamber during the 12 months that have elapsed since its erection.

Slaughter-Houses.—The number of slaughter-houses on the city register remains unchanged from 1897, at 156. There have been no additions to or removals from the list during 1898. Three transfers, however, were applied for and granted.

It is, I think, well known in the town that you have had in contemplation for some years past the commencement of a scheme for substituting public for private slaughter-houses. Your only reason, I believe, for not reporting to the Council on the subject hitherto, has been your conviction that up to the present the time has not been ripe for the project. At the present time, however, and mainly through the agency of the new railway works, and the revival of local trade and building operations, an opportunity appears to have arisen for making a commencement with advantage.

Without the aid of legislation, general or local, it would be altogether out of the question to attempt to supersede all the existing private slaughter-houses in the city with abattoirs. All that can be done at the present is, to erect such a number of the latter as shall be capable of taking the place of those private slaughter-houses which, on account of their insanitary condition, their situation, their dilapidation or other circumstances, are unfit for further use as such. We have made careful enquiry, and discovered that there are between thirty and forty, out of a total of one hundred and fifty-six on the register, which should be condemned as unsuitable for further use.

In considering the project in the past, you have been led to the conclusion that more than one set of abattoirs will probably be required in the end, to suit the convenience of the trade in different parts of the city. In your inspection of possible sites, your attention has been drawn to one lying to the south of the Cattle Market approach on the London Road which is already the property of the Corporation. In your opinion some thirty or forty slaughter-houses, or accommodation for this number of butchers, might advantageously be provided at this spot. It cannot be said that the situation is altogether an ideal one for the purpose. The proximity of the Eastcroft depot, and other

establishments in which offensive trades are carried on, causes the local atmosphere at times to be laden with effluvia; but, if these are not (and they probably are not) sufficiently gross to be seriously detrimental to the health of human residents in the neighbourhood, they are not likely to be injurious to meat. The soil would be protected with a layer of concrete, and all the offices, appliances, appurtenances, and fittings, would be so constructed in the first instance, and so subsequently managed and maintained under the direction of officers of the Corporation, as to minimize as far as possible the nuisance almost necessarily incidental to slaughtering operations on a large scale. It is hardly necessary to point out that the nearness of the Cattle Market, of the Railway Stations, and of the London Road, would be distinctly advantageous. The provision of a cold chamber and a meat market would probably be desirable in connection with this tentative scheme.

Under Section 29, Part III. of the Public Health Amendment Act of 1890—recently adopted by Nottingham—Urban Authorities have power to grant temporary licences—provided they be not of less than 12 months term—for all new slaughter-houses erected within their areas after the adoption of the Act. This provision cannot fail to be of advantage to the local authorities in dealing with such slaughter-houses.

Power to provide slaughter-houses is given to Urban Authorities under Section 169 of the Public Health Act of 1875.

Food Material Condemned.—The large amount of butcher's meat condemned during the year speaks well for the industry and vigilance of Inspector Moore. No less than 2883 stones of such meat were condemned and destroyed as unfit for consumption during the 12 months. This amount is no less than 928 stones in advance of that taken during 1897, which itself was a record amount. But, as I have often pointed out, even this large quantity would certainly be exceeded, were the slaughtering

of our meat-yielding animals carried out in public instead of private slaughter-houses. The corresponding statistics of other large towns which are provided with abattoirs prove the truth of this assumption.

MEAT.	Imperial Stones.
Beef	1923
Pork	365
Viscera	304
Mutton	230
Veal	61
	2883

GAME, POULTRY, &c.	Imperial Stones.
Rabbits	134
Hares	34
Black Game	24
	192

FISH.	Imperial Stones.
Mackerel	952
Cod	647
Herrings	174
Hake	164
Shrimps	160
Kippers	99
Skate	82½
Catfish	82
Whiting	73
Bloaters	63
Spragg	36
Finneys	32

FISH—continued.	Imperial Stones.
Haddock	28
Plaice	28
Halibut	23½
Coalfish	12
Salmon	7
Conger Eel	4
Smelts	4
	2671

SHELL FISH.	Imperial Stones.
Mussels	768
Whelks	112
Crabs	34
Lobsters	5½
	919½

FRUIT.	Imperial Stones.
Gooseberries	55
Apples	38
Tomatoes	2
	95

VEGETABLES.	Imperial Stones.
Turnips	168

It will be seen from an inspection of the accompanying table that a very large amount of other food material, such as fish, poultry, game, fruit, vegetables and preserved provisions, was also destroyed. The great bulk of this, however, was taken at the Railway Goods Stations, or elsewhere in transit. Inspector Fisher, who was entrusted with the inspection of this class of foods, left your service in November (1898), and Mr. Samuel Billington was appointed in his place. This officer bore a very high character with his late employers, and his long experience as a salesman in one of the largest provision shops in this district should fit him in an exceptional manner for the duties of his new office.

Sale of Food and Drugs Acts.—The number of samples taken for analysis during 1898 was 265, a larger total than in any previous year. Of these 265, 192 were entered as pure, and 73 as impure. The actual and estimated result of analysis in the case of all samples taken are given in the table below. It must be borne in mind, however, that the term purity here does not necessarily imply freedom from adulteration. To take only one example:—milk of good quality may be largely adulterated with water, and yet satisfy a minimum standard. Compliance with a minimum standard and actual purity are often very different things.

	No. of samples.	No. Pure.	No. deficient or adulterated.		
			Deficient in Fat.	Added water.	Boric Acid.
Milk	103	64	1. 28% 1. 20% 1. 18% 3.	1. 19% 1. 17% 1. 15% 1. 12% 1. 10% 1. 9% 1. 7% 2. 6% 3. 5% 3. 4% 4. 3% 13. 2% 32	1. Contained 6·2 grns. boric acid per gal. 1. Contained 2·1 grns. boric acid per pnt. 4. Contained boric acid (no quantity stated). 6

	No. of samples.	No. Pure.	With Alum.
Bread	32	29	1. 21·5 grains per 4lb. loaf. 1. 15 grains per lb. 1. 7·25 grains per 2lb. loaf. 3

	No. of samples.	
Butter	29	All pure.
Irish Whisky	7	All pure.
Brandy	2	All pure.
Gin	1	Pure.
Flour	7	All pure.
Arrowroot	7	All pure.
Tallow	2	All pure.

	No. of samples.	Added Sugar.	Added Starch.
Cocoa	6	1. 43 per cent. 1. 35 „ 1. 27 „ 1. 24 „ 1. 22 „ 1. 20 „ 6	1. 38 per cent. 1. 27 „ 1. 12 „ 1. 29 „ 1. 30 „ 1. 12 „

	No. of samples.	No. Pure.	With Chicory.
Coffee	15	13	1. 56 per cent. 1. 34 "

	No. of samples.	No. Pure.	Added Farina.
Mustard	3	2	1. 10 per cent.

	No. of samples.	No. Pure.	With Carbonate of Magnesium.
Gregory's Powder	16	12	1. 55·3 per cent. 1. 55·0 " 1. 50·3 " 1. 49·8 " 4

	No. of samples.	No. Pure.	Deficient in Lime.	Excess of Lime.
Lime Water	8	5	2. 9%	1. 60%

	No. of samples.	No. Pure.	Deficient in Pot. Hyd. Tartarate.
Cream of Tartar....	8	3	1. 11 per cent. 1. 4 " 2. 3 " 1. 2 " 5

	No. of samples.	No. Pure.	Deficient in Alcohol.
Laudanum	6	4	1. 68 per cent. 1. 60 " 2

	No. made up.	No. as per prescription.	Not made up in accordance with prescription, viz.:
Prescriptions	13	5	Deficient in Potassium Iodide. 1. 13 grains, or 10 per cent. 1. 9·45 grains, or 7 " 1. 8 grains, or 6 " 1. 3·64 grains. 1. 2·60 " 1. 2·50 " 1. 2·47 " 1. 1·31 " 8

Dairies and Cowsheds.—The milksellers on the city register at the close of 1898 numbered 944, 11 fresh names having been added during the year. But the names of at least 200 persons still figure upon the list as milksellers who are no longer selling milk. The removal of these would reduce the total number of names on our register to something over 700—still an unnecessarily large one.

There were no applications for registration as cowkeepers. The number of these upon the city register now stands at 161, but their actual number is considerably less.

The dairies, cowsheds, and milk shops of the city, and especially the first two, are improving in their sanitary condition every year, but much yet remains to be done to many of them before that condition can be held to be generally satisfactory.

It will probably be considered necessary in the near future to appoint a special inspector of dairies, cowsheds, and milk shops, who shall devote his whole time to the supervision of the milk-producing and distributing industries, and also to apply to Parliament for powers to deal with cow-keepers and dairymen (both in and outside the city) in such wise as to prevent as far as possible the sale of milk from cows suffering from tuberculosis and other diseases liable to affect the human consumers of the milk.

I am pleased to say that the sterilization of milk by heat is now practised by several dairymen in our neighbourhood. It cannot be too widely known that it is absolutely unsafe to feed young children upon the milk of cows and other animals, obtained so to speak in the open market, which has not been so sterilized.

The District Inspectors.—The work of these officers fluctuates considerably from season to season, from year to year, owing to unequal seasonal variations and other accidental circumstances, but it never goes back, it never becomes less. The table headed "Abatement of Nuisances," on page 81 of this report gives under various headings the number of ordinary nuisances abated at the instance of the Inspectors. It must be borne in mind, however, that this table by no means exhausts the list of their duties accomplished. The taking of samples of foods and drugs for analysis, the giving of evidence in Court in connection therewith, and the visitation of houses and schools under the voluntary system of notification for minor infectious diseases (like measles and whooping-cough) now in force, constitute other important functions devolving upon the District Inspectors.

To return for a moment to the table of nuisances abated:—The total number of items, 3588, is the largest recorded since 1893, and is no less than 1021 in advance of that for 1897. Perhaps the most interesting and important figures at the present time are those having reference to alterations in closets and refuse receptacles. We find from the table that no less than 204 midden-privies and 163 dry-ash-pits were abolished during the year. The privies in all cases but one were replaced by some form of w.c. The midden-privies of the city have now dwindled to a very small number, but we must not forget that we have still 40,000 pail-closets to deal with before the town can be held to be satisfactorily equipped so far as its closet accommodation is concerned.

The Leen, Tinkers Leen, and Canal.—As two separate schemes are now already on the stocks, having for their object the diversion of sewage from, the cleansing, and the cleanly maintenance of the above, I will only observe here (by way of accentuating the necessity for all possible despatch in the execution of these schemes) that the condition of all three channels at the present time is certainly worse from a sanitary point of view than at any previous period of their history.

Notices.—The ordinary notices issued in respect of nuisances and other undesirable conditions by the Health Department during 1898 numbered 1232, as compared with 1004 in 1897. The statutory notices were 383 in number, as against 122 only in 1897. Many informal notices, issued principally by letter and by word of mouth, were also sent out during the year.

Prosecutions.—The following is a tabular statement of the cases in which proceedings were taken at the instance of the Health Department during 1898, together with the result in each case. It is to be noted as a singular, and indeed an unprecedented circumstance in connection with these proceedings (so far as our experience is concerned), that they were successful in every instance.

Offence.	Result.
Sale of Milk deficient of fat 32%	Fine of £2 2s.
" " " 20%	Fine of £2
" " " 18%	Fine of £2
" " containing 17% added water	"
" " 15% "	Fine of £1
" " 15% "	"
" " 12% "	Fine of £2
" " 12% "	Fine of £1 and 12/- costs
" " 10% "	Fine of £2
" " 9% "	"
" " 7% "	Fine of 10/-
" Bread containing 22 grains of alum	Fine of £5
" " 21·5 "	Fine of £2 2s.
" " 8 "	Fine of £3 3s.
" Cocoa containing 43% sugar and 38% starch	Fine of £1
" " 35% sugar and 27% starch	"
" " 24% sugar and 20% starch	"
" Coffee containing 56% chicory	Fine of 10/-
" " 34% "	"
" Lime Water deficient in lime 10%	"
" " " 9%	"
" Medicine not made up in accordance with prescription, deficient in potassium iodide 10%	Fine of 10/- and 10/- costs.
" " " " 7%	" "
" " " " 6%	" "

PUBLIC HEALTH AND OTHER ACTS.

Offence.	Result.
Deposit of unsound carcase for sale	6 weeks' imprisonment
" " "	6 weeks' imprisonment
" " "	Fine of £5 or 21 days' imprisonment
Exposure of "	Fine of £5
Deposit of unsound Meat for sale	Fine of £20
Exposure of infectious persons	Fine of £2
" " "	Fine of £1
Breach of Lodging-House Bye-laws	Fine of £1 10s.
Keeping unregistered Lodging-house	Fine of £1
Depositing ashes in passage contrary to bye-laws	Fine of 5/-
" " " " "	Fine of 2/6
Owning and letting houses unfit for human habitation	Order to close forthwith
" " " " "	" "
" " " " "	" "

Abatement of Nuisances.

Description of Work Done.	Inspector Ward.	Inspector Old.	Inspector Byrns.	Inspector Betts.	Total.
Houses repaired	18	3	17	40	78
Houses cleansed	32	..	15	2	49
Houses overcrowded	6	6	3	2	17
Bath wastes disconnected	4	2	25	10	41
" trapped	..	..	..	6	6
Sink wastes disconnected	23	9	34	21	87
" trapped	..	2	6	11	19
Drains repaired and cleansed	158	153	237	211	759
Drains trapped	34	45	54	70	203
Water closets repaired	53	13	86	55	207
Pail closets repaired	140	143	163	207	653
" provided	..	..	..	..	..
Waste water closets provided	20	..	11	60	91
Ashpits abolished	45	7	37	74	163
Midden privies abolished	54	13	35	102	204
Water closets provided in lieu of privies and pail closets	34	14	21	43	112
Soft water cisterns cleansed	11	17	11	13	52
Courts and yards paved	54	89	58	90	291
Piggeries abolished	7	22	3	6	38
Stables, &c., drained	1	5	3	3	12
Urinals repaired, &c.	25	6	27	6	64
Manure pits repaired, &c.	5	3	2	4	14
Offensive accumulations removed	14	53	23	19	109
Miscellaneous	135	15	115	54	319
	873	620	986	1109	3588

(*b*) *Workshops.*

Inspector Flint. (Male).

Work done 1898.

Workshops and bakehouses limewashed	362
Workshops and bakehouses repaired	13
Offensive refuse removed	22
Overcrowding abated in workshops	1
Additional ventilation provided in workshops	7
Insanitary workshops and bakehouses closed	2
Defective drain repaired	1
Offensive stable in immediate proximity to bakehouse closed	1
W.C. repaired	1
	410

Inspector Exton. (Female).

Work done.

Workrooms limewashed	118
Staircases limewashed	1
Additional ventilation provided in workrooms	4
Additional ventilation provided in W.C.'s and other offices	1
Overcrowding abated in workrooms	3
Additional exits provided	11
Stairs repaired	5
W.C. repaired and rebuilt	3
New floor laid down	1
Drains repaired	2
	149

Inspection of Workshops in which Males are employed.

Branch of Trade.	Number of Workshops.	Number of Employées.	Number of Visits.
Aerated Water Manufacturers	16	160	25
Bakers and Confectioners	250	492	1615
Bamboo Furniture Maker	1	5	2
Basket Makers and Wicker Workers	32	372	65
Baking Powder Maker	2	12	3
Beer Bottlers	4	86	4
Bicycle Makers	12	74	13
Blacksmiths	43	129	50
Box Makers	8	90	11
Boat Builder	1	2	1
Boot and Shoe Makers	50	143	60
Brewers	5	33	5
Brass Founders	3	14	3
Brass Workers	2	12	2
Brick Makers	4	175	4
Brush Makers	6	30	8
Cabinet Makers	38	430	52
Card Punchers	2	6	2
Carvers and Gilders	2	10	3
Chair Makers	2	7	2
Chemists (Manufacturing)	2	7	2
Cigar Box Makers	2	30	2
Clog Maker	1	6	1
Coach Builders and Wheelwrights	31	165	40
Confectioners and Sugar Boilers	18	152	26
Coopers	6	25	5
Copper Smith	1	4	2
Cork Cutters	2	10	2
Corn and Seed Merchant	1	35	1
Currier	1	6	1
Cricket Outfitters	2	32	3
Dropper and Box Maker	1	4	1
Drysalter, Wholesale	1	12	2
Engravers	2	4	2
Engineers and Machinists	4	33	4
Enameller	1	10	3
Fellmonger	1	12	3
Embosser	1	2	2
Firewood Merchants	8	40	10
Framesmith	1	9	3
Framework Knitters	12	119	19
Furniture Painters and Polishers	8	28	9
General Smiths	12	53	12
Gut Cleaners	8	23	20

Trade.	Number of Workshops	Number of Employées.	Number of Visits.
Hatter	1	1	1
Hosiery Manufacturers	6	47	6
Hosiery Trimmers	4	28	4
Ice Cream Makers	4	8	15
Iron Founders	5	68	5
Joiners and Builders	125	570	136
Lace Designers	6	35	8
Lace Manufacturers	5	104	7
Lath Renders	2	3	3
Launderers	3	29	4
Leather Dressers	5	31	8
Lime-Light Operator	1	6	2
Maltsters	6	23	7
Marine Store Keepers & Waste Merchants	21	100	32
Mattress Makers	3	16	3
Needle Makers	4	33	5
Opticians	2	4	2
Organ Builder	1	8	1
Packing Case Makers	4	22	4
Painters and Decorators	7	83	10
Paper Bag Maker	1	16	1
Paper Rulers	3	18	3
Perambucot Makers	10	73	15
Picture-Frame Maker	1	6	1
Pipe-Clay and Pipe Makers	3	13	6
Plated Measure Makers	2	4	2
Plumbers	28	126	36
Provision Curers	2	4	7
Rope and Twine Makers	2	14	3
Sack and Cover Makers	2	7	3
Saddlers	20	111	24
Sauce Manufacturers	4	9	6
Scale Makers	3	8	4
Screw Maker	1	2	1
Sculptors	10	48	9
Setter-up of Lace Machines	1	4	3
Silk Hosiery Makers	4	23	9
Sinker Makers	3	17	4
Size and Glue Makers	2	24	4
Soap Makers	4	35	4
Steel Bar Maker	1	4	1
Stonemasons	10	67	11
Surgical Hosiery Makers	7	53	14
Surgical Appliance Makers	2	4	4
Tailors	102	627	174

Trade.	Number of Workshops.	Number of Employées.	Number of Visits.
Tallow Chandlers	3	14	5
Ticket Writers	4	11	4
Tin-Plate Workers	26	69	40
Undertakers	4	14	4
Upholsterers	7	70	9
Venetian Blind Makers	3	10	3
Watch Makers	2	4	2
Warpers	2	3	2
Wheel Maker	1	2	1
Whip Makers	3	17	5
Whitesmiths	9	28	9
Wood Carvers	2	6	2
	1119	5887	2803

Inspection of Workshops in which Females are employed.

Trade.	Number of Workshops.	Number of Employées.	Number of Visits.
Blind Makers	2	4	2
Box Makers	19	235	41
Boot and Shoe Makers	2	4	2
Collar Manufacturer	1	9	2
Confectioner	1	4	2
Corset Maker	1	1	1
Curtain Dressers	2	7	3
Cricket Outfitter	1	2	1
Cap and Cap-shape Makers	4	25	6
Cigar-Box Maker	1	30	1
Cork-Sock Manufacturer	1	6	5
Curtain Manufacturer	1	16	2
Cycle Repair Outfitter	2	16	5
Dressmakers	180	1010	305
Embroiderer	1	13	3
Furrier	1	1	1
Gilder	1	13	1
Hosiery Manufacturers	31	825	54
Hosiery Trimmer	1	4	3
Lace Menders	23	360	40
Laundresses	19	101	22
Lace Clippers & Chenille Spotters	45	638	80
Lace Manufacturers	211	2219	407
Marine-Store Keepers	6	31	15
Makers-up of Hosiery	26	302	46
Milliners	53	165	79
Maker-up of Underclothing	1	3	1

Trade.	Number of Workshops.	Number of Employées.	Number of Visits.
Pneumatic-Tyre Makers	2	20	2
Paper-Bag Makers	3	39	6
Perambucot Makers	2	20	2
Photographer	1	3	1
Shirt Makers	5	31	9
Surgical Appliance Makers ..	4	110	9
Sun-Bonnet, Mob-Cap, and Apron Manufacturers	6	72	15
Straw Board Liner	1	2	3
Sugar Boilers	6	74	8
Sweet Exporters	2	8	2
Soap-Powder Manufacturer ..	1	9	1
Tailors	73	419	123
Upholsterers	12	108	20
Viella Manufacturer	1	7	1
	757	6966	1332

Bakehouses in Nottingham, 1898.

Bakehouses in use	246
" underground	82
" partly underground	19
Underground Backhouse approached from interior of premises only ..	43
" " " from outside only	30
" " with entrance from both inside and outside	12

The largest Bakehouse is above ground, and contains a space of 26,000 cubic feet. The average height of this Bakehouse exceed 11ft., and it is sufficiently ventilated at the highest points of the walls.

The smallest Bakehouse contains a space of 450 cubic feet.

The greatest number of men working in any one Bakehouse is 24.

The minimum height of any Bakehouse from floor to ceiling is 6ft. 8in.

APPENDIX.

The following statistics are furnished by Mr. T. R. Swaine, the Manager of the Sanitary Depôts:—

COLLECTION AND DISPOSAL OF REFUSE.

Number of Pails Collected, 17 Years ending 31st December, 1898.

YEAR.	NOTTM.	BASFORD AND BULWELL.	RADFORD AND LENTON.	TOTAL.	WEEKLY AVERAGE.
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	2,495,125	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
1894	1,559,608	605,349	445,606	2,610,563	50,203
1895	1,594,130	631,219	432,450	2,657,799	51,111
1896	1,598,814	636,951	441,126	2,676,891	51,478
1897	1,568,172	636,744	444,859	2,649,775	50,957
1898	1,542,856	638,493	468,070	2,649,419	50,950

Pails in use - - - - - - - - -	40,554
Ashpits cleared (exclusive of Basford and Bulwell) -	3,528
Dry-Ash-Tubs in use - - - - - -	6,988
Dry-Ash-Covers in use - - - - - -	1,505

Number of Loads Collected.

	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898
Nottingham.—Pail Closets ..	71,704	74 092	72,125	70,576	70,756	71,603	72,570	72,657	74,267	75,911	76,134	74,675	73,469
Night Ashpits	4,116	3,645	3,408	3,056	2,775	2,939	2,896	2,418	2,287	2,460	2,278	2,391	2,406
Dry Ashpits and Dry Ash Tubs	8,153	8,038	7,495	7,588	7,170	7,199	7,463	8,301	8,378	8,820	9,518	10,230	11,851
Slaughter House ..	858	906	867	884	907	975	973	969	975	975	1,037	1,021	1,034
Pot Cart	489	490	485	483	499	849	916	1,229	1,286	1,348	1,379	1,390	1,360
Basford and Bulwell.— Pail Closets	25,766	25,521	25,368	25,485	26,079	26,672	27,622	27,986	28,826	30,058	30,331	30,321	30,404
Radford & Lenton Pail Closets ..	17,870	20,185	19,866	19,943	20,266	20,587	21,271	21,141	21,219	20,593	21,006	21,183	22,289
Radford & Lenton Night Ashpits ..	3,062	2,271	2,206	2,238	2,163	2,182	2,047	1,973	1,967	1,951	2,666	2,844	3,276
Totals	132,018	135,148	131,820	130,253	130,615	133,006	135,758	136,674	139,205	142,116	144,349	144,055	146,089
Weekly Averages ..	2,538	2,599	2,535	2,504	2,511	2,557	2,610	2,629	2,677	2,733	2,775	2,770	2,809

Disposal of Refuse.

	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898
Number of Wagons sent out ..	4,022	4.628	4,753	4,940	4,994	4,999	4,342	3,669	3,510	4,481	4,085	4,109	3,134	3,091	3,595
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	T. c. q. lbs. 7·19·0·18	T. c. q. lbs. 7·17·1·17	T. c. q. lbs. 7·18·1·12	T. c. q. lbs. 7·19·2·19	T. c. q. lbs. 7·19·0·25
Number of Boats sent out ..	646	555	327	371	350	293	278	247	547	320	415	359	574	514	479
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	T. c. q. lbs. 32·6·2·9	T. c. q. lbs. 32·9·3·23	T. c. q. lbs. 32·10·0·3	T. c. q. lbs. 32·17·0·6	T. c. q. lbs. 33·6·0·15

HANDBILLS & LEAFLETS.

City of Nottingham. The Feeding and Care of Infants.

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

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

3.—The child should, if possible, receive no other food than its mother's milk until it is at least 6 or 7 months old.

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

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

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

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

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

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

(*c*) From three months to seven months old the child should have a mixture of two parts of cow's milk to one of water. About four ounces (eight tablespoonfuls) should at first be given at each meal, but, the intervals between meals being still lengthened, a larger quantity than this will soon be required for each meal. The quantity of cream given with each meal may now be increased from 2 to 3 or 4 teaspoonfuls.

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

Begin with about 16 oz. a day of 24 hours, as under (*a*). Increase this by the addition of 1 oz. to 2 oz. a week up to the end of the first month. After the first month add 4 oz. a month up to the end of the seventh month. At this period, unless the child is regularly to have some quantity of the farinaceous food mentioned in the next paragraph, its milk should amount to at least 40 oz. a day. At 9 months a milk-fed child should have three pints in the 24 hours.

(*d*) From seven months to 12 months old the child should be given five meals in a day of 24 hours. The number of meals will thus have been reduced by a little more than one-half (from 11 to 5) in the first seven months. Each meal should consist at the first of about 5 or 6 ounces (10 or 12 tablespoonfuls) of undiluted cow's milk, with cream as under (*c*); but three of the meals may also each contain about a teaspoonful or more of some whole-meal farinaceous food, well boiled and stired up with the milk. All the meals in this period should be given between 6 or 7 a.m. and 9 or 10 p.m.

(*e*) From 12 months to 18 months old the child should still be fed only during the day, and at about the same intervals, on five occasions, between early morning and night. The amount of milk should be about twice as great as given under (*d*), and porridge, bread and milk, bread and gravy, bread and butter, and a lightly boiled egg occasionally, may with advantage be given with, or in place of the milk as time goes on. It must not be forgotten, however, that pure fresh cow's milk, well boiled, is an excellent and sustaining food as well as a palatable drink for human beings at all ages.

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

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

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

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

It should be remembered that a young child is exceedingly liable to suck or to swallow anything within its reach which admits of being so treated.

It should also be borne in mind that a young child has no dread of fire or hot things unless or until it is actually burnt.

PHILIP BOOBBYER, M.B.,

Medical Officer of Health, Nottingham.

City of Nottingham. Prevention of Diarrhœa and Cholera.

These diseases may in great measure be avoided by the exercise of common care. Cleanliness of person and surroundings and a judicious diet are the best possible safeguards against them. Their germs enter the system through contaminated air, water, and food; it is most important, therefore, to secure the utmost possible purity of these three vital agents.

All parts of a house should be freely ventilated both by day and night:—there is as a rule much less harm to be apprehended from too much than too little fresh air, whatever its temperature or degree of moisture. No decomposing refuse should be allowed to remain in the house or its neighbourhood; all vegetable refuse should be burnt in the kitchen fire. The floors of all rooms, passages, and stairways should be frequently washed with soap and water, and all private courts, alleys, and yards should be flushed with fresh water as often as possible. All dirty walls should be scraped and limewashed. All drains in the neighbourhood of the house should be flushed at short intervals, and all obstructions to the drainage and faults in the drains, which cannot be dealt with by the tenant, should be reported at once to the **Health Department in the Guildhall.** It is most important that all house drains should be completely disconnected from the sewers. All other offensive nuisances which are not receiving the necessary attention should also be at once reported.

The Public Water supply of the town is now happily above the suspicion of contamination, but no water even from this source should be allowed to stand before being used for drinking purposes, and all water from private wells or other like sources should invariably be boiled before use.

Only sound and fresh flesh of any kind should be used as food, and this should be well cooked. The same remark applies to cooking vegetables of every 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 or in hospital, and that all discharges from the patient's body should be disinfected and placed in a separate receptacle, which will be provided and scavenged by the Corporation; and, further, that all articles soiled with such discharges should be promptly disinfected, or destroyed by fire. Persons attending upon Cholera patients should not touch with their hands, their own or other persons' faces, or

any food or food utensil intended for their own, or other unaffected person's use. Any case suspected to be one of **Cholera** should be at once notified to me at the **Health Department in the Guildhall.**

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

PHILIP BOOBBYER,

Guildhall, Nottingham. *Medical Officer of Health.*

City of Nottingham. Prevention of Tuberculous Consumption.

This disease is infectious, and liable to spread among persons living in contact with those suffering from it. It is, however, in many cases entirely curable under appropriate treatment.

Where the lungs are principally affected, the spit of the patients contains most of the poison. This should be received into a vessel containing a strong solution of Carbolic Acid (1 of Carbolic to 20 of Water), and all washing materials and utensils soiled by the patients should be soaked in the same solution before being washed.

Consumptive patients should always sleep alone.

The rooms of consumptive patients should be freely ventilated both by day and night, and should be disinfected and cleaned at least once a month.

Consumptive patients should spend as much time as possible in the open air.

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

PHILIP BOOBBYER,

Guildhall, Nottingham. *Medical Officer of Health.*

Nottingham Corporation. Bagthorpe Hospital. Scarlet Fever.

To Parents, Guardians, and others.

Although every care is exercised to prevent the carriage of infection by persons discharged from Bagthorpe Hospital, it is impossible in some instances to insure against such an accident, for no one can say with certainty how long scarlet fever may lurk in the system. Parents and others are warned against allowing recently discharged patients to come into unnecessarily intimate contact with others. No person discharged from a Fever Hospital should be allowed to sleep in the same bed as another until at least a fortnight after discharge. A short holiday in the country, with plenty of fresh air, apart from others, is always desirable after convalescence from scarlet fever. But all persons recovering from scarlet fever should be warmly clothed, and otherwise protected against cold. Any recently discharged person who complains of sore throat, nose, or ears, or who has a breaking out on the skin, should be at once isolated, and placed under the care of a medical man. In any case the Corporation cannot accept responsibility or liability for the outbreak of infection occurring among the companions of persons recently discharged from hospital.

PHILIP BOOBBYER, M.B., *Medical Superintendent.*

Official Notice under the Shop Hours Acts, 1892 to 1895, to amend the Law relating to the Employment of Young Persons in Shops.

NOTICE IS HEREBY GIVEN that, under the above Acts, a young person cannot be employed in or about a shop for a longer period than seventy-four hours, including meal times, in any one week.

A young person cannot, to the knowledge of his employer, be employed in a shop who has been previously on the same day employed in any factory or workshop, as defined by the Factory and Workshop Act, 1878, for the number of hours permitted by the said Acts, or for a longer period than will, together with the time during which he has been so previously employed, complete such number of hours.

In every shop in which a young person is employed a notice must be kept exhibited by the employer in a conspicuous place, referring to the provisions of these Acts, and stating the number of hours in the week during which young persons may lawfully be employed therein. If any employer fails to keep exhibited this notice in the manner required, he is liable to a fine not exceeding forty shillings.

Where any young person is employed in or about a shop contrary to the provisions of these Acts, the employer will be liable to a fine not exceeding one pound for each person so employed.

The council of any county or borough, and in the city of London the common council, may appoint such inspectors as they may think necessary for the execution of these Acts within the areas of their respective jurisdictions, and sections 68 and 70 of the Factory and Worshop Act, 1878, shall apply in the case of any such inspector as if he were appointed under that Act, and as if the expression "Workshop," as used in those sections, included any shop within the meaning of these Acts.

In these Acts, unless the context otherwise requires, "Shop" means retail and wholesale shops, markets, stalls, and warehouses, in which assistants are employed for hire, and includes licensed public-houses and refreshment houses of any kind.

"Young person" means a person under the age of eighteen years.

Other words and expressions have the same meanings respectively as in the Factory and Workshop Act, 1878.

Nothing in these Acts applies to shops where the only persons employed are members of the same family dwelling in the building of which the shop forms part, or to which the shop is attached, or to members of the employer's family so dwelling, or to any person wholly employed as a domestic servant.

And Notice is hereby given that no young person can be employed in or about these premises for a longer period than seventy-four hours, including meal times, in any one week.

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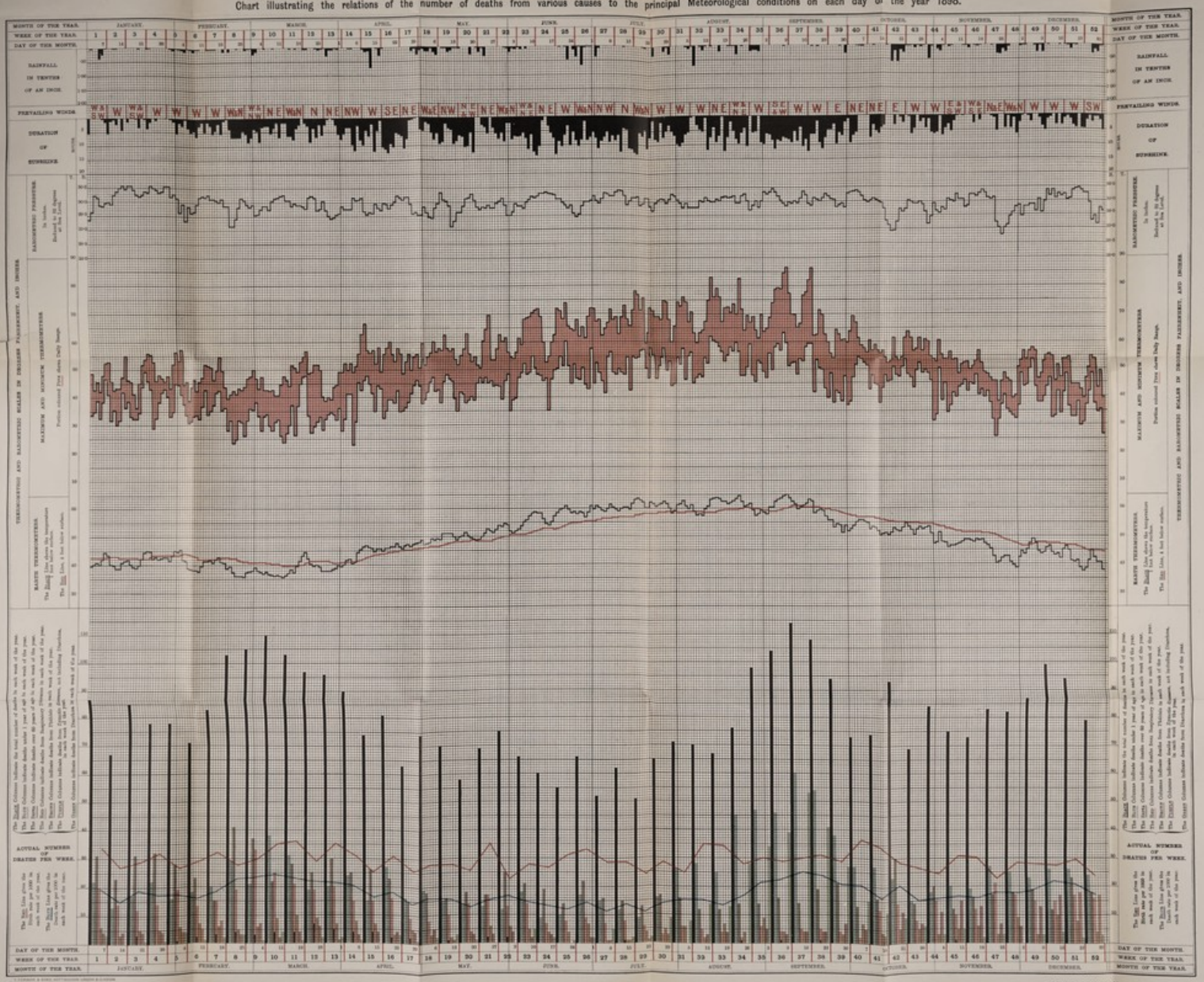
City of Nottingham.

Chart illustrating the relations of the number of deaths from various causes to the principal Meteorological conditions on each day of the year 1898.



The actual number of Deaths from Epidemic Influenza is indicated by a vertical BLACK Line in the column representing Deaths from Respiratory Diseases.

Estimated Population of the City, middle of 1898, 236,139.
" " " " 1899, 239,384.
Area of the City ... 10,395 acres.

Total Births during the year, ... 6,806
Birth Rate per 1000 of population per annum, 28·9

Total Deaths, ... 4,161
Death Rate per 1000 of population per annum, 17·7.

ARTHUR BROWN, M. Inst. C.E., City Engineer.
PHILIP BOOBBYER, M.B., Medical Officer of Health.