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# County



Borough

of Bolton.

# ANNUAL REPORT

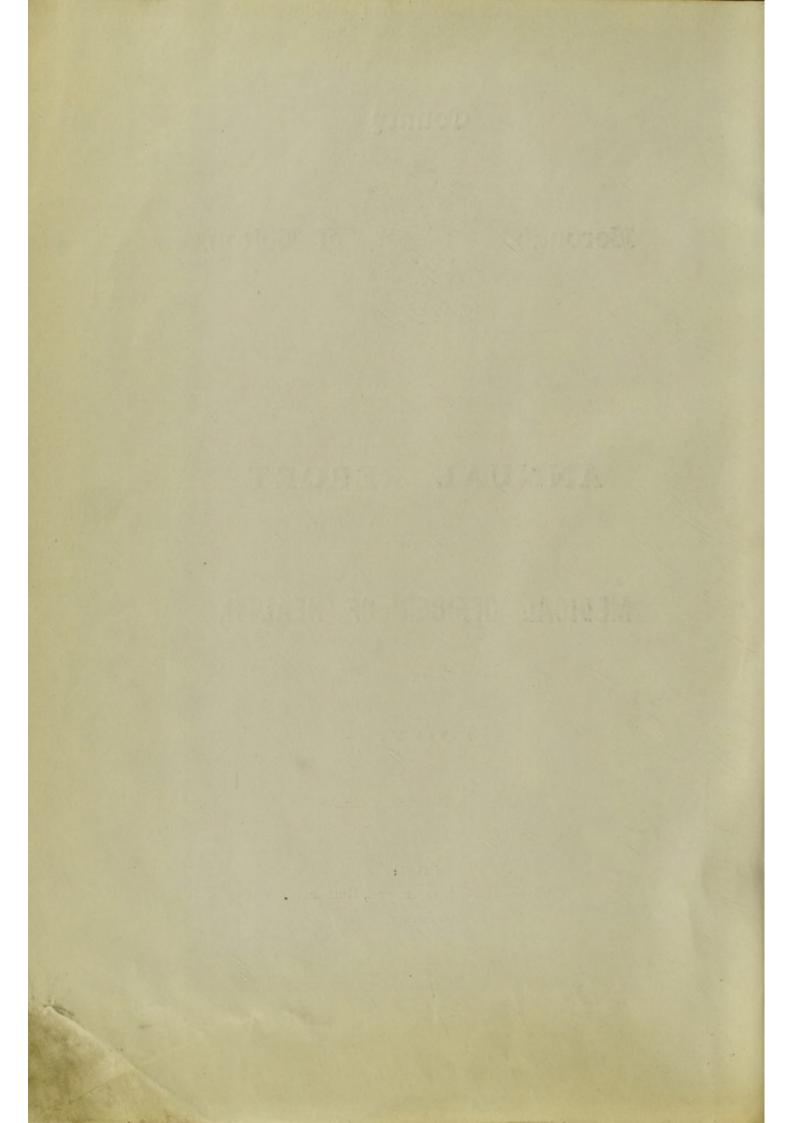
OF THE

# MEDICAL OFFICER OF HEALTH,

FOR

1907.

BOLTON: J. W. GLEDSDALE, PRINTER, ETC., DEANSGATE. 1908.



## COUNTY BOROUGH OF BOLTON.

### SANITARY COMMITTEE.

The Mayor—Ald. THOS. B. TONG, J.P. The Deputy Mayor—Ald. JOHN HEYWOOD, J.P. Chairman—Ald. J. YOUNG, L.R.C.P. Vice-Chairman—Coun. E. ASPINALL.

Ald. W. H. BROWN, J.P.

- " KNOWLES EDGE, J.P.
- " J. GREENWOOD.
- Counc. C. AINSWORTH, J.P.
  - " J. BOARDMAN.
  - " W. CARR.
  - " E. CHALLINOR.

- Counc. D. CUERDEN,
  - ,, J. HAMER.
    - G. HAMPSON.
  - " W. HARGRAVES, J.P.
  - ., H. M. HARWOOD, J.P.
  - ., R. TOOTILL, J.P.

# STAFF OF THE SANITARY DEPARTMENT.

Food Inspector-RICHARD SPENCER.

District Inspector-1. JOHN MCMILLAN, Cert. R. San. I.

- 2. GEORGE SOUTHERN.
- 3. EDWARD OAKES, Cert. R. San. I.
- 4. EDWARD HERBERT FARAGHER, Cert. K. San. I. and Cert. for Food.
- 5. EVAN SUMNER, M. R. San. I.
- 6. HERBERT DANIELS, Cert. R. San. I.

Chief Clerk-JACOB HOLKER, Cert. R. San. I.

Chief Disinfector-JOHN WILSON.

Matron, Borough Fever Hospital-MISS IRENE WEBB.

Medical Officer of Health-J. E. GOULD, M.D., Lond., D.P.H. Camb.

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## Extract from Memorandum of Local Government Board, November, 1906, as to Annual Reports of Medical Officer of Health.

"The report should be chiefly concerned with the conditions affecting health in the district, and with the means for improving those conditions. It should contain an account, brought up to the end of the year under review, of the sanitary circumstances of the district, and of any improvement or deterioration which may have occurred during the year in these circumstances. Care should be taken to report fully and explicitly on the influences affecting or threatening to affect injuriously the public health in the district, and on the action which has been taken, or which may still be needed, with a view to combat those influences. It is of especial importance that the Medical Officer of Health should record what action has been taken to remedy unhealthy conditions which have been reported by him in previous annual reports, or in special reports presented during the year under review, and that attention should be called afresh year by year to such as remain unremedied."

The subjects to be especially borne in mind are :---

- (1) Physical features of the District.
- (2) House accommodation.
- (3) Occupations and influence on health.
- (4) Sewerage and drainage.
- (5) Excrement and refuse disposal, system in vogue, defects if any.
- (6) Water supply, sufficiency, wholesomeness and freedom from risk of pollution.
- (7) Places over which the Council have supervision.
- (8) Nuisances-byelaws.
- (9) Method of dealing with infectious disease.
- (10) Schools and their sanitary condition and action taken in regard to the health of the scholars.

#### GENTLEMEN,

In presenting to you the Health Report for 1907, I have to direct your attention in the first place to the death-rate, which was higher than that for 1905 and 1906, on account of an epidemic of measles, and concerning which I reported to the Local Government Board. In other respects the information recorded under Vital and Mortal Statistics calls for no further comment, as it is similar to that of previous years.

With regard to infectious diseases, it will no doubt interest you to note what was done with regard to the prevention of the spread of pulmonary tuberculosis, as Bolton and Sheffield are the only two towns in which this disease is compulsorily notifiable.

In the sanitary work the demolition and improvement of unfit houses again occupied a prominent position, and good progress was made.

Reports from the Public Analyst and the Scavenging Superintendent, Mr. F. Smith, are included in this report, and the usual statistics and records.

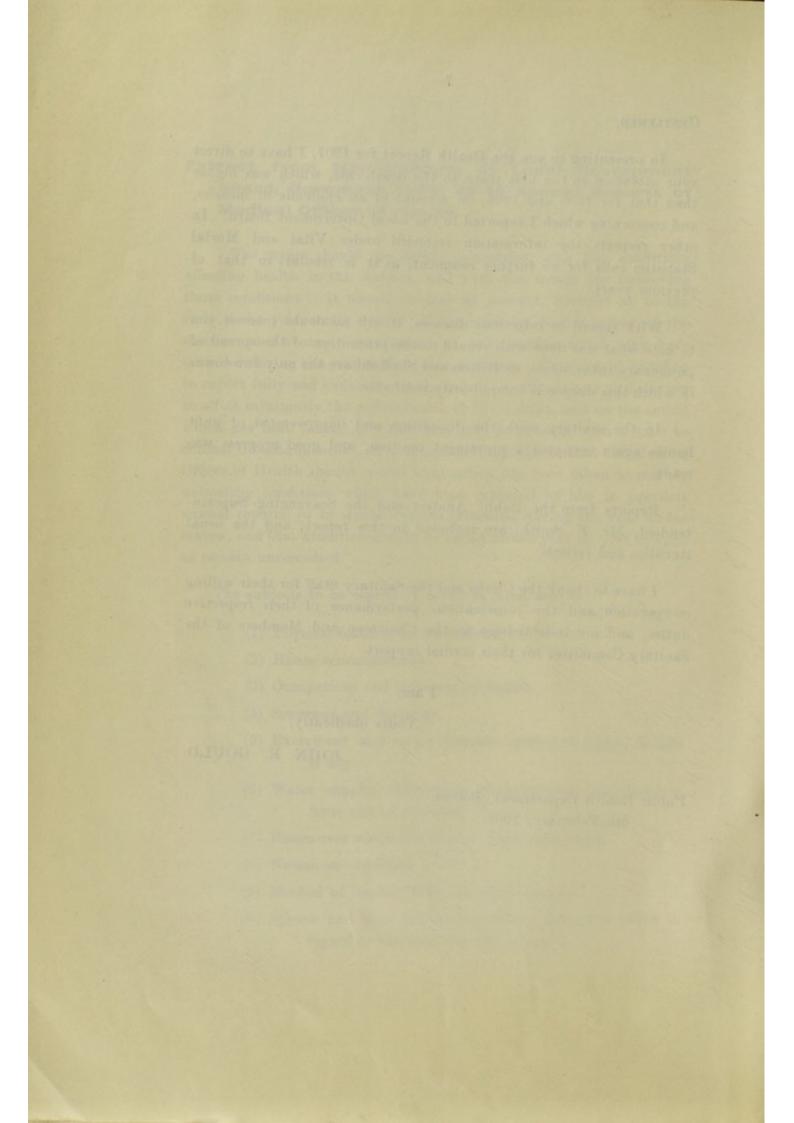
I have to thank the Clerks and the Sanitary Staff for their willing co-operation and the conscientious performance of their respective duties, and my indebtedness to the Chairman and Members of the Sanitary Committee for their cordial support.

I am,

Yours obediently,

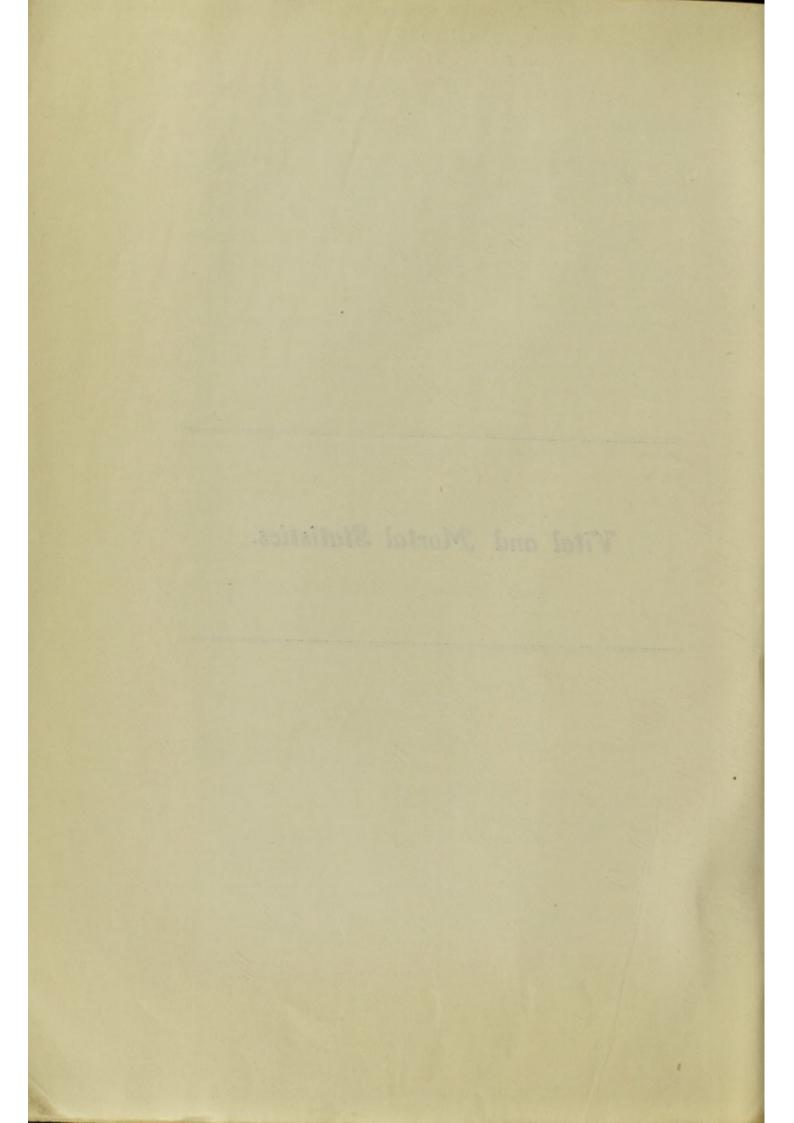
JOHN E. GOULD.

Public Health Department, Bolton. 6th February, 1908.



# Vital and Mortal Statistics.

1



# SUMMARY OF VITAL AND MORTAL STATISTICS. 1907.

Position Lat. 53° 35' N., Lon. 2° 3	37' W.
Elevation above sea level	
Geological Formation:-Boulder Clay and Sand	
Coal Measures.	
Area in Acres	15283
Population 1	82917
Density	11.9
Inhabited Houses-Census 1901	35995
Uninhabited Houses-Census 1901	3093
New Houses Certified 1901-1907 inclusive	3300
New Houses Certified 1907	552
Rateable Value £8	05,121
Births	4476
Birth-rate	24.4
Deaths	3073
Death-rate (Corrected for Institutions)	16.7
Corrected Death-rate (ascertained by	
application of Registrar-General's	100
Factor 1.1308)	18.8
Average Death-rate (1897—1906)	18.1
Infantile Mortality	145
Epidemic Death-rate (Seven Chief Diseases)	2.40
Diarrhœa Death-rate	•36
Diarrhœa Mortality per 1000 Births	14.7
Enteritis Mortality per 1000 Births	11.8
Phthisis Death-rate	1.01
Death-rate from other forms of Tuberculosis	•38
Respiratory Death-rate	3.26
Rainfall (21 years' average, 40)	45.56
76 Great Towns Death-rate	15.4
76 Great Towns Epidemic Death-rate	1.54
76 Great Towns Infantile Mortality	127

#### **Population and Area.**

For the middle of 1907, the estimated population was 182,917 and this on an area of 15,283 acres, or 23.8 sq. miles, gives a density of 11.9 persons per acre.

#### Births.

4476 births were registered, rather less than last year, equal to a birth-rate of 24.4, the lowest yet recorded. The illegitimate births numbered 171, and were 3.8 per cent. of the total births.

#### Deaths.

3073 deaths were registered of Bolton residents, including those who died in institutions outside the Borough. The death-rate was 16.7, the average for ten years being 18.1. There were 244. deaths in the Workhouse, 143 in the Bolton Infirmary, 49 in Lunatic Asylums, 31 in the Borough Fever Hospitals, and 13 in other institutions outside the Borough. 26 of those who died in the Infirmary and two of those in the Fever Hospitals were non-residents.

The deaths in the wards varied from 10.6 in Heaton to 23.4 in East Ward.

Nineteen per cent. of the total deaths were due to respiratory diseases, chiefly bronchitis and pneumonia; sixteen per cent. to epidemic diseases; nine per cent. to tubercular diseases; eight per cent. to old age; and the rest to various other causes in smaller percentages, as will be seen from the summary of causes of death.

#### TABLE I.

Zymotic Death-rate. Population. Death-rate Infantile Mortality. Birth-rate Density. Area. WARD. 62'1 24'7 2'86 West ... 17'5 153 27960 450 65.8 1.61 Halliwell 22.7 157 149 23580 358 186 Bradford 285 71.6 26.7 196 3.81 20430 16.8 67.7 26.3 Derby ... 20320 300 141 3'24 East ... 160 62'1 32'3 23'4 198 3.62 9940 Rumworth 163 50'3 26.1 16.2 153 9205 2'93 16.5 Church 21.8 10'8 1'99 8534 94 390 North ... 80 23.8 15'1 7810 150 52'0 1'79 Exchange 4770 105 45'4 26.2 22'4 249 3'35 Old Borough ... 132549 2361 56'1 25'2 17'7 156 2.80 Great Lever ... 11428 867 14.6 13.1 21'0 137 1'75 Tonge ... 88 830 12'9 24'1 122 10755 1'39 Astley Bridge ... 1780 20'8 14.8 8540 47 123 '58 .... Smithills 5522 2108 26 21.5 14'4 92 '90 Hulton 1620 14'6 138 1'68 5330 3'2 25'7 ..... Darcy Lever-cum-Breightmet 24'7 19'5 3475 1372 2'5 93 1'15 Deane-cum-Lostock ... 3255 2601 1'2 22'1 13'5 97 2'45 Heaton 10.0 2063 1744 1,1 150 96 '96 ... Added Area 50368 12022 3.8 22'2 14'2 112 1'35 Extended Borough 182917 15283 16'7 11'9 24'4 145 2'40

POPULATIONS, BIRTH-RATES, &C., IN WARDS, 1907.

# TABLE II.

	INFANTIL	E MORT	ALITY	IN P	REVIOUS	YEARS.	
Year.	Population.	Density.	Births.	Birth- rate,	Deaths.	Death-rate.	Infantile Mortality.
1773	5600	3.0					
1791-1800	14437	7.8	2 20			1. 17.11.1	
1801-1810	20444	11.1					
1811-1820	27364	14.8	23.0				
1821-1830	37240	20'2	Converse of				
*1831-1840	46579	25'3					
1841-1850	55167	29'9	Looks, p.				
1851-1860	61645	33'5				30.2	
1861-1870	75999	41'2	8. miles			29'4	
1871	83095	45'1	1200			26.1	
1872	84072	45.6				28.0	
1873	85061	46.2	1 march			23'3	-
1874	86061	46.7	3526	40.9	2219	25.7	178
1875	87073	47'3	3552	40.7	2403	27'5	193 169
1876 1877	88097 89133	47 <sup>.8</sup> 48 <sup>.</sup> 4	3722	42'2 40'3	2199 2226	24'9 24'9	160
†1878	102919	43.5	3596 3952	38.3	2313	22.4	181
1879	103819	43.9	3897	37.5	2233	21.5	158
1880	104727	44'3	4644	44-3	2835	27'0	179
1871-1880	91405	45.8	3841	40.6	2346	24.8	175
1881	105643	44'7	3811	36.0	2022	10.1	151
1882	106567	45'1	3834	35'9	2277	21'3	170
1883	107499	45'5	3697	34'3	2157	20 0	171
1884	108439	45'9	3701	34'1	2615	24'1	194
1885	109387	46.3	3788	34 6	2282	20.8	161
1881-1885	107507	45'5	3766	34'9	2270	21'0	160
1886	110343	46.7	3786	34'3	2572	23.3	184
1887	111308	47'1	3627	32.2	2393	21.4	172
1888	112281	47'5	3729	33'2	2453	21.8	170
1889	113263	47.9	3759	33.1	2528 2986	22°3 26°1	166
1890	114253	48.3	3726	32'5	2586		176
1886-1890	112289	47°5 48'8	3725	33.1	2516	22.9	173 165
1891 1892	115253 116261	400	3914 3769	33'9 32'4	2648	22'6	185
1893	117278	49.6	3874	33.0	2813	23.8	200
1894	118309	50'1	3719	31.4	2215	18.5	162
1895	119337	50'5	3960	33.1	2862	23.7	213
1891-1895		49.6	3847	32.7	2610	22'2	185
1896	120380	50'9	3792	31.7	2496	20.7	165
1897	121433	51'5	3985	32.8	2671	21'9	184
1898	122495	51.8	3800	31.0	2350	19.1	167
\$1899	162222	10.0	4878	30.0	3238	19.9	180
1900	164240	10.7	4775	29.0	3222	19.6	170
1896-1900	138154	35.1	4246	30.9	2795	20'2	173
1901	168748	11.0	4648	27.5	3085	18.2	172
1902	171082	11.1	4779	27'9	2959	17 <sup>.2</sup> 17 <sup>.6</sup>	132 151
1903	173401	11°3 11'4	4700 4736	27°1 26°9	3062 2994	170	167
1904 1905	175744 178111	11.4	4/30	25.1	2994	15'4	166
1901-1905	173417	11'2	4668	26.8	2968	17.0	157
1901-1903	180502	11.8	4599	25'4	2794	15'4	138
1907	182917	11.0	4476	24'4	3073	16.7	145
.901		and the second			0.10		

POPULATIONS, DENSITIES, BIRTH-RATES, DEATH-RATES, AND INFANTILE MORTALITY IN PREVIOUS YEARS.

\* Incorporation in 1838 with 48,000 population and 1,840 acres.
† Added in 1878 part of Rumworth with 163 acres and 3,000 population, and part of Halliwell with 358 acres and 10,000 population.
‡ Borough extended and 38,000 added to the population. BIRTH-RATES, DEATH-RATES, AND INFANTILE MORTALITY IN 33 GREAT

Towns, 1907 (Registrar General's Returns).

	Towns		F	lirth-rate	D	eath-rate	Epidemic Death-rat		Infantile Mortality
	76 Great Town	ns		27.0		15.4	 1.54		127
	Croydon			25.6		12.4	 .88		93
	Leicester			23.2		12.6	 .90		132
	Southampton			23.1		13.0	 .81		109
	Bristol			24.3		13.1	 .79		99
	Halifax			17.4		14.3	 •68		104
	Derby			25.1		14.3	 1.61		120
	London			25.7		14.5	 1.41		115
	West Ham			28.5		14.6	 2.18		131
	Norwich			24.9		14.6	 1.31		124
	Brighton			21.0		14.7	 .83		112
	Plymouth			23.1		14.7	 .85		109
	Bradford			19.9		14.7	 .89		124
	Cardiff			26.0		14.9	 1.90		132
	Birkenhead			31.2		15.3	 1.96		109
	Leeds			24.9		15.3	 1.25		132
	Gateshead			30.7		15.4	 1.26		137
	Newcastle-on-	Tyne		29.7		15.9	 1.36		123
	Portsmouth			28.1		16.0	 1.83		. 123
	Birmingham			28.3		16.1	 1.77		. 148
	Hull			28.8		16.1	 1.78		. 127
	Rhondda			37.1		16.2	 1.89		. 162
	South Shields	3		28.9		16.7	 1.36		. 133
(L)	BOLTON			24.4		16.2	 2.40		. 145
(L)	Blackburn			24.8		16.9	 1.36		. 154
	Sheffield			30.9		17.0	 2.65		
	Nottingham			26.8		17.5	 2.25		
(L)	Salford			29.2		17.6	 2.13		
(L)	Burnley		····	28.5		17.6	 1.41		
(L)	Manchester			28.7		18.1	 1.73		
(L)	Liverpool			31.8		19.0	 2.00		
(L)	Preston			26.7		19.0	 1.66		
-	Sunderland			34.2		19.1	 1.84		
(L)	Oldham			26.4		19.3	 1.21	••	. 144
		(	L) L	ancash	ire '	l'owns.			

(L) Lancashire Towns.

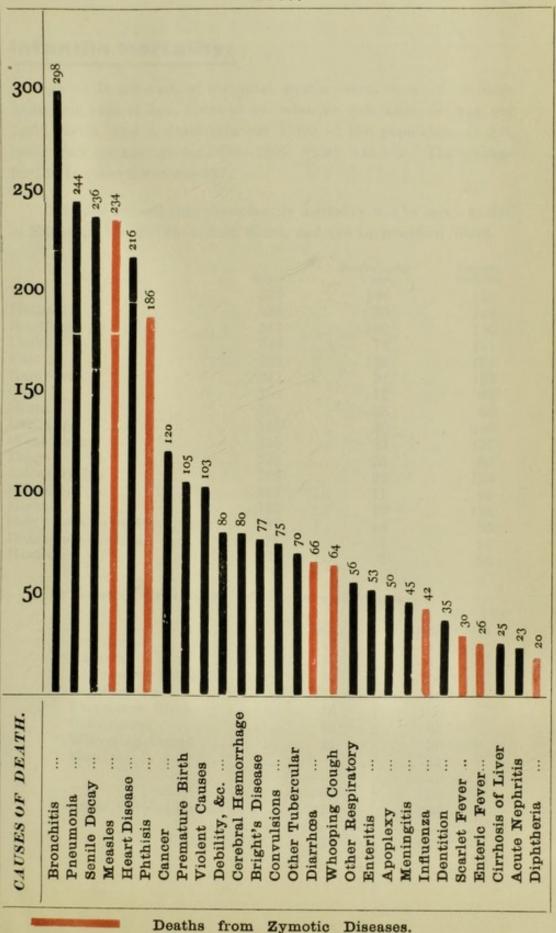
# SUMMARY OF CAUSES OF DEATH, 1907.

General Diseases.

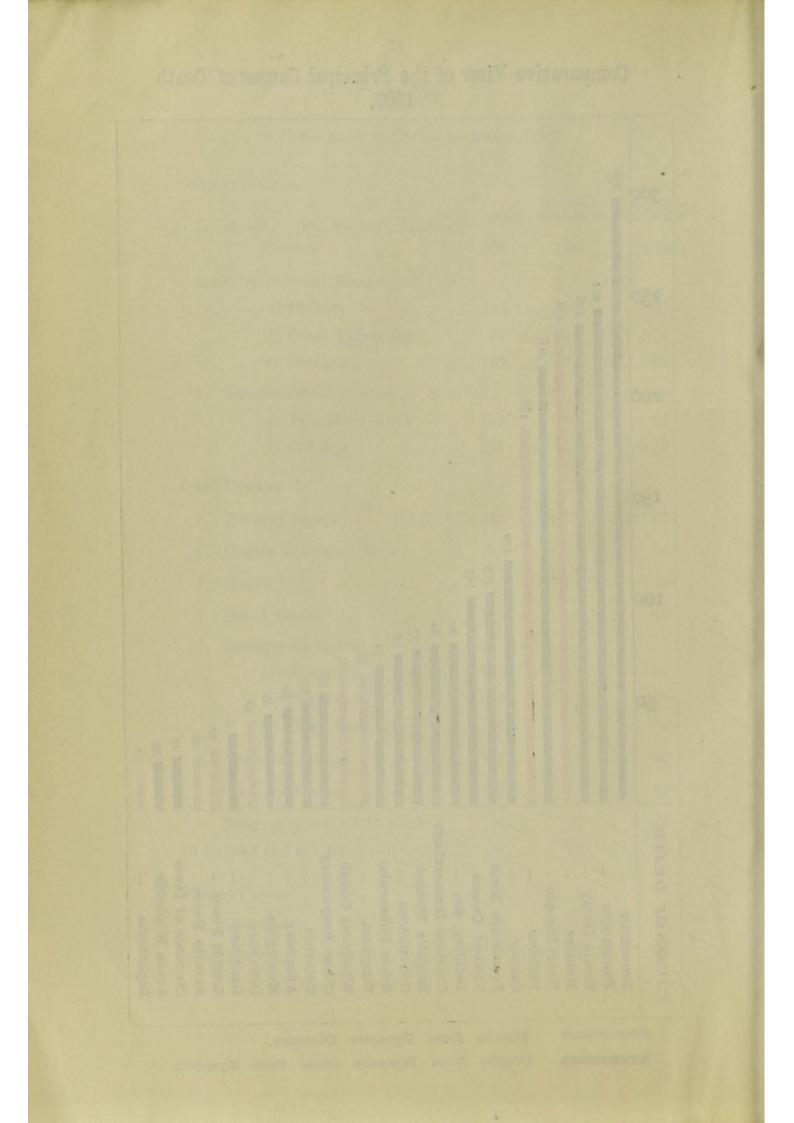
1.	Specific Febrile or	Enidemi	No. o Denti				ath-rate per 00 of pop'ln.
	Diseases		FOI		16.4		2.75
2.	Constitutional Diseases :	_ 14					
	(a) Phthisis		186		6.0		1.01
	(b) Other Tubercul	ar	70		2.2		.38
	(c) Cancer		120		3.9	•••	:65
3.	Developmental Diseases	:					
	(a) Premature Birt	th	105		3.4		•57
	(b) Old Age		236		7.6		1.29
Local	Diseases.						
1.	Nervous System		196	·	6.3		1.07
2.	Organs of Special Sense	·	12		•3		·06
3.	Heart		216		7.0		1.18
4.	Blood Vessels		140		4.2		.76
5.	Respiratory System :						
	(a) Bronchitis		. 298		9.6		1.62
	(b) Pneumonia		. 244		7.9		1.33
	(c) Other Respirato	ory	. 56		1.8		.30
6.	Digestive System		188		6.1		1.02
7.	Urinary System		108		3.2		•59
8.	Pregnancy and Child B	irth	. 24		•7		·13
Ill-De	efined and not Specified I	Diseases	. 87		2.8		•47
Viole	nt Causes.						
1.	Accidents		86		2.7		•47
2.	Suicide		. 17		•5		-09

Comparative View of the Principal Causes of Death 1907.

17



Deaths from Diseases other than Zymotic.



# Infantile Mortality.

652 or 21 per cent. of the total deaths were those of children under one year of age, equal to an infantile mortality of 145 per 1,000 births, and a death-rate per 1,000 of the population of 3.5, lower than the average for 1896—1905, which was 162. The average for the 76 great towns was 127.

It will be noticed that the infantile mortality was as much as 240 in Exchange Ward, 195 in East Ward, and 186 in Bradford Ward.

Ward.			Births		Deaths under 1 year	Infantile Mortality
West	 		691		106	 153
Halliwell	 		536		80	 149
Bradford	 		547		102	 186
Derby	 		536		76	 141
East	 		322		64	 195
Rumworth	 	-	241		37	 153
Church	 		169		16	 94
North	 		186		15	80
Exchange	 		125		30	 240
Great Lever	 		240 .		33	 137
Tonge	 		260		23	 88
Astley Bridge	 		178		22	 123
Smithills	 		119	/	11	 92
Hulton	 		137		19	 138
Darcy Lever-cu		et	86		8	 93
Deane-cum-Los			72		7	 95 97
Heaton			31		3	
	 		01		0	 96

The causes of death under one year were as follows : ---

		1906.	1907.
Diarrhœa		 147	 47
Enteritis		 17	 19
Respiratory Disease	es	 74	100
Debility, &c.		 103	 78
Premature Birth		 96	 105
Convulsions		 53	 63
Whooping Cough		 11	 30
Measles		 1	 64
		502	 506
Other Various Cau	ses	 134	 146
		636	
		030	 652

### Mortality from Epidemic Diseases.

440 deaths were registered from the seven chief epidemic diseases, equal to a death-rate of 2.40 lower than the average for the last ten years, which was 2.55. It is higher than that for the 76 great towns, which was 1.54.

The causes of death are set out here, and the death-rates in previous years in Table IV.

				1906.	1907.
(	Small-pox				 -
	Scarlet Fever			17	 30
ef	Diphtheria and Membra	nous Cr	oup	24	 20
: 1	Enteric, Continued Fev	er		40	 26
	Diarrhœa			208	 66
	Measles			2	 234
(	Whooping Cough			20	 64
	Influenza	•		27	 42
	Other Epidemic Disease	s		22	 22
	Total			360	 504

CAUSES OF DEATH FROM ALL EPIDEMIC DISEASES.

Seven Chief Epidemic Diseases.

# TABLE III.

DEATH-RATES FROM THE SEVEN EPIDEMIC DISEASES, 1886-1907.

			Small- pox.	Scarlet Fever	Diph- theria and Memb Croup.	Fever.	Measles	Whooping Cough.	Diarrhœa	Seven Chief Epi- demic.
1886			-	.14	.06	.10	1.53	.67	1.39	4'4
1887			-	.35	.06	.31	-80	•24	1.50	3.00
1888			-	'45	.00	'33	.29	.20	'99	2.6
1889			-	.26	'25	'27	1.39	.55	.91	4.1
1890			-	·48	'12	.55	.83	.95	.94	3.23
1891			-	·18	·08	.52	·47	.38	·81	2.22
1892			-	.25	.11	.17	.36	.92	I'10	2'95
1893			·05	.58	.06	·28	1.38	.66	1.62	4.42
1894			-	·08	·04	'21	.16	-51	.57	1.20
1895			-	.17	.12	-41	1.00	`56	1.24	. 4'03
1896			-	.35	.07	-41	<b>'</b> 04	.83	.85	2.20
1897			-	.18	.03	.29	1.77	.35	1.63	4.16
1898			-	.10	.00	·28	.25	•36	1.80	2.93
1899			-	.22	·08	.33	'57	.27	1.20	3.08
1900			-	'12	.12	.29	'22	.20	1.13	2'40
1901			-	.30	.12	.23	.64	.29	1.45	3.02
1902			.04	·68	.27	.23	.18	.30	.40	2.13
1903			.01	.34	.51	'20	.58	.02	.87	1.98
1904			.002	.15	.10	'21	.09	.76	·88	2.25
1905			-	.02	.09	.19	.21	·04	1.01	1.88
1906			-	.09	.13	.22	10'	.11	1.12	1'72
Aver 189	age 97-190	6}	005	.22	.13	.24	.45	.30	1.18	2.25
1907			-	.10	.10	.14	1.52	-34	.36	2.40

33 GREAT TOWNS .- DEATH-RATES PER 1000 LIVING FROM ALL CAUSES, AND FROM THE PRINCIPAL EPIDEMIC DISEASES,

TABLE IV.

AND INFANT MORTALITY IN THE TEN YEARS 1896-1905, AND IN 1906.

		AND	TNEANT	OW IN	TIUNINO	NT TT	TTT .	TRN	CHIVE T		ANAT-MONT		-					
L. v	All Causes.	uses.	Small-pox.	-pox.	Measles.	les.	Scarlet Fever	Fever	Diphtheria.	neria.	Whooping. Cough.	ping- gh.	Fever.	er.	Diarrhœa	hœa.	Deaths unde One Year to 1000 Births.	under ear to tirths.
Towns.	Ten Vears 1896-905	1906.	Ten Years 1896-905	1 gob.	Ten Years 1896-905	1906.	Ten Vears 1896-905	1906.	Ten Years 1896-905	1906.	Ten Vears 1896-905	1906.	Ten Years 1896-905	1906.	Ten Years 1896-905	1906.	Ten Years 1896-905	1906.
76 TOWNS	a.	15'9	a.	00,0	a	0.40	a.	21.0	a.	61.0	o.	0.28	э.	60.0	a.	1.16	a.	145
London	17'3	1.51	£0.0		0.51	0.41	0.12	11.0	0.32	0.15	0.41	0.26	11.0	90.0	18.0	0.94	150	131
	13.6	13.4	10.0		0.24	0.36	50.0	50.0	0.16	0.27	0.30	61.0	20.0	50.0	59.0	96.0	133	127
	17.4	15.7	00.0		0.54	0.43	0.12	0.03	0.20	0.00	0.20	0.10	0.10	20.0	1.45	22.0	142	150
Portsmouth	2.21	6.41	: :	: :	0.36	to.0	01.9	10.0	0.36	0.20	0.31	16.0	0.24	80.0	+1.I	II.I	153	130
Southampton	16.3	13.1	10.0		0.37		20.0		0.24	0.21	0.29	12.0	0.13	50.0	C.87	0.80	143	113
Norwich	17.8	17.7	0,00	0.02	0.43	42.0	0.10	80.0	6.13	0.18	0.30	0.47	61.0	01.0	1.12	0.72	170	172
Bristol	2.91	14.5	00,00	00.0	0.47	66.0	0.12	80.0	0.26	0.21	0.35	0.28	11.0	90.0	09.0	0.54	138	127
Birmingham	8.61	8.91	00.0		0.45	0.40	12.0	01.0	0.20	0.18	0.48	0.45	61.0	20.0	1.34	1.58	185	168
Leicester	16.3	14.3	10.0		0.33	0.35	0.15	0.22	0.48	0.13	0.39	0.49	11.0	00.0	1 25	51.I	170	168
Derby	101	14.2	10.0	: :	0.30	0.02	0.13	20.0	0.12	05.0	0.28	0.23	91.0	00.0	0.73	0.53	153	1/1
ad	18.4	17.3	10.0	:	0.44	80.0	0.18	0.26	0.23	0.23	0.42	0.20	0.24	51.0	+0.1	1.75	167	151
Liverpool	22.4	20.6	\$0.0	00,0	0.47	84.0	0.30	0.25	0.25	0.30	24.0	0.48	0.23	0.12	1.55	64.1	180	172
Bolton	9.8I	15.2	10.0		0.40	10.0	0.25	60.0	£1.0	0.12	0.38	11.0	0.20	0.24	1.20	SI'I	101 201	140
Salford	21.9	18.3	00.0	: :	0.73	0.80	61.0	01.0	0.10	0.30	0.55	0.23	0.20	0.18	1.55	1.52	102	150
	20.0	18.8	0.04		0.62	0 88	0.27	0.23	61.0	0.12	0.44	62.0	0.12	0.04	22.0	61.1	170	146
Burnley	8.61	5.61	0.03	:	29.0	1.15	0.30	0.12	0.34	0.14	0,40	0.28	0.18	0.12	1.54	2.01	208	212
Preston	21.2	10.2	10.0	: :	0.75	80.1	0.18	21.0	67.0	0.14	3.4	01.0	0.28	21.0	12.1	96.1	209	100
	8.91	6.71	10.0		0.33	0.50	51.0	20.0	51.0	65.0	0.21	90.0	91.0	0.04	0.34	0.30	140	115
Bradford	17'2	1.01	10,0	:	0.33	0.44	01.0	0.07	61.0	0.18	0.28	0.13	01.0	0.10	0.73	20.0	159	152
Sheffield	6.61	16.4	00.0	: :	0.55	60.0	0.20	0.49	0.43	61.0	0.40	0.24	0.25	0.12	1.46	14.1	182	158
	18.3	6.91	80.0	0.04	0.53	0.24	\$1.0	50.0	0.30	0.52	0.37	0.28	61.0	61.0	05.1	19.1	170	160
Sunderland	20.0	18.6	10.0	:	0.58	01.0	81.0	\$0.c	0.13	0.22	0.44	6.0	0.30	0.14	60.1	80.1	107	140
South Shields	1.61	0.41	0.05	10.0	0.40	06.0	0.18	50.0	11.0	0.20	0.40	10.34	17.0	80.0	010	c9.1	150	140
Newcastle-on-Tvne	20.4	1.21	10.0	: :	0.40	0.03	0.13	90.0	0.16	0.24	0.43	0.22	11.0	50.0	0.74	Eo.I	167	151
Cardiff	16'2	14.0	10.0		0.42	10.0	0,12	0.02	0.43	20.0	0.41	0.35	60.0	L0.0	29.0	62.0	148	138
Rhondda	2.61	1.91	00.0		0.55	61.0	0.23	20.0	9.75	0.20	0 +0	0.21	0.32	01.0	1.22	£9.1	197	174
					I									-				and the second second

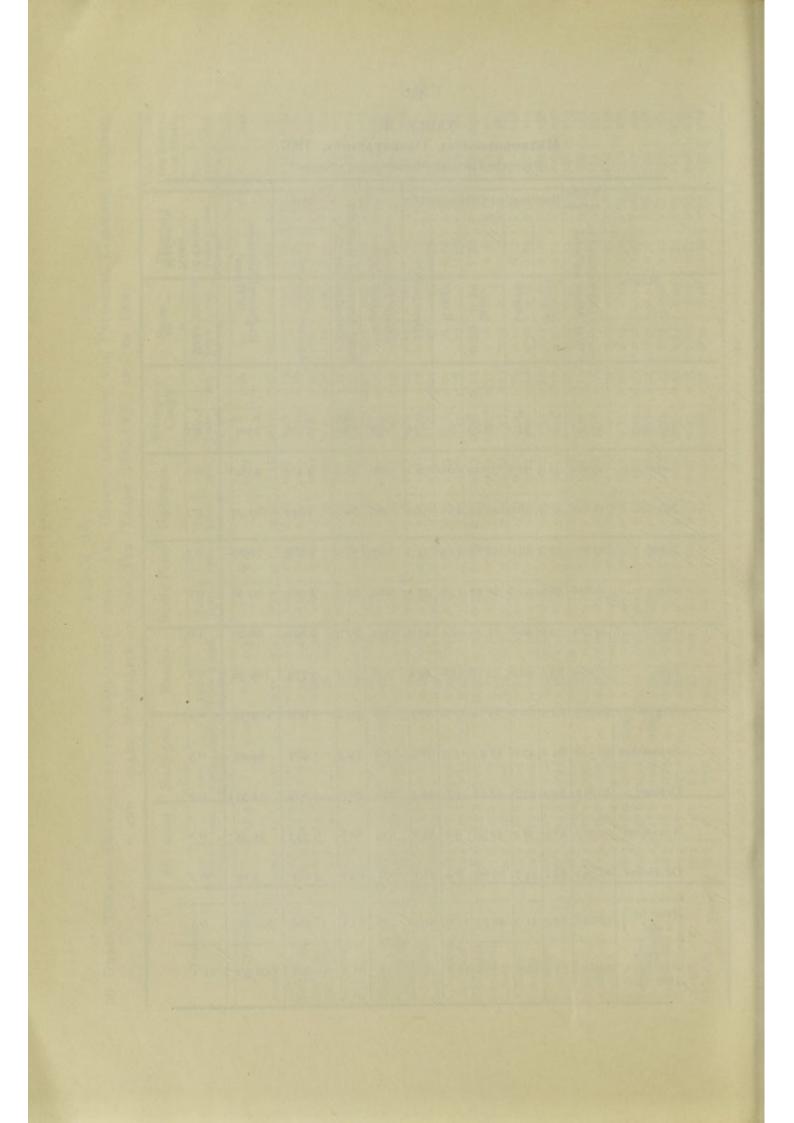
In this table o'oo indicates that the deaths were too few to give a death-rate of 0'005; where no deaths occurred, ... is inserted.

22

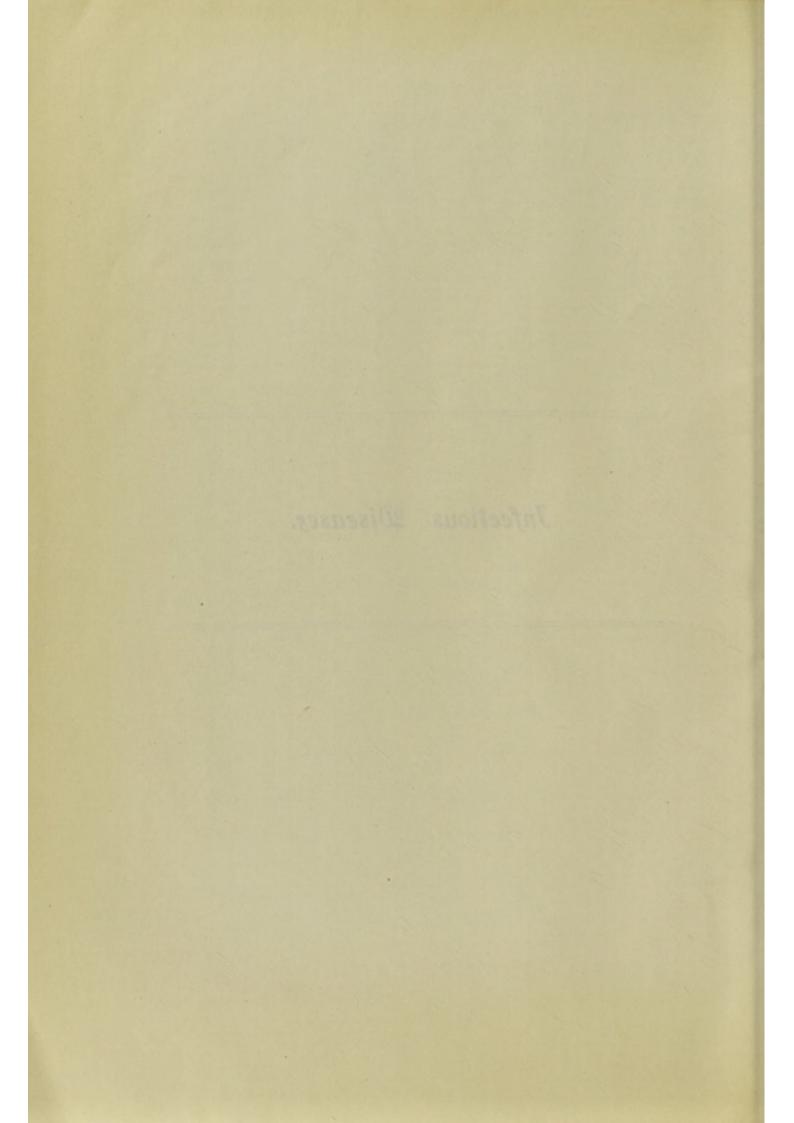
#### TABLE V.

# METEOROLOGICAL OBSERVATIONS, 1907. (From the Borough Meteorologist's Report).

	Baro- meter	Read	lings	of The	rmon	neters		dity	Rain.		e E
Month.	Corrected and Reduced to 32° Far. Mean sea level.	Highest	Lowest	Mean.	Range	Dew-point	Elastic Force of the Aqueous Vapour.	Mean Amount of Humidity Saturation per 100°	Amount Collected.	Registered Sunshine in Hours	Mean amount of Ozone o - None 10 Maximum
		0	0	0	0	0		%	11	h. m.	
January	30,301	42.7	34'2	38.20	8.5	33.6	.198	83.0	2`296	25-0	0.0
February	:9'989	41 5	31.2	39'49	10.0	32.1	·186	90.0	2'482	43-40	0.0
March	30 135	50 7	36.6	42.07	15.1	37.0	.223	84.4	3.872	101-25	0.2
April	39 767	51'4	39.0	44.16	12.4	37'3	'227	75 3	1.865	70-25	0.2
May	29.846	56.4	43'3	48.57	13-1	42 2	•269	75 7	4 381	99-40	0.6
June	29'784	73 9	40.6	51'25	12.1	47'0	'327	82.3	7.840	88-20	1.0
July	30.019	63.2	49.6	55.16	13.0	49'4	.358	77'3	3'774	109-50	02
August	29'927	62'3	49'9	55.14	11.9	50 1	.362	79'4	5.366	104-35	0.4
September.	30.128	64'2	47'0	55'43	15.3	48.9	.356	79'3	1.487	84-25	0.3
October	29.617	54'4	43'8	48.44	10.0	44.4	·298	88 <sup>.</sup> 0	4.033	34-35	0.2
November.	29'977	47'9	38.7	42'99	9.3	39'2	.539	88.8	3.223	25-35	0'2
December	29.693	43.1	35'7	39.69	7'4	36.1	'271	89.0	4.201	3-10	0.3
Mean or }	29.932	53.1	41'3	46.72	11.6	41.4	.327	83.1	45'560	790-40	0.2
Yearly Averages, 1887-1907	29'940	53'3	41.6	46.85	11.8	39.7	.278	81.5	40.898	992-53	1.1



# Infectious Diseases.



## Notification.

1187 cases of ordinary infectious disease were notified in accordance with the Infectious Diseases (Notification) Act, 1889, and 195 cases of phthisis under the Bolton Corporation Act, 1905.

This is higher than the number for 1906, but below the average for the last ten years. The increase was entirely due to scarlet fever.

The cases consisted of :--Scarlet fever, 866; enteric fever, 135; diphtheria, 79; puerperal fever, 18; and erysipelas, 89. There were no cases of smallpox notified.

The case-rate varied from 2.9 in Heaton to 9.3 in Derby Ward.

The epidemic death-rate was 2.40, lower than the average for the last ten years, but higher than that for last year.

There were 30 deaths from scarlet fever, 26 from enteric fever, 66 from diarrhœa, 234 from measles, and 64 from whooping cough.

## TABLE VI.

# WEEKLY NOTIFICATION OF SCARLET, ENTERIC, AND DIPHTHERIA, 1907.

an and	ıst	Qua	rter	2nd	Qua	rter	3rd	Qua	rter	4th	Qua	rter
Week	Scarlet Fever	Enteric Fever	Diphtheria and Memb. Croup.	Scarlet Fever	Enteric Fever	Diphtheria and Memb. Croup.	Scarlet Fever	Enteric Fever	Diphtheria and Memb. Croup.	Scarlet Fever	Enteric Fever	Diphtheria and Memb. Croup.
I P	12	3	2	14	3	I	14	2	I	19	3	I
2	12	3	I	9	I	3	13	4	I	17	6	I
3	18	4		11	I		21		I	20	3	I
4	15	5	I	18	3	2	10	I		33	7	2
5	17		4	19	I		12	2		38	5	2
6	16	I	I	11		I	13	6	I	18	б	б
7	14	I	3	17	3	2	7	7	I	31	2	
8	17	I	2	10			12	2	2	31	3	I
9	20	I	5	9	I	3	тб	2	~	25	I	I
10	13	2	I	8	I	2	14	2		23		1
11	11	3	I	8	4	2	16	I	2	21	4	3
12	16	4	I	8	3	I	21	7	I	30		2
13	11	2	5	6	I	2	30	3	2	21	4	
Total	192	30	27	148	22	19	199	39	12	327	44	21

# TABLE VII.

DISTRIBUTION OF NOTIFIED DISEASES IN WARDS, 1907.

WARDS		Small-pox	Scarlet Fever	Enteric Fever and Continued Fever	Diphtheria and Memb. Croup	Puerperal Fever	Erysipelas	Total	Rates per 1000
West			118	15	17	I	10	161	5.7
Halliwell			117	13	7	4	3	144	6.1
Bradford			121	20	11		12	164	80
Derby			129	26	7.	2	25	189	9'3
East			39	II	2	3	6	61	Q.I
Rumworth			43	4		I	2	50	5'4
Church			24	4	4		4	35	4 2
North			39	7	I	I	2	50	6.4
Exchange			16		3	2	4	25	5.5
Old Borough			646	100	52	14	68	880	6.6
Great Lever			40	13	5		5	63	5'5
Tonge			52	8	3		4	67	62
Astley Bridge		***	14	2	7	I	5	29	3'3
Smithills			43	I	2			46	83
Hulton			34	5	2	I	4	46	8.6
Darcy Lever-c-Breight	met		15	I	2	I	2	21	6.0
Deane-cum-Lostock			18	4	5	I	I	29	8.9
Heaton			4	I	I			6	2.9
Added Area			220	35	27	4	21	307	6.0
Extended Borough	1	ð	866	135	79	18	89	1187	6.4

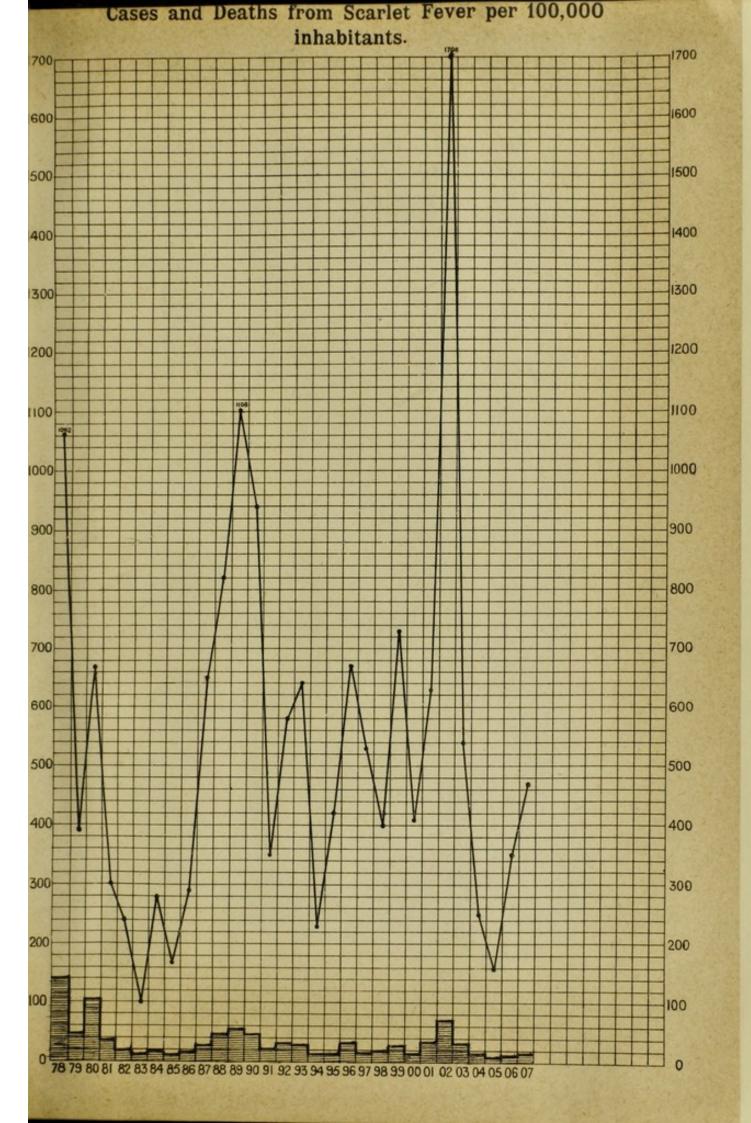
		INFE	CTIOUS	DISE	ASES N	Noti	FIED I	FROM	u 1880	) то 1	907.		
Year	Smallpox	Scarlet	Diph- theria, Memb. Croup	Enteric	Con- tinued	Typhus	Puer- peral	Cholera	Erysi- pelas	Relap- sing	Total	Rate per 1000 of pop'tion	Total ad- mitted to Hospital
1880	18	702	5	102	13	17	3				860	8.0	
1881	9	320	5	98	1	24	10	2			469	4'4	
1882	267	259	19	77		30	3	••••			655	6.1	
1883	3	193	9	75	4	9	3	I			207	1.0	
†1884	13	303	II	152	1	6	3	4			493	4'5	62
1885	6	186	8	57			4				261	2.3	120
1886		322	18	60		3	3				406	3.6	208
1887		721	22	107		2	I				853	7'5	296
t888	п	924	51	180		2	4				1172	10'3	289
1889	4	1256	92	125	2	16					1495	13.0	309
1890		1071	74	101	I	15	4				1266	10.0	273
1891		411	93	145		16	5				670	5.8	113
1892	I	683	112	97	1	2	8	1			905	7.7	158
1893	44	747	123	170		2	4				1090	9.2	202
1894	2	267	25	117	I		16				428	3.6	136
1895	:0	495	34	237	I		7				784	6.5	168
1896	I	816	29	186			10				1042	8.6	293
1897		645	17	125			8				795	6.2	261
1898		487	27	208			2				724	5'9	316
*1899		1226	52	321			12				1611	9.9	567
1900	I	644	56	208			9		13	I	932	56	482
1901		1066	91	219			8		28		1412	8.3	639
1902	63	2910	202	192	4		14		71		3456	20'2	1266
1903	55	971	142	178	2		15		85		1448	8.3	619
1904	19	477	150	158	2		9		69		884	5'0	347
1905	2	292	103	164	I		5		78		645	3.6	261
1906		630	84	197			9		123		1043	57	472
1897) 1906)	14.0	934.8		197.0	.9		9.1		46.7	.1	1295 0		523.0
1907		866	79	135			18	·	89		1187	6.4	627

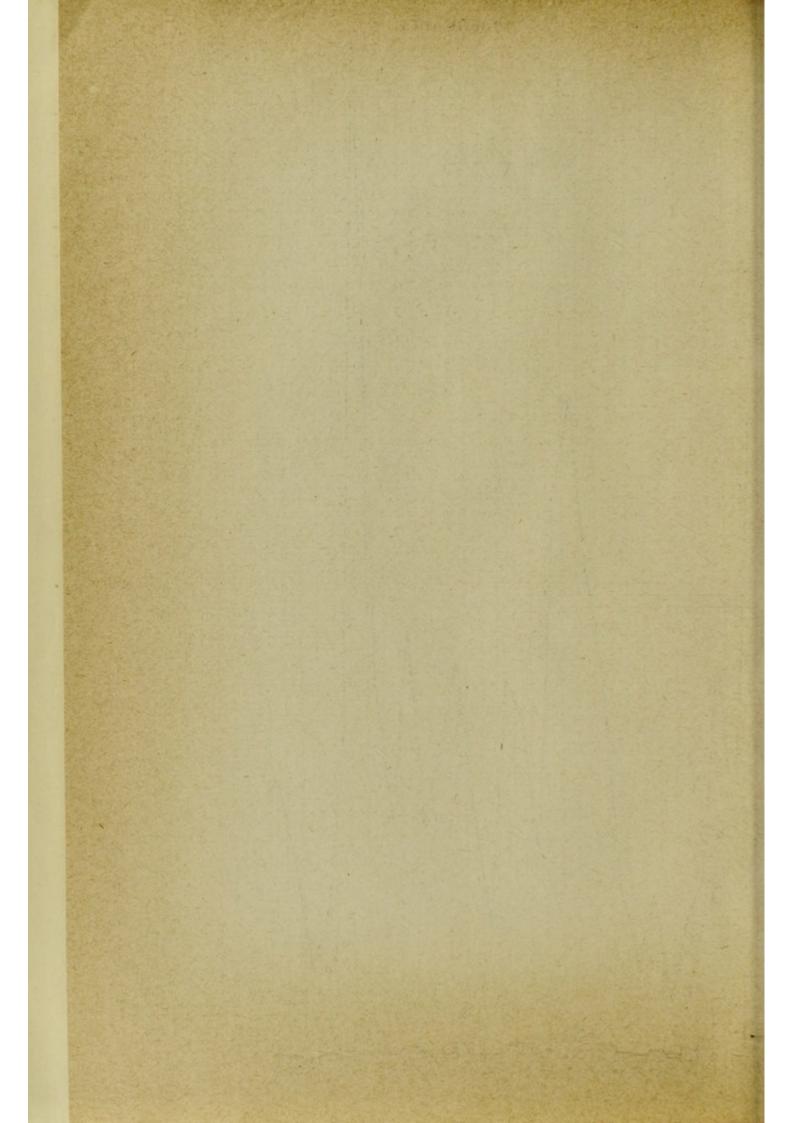
† Isolation Hospital Established,

\* Borough Extended.

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TABLE VIII.





#### **Enteric Fever.**

135 cases were notified, this number including also those called continued fever; this is a great decrease on those for 1906, and the lowest rate per 1000 since 1886. There were 26 deaths, making a death-rate of '14 per 1000, which is also the lowest since 1886. The death-rate in the 76 great towns was '06.

The incidence on the different forms of closets was for 1907 :---

case in every 349 privy-ashpits.
 1,,,,, 286 pails.
 1,,,,, 214 waste-water closets.
 1,,,,, 1002 fresh-water closets.

13 houses out of the 107 infected had more than one case, one had 7 cases, one 6 cases, two had 4 cases, two had 3 cases each, and seven had 2 cases each.

Of the 26 deaths, 10 occurred in houses provided with the oldfashioned closets (privy-ashpits and pails), and 15 in houses connected with waste-water closets, and one with fresh-water closet.

case in every 213 privy-ashpits.
 1 ,, ,, 211 pails.
 1 ,, ,, 322 waste-water closets.
 1 ,, ,, 621 fresh-water closets.

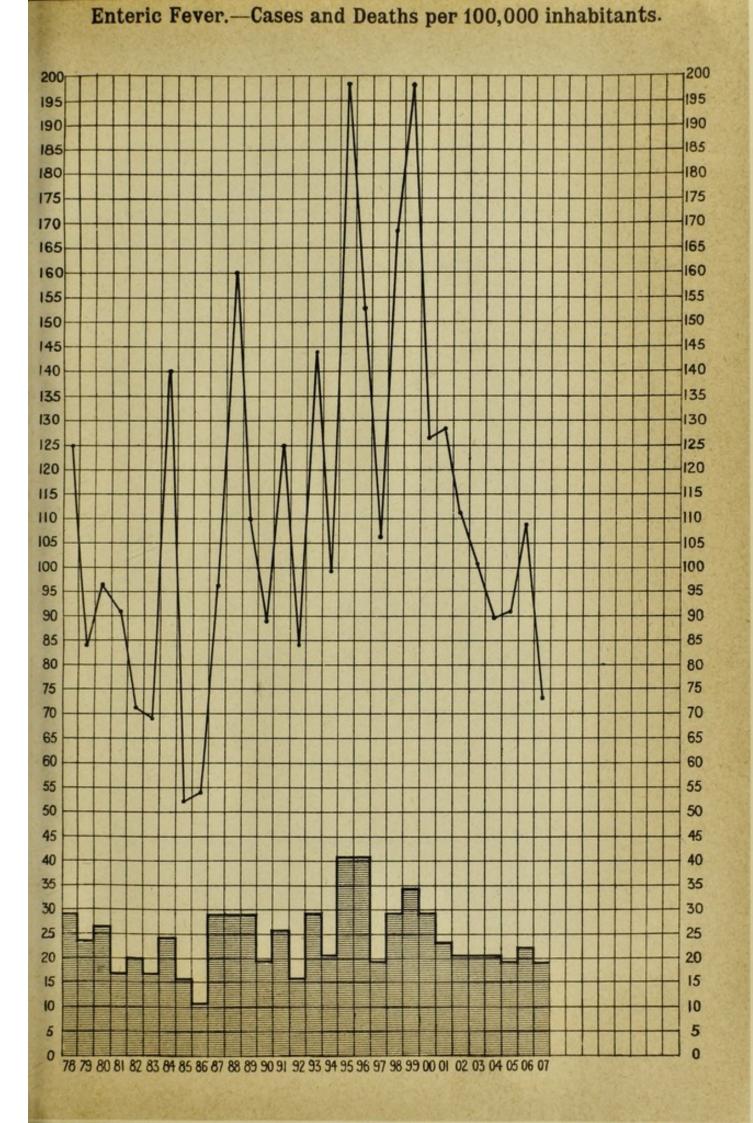
Deaths in Wards :---

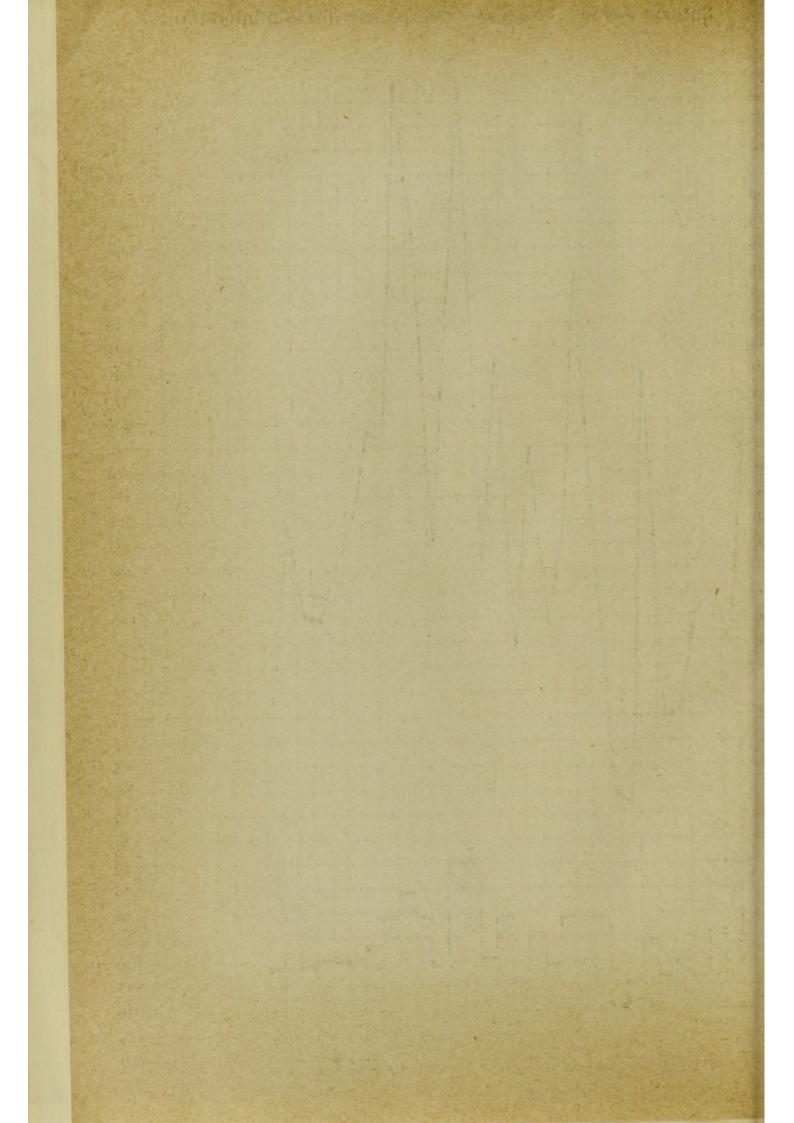
West	 	3	Great Lever		2
Halliwell	 	1	Tonge		—
Bradford	 	õ	Astley Bridge		—
Derby	 	5	Smithills		2
East	 	3	Hulton		—
Rumworth	 	—	Darcy Lever-cum-B	reight	met. —
Church			Deane-cum-Lostock		3
North	 	2	Heaton		
Exchange	 	—			

# TABLE IX.

Month	1902	1993	1904	1905	1906	Average	1907
January	15	13	9	22	19	15.6	15
February	21	12	10	12	13	13.0	4
March	. 15	7	5	15	13	11.0	11
April	14	8	п	6	15	10.8	8
May	10	4	6	8	15	8.6	4
June	7	10	6	3	9	7.0	10
July	. 12	7	7	11	5	8.4	8
August	. 8	27	18	11	10	14.8	18
September	25	30	14	19	16	20'8	13
October	. 30	23	29	19	24	25'0	21
November	. 19	21	21	17	33	22.2	15
December	. 16	16	22	21	25	20'0	8
Total	. 192	178	158	164	197	177'8	135

# CASES OF ENTERIC FEVER REPORTED IN EACH MONTH DURING THE LAST FIVE YEARS COMPARED WITH 1907,





### TABLE X.

Distant and Monada

1882 1883 1884 1885 1886 1887 1888 1889 1890 <b>Av. 1881-90</b> 1891 1892 1893 1893 1894	77 75 152 57 60 107 180 125	72 -69 1'39 -51 -53	17 17 26	.15 .15	22'0 22'6
1883 1884 1885 1886 1887 1888 1889 1890 <b>Av. 1881-90</b> 1891 1892 1893	75 152 57 60 107 180	1°59 1°39 151	17	.12	22.6
1884 1885 1886 1887 1888 1889 1890 <b>Av. 1881-90</b> 1891 1892 1893	152 57 60 107 180	'51	26		
1886 1887 1888 1889 1890 <b>Av. 1881-90</b> 1891 1892 1893	57 60 107 180	'51		'23	17.1
1887 1888 1889 1890 <b>Av. 1881-90</b> 1891 1892 1893	бо 107 180	150	17	.12	29.8
1888 1889 1890 <b>Av. 1881-90</b> 1891 1892 1893	180	33	12	.10	20'0
1889 1890 <b>Av. 1881-90</b> 1891 1892 1893		'95	31	.27	28.9
1890 Av. 1881-90 1891 1892 1893	125	1.28	31	'27	17.2
Av. 1881-90 1891 1892 1893	120	1.00	31	'27	24.8
1891 1892 1893	102	-88	22	. 18	21.5
1892 1893	103	.92	22	.19	22 3
1892 1893	145	1.54	30	.520	20'6
	97	.83	19	.10	175
1804	170	1'44	34	-28	20 0
	117	.98	25	'20	21'3
1895	237	1.98	50	.41	21'0
Av. 1891-95	153	1.50	31	.50	20'4
1896	186	1'54	50	'41	26.8
1897	125	1.05	24	'20	19'2
1898	208	1'69 .	: 35	.58	16.8
1899	321	1.02	55	'33	17.1
1900	208	1.50	47	.28	22.2
Av. 1896-1900	209	1.21	42	.25	20'I
1901	219	1'29	39	.23	17'8
1902	192	1'12	36	'21	18.8
1903	178	1.05	36	'20	20'2
1904	158	.89	37	'21	23'4
1905	164	.92	34	.19	20.7
Av. 1901-05		1	-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
1906	182	1.04	36	'20	20°I
1907	182 197	1'04 1'09	36 40	·20 ·22	20'I 20'3

ENTERIC FEVER IN BOLTON, 1882-1907.

### Diphtheria and Membranous Croup.

79 cases were notified in 76 houses, with 20 deaths, equal to a death-rate of 25 per cent. of cases, or '10 per 1000 of the population. The number of cases is smaller than in 1906, and the death-rate is slightly lower and still compares very favourably with that for the 76 great towns, which was '17, and is lower than the ten years' average for Bolton.

Of those notified only 40 were children attending school, and 20 contacts of school children. 37 schools out of the 63 were affected; 21 had cases only, 5 had cases and contacts, and 11 contacts only. The highest number of cases in any one school was three, and the highest number of contacts two.

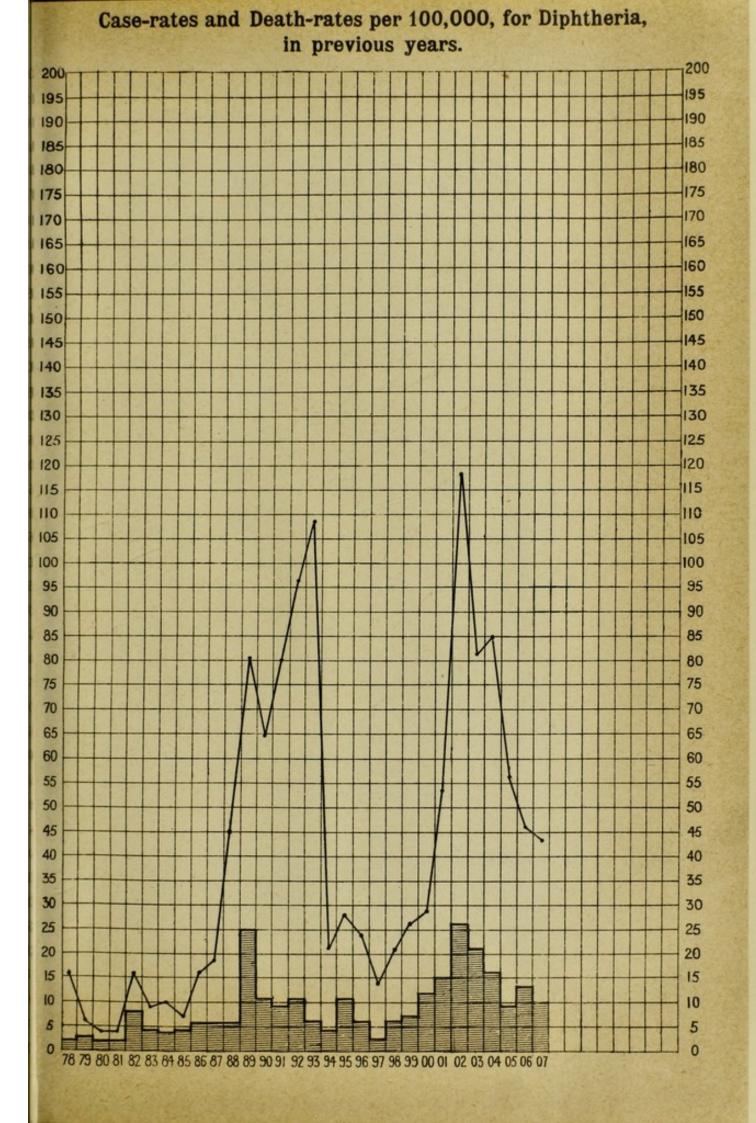
The age distribution was :---

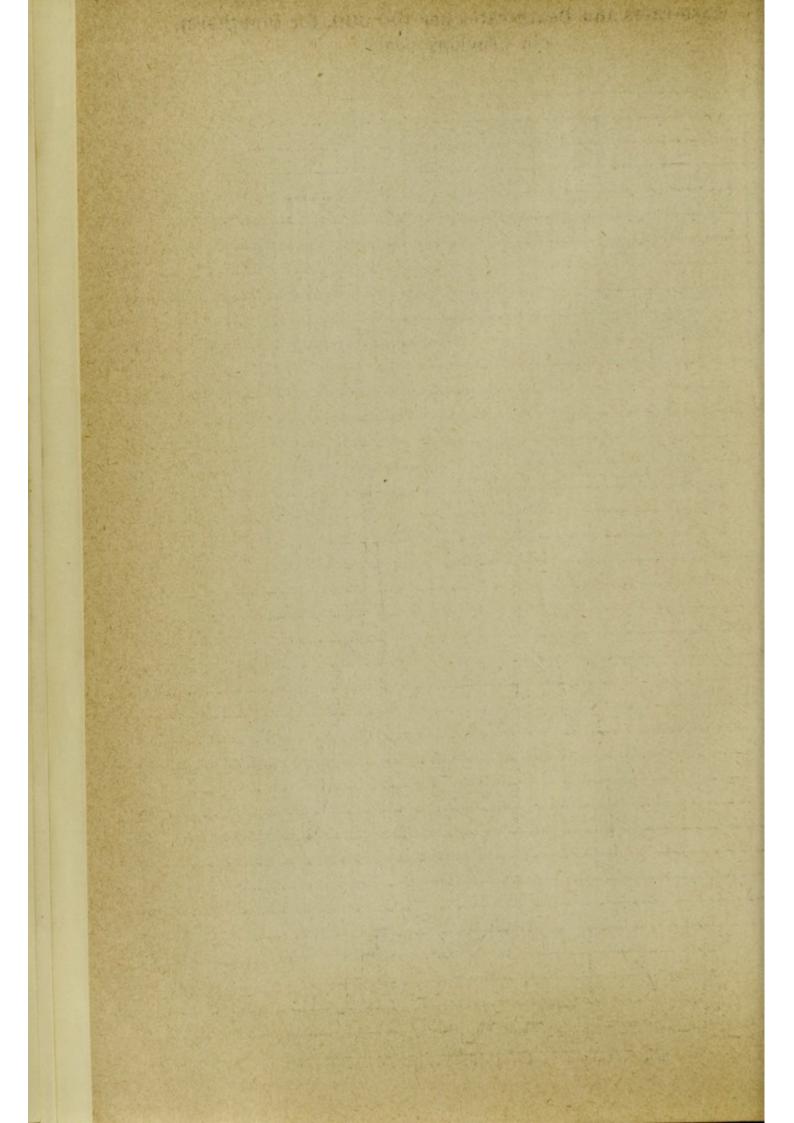
Age.		1	Number	r.	Deaths.
0-1			5		 3
1 - 2			3		 2
2-3			5		 - 2
3-4			6		 4
4 - 5			7		 -
5 - 10			30		 7
10 - 15			8		 -
15 and	upwards		15		 2

The death-rates in the 33 great towns were :---

Leicester		 	.06	Manchester		 .16
Preston		 	.10	Bristol		 .17
Brighton		 	.11	Southampton		 .17
Bolton		 	.11	Birmingham	1	 .18
Oldham		 	.12	Newcastle-on-Tyne		 .19
Blackburn		 	.12	Birkenhead		 .20
Cardiff		 	.12	West Ham		 .24
Sheffield		 	.12	Hull		 .25
Plymouth		 	$\cdot 12$	Gateshead		 .25
Burnley		 	.13	Halifax		 .26
Leeds		 	.13	Croydon		 .26
Liverpool		 	.14	Sunderland		 .27
Rhondda		 	.14	Portsmouth		 .29
Nottingham		 	.15	Salford		 .30
Bradford		 	.15	Norwich		 .37
South Shield	ds	 	.15	Derby		 .42
London		 	.16			

170,000 units of antitoxin were supplied on application for 38 cases to 19 medical practitioners in bulbs of 4000 and 2000 units.





### Diarrhœa.

66 deaths were recorded, equal to a death-rate of '36 per 1000 inhabitants, less than the ten years' average, and less than that of the 76 great towns, which was '39.

The weekly number of deaths and the four feet earth temperature during the period of prevalence were : —

Week	Ending.	D	eaths.	4 Feet	Temperature.
July	20	 	1	 	53.8
,,	27	 	3	 	54.6
Aug.	3	 	1	 	55.1
,,	10	 	1	 	55.1
,,	17	 	1	 	55.3
,,	24	 	1	 	55.2
,,	31	 	2	 	54.6
Sept.	7	 	_	 	54.0
,,	14	 	3	 	53.7
,,	21	 	2	 	54.0
,,	28	 	3	 	54.1
Oct.	5	 	9	 	53.9
,,	12	 	9	 	53.2
,,	19	 	6	 	51.9
,,	26	 	4	 	50.8
Nov.	2	 	2	 	49.5
,,	9	 	1	 	48.9
,,	16	 	2	 	48.4

The deaths distribution in wards, works out thus :---

West	 	13	Great Lever	2
Halliwell	 	2	Tonge	2
Bradford	 	9	Astley Bridge	2
Derby	 	10	Smithills	1
East	 	5	Hulton	3
Rumworth	 	6	Darcy Lever-cum-Breightmet.	1
Church	 	1	Deane-cum-Lostock	
North	 	2	Heaton	1
Exchange	 	6		

SUMMARY OF FACTS CONCERNING DIARRHEA DEATHS OF CHILDREN

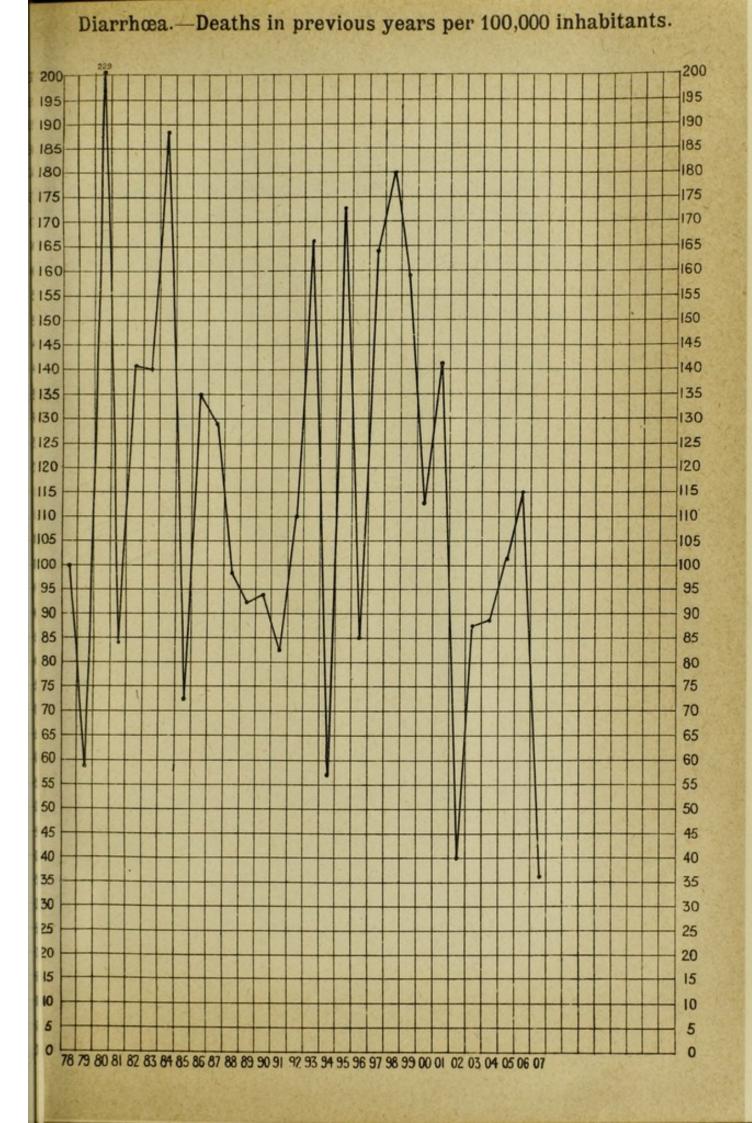
Form of Food	Total	Under One Week	1—4 W'ks	1-2 M'ths	2—4 M'ths	4—6 M'ths	6—12 M'ths	Over 1 and under 2 Years.
Breast Fed only	7			nia 20	2	2	2	I
Cows' Milk only	13		I	3	2	I	5	I
Condensed Milk	2				I		I	
Patent foods with some ) of the above )	29			3	4	6	11	5
 5.40 5.40	51		I	6	9	9	19	7

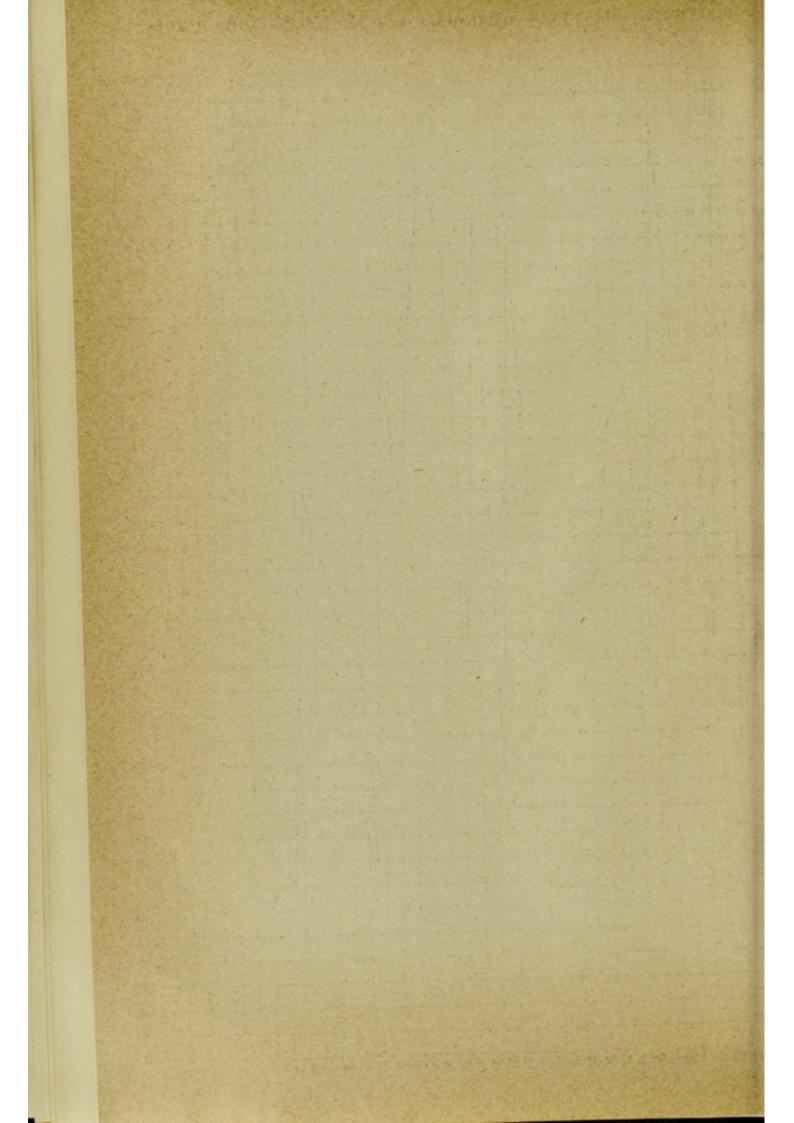
NOT ABOVE 2 YEARS OF AGE.

Reported by mothers as delicate children ... ... 22 Number of mothers working away from home ... ... 0 Insanitary conditions in houses other than closet nuisances ... 7

Closet accommodation in houses visited :---

(a)	Privy-midden	ns		 		27
(b)	Pails			 		9
(c)	Waste-water	close	ts	 	÷	12
(d)	Fresh-water	close	ts	 		3





### Measles.

During the year 1907 there were registered in the Borough 234 deaths from measles and complications following it. This number is much in excess of those registered during each of the previous five years, but not so many in proportion to the population as were registered during the years 1897, 1893, 1889 and 1886. A comparison with previous years shews that this disease assumes an epidemic form in alternate years, that every four or five years the epidemic is severe, and that the 1907 epidemic is the first severe one since 1897. The average measles death-rate for the nine years 1899-1907 was '39 per 1000 of the population, and for the ten years 1888-1897 was '77. It must be remembered, however, that the Old Borough was extended in 1899, and that there was added to this denser part, a large area with a much smaller density of population, called in this report the "Added Area." The measles death-rate in the Old Borough for ten years 1898-1907 was '47, still considerably less than for the previous ten years.

### TABLE XI.

### Number of Deaths Death-rates Date Extended Old Added Extended Old Added Borough Borough Area Borough Borough Area 1886 137 ... ... 1'23 .80 1887 91 '29 1888 ... 34 160 1889 1.30 .83 1890 97 ... 1891 55 '47 ... .... .36 1892 43 ... 162 1.38 1893 16 1894 20 ... 1.00 120 1895 ••• •••• 6 1896 .04 ... .... 216 1'77 1897 .... 25 1898 31 .... ł '18 87 .70 7 '57 1899 94 6 '22 '24 .12 31 1900 37 23 98 10 .64 108 .77 1901 11 26 5 18 '20 31 1902 '10 '28 5 '34 44 1903 49 '08 16 11 .10 5 00 1904 68 47 23 .21 .52 1905 91 '01 10' 2 1906 2 1907 234 211 23 1'27 1'59 '45

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### DEATHS AND DEATH-RATES IN EXTENDED BOROUGH, OLD BOROUGH, AND ADDED AREA, 1899-1907.

The fluctuations above mentioned and shewn in the tables are characteristic of measles in large and densely populated towns. The average death-rates from measles in 33 large towns during 1896—1905 taken from the Registrar General's Report are given below, and it is seen that the highest rates obtain in the Lancashire towns, and that Bolton's rate was the lowest of these.

### MEASLES DEATH-RATES 1896-1905 IN 33 LARGE TOWNS.

a 1		.01	(T)	D.1.		
Croydon		 .24	(L)	Bolton	•••	 •46
Brighton		 .28		Leeds		 .46
Derby		 .30		Plymouth		 .46
Huddersfield		 .32	(L)	Liverpool		 .47
Leicester		 .33		Bristol		 .47
Wolverhampt	on	 .33		Gateshead		 .49
Halifax		 .33		London		 .51
Bradford		 .33		Hull		 .53
Portsmouth		 .36		West Ham		 .54
Swansea		 .40		Sheffield		 .55
Newcastle		 •40	(L)	Blackburn		 .55
Cardiff		 •42		Sunderland		 .28
Norwich		 •43	(L)	Burnley		 .62
Nottingham		 •43	(L)	Oldham		 .62
Birkenhead		 •44	(L)	Manchester		 .73
Birmingham		 .45	(L)	Preston		 .75
			(L)	Salford		 ·84

During the year 1906, Bolton was remarkably free from measles, only two deaths being recorded. Towards the end of the year it was prevalent in districts adjoining the north and west of Bolton. During the month of January, 1907, there were only four deaths recorded. In the month of February two infants' schools were closed, one in the northern and one in the western part of the Borough, and five deaths from the disease were registered. From these two centres apparently the disease spread through the centre of the town to the southern and eastern districts. The progress of the epidemic is fairly well indicated by following the dates of the closure of the schools and the number of deaths recorded in the calendar months.

Month.		Deaths.		No. of §	Schools closed	
January	 	6				
February	 	7			7	
March	 	35				
April	 	44			10	
May	 	91			6	
June	 	33			6	
July	 	12	•••			
August	 	5				

29 schools were closed, each for a period of three weeks; of these 24 were infants' departments only and five infants' and mixed departments.

The ventilation in eight of these was found defective.

Judging from the weekly deaths reported and the information received from school teachers, the disease was epidemic from the middle of March to the middle of June, this being the period of the year when the greatest prevalence was shewn in previous years.

### TABLE XII.

### MONTHLY DEATHS FROM MEASLES, 1895-1907.

Month	200	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	Average 1895-1907
January		8	I	3			4	9	I	6		7		6	4
February		12		23		17	2	11	2	2	I	8		7	6
March		22	1	55		12		13	2	10	I	27	I	35	11
April		27		66	I	22	2	17	I	4	2	24	I	44	16
May		30	I	31	I	11	б	14	I	10		12		91	9
June		14	2	30	2	11	8	33	2	7		10		33	11
July		2		8		2	2	6		3	2	2		12	3
August		3	1		I		5	5	I	2		I		5	2
September		2				I	2		2	1		·		I	I
October					2			I	3	ι	3		<sup>.</sup>		12
November			I		1	3	1		5	2	I				I
December					23	3	5		9	1	6				3
		-				-		100000		1	10123		1	107.00	
Totals		120	6	216	31	94	37	108	29	49	16	91	2	234	79

49

The influence of density in the measles death-rate is shewn in the following tables, which give the population of the different Wards, measles, and death-rates. Roughly speaking, the death-rate for 1907 in the Old Borough was four times that of the Added Area. This is not to be wondered at when we remember that the houses in the centre of the town are not only crowded together, but that there are still remaining many back-to-back and single houses without through ventilation, where there is no propoer yard accommodation, and where closets of an insanitary type are still used in common by more than one house. Other diseases are also prevalent in these insanitary neighbourhoods.

### DEATHS FROM MEASLES, 1907.

	Wards.			F	Population.	De	ath-rat	te.	No. of Deaths.
Old	Borough :	_							
	West				27,960		_		43
	Halliwell				23,580				25
	Bradford				20,430				49
	Derby				20,320		-		37
	East				9,940				19
	Rumworth	ı			9,205				12
	Church				8,534		-		11
	North				7,810				8
	Exchange				4,770		+6		7
		Total			132,549		1.59		211
Add	led Area :-	- 16 19							- Andrew
	Great Lev	/er			11,428				6
	Tonge				10,755		-		10
	Astley Br	idge			8,540				1
	Smithills				5,522		-		0
	Hulton				5,330				2
	Darcy Le	ver-cum-B	reight	met	3,475				1
	Deane-cur	n-Lostock			3,255		-		2
	Heaton				2,063		-		1
	1	fotal			50,368	-	•45		23
	(	Grand Tot	al		182,917		1.27		234

## TABLE XIII.

### DEATHS FROM MEASLES IN WARDS, 1900-1907.

		No. of Persons			No	o. of	Deat	hs.			Total 900-1907	Average Death-rates 1900-1907
Ward in order of p		per Acre 1906	1900	1901	1902	1903	1904	1905	1906	1907	T.	Death 1900-
West		. 62	2	10	1	7	2	5	l	43	70	.31
Halliwell		. 64	4	9	5	9	I	8	I	25	62	.36
Bradford	a. 2000.	. 71	2	22	7	7	2	38	I	49	128	.80
Derby		. 67	I	22	3	11		8		37	82	.25
East		. 63	17	7	3	4		4	0125	19	54	64
Rumworth		. 54	I	7	2	2	1	4		12	28	`44
Church	ale de a	. 22	1	.7	1	2.2	2		1	11	22	.29
North		. 51	3	9	I	3	3			8	27	'44
Exchange		. 47		5	3	I	I	I	1	7	13	.40
Old Borough		56	31	98	26	44	11	68	2	211	491	'47
Great Lever		. 13	2	3	1	I	2	9		6	24	.30
Tonge		13		5	3		2	3		10	23	.30
Astley Bridge		. 5	2	2		I				1	6	.09
Smithills		. 3			I	I					2	.02
Hulton		3	2			- I		5		2	10	.25
Darcy Lever-c-	Breightmet	. 3					I	4		I	6	.51
Deane-cum-Lo	stock .			ali				2		2	4	.12
Heaton		I	i an			I				I	2	.13
Added Area	di. mi e.	. 4	6	10	5	5	. 5	23		23	77	.21
Extended Boro	ough .	12	37	108	31	49	16	91	2	234	568	.40

Of the 234 deaths 133 were those of males and 101 of females. 160 of these had respiratory complications, 59 other complications, and 15 were without complications. The age incidence is given below :

Under 1		·	22.2		64
1 to 2					92
2 to 3					43
3 to 4					12
4 to 5					10
5 to 6					9
6 to 10	1				3
Above 10				de.	1

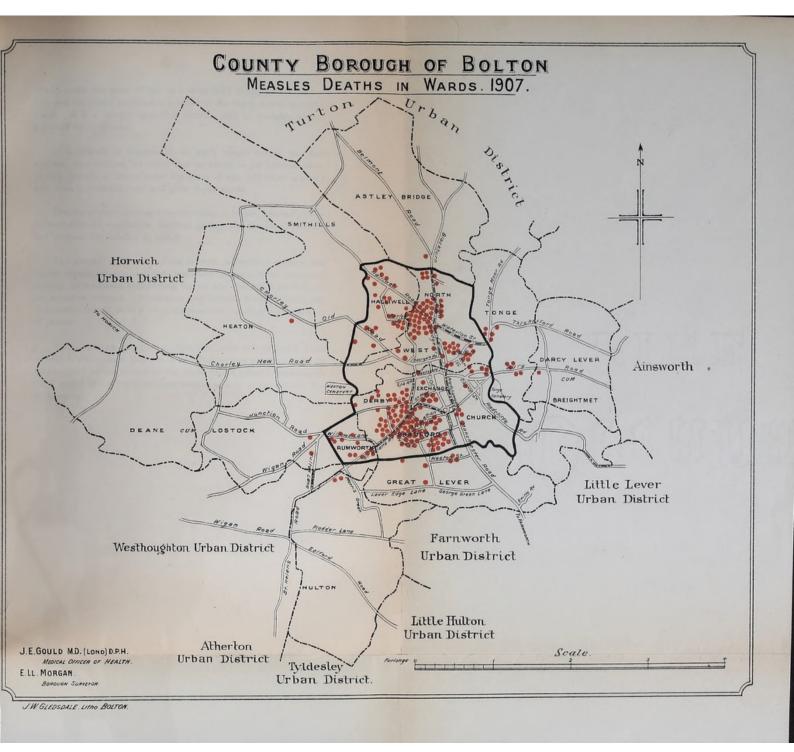
It will be seen, therefore, that 221 out of 234, or 94 per cent., were children under 5; 230 out of 234, or 98 per cent., were children under 6 years of age, and that there was only one death above ten years. At the same time, it should be remembered that 96 per cent. of whooping cough deaths, 53 per cent. of diphtheria deaths, and 65 per cent. of scarlet fever deaths are those of children under five years of age. The number of deaths in Bolton from the six chief epidemic diseases during the ten years 1897—1906 were :—

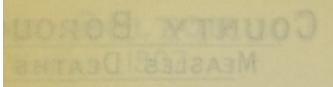
Diarrhœa		 	1872
Measles	····	 	675
Whooping Cough		 	486
Enteric Fever		 	389
Scarlet Fever		 	269
Diphtheria		 	226

The measures adopted to prevent the spread of the disease were, the circulation of instructions to teachers with regard to infectious diseases, the closing of schools as soon as information was received that the attendance was seriously affected, the disinfection and cleansing of schools after closure, and the disinfection of houses in special cases.

Notification of measles is not compulsory in Bolton, nor is there sufficient accommodation at the Borough Hospitals for its isolation. It would be a costly undertaking, and house-to-house visitation would require a much larger staff than we have at present.

Measles, as will be seen from the above report, is the cause of a great amount of sickness and much mortality. It affects children





Horvieh Urban Instric

Westhoughton: Urban District

chiefly under five years of age, it is most fatal in the second year of life, and the attack incidence is greatest in the third, fourth and fifth years. It is a rapidly spreading disease, and is probably always acquired by inhalation.

It is difficult to diagnose in its early stages before the rash appears, and children are often sent to school in an infected state. It only spreads in classes under five years of age, and there is rarely any need to close the boys' and girls' departments.

Density of population and overcrowding in houses, especially those without through ventilation, diminish greatly the chances of recovery and increase the liability to attack.

The general public shew little interest in sanitary matters, the poorer classes are ignorant and neglectful of preventive measures, looking upon measles as a trifling disease and one which all children are bound to contract. Notification and isolation would be costly and of doubtful benefit, even if we could secure the intelligent co-operation of parents.

While children under five, therefore, are not excluded from school, it would seem that the most effective measure that could be taken would be the closure of the whole of the infants' departments for a period of not less than three months as soon as an epidemic was threatening.

### Phthisis (Pulmonary Tuberculosis).

Voluntary notification of this disease was adopted by the Bolton Corporation on 7th July, 1902, and compulsory notification came into force under Section 52 of the Bolton Corporation Act, 1905, on 9th October, 1905.

The notifications up-to-date have been as follows :---

Y	ear.					No	. Notified.
1902	(part)						80
1903							92
1904							93
1905	(part c	ompulso	ry from	9th	October)		150
1906	(first co	omplete	year con	npuls	sory)		262
1907							195

Inspection is made of the houses, information is obtained of the history of the disease, pamphlets are distributed, and cleansing and disinfection are done by the Corporation.

Sanatorium treatment is offered free to suitable cases who cannot afford to pay.

The occupations of those notified as suffering were as follows :---

Cotton Spinning	 22
Cotton Weaving	 12
Bleaching and Printing	 2
Metals, Machines and Implements	 18
Coal Mining	 6
Building Construction	 1
Conveyance of Men and Goods	 11
General Labourers	 18
Food, Drink and Tobacco	 2
Dress, etc	 8
Commercial or Business Clerks	 2
Miscellaneous Trades	 23
Domestic Service	 2
Household Work	 39
School Children	 12
Teachers	 4
No Occupation or Occupation Unknown	 13

Only 13 cases out of 208 were notified twice, i.e., 6.2 per cent.

During the period of notification, 1902-1907, in 24 houses two cases have occurred, and in one house three cases.

Sanatorium treatment was commenced on July 20th, 1906, and has been continued during 1907. The Sanitary Committee, having found that four beds were not sufficient for their needs, obtained the permission of the Council to contract for four more, making eight in all.

The conditions imposed by the Meathop Sanatorium Committee being: -(1) That the cases sent be not advanced and hopeless, and if such are sent they reserve the right to discharge them; (2) That the cases be sent of that sex which they can accommodate at the time!

The following are the summarised results of the treatment of those admitted and discharged from July, 1906, up to the end of 1907. The stages of the disease are those adopted by the Meathop Sanatorium Authorities, and the reports are those sent from the Medical Superintendent of that Institution. "A" means slight consumption; "B" moderate; "C" advanced; "D" hopeless; "E" absolutely hopeless. One patient in Class "B," and another in Class "C," left the Institution at their own request in order to go to work.

Stage of Disease	Number	Cured	Improved and fit for Light Work	Improved in General Health but not fit for Light Work	No Improvement
A	2	2			
В	3	I	2		
С	9		2	3	4
D					
E	I	• •••			I
Total	15	3	4	3	5

Admissions to Meathop Sanatorium.

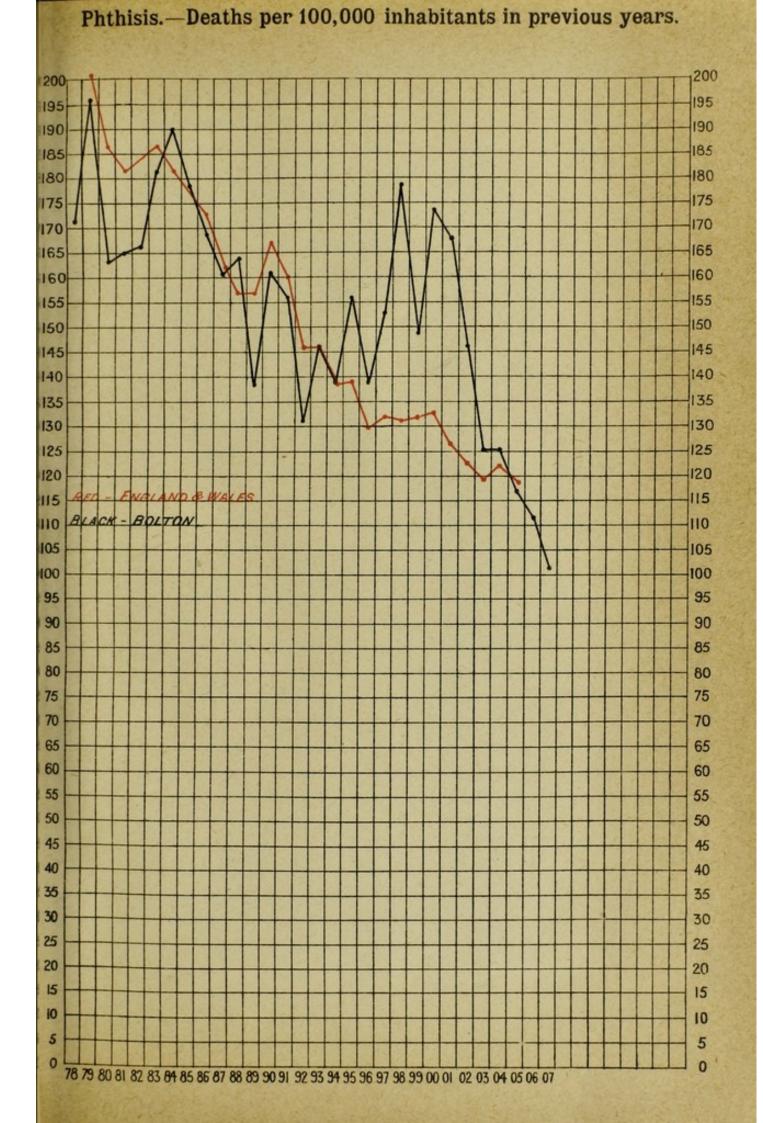
During 1907 the deaths registered from the disease numbered only 186, the lowest recorded since the extension of the Borough in 1899, and the lowest death-rate recorded in the history of the Borough, being 1'01 per 1000 inhabitants. In the year 1879 a death-rate of 1'96 was recorded. The death-rate during the year 1906 for England and Water was 1'15, and 1'39 in London during 1907.

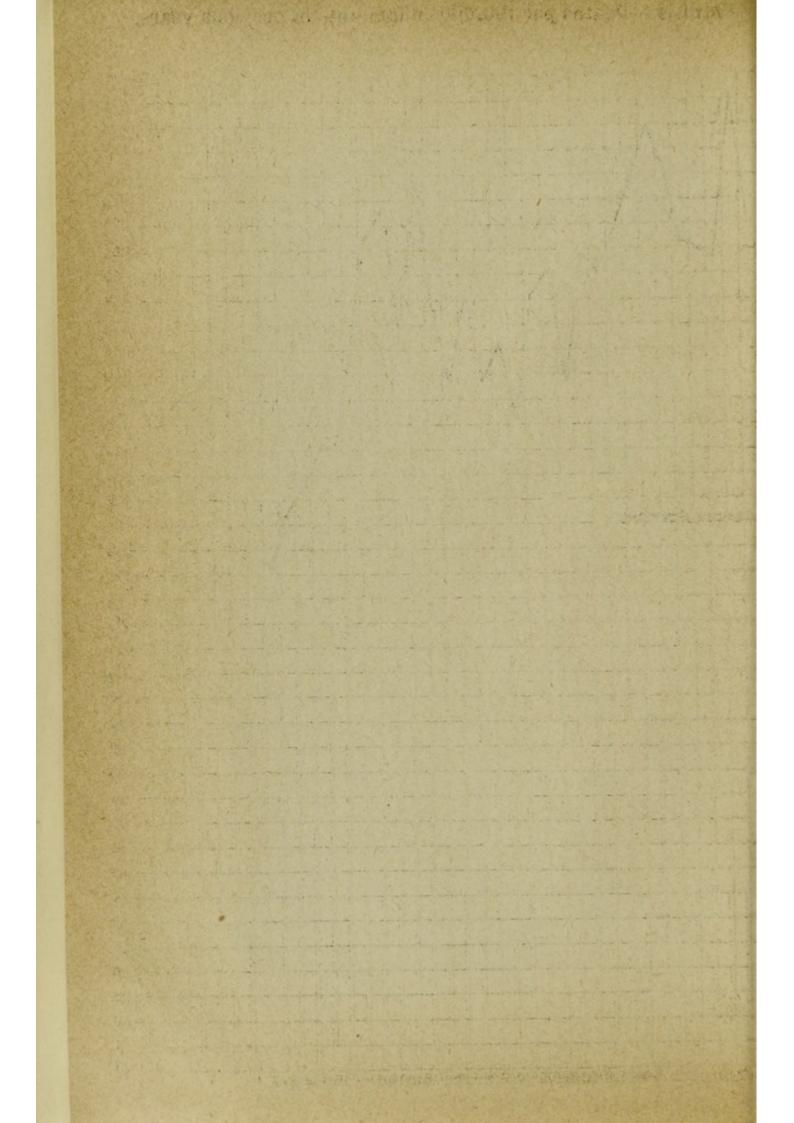
The occupations of those who died were as follows :----

the state of the second second					24
Cotton Spinning					
Cotton Weaving					6
Bleaching and Printin	ng		1		5
Metals, Machines and	Impl	ements		nell 14	22
Coal Mining					5
			10000-000		3
Building Construction					9
Conveyance of Men an		ous			20
General Labourers					4
Food, Drink and Tol	bacco				
Dress, etc					4
Commercial or Busine	ess Cle	erks			2
Miscellaneous Trades					18
Domestic Service					7
Construction of the second	193.001		80.00		36
Household Work		ering the	o vitite		5
School Children					1
Teachers				10207	15
No Occupation or Oc	cupati	ion Un	known		15

The age and sex distribution are shewn here : ---

	I	AGES							
Sex	Total	Under 5	5-15	15-25	25-35	35-45	45-55	55-65	65 and upwards
Male Female	104	2	2 5	11 13	17 22	31 18	25 15	11 7	5 2
Totals	186	2	7	24	39	49	40	18	7





It is possible that owing to the better means of diagnosis, diseases formerly diagnosed as phthisis are now classified under other forms of respiratory disease. I therefore give the statistics for the last eight years for comparison :—

### DEATH-RATES PER 1000 OF POPULATION.

		00	ier Tuberc	ular		
Year.	Phthisis.		Diseases.	1	Respiratory.	Total.
1900	 1.74		·48		4.12 .	6.34
1901	 1.68		.24		3.77 .	5.69
1902	 1.47		•32		3.51 .	5.30
1903	 1.25		.53		3.54 .	5.32
1904	 1.22		•50		3.34 .	5.09
1905	 1.17		·39		2.79 .	4.35
1906	 1.11		•55		2.72 .	4.38
1907	 1.01		·38		3.26 .	4.65

### Other Tubercular

	I OBERCOLOSIS	DEAT	luberculosis :			Tubercular
			All Forms.	Phthisis.		Diseases.
	Northampton		 1.20	 ·87		·33
	Wolverhampt	on	 1.25	 .79		·46
	Portsmouth		 1.33	 1.00		.33
	Derby		 1.36	 ·91		•45
	Sheffield		 1.47	 1.01		•46
	Bristol		 1.48	 1.11		•37
(L)	Blackburn		 1.20	 .92		·58
	Halifax		 1.21	 1.12		·39
	Croydon		 1.54	 1.14		•40
	Hull		 1.55	 1.09		•46
	Birmingham		 1.60	 1.22		·38
	Nottingham		 1.61	 1.23		·38
	Middlesborou	gh	 1.63	 1.10		•53
	Huddersfield		 1.65	 1.25	,	•40
(L)	Bolton		 1.66	 I.II		.55
	Bradford		 1.71	 1.30		.41
	Birkenhead		 1.72	 1.36		•36
	Cardiff		 1.76	 1.24		.52
	West Ham		 1.80	 1.14		·66
	Plymouth		 1.83	 1.33		•50
(L)	Oldham		 1.83	 1.34		•49
	Stockport		 1.85	 1.25		.60
	Leicester		 1.82	 1.46		·39
	Leeds		 1.89	 1.23		·66
(L)	Burnley		 1.89	 1.36		•53
(L)	Preston		 1.90	 1.04		·86
	Brighton		 2.00	 1.42		.58
	London		 2.02	 1.47		•55
(L)	St. Helens		 2.02	 1.21		·84
(L)	Liverpool		 2.08	 1.28		•50
	Swansea		 2.11	 1.47		·64
	Sunderland		 2.14	 1.52		·62
	South Shields	3	 2.16	 1.48		.68
	Newcastle-on-	Tyne	 2.20	 1.49		.71
(L)	Warrington		 2.23	 1.55		·68
(L)	Salford		 2.27	 1.62		.60
(L)	Manchester		 2.34	 1.71		·63
	Norwich		 2.43	 1.64		•79

TUBERCULOSIS DEATH-RATES IN 38 GREAT TOWNS DURING 1906.

### Bacteriological Examination.

The following specimens were sent to the Public Health Laboratory, Owens College, Manchester, during the year for examination, and with the results as tabulated.

Specimen.		Positive Result.	Negative Result.	Total.
Blood from Enteric Fever	·	3	 33	 36
Sputum of Phthisis		9	 27	 36
Swab from Diphtheria		3	 8	 11
		dir <u>a b</u> an o	giornine br	10/2007
		15	68	83

### Midwives' Act, 1902.

Notice of intention to practise was received from 54 registered midwives during the year 1907; one has given up practice, and one has left the town. Of these five have the certificate of the Central Midwives' Board, 15 have certificates from recognised institutions, 34 were registered as having been in bona-fide practice for one year prior to 31st July, 1902.

In accordance with the regulations of the Central Midwives' Board, I have received notifications of :---

- 105 still-births.
- 127 sending for medical help.
- 13 deaths of new-born children.
  - 12 puerperal fever cases.

.

I have examined the case-books, instruments, and appliances of each midwife twice during the year, and find that they have attended 2927 cases out of a total of 4476 births.

### Isolation of Infectious Diseases.

627 cases were admitted to the Hospitals at Deane, but no cases were admitted to the Smallpox Hospital at Ainsworth.

They consisted of scarlet fever, 539; enteric fever, 80; diphtheria, 3; puerperal fever, 1; erysipelas, 1; follicular tonsillitis, 3. The number is higher than the average of the last ten years, and the highest number since 1902.

The scarlet fever totalled 62 per cent. of those notified, and the enteric 42 per cent. The death-rate amongst the scarlet fever cases 3.3 per cent., and amongst the enteric 13.9 per cent. There was also one death of a diphtheria patient, but both the others, who were tracheotomised, recovered.

The report on the isolation of consumptive patients is given under a separate heading.

The staff during the year was increased by one person, and was as follows : ---

1	Matron.	5	Wardmaids.
3	Sisters.	4	Laundresses
3	Staff Nurses.	5	Servants.
1	Ambulance Nurse.	2	Gardeners.
8	Probationers.	2	Porters.

The work was naturally much heavier than it had been for several years, and a few exceptional cases were admitted, but, as will be seen, the staff was only increased by one wardmaid. That the staff had not to be materially increased was due to the excellent management of Miss Irene Webb, the Matron, and the willing co-operation and support of the Sisters and the rest of the staff.

Except that of Miss Webb, during the last month of the year, there has been no serious illness amongst the members of the staff.

Every effort has been made to maintain the Hospitals in good repair, and to keep the furniture, bedding and linen in good order and ready for emergencies.

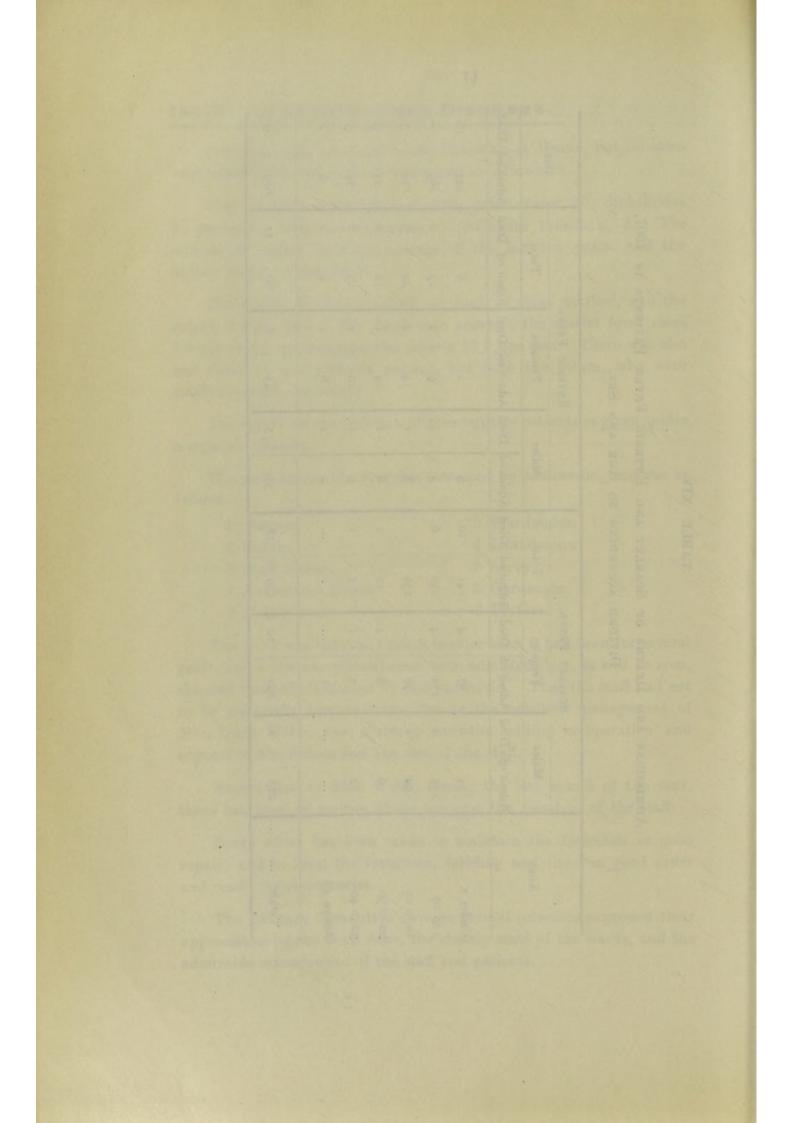
The Sanitary Committee have on several occasions expressed their appreciation of the work done, the cleanly state of the wards, and the admirable management of the staff and patients. TABLE XIV.

# ADMISSIONS AND DEATHS OF SCARLET AND ENTERIC FEVER PATIENTS IN 1907,

DIVIDED ACCORDING TO AGE AND SEX.

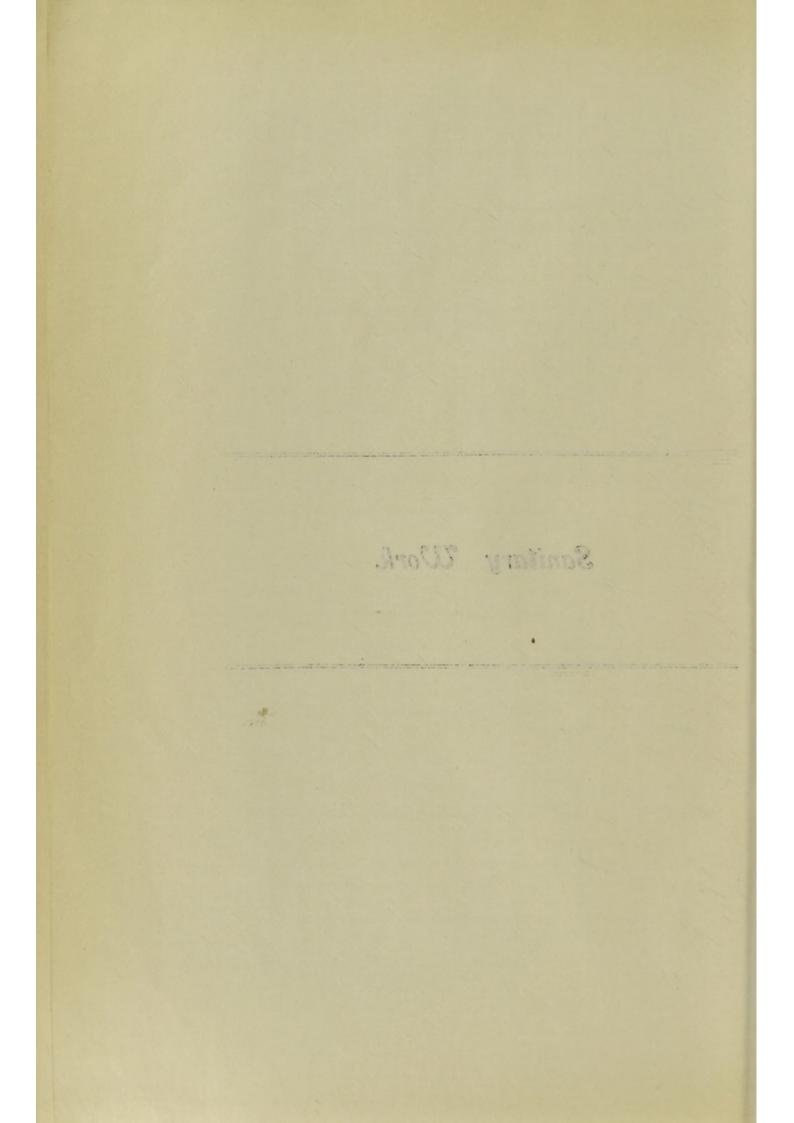
Torat		Admit'ed Died	7 10	3 8	152 3	24 3	24 3	9 2	9 29
_		ad Adm	. 147	2 263	3 15	6	6	9	619
	Total	d Die	:						II
~	To	Admit'e	9	13	22	12	19	80	80
FEVER	ales	Died	;	I	61	I	-	I	9
ENTERIC FEVER	Females	Admit'ed	61	6	14	4	10	9	45
	es	Died	:	I	I	I	Ι.	I	5
	Males	Admit'ed	4	4	8	8	6	CI	35
	al	Died	10	9		I	I	:	18
	Total	Admit'ed	141	250	130	12	S	I	539
FEVER	ules	Died	4	4	:	I	1	:	10
SCARLET FEVER	Females	Admit'ed	67	135	78	9 .	3	I	290
	S	Died	6	61	:	:	:	:	8
	Males	Admit'ed	74	115	52	9	61	:	249
			1		:	:		:	1
	AGES		:	:	:	:	:	-	:
	Ac		Under 5	5 to 10	10 to 20	20 to 30	30 to 40	Above 40	Totals

67



# Sanitary Work.

the second s



### Abstract of Sanitary Work.

### PLACES UNDER INSPECTION : ---

Common Lodging-hous	es					64
Houses Let-in-Lodging						61
Factories						297
Factory Chimneys		sound 1	brin. ale			256
Workshops and Workp	olaces	mond. dog	n nund		b.uri	609
Bakehouses						236
Public Houses		dire moile				393
Offensive Trades		a linearan	in	an cinone		39
Slaughterhouses	der marin	nn	P	in an In	1	54
Cowsheds						356
Milkshops		-si.135		22.50	2.12	530
Public Sanitary Conver	niences	1	cant a		1	18
Travelling Vana						93

# Abstract of Work Done during 1907 :-

Complaints from Public	onig, this	a. church a	242
Nuisances Reported	Unrill. nik anto. h	n buenchait en	3825
Letters Written or Verbal Notic	es		2008
Informal Notices Issued	Ine. Rate tele	1.	876
Legal Notices Issued			485
Smoke Observations			599
Smoke Nuisances Reported	ti (n. 1958) i		41
Notices Served	platel, las M. tra	a 1000	26
Smoke Prosecutions		Witten iten	9
Houses Fumigated '			2660
Articles Disinfected		Inches & Press	5606
Articles Destroyed			230
Houses, etc., Limewashed			376
Houses Demolished			. 43
Houses Closed	douber 11 A. vo	alanal i	65
Houses Made Fit	(	The second second	24
Privy Ashpits Converted into Wa	ater Closets		680
Privy Ashpits Demolished	10M Ont	10.30	7
Drains Reconstructed			319
Houses in which Rubble Drains	have been Ab	olished	. 130
Yards Completely Flagged	Mary Shine	bon.db Las	. 97
Samples of Food, etc., Purchased	1		401
Samples Adulterated			28
Adulteration Prosecutions	10 mm	tour a frank	21

11 12 -

### General Sanitary Work.

Scarlet fever has been rather more prevalent than for the last four years, and in consequence more of the time of the Inspectors has been taken up in obtaining information and reporting on this disease. There was also a bad epidemic of measles, and a considerable number of visits to schools and houses in connection therewith. Other infectious diseases have not been so prevalent.

The work in connection with the conversion of privy-middens and pails has been pushed forward and taken up considerable time, as has also that of unhealthy areas and unfit houses.

The staff of Inspectors has been fully occupied in these and other duties which have been considerably increased by new Acts of Parliament.

### Sanitary Staff.

No change has taken place in the General Staff, but there has been an increase of one in that of the Borough Hospitals.

The present total staff under the Sanitary Committee consists of the following : ---

- 1 Medical Officer of Health.
- 1 Food and Meat Inspector.
- 6 Sanitary Inspectors.

4 Clerks.

3 Ambulance Drivers and Disinfectors.

2 River and Urinal Cleaners.

11 Bath Officials.

5 Lavatory Attendants.

34 Hospital Staff (excluding Ainsworth Smallpox Hospital).

### Housing of the Working Classes.

During 1907, of the unfit class of house, there were demolished 43, closed 65, and made fit 24, i.e., a total of 132. Of the above 71 were back-to-back and 28 single.

There are at present under the consideration of the Unhealthy Dwellings Sub-Committee, 6 reconstruction schemes, consisting of 230 houses, 3 buildings declared obstructive and 99 houses required to be made fit for habitation, i.e., a total of 332 houses; of these 235 are either back-to-back or single houses. Of the 230 houses in the schemes, it is proposed to demolish 120 and to make fit 110. The areas for which schemes have been prepared are as follows:—

Turton Street 79 ho	ouses,	34 to	be der	nolished, and	d 45 to	be	made fit.
Flash Street44	,,	32	,,	,,	12	,,	,,
Barlow Street52	,,	26	,,	,,	26	,,	,,
Garden Street22	,,	5	,,	,,	17	,,	,,
Gibson Court13	,,	8	,,	,,	5	,,	,,
Morgan Street20	,,	15	,,	,,	5	,,	,,

There is still a considerable number of back-to-back and single houses in Bolton, but satisfactory progress is now being made in demolishing or making them fit for habitation, as will be seen above. Most of these are tenements of two rooms, but some are one roomed and a few three roomed. They correspond then very nearly with the one, two, and three roomed tenements of the Census, although these returns do not distinguish between back-to-back, single, and through houses as is done in sanitary work. The following details are set down as accurately as possible with the source of the information :—

Back-to-back and single, or 1, 2, and 3 Roomed Tenements.

Y	ear.			No.	of houses.
18	391	 Census Returns			3051
18	896	 Sanitary Office	Enumeration		2604
19	001	 Census Returns			
19	903	 Sanitary Office	Enumeration		2159
19	004	 ,,	,,		2041
19	905	 ,,	,,		1978
19	006	 ,,	,,		1943
19	07	 ,,	,,		1870

The number of back-to-back and single houses in wards is given in Table XVI.

Table XV. shows the work done in improving the working class houses during the last 34 years.

The amount expended, chiefly in demolitions, up to the end of 1907 was as follows:---

1874 - 1885	 	 	£6,775
1886-1895	 	 	£1,696
1896-1907	 	 	£15,159

## TABLE XV.

# ABSTRACT OF HOUSES DEMOLISHED, CLOSED, MADE FIT OR IMPROVED, (1874 to 1907).

Date	Demolished	Closed	Made Fit	Improved	Total
1874-1885					293
1886—1895					245
1896	23	9	10	29	71
1897	85	14	24	21	144
1898	17	11	8		36
1899	22	7	3		32
1900	59	44	8		111
1901	42	22	79		143
1902	18	18	19		55
1903	85	20	19	42	166
1904	52	3	46		101
1905	39	9	10	10	68
1006	69	17	17		103
1907	43	65	24	ad ) ( ba	132
Monsyn					
	554	239	267	102	1162

### TABLE XVI.

ENUMERATION OF BACK-TO-BACK AND SINGLE HOUSES IN WARDS, 1907.

Ward		Without Ava Yard Spa		With Avai Yard Spa		Total
nin instants		Back-to-Back	Single	Back-to-Back	Single	
East	 	198	38	74	19	329
Derby	 	58	25	258	2	343
Bradford	 	91	43	182	26	342
Exchange	 	66	102	96	39	303
West	 	31	51	67	39	188
Church	 	2	9	97	4	112
Halliwell	 		6	20	46	72
North	 	6	I		3	10
Rumworth	 	6			4	10
Astley Bridge	 		3	14	32	49
Smithills	 		3	17	27	47
Darcy Lever-cum Breightmet	 			14	4	18
Tonge	 			43	4	47
Total	 	458	281	882	249	1870

#### **Closet Accommodation.**

During the year 1907, there were 680 conversions of old privymiddens or pails into water-closets, and seven demolitions of the same type of closet in connection with insanitary property.

From 1899—1907 inclusive, 4743 closets have been converted at a cost to the Corporation of £9413, and replaced by water-closets, and 155 have been demolished.

In Public Houses during the same period 118 water-closets were added for customers; in the Public Elementary Schools 94 have been provided, and 745 fresh-water closets and 110 pails in factories and workshops, where also 32 cesspools were abolished.

That is in nine years, a total of 5700 closets have been provided on the water-carriage system, in addition to those provided in new houses, viz., 5078.

The present number of privy-middens and pails as compared with those of 1898 are : ---

District.	Priv	y-mie	ddens.	Pa	ails.		
	1898,		1907.	1898.		1907.	
Old Borough	 12740		8929	 6782		6572	
Added Area	 7581		6780	 22		26	
Whole Borough	 20321		15709	 6804		6598	

In the Old Borough in 1898 the numbers were :---

Privy-middens	and	pails	together	 	19522
Water-closets				 	7587

At present the numbers are :--

Privy-middens and	Pails	 	 15501
Water-closets		 	 13104

Formerly in the Old Borough 75 per cent. were on the dry system and 25 per cent. on the water-carriage system, now 54 per cent. are on the dry system and 46 per cent. on the water-carriage system. CLOSETS IN PUBLIC HOUSES.

Of the 393 public houses in the Borough, 382 have two or more closets, and 11 have only one closet. The figures for 1906 were:— 398 with two closets, and 17 with one closet. Of these latter, five have provided sufficient accommodation and one public house has been closed.

During the year, 19 privy-middens and two pails were converted into fresh-water closets, and five fresh-water closets were added to make up an insufficiency, i.e., total 26 fresh-water closets.

Of the 11 public houses having only one closet :---

- 9 are on the privy-midden system (two in Old Borough and seven in the Added Area).
- 2 are on the fresh-water system.

- 257 have two or more water-closets.
  - 81 have at least one water-closet and one privy-midden or pail.
- 44 have two closets on the dry system (privy-midden or pail).

In other words, 67 per cent. are wholly on the water-carriage system, 89 per cent. have at least one water-closet, 11 per cent. are on the dry system.

During the last nine years (1899-1907) 276 fresh-water closets and 10 waste-water closets have been provided generally in place of insanitary privy-middens and pails in public houses.

CLOSETS IN SCHOOLS.

During the year five fresh-water closets have been provided in place of insanitary privy-middens in Sharples British School, Bank Top. 57 schools are provided with fresh-water closets, 1 with privymiddens and fresh-water closets, and 3 with privy-middens. TABLE XVII.

CLOSET ACCOMMODATION, 1907.

				THEORY	THEODOR	WOITVOOR WOODAT						
	No. of Conve Demo	No. of Closets Converted or Demolished, 1907	Conver Additi	sions in ( ons in Ne	Conversions in Old Houses and Additions in New Houses, 1907	es and 1, 1907	Presen	t Closet /	Present Closet Accommodation, 1907	dation,	Per Co	Per Cent. on
	P.M.	Pail	P.M.	Pail	W.W.C. F.W.C.	F.W.C.	P.M.	Pail	W.W.C.	F.W.C.	Dry System	Water System
Old Borough	500	31	:		637	85	8929	6572	10039	3065	54	46
Great Lever	0				101	I	1519		821	131	19	39
Tonge	47		::		147	I	1558	:	668	34	68	32
Astley Bridge	46	:		:	36	29	1203	7	449	234	64	36
Smithills	21				31	2	548	3	582	142	43	57
Hulton	27				47	12	644		450	36	57	43
Darcy Lever-cum- Breightmet	:		61		16	:	657		155	54	75	25
Deane-cum-Lostock.					65	I	420	4	173	72	63	37
Heaton	9	1			26	18	231	12	145	241	38	62
Exterded Borough.	656	31	5	:	1106	152	15709	6598	13482	4009	56	4

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### Common Lodging Houses.

There are now 64 registered houses in Bolton, a decrease of one. Four houses were closed and three others placed on the register during 1907. They are distributed thus:—

Ward.		Houses.	Rooms.	Beds.
Exchange	 	32	 157	 586
East	 	29	 148	 792
Church	 	2	 14	 58
Derby	 	1	 10	 43

Accommodation for the sexes :---

Description.			Hous	ses.	Males.	Fe	males.	C	ouples.
Males only			39		1067		_		-7
Females only			1				8		
Couples only			2				-		9
Females and Cou	ples		3		-		23		8
Males and Couple	es		8		110		_		21
Males, Females an	nd Co	uples	11		136		50		47
			-				-		
			64		1313		81		85

One keeper was fined 5/- and costs for failing to limewash at the proper time.

## Houses Let-in-Lodgings.

During the year 1907, six houses have been placed on the register, thus making a total of 61 registered houses in the Borough. They are distributed in the wards thus : —

Exchange	 	 	 49
East	 	 	 10
Church	 	 	 2

The rooms let by these houses are as follows :---

1	house	lets	8	rooms.
4	houses	let	6	rooms.
4	,,	,,	5	,,
1	,,	,,	4	,,
21	,,	,,	3	,,
18	,,	,,	2	,,
12	,,	,,	1	,,

#### Canal Boats.

No boats that were used as dwellings, came within the district of this Authority during the year 1907.

#### Vans, Tents, &c.

10 vans situated in Morgan Street, Astley Bridge, were inspected in February; 27 vans on the Wholesale Market, Bridge Street and Smiths Yard, and 15 at Bridgman Street were inspected at Whitsuntide; 14 situated in Wolfenden Street were inspected in September, and 42 vans on the Wholesale Market and Victoria Square, 20 at Bridgman Street, and 14 at Morgan Street during Christmas and New Year.

One case of phthisis was reported in a van in Morgan Street, and a death from diarrhœa occurred in one off Wolfenden Street. The refuse from the different vans was removed daily by the Scavenging Department.

#### Factories.

30 complaints were received from Factory Inspectors during 1907, of which 15 referred to insufficient and unsuitable closet accommodation, and six to insufficient means of escape in case of fire.

During the year 106 fresh-water closets and 32 pails were provided in 27 factories in place of old and insanitary closets or as additions. In the nine years 1899—1907 there have been provided 745 fresh-water closets and 110 pails.

In the 297 factories the closet accommodation for females consists of 825 fresh-water closets, 57 pails, 26 privy-middens, 26 privies. That for males consists of 1209 fresh-water closets, 135 pails, 55 privymiddens, 39 privies.

Comparison of closet accommodation in factories in 1900 with that of 1907:---

Year.	1	No of. Factorie	F.W.C.	Pails.	P.I	M. Type.	Ces	spools.
1900		260	 1525	 194		298		33
1907		297	 2034	 192		146		0

## TABLE XVIII.

## CLOSET ACCOMMODATION IN FACTORIES, 1907.

			Dıs	TRICT	rs		
non and an and a spin the spin the spin the	I	2	3	4	5	6	Total
Factories	33	50	57	40	69	48	297
No. of Factories in accordance with the Sanitary Accommodation Order	28	26	34	24	33	42	187
No. of Factories not in accordance with the Sanitary Accommodation Order but satis- factory	I	17	11	12	25		66
No. of Factories with unsatisfactory closets	4	7	12	4	11	6	44
No. of Factories where no sewer is available		6	15	4	I		26
No. of Factories with F. W. C	29	36	30'	34	57	39	225
" " " W. W. C			I		2		3
" " " Pails	4	9	18	8	5	8	52
""""P. M	I	4	5	3	5	I	19
" " " Privies		I	7	2		I	11
" " " Cesspools							0
No. of fresh-water closets	131	385	354	351	531	278	2030
" waste-water closets			I		3		4
" pails	II	18	100	43	11	9	192
" privy-middens	I	55	8	3	12	2	81
" privies		10	31	21		3	65
., cesspools							

#### Workshops and Workplaces.

9 complaints were received from Factory Inspectors during 1907, of which 8 referred to cleansing and limewashing, and 1 to defective ventilation. The workshops, including bakehouses and laundries, number 845, the employees 1888 males, and 1384 females.

The number and character of trades in workshops are :---

	No	. in			No.	in
Trade.	, Tra	ade.	Trade.		Tra	de.
Bakers		236	Cycle Makers			5
Boot and Clog Makers		114	Brush Makers			5
Dressmakers,		96	Shirt Makers, etc.			5
Millinery, etc		59	Chemists			4
Tailors, etc		47	Athletic Goods			4
Joiners, etc		26	Rag Sorters			4
Tinplate Workers		19	Window Blind Mak	ers		3
Cabinet Makers		16	Clog Iron Makers			3
Ice Cream Manufacturers		15	Leather Dealers			3
Confectioners		13	Bedding			3
Plumbers		13	Umbrella Makers			3
Saddlers		10	Tarpaulin			3
General Smiths		9	Tripe Works			3
Stocking Knitters		9	Skip Makers			3
Drapers		9	Brass Founders and	Finish	ers	2
Laundries		8	Coach Builders			2
Wheelwrights		7	Picture Framers			2
Horse-shoeing		7	Masons			2
Chemical Works		6	Painters			2
Coopers, etc		6	Sign Writers			2
Cotton-waste Warehouses		6	Photographers			2
Watch and Clock Makers		5	Paper Dealers			2
Ironmongers		5	Pickle Makers			2
Printers,		5	Bookbinders			2
			Miscellaneous			28

#### Bakehouses.

There are at present on the register 236 bakehouses, 25 new ones, generally in connection with small shops, having been added during the year, and 4 closed.

Of these 24 are underground, and certified in accordance with Section 99 of the Factories and Workshops Act, 1901.

# TABLEXIX.1.—INSPECTION.

To and mail in the second s	Number of				
Premises	Inspections	Written Notices	Prosecutions		
Factories (including Factory Laundries)	586	бо			
Workshops (including Workshop Laundries),	1278	35			
Workplaces (other than Outworkers' premises included in Part 3 of this Report	145	4			
Total	2009	99			

# 2.-Defects Found.

			N	lumber of I	Defects	er of tions
Particulars	Found	Remedied	Referred to H,M. Inspector	Number of Prosecutions		
Nuisances under the Public Healt	h Acts :		-	an instants	Inti y Tree	2.5
Want of cleanliness			86	73		
Want of ventilation			6	4		
Overcrowding					(g)	
Want of drainage of floors			2	2		
Other nuisances			70	65		
(	insufficient unsuitable	 or	26	22		
Sanitary accommodation }	defective not separa		54	48		
C	for sexes		2	Ter Citrabul		
Offences under the Factory and W	Vorkshop Act	-				
Illegal occupation of unde	durb is the		- North		211 70 1	
house (s. 101)						
Breach of special sanitary for bakehouses (ss. 97	requirement		Report			
Other offences (excluding of	offences relat	ing				
to outwork which a part 3 of this report)		in 				
Total			246	214		

3HOME WORK.		
	Num	ber of
Lists of Outworkers (s. 107) :	Lists	Outworkers
Lists received twice in the year	32	337
Addresses of outworkers { forwarded to other Authorities received from other Authorities	C. C	5
Inspections of Outworkers' Premises	22	I
Hemework in unwholesome or infected premises :	Wearing Apparel	Other
Notices prohibiting homework in unwholesome premises (s. 108)	2	
Cases of infectious disease notified in homeworkers' premises	1.	
Orders prohibiting homework in infected premises (s.110)	I	
4-REGISTERED WORKSHOPS.		
Workshops on the Register (s. 131) at the end of the year ;	Nu: 230 609	
Total number of workshops on Register	8.	45
5OTHER MATTERS.	and water and	All Property in the
Class	Nu	mber
Matters notified to H.M. Inspector of Factories :		
Failure to affix Abstract of the Factory and Workshop Act, (s. 133)	-	26
Action taken in matters re- ferred by H.M. Inspector		24
as remediable under the Public Health Acts, but not under the Factory and Reports (of action taken)		and a second state
Workshop Act (s. 5) ( sent to H.M. Inspector	Service and a service of	17
Other (Fire Escapes)		3

## 84 TABLE XIX.-(Continued.) 3.-HOME WORK.

Matters notified to H.M. Inspector of Factories :	
Failure to affix Abstract of the Factory and Workshop Act, (s. 133)	26
Action taken in matters re- ferred by H.M. Inspector as remediable under the Public Health Acts, but	24
not under the Factory and Reports (of action taken) Workshop Act (s. 5) Reports (of action taken) sent to H.M. Inspector	17
Other (Fire Escapes)	3
Underground Bakehouses (s. 101) ;	
Certificates granted during the year	
In use at the end of the year	24

# TABLE XX.

er totaking sandridge	NO AUG	And at start	1 19 AN 1	action and
Ward	In all and	Total	Ground Level	Underground
West		34	34	politic building
Halliwell		32	30	2
Bradford		28	23	5
Derby		29	26	3
East		15	12	3
Church		15	11	4
Rumworth		10	10	
North		9	8	I
Exchange		16	II	5
Old Borough		188	165	23
Great Lever		18	18	
Tonge		10	10	
Astley Bridge		5	5	dina Wi salis
Smithills		3	2	I
Hulton		9	9	
Darcy Lever-cum-Breightmet				
Deane-cum-Lostock		3	3	
Heaton				
Added Area		48	47	I
Extended Borough		236	212	24

BAKEHOUSES IN WARDS, 1907.

## Smoke Abatement.

Observations 599, nuisances reported 41, notices served to abate 26, prosecutions 9, convictions 6, fines totalling £15, making an average of 50/- per case. Such is the summary for the year 1907.

To put it in another way, there were 32 out of 256 firms on the "black list." One firm was prosecuted twice, five firms were prosecuted once each, 26 firms were served with notice to abate, and three firms were cautioned.

The Sanitary Committee, by resolution on 12th September, 1906, reduced the standard time which constitutes a nuisance from  $2\frac{1}{2}$ minutes to 2 minutes, so that any chimney from which smoke issues for as much as 2 minutes in the half-hour is deemed to be causing a nuisance.

An inspection of the table in which the chimneys are arranged in classes shews that 129, i.e., more than half the factory chimneys in the Borough, emit quantities of black smoke in less quantities than 1 minute in the half-hour, and there ought to be no difficulty in getting all the others to behave in the same way, especially as 50 of these have no difficulty in keeping their chimneys practically smokeless.

It is only fair to mention that of the 32 firms placed in the IVth class of table 22, in 20 a nuisance was detected only on one occasion.

## TABLE XXI.

### SUMMARY OF SMOKE OBSERVATIONS, 1907.

Mor	nth.	Observations	Nuisances Reported	Warnings given	Notices Served	Prosecutions	Convictions	Amount of Fines
January		 59	3		3			
February		 50	5	I	4			
March		 50	4	2	2			
April		 51	5	3		2		
May		 61	2		1	1	1	$\pounds 5$ and Costs
June		 53	5		5			
July		 64	6		4	2	I	10/- and Costs
August		 26	I		I			
September		 54	4		4			
October		 40						
November		 54	4		2	2	2	Costs £7 and Costs
December		 37	2			2	2	£2 and Costs 10/- and Costs
Total		 599	41	6	26	9	б	£15 and Costs

TABLE XXII.

...

•••

CHIMNEYS UNDER OBSERVATION, ARRANGED IN CLASSES, 1907.

	Total	50	79	95	33	256
ale a	9	CI	2	18	2	34
	ŝ	13	18	18	15	64
ricts	4	2	19	œ	-	35
Districts	e	10	Ξ	21	9	48
	61	7	13	20	0	42
	I	Ξ	11	10	I	33
		No. of Chimneys that have emitted practically no black smoke in $\frac{1}{2}$ hour's observation	No. of Chimneys that have emitted under 1 minute of black smoke in A hour's observation	No. of Chimneys that have emitted 1 minute but less than 2 minutes of black smoke in $\frac{1}{2}$ hour's observation	No. of Chimneys that have emitted 2 or more minutes of black smoke in <sup>1</sup> / <sub>4</sub> hour's observation	Тотац
	Class	-	0	6	4	

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### TABLE XXIII.

### PRACTICALLY SMOKELESS CHIMNEYS.

No.	Firm		Situation	E	Boilers	Apparatus
1	R. H		Nelson Square		I	Booty's Patent
2	M. S		Deansgate		I	No Apparatus
3	R. S. & Co		Bowker's Row		I	No Apparatus
4	E. A		Deansgate		I	No Apparatus
5	E. S		Central Street		1	No Apparatus
6	E. W		Oxford Street		I	No Apparatus
7	R. W		Bolling's Yard		I	No Apparatus
8	C. & W., Ltd. No. 4		Gilnow		4	Cass's Cokers
9	W. H. H. & Co., Ltd		Lostock		I	No Apparatus
10	M. S. Co., Ltd		Gilnow		2	Bennis's Stoker on One
:1	J. W. M		Gilnow		I	No Apparatus
12	M. S. Co., Ltd		Halliwell Road		2	Automatic Synd. Co.'s Stokers
13	B. & J., Ltd., & K., Ltd.		Egyptian Street		5	Triumph and Cass's Stokers
14	B. & J., Ltd		Higher Bridge St		3	Cass's Cokers
15	H. S. Co., Ltd., Nos. 1 & 2		Chorley Old Road		6	Bennis's Stokers
16	K. Ltd		Vernon Street		2	Hodgkinson's & Triumph St.
17	J. C		Gray Street		I	No Apparatus
18	W. E. & S., Ltd		Brownlow Fold		2	No Apparatus
19	B. & J., Ltd., No. 1		Prospect Street		1	Cass's Cokers
20	B. & J., Ltd., No. 2		Prospect Street		3	Cass's Cokers
21	B. & J., Ltd., No. 3		Prospect Street		3	Cass's Cokers
22	W. M. & Co., Ltd. (Spinning)		Regan Street		2	Proctor's Stokers
23	W. M. & Co., Ltd. (W'ving) No.	. 1	Regan Street		2	Proctor's Stokers
24	W. M. & Co., Ltd. " No.	2	Regan Street		2	Proctor's Stokers
25	E. & T., Ltd		Waters Meeting		10	Hodgkinson's Stokers
26	G. & S., Ltd		Astley Bridge		2	Bennis's Stokers

## TABLE XXIII.-Continued.

#### PRACTICALLY SMORELESS CHIMNEYS.

No.	Firm			Situation	Boilers	Apparatus
			-		- 100	
27	J. C. & Bro., Ltd.			Eagley Mills	3	British Syndicate's Patent
28	A. H. & S			Simpson Street	I	No Apparatus
29	M. H. S. Co., No. 1			Mill Hill	3	Hodgkinson's Stokers
30	M. H. S. Co., No. 2			Mill Hill	3	Hodgkinson's Stokers
31	J. H. & Co			Breightmet Street	I	Own make of Stoker
32	H. Bros			China Lane	3	Bennis's Stokers
33	W. G. & S., Ltd.			Lever Bridge	2	Triumph Stoker
34	G. T			All Saints Street	I	No Apparatus
35	W. H. & S			Burnden	T	No Apparatus
36	C. & W., Ltd., No. 1			Lever Street	3	Vickers' Cokers
37	C. & W., Ltd., No. 2	2		Lever Street	3	Vickers' Cokers
38	C. & W., Ltd., No. 3	3		Lever Street	4	Cass's Cokers
39	C. & W., Ltd., No. 3	;		Roxalina Street	4	Cass's Cokers
40	J. H. & S., No. 2			Rishton Lane	2	Cass's Cokers
41	E. & C			Slaterfield	1	No Apparatus
42	P. C. Ltd			Lever Street	4	Bennis's Stokers
43	J. J. & Sons, Ltd.			Weston Street	2	Cass's Cokers
44	H. H. & Son			Back Derby Street.	I	Specially Constructed Boiler
45	W. & McK			Weston Street	2	Triumph Stokers
46	J. F			Parkfield Road	ı Kiln.	None
47	J. B. & Sons			Pilkington Street	1	No Apparatus
48	B. C. S. Wks			Hacken	I	No Apparatus
49	D. S. S. Co			Thomas Street	2	Cass's Cokers
50	Н. Р. & Со			Wigan Road	2	Bennis's Stokers
	A					

## Cowsheds, Dairies and Milkshops.

There are now 166 occupiers of 356 cowsheds. During the year two cowsheds were added and one demolished. Of the 12 cowsheds reported as unsatisfactory last year five have been made satisfactory, and there still remains seven to be dealt with.

The registered milksellers number 530, and are distributed in the wards as shewn in the table.

## **Offensive Trades and Slaughterhouses.**

One tripe boiling place has been given up, leaving a total of 10 in the Borough, and this is the only difference made since the last report.

## TABLE XXIV.

Cowsheds, Dairles and Milkshops,

# REGISTERED COWKEEPERS AND DAIRYMEN, AND MILKSELLERS, 1907.

ti ni banan	W	/ards			Cowkeepers and Dairymen	Milksellers
West					 I	97
Bradford		101	1 24 14		 Tradms a	
Derby					 I	76
Halliwell					 2 2	61
East				h	 and offer	51
Church					 	22
Rumworth					 4	22
North					 	23
Exchange					 	38
Great Lever					 7	8
Fonge					 7	6
Astley Bridge					 23	3
Smithills					 20	6
Hulton					 27	2
Darcy Lever-co	um-Br	eightm	net		 16	2
Deane-cum-Lo	stock				 36	I
Heaton					 22	I
	То	TAL			 166	530

TABLE XXV.

PRESENT CONDITION OF COWSHEDS, 1907.

od.	I otal	9	0	29	2
ŧ	Io	166	130	CI	
12337 141 - 2	9	20	10	8	N
	S	33	26	9	-
Districts	4	10	2	61	а <u>р</u> и - 1
Dist	3	39	32	S	61
	R	21	15	22	-
	-	43	40	ю	
		1	:	-	al gradient
		.1	:	:	:
		:	:	:	:
		:	1	:	:
		:	:	:	
		:		:	1
		:	No. of Cowsheds in good Sanitary Condition	idition	No. of Cowsheds in an Insanitary Condition
		:	itary C	ary Cor	ary Co
		:	od San	r Sanit	Insanit
		ers	s in go	s in fai	s in an
		No. of Cowkeepers	wshed	No. of Cowsheds in fair Sanitary Condition	wsheds
		. of Co	. of Co	. of Co	. of Co
		No	No	No	No

93

## TABLE XXVI.

### OFFENSIVE TRADES AND SLAUGHTERHOUSES.

]	Frade			Added Area	West	Halliweil	Bradford	Derby	East	Church	North	Rumworth	Exchange	Total
Fellmonger, Ta		d Le	ather		I		I							2
Fellmonger and	d Tanner								I					I
Leather Dresse	r and Ro	ller								I			1	2
Hide and Skin	Depôt								1				1	2
Knackers' Yar	d									1	ē			I
Blood Boiler							I			I				2
Tallow Melter													I	I
Chemical Worl	ks			I				I	I	3				6
Tar and Oil D	istillers									2				2
Muriatic Acid	Works			:1								<i>ii.</i>		I
Tar and Sulp Work	hate of	Amr	nonia	I										I
Tripe Boiler				I			3	I	2	2			1	10
Brick Works				5		I						I		7
Soap Works				I										1
Slaughterhous	es			9	4	3	22	2	3	4	1	I	5	54
Total				19	5	4	27	4	8	14	I	2	9	93

#### Meat and Food Inspection.

Two important Acts were passed during the year, dealing with this branch of sanitary work, viz.:--

The Butter and Margarine Act, 1907.

Public Health (Regulations as to Food) Act, 1907.

The former has considerably extended the powers of local authorities, and may be summarised as follows : ---

REGISTRATION.—All butter factories, all milk-blended butter factories or premises in which there is carried on the business of a wholesale dealer in milk-blended butter, are to be registered, and written notice of any change of address is to be sent to the Local Authority.

Margarine factories and premises for the business of a wholesale dealer in margarine were made registerable with the Local Authority under the Sale of Food and Drugs Act, 1887-1899.

LOCAL INSPECTORS.—Local Inspectors have the same power as Board of Agriculture Inspectors, i.e., can enter, inspect and take samples from any butter factory, milk-blended butter factory or wholesale premises, margarine factory, or wholesale premises. Can take samples in any place, and when the substance is en route in the case of margarine and milk-blended butter.

DEFINITION OF MARGARINE.—Any article of food, whether mixed with butter, or not which resembles butter and is not milkblended butter, shall be labelled margarine.

WRAPPERS AND NAMES.—Margarine must be described as margarine, and if a fancy name is used as well, it must be registered with the Board of Agriculture, and must not be larger than the word margarine nor in any other colour.

Milk-blended butter can only be sold under a special name approved by the Board of Agriculture, and the letters must be at least  $\frac{1}{2}$ -inch in depth. The percentage of moisture must be on the wrapper and it must be consigned under its registered name. Any name suggestive of butter will not be approved of either for milk-blended butter or margarine. MOISTURE.—Butter and margarine must not have more than 16 per cent. of water and milk-blended butter more than 24 per cent., even if found on their premises for sale or for consignment.

PRESERVATIVES.—The Local Government Board may make regulations for prohibiting the use of any substance as a preservative or for limiting the amount in butter, margarine or milkblended butter.

OTHER SUBSTANCES.—Any substance intended to be used for adulteration or any fat capable of being so used and found on the premises shall be deemed to be an offence under this Act.

PENALTY.—Offenders are liable on a first offence to a fine not exceeding  $\pounds 20$ , on a second offence to a fine not exceeding  $\pounds 50$ , and a third not exceeding  $\pounds 100$  or imprisonment.

The Public Health (Regulations as to Food) Act, 1907, enables regulations to be made for the prevention of danger arising to public health from the importation, preparation, storage, and distribution of articles of food and drink (other than drugs or water) intended for sale for human consumption.

The regulations can provide for the examination and taking of samples of any such articles.

Articles commonly used for food or drink of man shall be deemed to be intended for sale for human consumption unless the contrary is proved.

Under the Sale of Food and Drugs Act, 1887—1899 and Butter and Margarine Act, 1907, there have been registered with the Local Authority:—

Wholesale Margarine De	alers			 18
Margarine Factories				 Nil.
Butter Factories				 Nil.
Wholesale Milk-blended	Butter	Deal	ers	 1

#### UNSOUND MEAT AND FOOD.

There has been one seizure of unsound food, viz.: -2 cwt. of fruit, for which a fine of 5/- and costs was imposed by the Justices. 65 carcases weighing 23,397 lbs. were surrendered and destroyed; 57 carcases were from slaughterhouses and eight from farms and cowsheds; 30 were those of tuberculous cows. Of the 65 carcases, 47 were beasts, 5 sheep, 7 pigs and 6 calves. In addition to the above 308 rabbits, 2,200 eggs, 4,000 sheep's feet, 66 baskets of fruit, 1 ton, 15 cwt. of vegetables, and 15 tons, 8 cwt. of fish were destroyed.

Inspections : --

Beasts					,	7160
Sheep and La	ambs					24314
Pigs						11160
Calves						1217
Store Cattle						3192
Slaughterhou	ses and	Bute	hers'	Shops	· · · · ·	2968

Meat destroyed in each month :---

Month.		Carcases.	Weight in lbs.
January		 2	 540
February		 5	 2205
March		 7	 1966
April		 8	 2600
May		 6	 1810
June		 9	 4250
July		 3	 1450
August		 4	 1800
September		 3	 1700
October	÷	 6	 2310
November		 5	 860
December		 5	 1906
			Nettern ma

23397

#### PUBLIC ANALYST'S REPORT AND SUMMARY, 1907.

#### GENTLEMEN,

I have to report to you that during the year 1907 I have had submitted to me for analysis, under the Sale of Food and Drugs Acts, 401 samples, comprising 12 different classes.

Milk, as its supreme importance demands, again heads the list with rather over one-half the total number (207), followed by butter and margarine.

The great majority of the prosecutions instituted had reference to milk, and I am glad to be able to report that the magistrates, on many occasions, took a more serious view of the offence than had formerly been the case. One fine of £10 and costs, one of £5 and costs, four of £3 and costs, and others of £2, £1, etc., were inflicted. Altogether, £39 4s. 6d. and costs was the amount inflicted in fines.

One analysis was disputed, and the duplicate sample submitted to Somerset House, when 52 days old. I need not refer to this matter further than to say that there is ample proof that an accurate analysis of milk so decomposed is impossible. The matter has been before you, however, with the result that you recommend that all adulterated samples be reported on as soon as possible, to enable the vendor, if he desires, to have his sample analysed while undecomposed. I may add that this had already been the rule in almost all cases; it was so in the one under notice.

Some new laws came into force this year which will be of great assistance. These fix a definite standard for the amounts of water in butter, margarine, and milk-blended butter. They shall be the subject of my best attention.

I hope to further extend the usefulness of my office and to merit your entire confidence.

Believe me,

Yours faithfully,

WALTER RATCLIFFE, F.C.S.,

Public Analyst.

Public Laboratory, 21, Mawdsley Street, Bolton.

# SUMMARY OF ADULTERATED SAMPLES.

No. of		
Sample.	Description.	Fines
2	Margarine	 2/6 and costs.
3	Margarine	 Costs only.
4	Margarine	 Costs only.
5	Butter	 £2 2s. 0d. and costs.
9	Butter	 Costs only.
62	Butter	 £5 and costs.
63	Butter	 Costs only.
103	Milk	 10/- and costs.
269	Milk	 5/- and costs.
273	Milk	 £3 and costs.
274	Milk	 £3 and costs.
275	Milk	 £3 and costs.
276	Milk	 5/- and costs.
283	Milk	 £3 and costs.
289	Milk	 £1 and costs.
296	Milk	 No prosecution.
299	Milk	 Informal sample.
305	Milk	 £5 and costs.
312	Milk	 Informal sample.
313	Milk	 Informal sample.
319	Milk	 10/- and costs.
324	Milk	 £2 and costs.
325	Milk	 10/- and costs.
333	Milk	 Informal sample.
334	Milk	 £10 and costs.
335	Milk	 Costs only.
336	Skim-milk	 Total solids more than $11\frac{1}{2}$ per cent.
The L I di		No prosecution.
337	Skim-milk	 Total solids more than $11\frac{1}{2}$ per cent.
		No prosecution.

TABLE XXVII.

HIGH STREET BATHS-NUMBER AND CLASS OF BATHERS, 1907.

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-		0		Clin					School			
		No.	Bath	th	Baths	Baths	Needle	Vapour	Season Ticket	Child- ren's	School		spondi eriod et
Month		Weeks	at 4d.	at 2d.	at 6d.	at 4d.	Baths	Baths	Holders	Holiday Tickets		Total	d
January	:	S	260	657	59	91	10	20	195	61	:	1294	1643
February	:	4	226	757	46	70	7	20	175	:		1301	1510
March		4	323	1308	57	67	п	27	184	1		2008	2218
April		4	503	1927	118	125	18	50	170	п		2922	3131
May		2	988	3256	174	226	32	67	226	158	1753	6870	6989
June		4	1076	3367	161	207	23	35	179	83	2834	2962	8480
July	:	10	1908	5656	231	302	27	52	231	511	3778	12300	11605
August		4	1379	4222	290	339	26	56	142	957	431	7842	8217
September	1	4	862	3019	122	152	27	15	146	335		4678	5644
October		3	500	1989	58	138	32	46	611			2882	2041
November		9	613	2066	110	138	35	48	234	6		3253	2599
December	:	4	372	922	74	86	61	28	114	:	:	1615	1360
Total		52	9010	9010 29146	1500	1201	257	464	2115	1671	8796	54930	55437
			-										

#### TABLE XXVIII.

TURKISH BATHS .- NUMBER AND CLASS OF BATHERS, 1907.

		No.	Massage	Books of Tickets			ish kets		oper ths	Medicated Baths	Role The	Corresponding period last year
Month		of Weeks	Ma	ıst Class	2nd Class	ıst Class	2nd Class	ıst Class	2nd Class	Med   B:	Total	Corres
January		5	39	45	27	106	116	16	20	3	372	409
February		4	56	43	25	101	102	9	11	2	349	359
March		4	10	35	25	93	69	6	9	-	247	366
April		4	33	40	16	127	104	8	6	5	339	348
May		5	63	65	23	144	129	9	19	3	455	393
une		4	22	41	24	96	83	8	11	21	287	329
uly		5	19	43	25	141	121	22	23	4	398	456
August		4	13	32	33	90	109	17	18	5	317	362
September		4	7	30	19	125	89	7	13	2	292	304
October		3	16	22	26	90	78	2	12	3	249	272
November		6 1	34	54	41	170	126	13	18	4	4бо	508
December		4	33	48	30	114	77	16	7	6	331	316
Total		52	345	498	314	1397	1203	133	167	39	4096	4422

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Scavenging Operations, 1907.

## Scavenging Operations, 1907.

I am indebted to Mr. F. Smith, the Scavenging Superintendent, for the following report of the Scavenging operations:—

#### OLD BOROUGH.

Collection of Refuse :--

53,3401	tons	from the ashpits and closets.
11,553	,,	,, streets and markets.
1,1381	,,	,, abattoirs.
$1,257\frac{1}{2}$	,,	,, other lock-up shops.
$576\frac{1}{2}$	,,	,, Falcon and Wellington Yard stables.
2,901	,,	of private refuse disposed of at the depots.
70 7663	tons	

 $70,766\frac{3}{4}$  tons.

Disposal of Refuse :---

19,0321	ons	sold as manure to farmers.
5,638	,,	tipped away.
1,0811	,,	incinerated at Hacken Sewage Works.
42,978	,,	incinerated at Wellington Yark and Back-o'-th'-
0.0002		Bank Works.
2.036		surplus moisture drained into sewers.

70,766<sup>3</sup>/<sub>4</sub> tons.

Expenditure : ---

				~	0.	u.	
Cost of	Collection and Cartage	 	S	11872	1	1	
	Incineration	 		1900	14	11	
	Mortar making	 		2565	9	11	
,,	Manure grinding	 		593	13	8	
,,	Wagon loading	 		728	2	0	
	Total expenditure .	 		£17660	1	7	

#### Income : ---

S

Manure sales, after paying £1 for railway carriage Net value of Mortar sales	1808 3s. 	. 11d. 1069 3740	${\substack{12\\2\\t}}$	1 1	14	9
Net cost	,					
Snow removal : — Amount paid for extra men	and car	rts		212	9	3
Total cost				£13062	16	8

The costs given in the foregoing summary include all wages paid, provender used, 12 per cent. per annum depreciation on horses and plant, current repairs and tools; in fact, all charges except those paid on the sites of the depots and the initial outlay upon the buildings and machinery.

Mortar Making and Incineration : ---

Bricklayer's Mortar Special Mortar	Wellington Yard. 8818 <sup>3</sup> / <sub>4</sub> Tons. 375 <sup>1</sup> / <sub>2</sub> Tons. 9194 <sup>1</sup> / <sub>4</sub> Tons.	Ba 5359 211 <u>1</u>	o'-th'- nk. Tons. Tons. Tons.
Refuse burned	24126 <sup>1</sup> / <sub>2</sub> Tons £ s. d.	 188511 £	Tons. s. d.
Bricklayer's Mortar, sol	d cell red by be		
at 5/- per ton Special Mortar, sold	2204 13 9	 1339	15 0
at 6/8 per ton	125 3 4	 70	10 0
	£2329 17 1	£1410	5 0
010	£ s. d.	£	
Cost of Incineration Cost of Mortar making	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	 705	
Cost of mortal making		 1009	9 0
	£2751 11 2	 £1714	13 8
		and the second s	

Carts and Horses :---

During the year the Scavenging Department employed 49 horses upon the foregoing operations, and had in use, more or less, the undertabulated vehicles :---

- 41 Carts.
  - 8 Street Water Vans.
- 4 Pail Closet Vans.
- 6 Pail Cast Tanks.
- 1 Iron Tan' for Cesspools.
- 8 Street Sweeping Machines.
- 16 Handcarts
- 32 Barrows.
  - 1 Covered Ashvan.

- 75 Railway Wagons.
- 8 Depots Manure Wagons.
- 24 Destructor Clinker Wagons.
- 8 Mortar Carts.
- 3 Jobbing Carts.
- 1 Lurry.
- 1 Wagonette.
- 8 Iron Clinker Barrows.

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ADDED	AREA :	STOL OF	
			-

been asympteting		The r	Scave oads w			nged	L DOV	Ashpit of The ash	emp	tying
the second second				or				emp		
All the Main R	oads		1286	10	0				1000	-
Great Lever Hi	ghways	0 1073	245	1	5			564	5	9
Tonge	do.		111	16	8			455	5	9
Breightmet	do.		34	3	11			Co	ntra	ict
Darcy Lever	do		38	15	2			Co	ntra	let
Middle Hulton	do.		86	0	7			152	18	11
Over Hulton	do.		38	2	7			98	14	1
Heaton	do.		88	14	8			Co	ntra	let
Smithills	do.		203	15	9			307	15	6
Deane	do.				-			108	8	8
		and F	2133	0	9			£1687	8	8

The following table shows the number of cartloads of road and ashpit refuse disposed of by the Scavenging Department during the year : ---

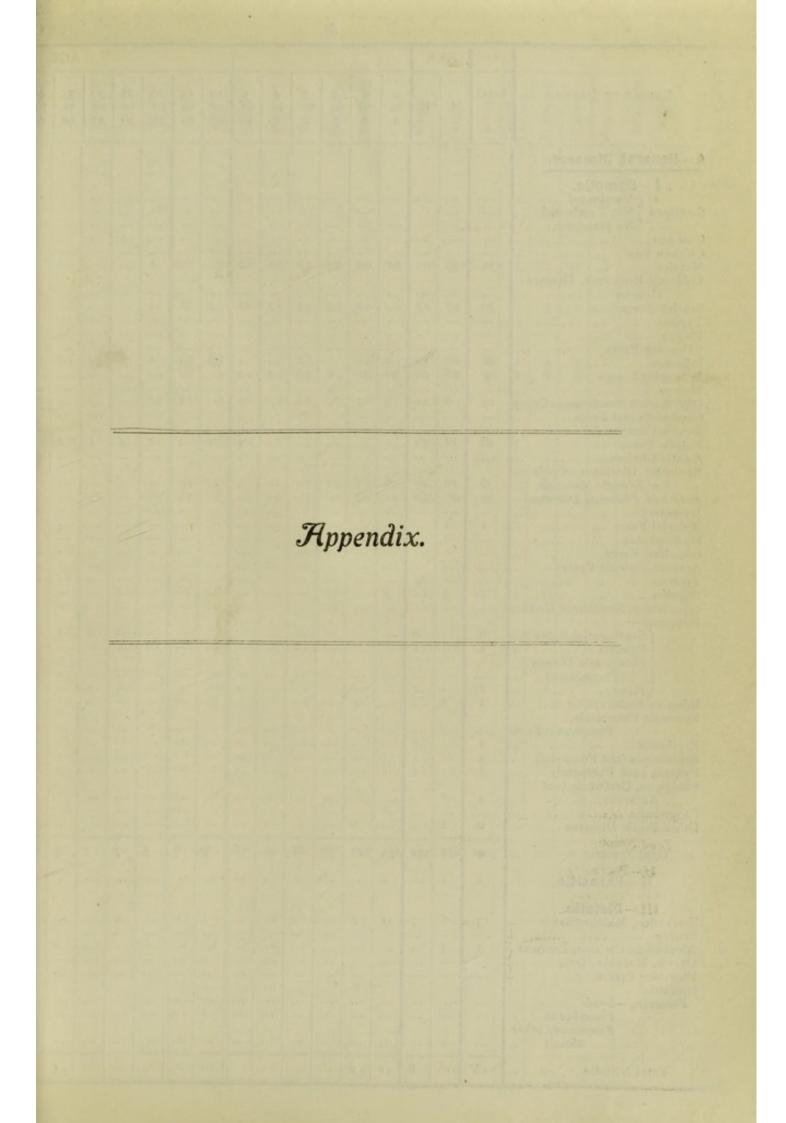
		Ma	in Roa	ds.	Highway	78.	Ashpits.
Great Lever			617		700		2650
Tonge			515		520		2792
Breightmet			245		182		
Darcy Lever			2		270		
Middle Hulte	on	1	348	nui.	161		1194
Over Hulton		1	160		140		727
Deane			154				769
Heaton			565		245		
Lostock			70		-		
Smithills			436	·	726		1725
			3110		2944		9857

During the year 1604 loads of snow were removed from the Main Roads and Highways, the costs for which are included in the above charges.

The costs given in the "Added Area" summary include all wages paid, carts hired, current repairs, and tools used. An average load of road scrapings and sweepings will weigh about 1 ton, and an ashpit, etc., load about 11 tons.

#### FRED SMITH,

Superintendent.



•

1	Г	A	I	
(	3	٨	U	

						2										CA	US
		SE	EX												AGE	ξ.	1
CAUSES OF DEATH	Total			0	I	2	3	4	5	10	15	20	25	30	35	40	-
		М	F	to 1	to 3	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 30	to 35	to 40	to 45	4. to 5.
A.—General Diseases.		1						1	1		1						-
I.—Zymotie.													1/12				
(Vaccinated																	
Smallpox Not Vaccinated No statement																	.,
Cow-pox	1 1 1 1 1 1 1																1
Chicken Pox																	-
Measles Epidemic Rose-rash, German	234	133	101	64	92	43	12	10	12			I					-
Measles																	
Scarlet Fever	30	17	13		2	3	5	7	10	2		1					
Plague																	-
Relapsing Fever	1.0	20		2								•••					-
Whooping Cough	61	28	13 36	30	21	6	1 3	2	1 2	2	I 	1		4	2	3	
Mumps																	
Diphtheria& Membranous Croup Cerebro-Spinal Fever	1. 1993 (1993) 1993	9	11	3	2	2	4		7		I						•
Simple Continued Fever																	-
Enteric Fever	26	10	16						4	I	4	2	5	I	2	2	
Epidemic Diarrhœa-Epidemic				••				•••									**
or Zymotic Enteritis	36	16	20	26	7	I										I	
Diarrhæa, Choleraic Diarrhæa Dysentery	30	20	10	21	2			1									
Malarial Fever	I	I														 I	
Hydrophobia Glanders, Farcy	1000000											•••					
Anthrax. Splenic Fever	1000																1
Tetanus																	
Syphilis Gonorrhœa, Stricture of Urethra	5	5		5													-
Puerperal-				-													
Septicæmia, Sapræmia	6 1		6										2	2	I	I	
Phlegmasia Dolens	1															1	
(Thrombosis)																	
Infective Endocarditis	2 I	1	2													2 1	**
Epidemic Pneumonia,																	
Pneumonic Fever Erysipelas	···· I		 I														-
Septicæmia (not Puerperal)	1.1.1.1.1.1		I	τ													
Pyæmia (not Puerperal)	I		I	I													4.9
Phlegmon, Carbuncle (not Anthrax)	I	1															
Phagedœna																	
Other Septic Diseases	2	2			1			1									
Total Zymotic	504	272	232	153	127	55	25	21	36	5	6	5	7	7	5	12	
II.—Parasitic	I	I		1													
IIIDietetie																	
Starvation, Malnutrition		6	7	11	2							***					
Alcoholism, Delirium Tremens .	5	4	 I	••••											1	2	-
Opium, Morphia Habit																	
Ptomaine Poisoning Industrial														•••			
Poisoning-Lead																	
Phosphorus Arsenic and other																	
Metals																	
THEFT	18	10		11	2											2	-
Total Dietetic	10	10	0	11	-										1	4	

nued. 19	07.									-		8						
														1	WAR	D.		
65 to 70	70 to 75	75 to 80	So to 85	85 and upwards	o to 5	5 and upwards	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c'm- Lostock	Rumworth	Halliwell
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	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	o to 5	5 and upwards	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c'm- Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar. Lever c-Br'htmet
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l						62	2	2	3	13	I	9	I	4	7	3	2	6	8		1		3	I
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CAUSES OF DEATH.	Total	М	F	o to I	I to 3	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to: 50
IV.—Constitutional.	1																1
Tubercular Phthisis	1																
(Pulmonary Tuberculosis)	. 155	90	65		1			I	2	5	7	12	19	16	16	22	17
	. 31	14	17									5		4	10	1	2
m i i m i iii	31	19	12	10 2	5	4	2	I I	5 2	2 2	1				 I		1
	8	4	4	6	2												
mitta	10	5		 I	4							 I	 I	 I			
General Tuberculosis	10	4	6	2	2					2	2					I	
Scrofula Rheumatic Fever,					***									***			•••
Acute Rheumatism.	13	3	10				I		3	4	I	I	2		I		
(m) 1 (m) (1)	I II		1 8									 I		1	 I		
Rheumatic Arthritis,		10	0							***							***
Rheumatic Gout			I			••											
A	68	2 26	42												3		1
	4	1	3										. I	I			
The second se	48	18	30	····					1	1			1	1	2	2	4
Purpura	3		3											I			
Hæmophilia, Hæmorrhagic Diathesis														6.3			
		7	10	 I	 I								 I	2	2	 I	2:
	20	II	9								I	I			2		5
Total Constitutional	451	21.4	237	23	18	8	3	4	13	16	13	21	25	27	38	32	353
V.—Developmental.																	1
Premature Birth	105	62	43	'05													
Congenital Defects	12	7	5	11								I					
	3	1 2	 I														***
III / CD AND		1															
	35	17	18	13	21	I	• • • • •						***				270
	230	107	129														
		196	196	133	21	I					•••	I	•••				
B.—Local Diseases.																	
1,Nervous System.																	
Meningitis, Inflammation of															100		1
Brain Softening of Brain	45	21	24	12	15	3	I	4	I	2	3		1		 I	I I	-
General Paralysis of Insane	11	10	1										I		I	2	14
Insanity (not Puerperal)	I		I							***			- 4.4				
Chorea Epilepsy	12	4	8								1	I		2		3	
Convulsions	75	41	34	63	8	3											
Laryngismus Stridulus Locomotor Ataxy	1	3	I					I 									-
Paraplegia and Diseases of							1										28.
Spinal Cord Neuritis, Peripheral,	9	6	3				I				I				3		
Poly-neuritis			6												I		
Brain Tumour (not Specific)	8	6	2						I		1	I			I	2	100
Other Diseases of Nervous System	18	9	9								2						
TAIN		-1-				6	2	-	2	2	8	2	2	2	-	9	-
Total Nervous	196	105	91	75	23	0	-	5	-	1	0	1	-	1	7	1 9	100
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60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and npwards	o to 5	5 and upwards	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c'm- Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar. Lever c-Br'htmet
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CAUSES OF DEATH.	Total	М	F	o to I	I to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	4: to 5
II.—Organs of Special Sense.																	
Otitis, Mastoid Disease Epistaxis, Nose Disease Ophthalmia, Eye Disease		3  1	8 	3  1	I 	1 			I 	I 	1 	2			I 		
Total Organs of Special Sense	12	4	8	4	I	I			I	I	I	2			I		-
III.—Heart.																	
Valvular Disease, Endocarditis (not Infective) Pericarditis Hypertrophy of Heart		19 1	29 2						I 	4	4	4	3 1	2	2	4	
Angina Pectoris Dilatation of Heart Fatty Degeneration of Heart		4 8 2	1 9 4					···· ···			••••	 	  I	 I 	···· ···	 1 	
Syncope. Heart Disease (not Specified) Total Diseases of Heart		66	71	8				I	4	5	2	3	4	4	8	4	1
IV.—Blood Vessels.																	
Cerebral Hæmorrhage, Embolism, Thrombosis	80	34	46	I									I	I	4	I	
Apoplexy, Hemiplegia Aneurism Senile Gangrene	50	19 	31  2			••••				···· ····		···· ···	I 			1 	
Embolism, Thrombosis (not Cerebral) Phlebitis Varicose Veins	1000		I I I												 1 		
Blood Vessels (other Diseases of Total Diseases of Blood Vessels	-	3	2 84										2	 			
VRespiratory System.	140	56	04	I		***							-		5	-	
Laryngitis Membranous Laryngitis (not Diphtheritic)		3	2	I	1		2	1									
Croup (not Spasmodic or Membranous) Other Diseases of Larynx (not	5	1	4		I		I	I	1	I							
Specified) Bronchitis Lobar and Croupous Pneumonia Broncho, Catarrhal and	298 33	2 144 20	154 13	 53 3	12 3	 I I	3 1	1 2 	 2 2		···· ···	1  3	I I I	8 3	7 4	8 3	
Lobular Pneumonia Pneumonia Emphysema, Asthma	108 10	46 67 7	57 41 3 8	31 8 	29 6  1	10 5 	8 3 	2 1 	5 3 	1 3 	1 5 	4 6 	 I I	 12 	2 7 2	1 8  4	and the second se
Fibroid Disease of Lung Other Diseases of Respiratory System	2	14 2 6	4	3  1			••••		  I							4 1 2	-
Total Diseases of Respiratory System	598	312	286	100	53	18	18	8	14	5	7	15	4	23	22	27	

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51	53	41	15	12		197	401	24	56	101	24	79	26	39	65	11	8	18	76	2	9	21	22	17

TABLE CAUSES

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CAUSES OF DEATH.	Total	М.	F.	o to I	: to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50
VIDigestive System.	1	1	1		1	1			-	1	1		1		-		
Tonsillitis, Quinsy	3	3			2	I											
Mouth, Pharynx Disease (not Specified)	2	I	I	2						1							
Gastric Ulcer	. 11	5	6										3		2	2	***
Gastritis Gastric Catarrh, Gas	-		12				1			10	1.587	1.1				1	
tro-Intestinal Catarrh Other Diseases of Stomach	. 20	13	7	11	2	••••		•••					I	I			
(not Malignant)	. 21	13	8	8	3							I	2				2
Enteritis (not Epidemic)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	15	13	15	5	2	I						I				
Gastro-Enteritis Appendicitis, Perityphlitis		27	38	4					1	5	···· I	2		3		···· I	
Hernia	10	9	9	I		1	I									i	
Intestinal Obstruction		5	6										I			I	
Other Diseases of Intestines Peritonitis (not Puerperal)		92	 I	2	I				I		 I				1	1	 I
Cirrhosis of Liver		10	15												2	3	3
Other Diseases of Liver and		1												-		1200	
Gall Bladder Other Diseases of Digestive	. 14	4	7											1			1
System	6	4	2	3													
Total Diseases of Digestive System	188	102	86	46	13	4	2		4	5	2	3	8	5	5	9	91
VII.—Lymphatic System & Ductless Glands.														120			
Spleen Disease								•••									
Other Diseases of Lymphatic System	. 7	6	I	1.	I					I		I					
Thyroid Body Disease	3	2	1	1	1				I		I						
Suprarenal Capsules Disease				14													
Total Diseases of Lymphatic System & Ductless Glands	10	3	2	1	I				1	I	I	1					1
VIII.—Urinary System. Acute Nephritis		15	8	2	2	1		I	I	I	+		2		2	3	11
Chronic Bright's Disease, Albuminuria		1	20	1.				I				3	2	4	3	8	44
Calculus (Not Biliary)		44	33														
Bladder and Prostrate Disease		2	2									I					
	4	2	2										2			I	11
Total Dis. of Urinary System IX.—Generative System	1.000	63	45	3	2	1		2	1	I		4	6	4	5	12	65
Ovarian Tumour (not Malignant	t) 3		3									I					11
Other Diseases of Ovary Uterine Tumour (not Malignan Other Diseases of Uterus and	i)																
Vagina		1								1							
Disorders of Menstruation																	
Other Diseases of Generative and Mammary Organs	. 4	2	2										1				
Total Diseases of Generative System		2	5							1		1	I				11
XPregnancy and Childbirth.																	
Abortion, Miscarriage	. 3		3										2		I		
Puerperal Mania			 I														
Puerperal Convulsions Placenta Prævia, Flooding, Accidental Hæmorrhage			3												2	 I	
Other Accidents of Pregnancy		1										2		1. 6. 10			
and Childbirth Total Accidents of Pregnancy	. 17		17									2			2	1	
and Childbirth	. 24		24									2	5	10	5	2	-
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60 to 65	65 to 70	70 to 75	75 to 80	80 to 85	85 and upwards	o to 5	5 and upwards	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c'm- Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar, Lever c-Br'htmet.
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	Second Second	SE	X		,										AGE			
CAUSES OF DEATH.	Total	М.	F.	0 to I	; to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	
XI.—Locomotor System.																		
	6	-		1100			-			I								
Arthritis, Periostitis Other Diseases of Locomotor	4	3 2	3 2				2		1		1		I	I 				
Total Diseases of Locomotor System	 10						2				 I		 I	···· I				
XII.—Skin.		5	3				-											
Ulcer, Bedsore	ï	1																
Eczema Pemphigus	4	2	2	3														
Other Skin Diseases	3		3	2													1	
Total Diseases of Skin	8	3	5	5													I	100
COther Specified																		
Diseases.																		
D.—Ill-defined and not Specified Diseases.																		Contraction of the local division of the loc
Atrophy, Debility, Marasmus	80	45	35	78		I			I									
Dropsy, Ascites, Anasarca Tumour			2															
Abscess	3	2	I	I						I								
Hæmorrhage Sudden Causes (causes																		
unascertained) Other Ill-defined Diseases Total Ill-defined and not	2	2		 I					••••									
Specified Causes	. 87	49	38	80	I	I			I	1								-
EViolent Causes.	100																	
1.—Accident.					-				1015									
In Mines and Quarries Vehicles and Horses	6	3 5	 I	•••			 I	 I			•••	I 	I 	2		I 		
Ships, Boats, Docks (not Drowning)					·													
Building Operations	-	6	 I								1		2	1			2	
Weapons and Implements	. I	1								I								
Burns and Scalds Poison, Poisonous Vapours		5	8	1		2	I	2	2		2			I		1		1
Drowning	6	3	3			I				I		I						
Suffocation		4	3	6		···· I		1		 I	2		2	2	 I	 I	 I	1
Falls Weather Agencies		13																
Otherwise or not Stated	1 1	10	6	I			1			2	I		I	2		I	I	
2.—Homicide.	2																	
3.—Suicide.	17	11	6										2	2	3	2	2	
4Execution.																		
Total Violent Deaths	103	61	42	8		4	3	4	2	5	6	2	8	10	4	6	6	
Total from all Causes .	. 3073	1560	1510	0652	262	99	55	45	81	52	51	66	78	96	108	122	137	

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5 0	60 to 65	65 to 70	70 to 75	75 to So	80 to 85	85 and upwards	o to 5	5 and upwards	North	East	West	Exchange	Bradford	Church	Great Lever	Derby	Hulton	Deane-c'm- Lostock	Rumworth	Halliwell	Heaton	Smithills	Astley Bridge	Tonge	Dar. Lever c-Br'htmet.
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0		209	185	117	74	25	1113			233	491			130		342	78	44		371	22		127		68
-			-							00							-			51			-/	.5.	

Continued.

#### TABLE II.

### POPULATION, BIRTHS AND DEATHS IN PREVIOUS YEARS.

	estimated each Year	Bir	ths	Tota	il Death in the l	s regist District	tered	Public 1 the	residents Public District	Residents 1 Public In- ond District	at all belong	Deaths Ages ing to
Year	on estime of each			Under of	ı year age	At all	ages	tal Deaths in Publ Institutions in the District	Non-re ed in P ns in L	ot Kesi I in Pu beyond	the D	istrict
	Population to Middle of	Number	Rate	Number	Rate per 1000 Births Registered	Number	Rate	Total Deaths in Institutions in District	Deaths of Non-residents Registered in Public Institutions in District	Deaths of Residents Registered in Public In- stitutions beyond District	Number	Rate
1897	121433	3985	328	728	182	2485	20'4	71	18	204	2671	21.9
1898	122495	3800	31.0	632	166	2196	17'9	81	31	185	2350	19.1
1899	162222	4878	30.0	864	177	2971	18.3	116	17	284	3238	19.9
1900	164240	4775	29.0	806	168	2952	17'9	119	16	285	3222	196
1901	168748	4648	27.5	794	170	2864	16.9	128	24	245	3085	18.3
1902	171082	4779	27'9	626	130	2741	16.0	160	31	240	2959	17.2
1903	173401	4700	27.1	704	149	2768	15.9	136	18	312	3062	17.6
1904	175744	4736	26.9	775	163	2743	156	129	28	279	2994	17.0
1905	178111	4481	25.1	724	161	2492	13.9	138	26	288	2754	15.4
1906	180502	4599	25'4	631	137	2551	14'1	138	27	270	2794	15'4
Averages for years 1897-1906.	161797	4538	28.2	728	160	2676	16.0	121	23	259	2912	18.1
1907	182917	4476	24'4	646	144	2795	15.5	174	28	306	3073	16.7

### Census, 1901.

Total Population at all ages		 	 168,215
Number of Inhabited Houses		 	 35,995
Average Number of Persons per	House	 	 4.6

TABLE III.

WARD POPULATIONS, BURTHS, AND DEATHS.

	1 Year Deaths under	127	601	104	104	118	110	111	66	110	101	109	102
ord	Deaths at all Ages	442	382	391	383	441	430	401	379	363	386	399	402
Bradford	Births Registered	682	643	600	599	636	627	651	600	572	603	621	547
E	Population esti- mated to Middle of each year	18952	19018	19068	19440	19852	19915	19980	20110	20220	20330	19688	20430
	Deaths under Deaths under	50	47	45	39	38	28	20	34	30	15	35	30
nge	Deaths at all Ages	193	178	149	147	156	150	119	101	101	96	139	107
Exchange	Births Registered	230	216	188	167	132	173	115	151	144	132	164	125
-	Population esti- mated to Middle of each year	7252	7250	7250	6750	5874	5724	5535	5331	5130	4950	6104	4770
	Deaths under	156	120	142	127	106	87	121	131	115	123	122	106
	Deaths at all Ages	549	448	556	544	451	430	469	496	436	477	485	491
West	Births Registered	862	765	784	714	695	708	684	670	677	209	726	169
	Population esti- mated to Middle of each year	27225	27438	27627	28370	27290	27343	27410	27572	27705	27840	27582	27960
	1 Year Deaths under	86	69	75	60	74	57	50	70	65	51	65	64
1	Deaths at all Ages	315	237	267	276	257	245	249	231	211	207	249	233
East	Births Registered	353	349	354	338	320	312	324	312	339	300	330	322
	Population esti- mated to Middle of each year	11313	11313	11313	11000	10554	10556	10400	10275	10140	10040	10700	9940
	I Year	40	33	41	41	32	24	33	30	25	27	31	15
4	Deaths at all Ages	155	124	127	137	118	142	141	122	97	104	126	118
Nort	Births Registered	223	220	213	212	179	209	203	198	175	194	203	186
	Population esti- mated to Middle of each year	6943	6993	7036	7200	7386	7452	7520	7560	7600	7710	7340	7810
1	I Year Deaths under	732	638	880	814	800	6:3	713	792	744	636	738	652
gh	Deaths at all Ages	2671	2350	3238	3222	3085	2959	3062	2994	2754	2794	2912	3073
Borough	Births Registered	3985	3800	4878	4775	4648	4779	1700	1236	4481	1599	4538	476
I	Population esti- mated to Middle of each year,	121433 3985 2671	122495 3800 2350	162222 4878 3238	164240 4775 3222	168748 4648 3085	171082 4779 2959	173401 4700 3062	175744 4736 2994	178111 4481 2754	18c502 4599 2794	161797 4538 2912	182917 4476 3073
Names of Wards	Year	1897	1898	1899	собі	1901	1902	r903	1904	1905	1906	Averages of years 1897 to 1906	

TABLE III (Continued).

WARD POPULATIONS, BIRTHS, AND DEATHS.

1	Desths under	27	42	36	46	44	31	- 29	53	43	33	38	37
orth	Deaths at all Ages	114	145	135	144	164	124	129	163	122	125	136	152
Rumworth	Births Registered	173	230	217	235	220	233	249	246	224	229	225	241
R	Population esti- mated to Middle of each Year	5759	5891	5995	6400	7263	7590	7925	8165	8415	8805	7220	9205
ock	1 year Deaths under			23	16	12	00	6	S	13	8		7
-Lost	Deaths at all Ages			69	55	39	36	51	60	49	32	3.24	44
cum	Births Registered	İ		86	98	96	92	80	81	82	89		72
Deane-cum-Lostock	Population esti- mated to Middle of each Year	allabla.	allaute	2787	2700	3203	3209	3215	3231	3245	3250		3255
	I year Deaths under	1000		32	23	29	21	13	17	27	14		19
u	Deaths at all Ages		2 110 1	87	82	77	73	78	81	79	58		78
Hulton	Births Registered			115	132	135	163	150	142	146	152		137
	Population esti- mated to Middle of each Year	Ctat into		4124	4300	4545	4684	4820	4950	5080	5205		5330
	1 year Deaths under	IOI	118	119	611	114	104	95	103	93	87	105	76
2	Deaths at all Ages	383	370	405	424	370	367	349	360	343	344	371	342
Derby	Births Registered	656	640	645	607	591	616	561	109	545	555	109	536
	Population esti- mated to Middle of each Year	18302	18483	18629	06161	17191	19315	19470	19685	19870	20120	19223	20320
	I year Deaths under		101	31	32	31	23	34	36	30	21		33
Lever	Deaths at all Ages		avai lable	136	129	139	129	150	130	159	121		167
Great I	Births Registered	1	avai	247	244	230	252	236	234	214	237		240
Gr	Population esti- mated to Middle of each Year	to _	5	7744	7700	9008	9433	0066	10290	10697	11050		11428
	r year Deaths under	31	20	31	25	31	24	26	38	18	17	26	16
4	Deaths at all Mges	167	149	153	143	134	158	139	138	102	135	141	139
Church	Births Registered	204	169	175	161	155	172	1/1	168	139	.164	167	169
	Population esti- mated to Middle of each Year	9665	9820	9666	8760	8607	8604	8550	8545	8540	8537	8956	8534
Names of Wards.	Year	1897	1898	1899	1900		1902	1903	1904	1995		Averages of Years 1897 to 1906	

### TABLE III, Continued.

# WARD POPULATIONS, BIRTHS, AND DEATHS.

ė	ı year Deaths under			15	15	II	7	1.5	15	10	13		8
er-cu net	Deaths at all Ages			54	76	55	57	65	67	56	65	121 X 3	68
arcy Lever-o Breightmet	Births Registered			83	4	89	87	97	108	79	90		86
Darcy Lever-cum- Breightmet	Population esti- mated to Middle of each Year			3849	3850	3566	3554	3520	3508	3485	3480		3475
	Deaths under			34	43	37	17	29	31	27	25		23
U	Deaths at all Ages			149	126	147	66	141	139	117	113		132
Tonge	Births Registered			277	284	260	236	256	256	239	227		260
	Population esti- mated to Middle of each Year			7904	8400	8562	8920	9301	9725	10145	10440		10755
	Deaths under	1		24	21	29	25	24	22	18	17	-	33
idge	Deaths at all Ages	1		122	109	011	137	122	111	118	III		127
Astley Bridge	Births Registered			183	188	091	194	176	180	186	188		178
Astl	mated to Middle of each Year			7496	7510	7707	7849	7995	8155	8312	8440		8540
	Population esti-			-	+	0	-	25	1	4		1	11
-	Desths under			-+		-	-		I				
Smithills	Deaths at all Ages			64	19	54	68	87	. 59	74	73	1	80
	Births Registered			112	102	121	90	138	133	143	117		119
	Population esti- mated to Middle of each Year	1.1.1	anable	3471	3600	4412	4614	4830	5010	5187	5350	-	5522
	I year Deaths under		av	I	I	4	S	4	IO	4	4		3
uo	Deaths at all Ages	1	s not	22	25	24	31	33	41	25	33		53
Heaton	Births Registered		Stic	35	29	38	38	37	57	48	46		31
	Population esti- mated to Middle of each Year	0	Stat istic s		1530	1902	1930	1960	1994	2035	2050		2063
	1 year Deaths under	108	80	110	88	87	51	75	76	96	64	83	80
/ell	Deaths at all Ages	353	317	355	361	349	283	339	307	303	314	328	371
Halliwell	Births Registered	603	568	564	566	591	577	572	619	529	573	576	536
ł	Population esti- mated to Middle of each Year	16022	16289	16487	17540	19746	20390	21070	21635	22305	22905	19438	23580
Names of Wards	Year	1897	1898	1899	1900	1001	1902	1903	1904	1905	1906.	Averages of Years 1897 to 1906	1907

TABLE IV.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1907.

		Cases	Notified	Cases Notified in Whole District	tole Dis	trict			-	Total		ases	Not	Cases Notified in each Locality	in ea	ch L	ocali	ty.			-	Z	qum	er of	Cas	Number of Cases Removed to each Locality	each Locality	ved		iospi	Hospital from	HO	~~~
Notifiable Disease			A	At Ages-	-Years		-	10000		19					-yooteo.				ə	r'tmet.								Postock			ອງ	3r'tmet.	oital emoved
	At all Ages	Under 1	1 to 5 5 to 15	A CONTRACT OF A	15 to 25	25 to 65	65 and upw'ds	North	East	Exchange West	Bradford	Church	Great Lever	Derby Derby	Deane-cum-L	Rumworth	Halliwell	Smithills	Astley Bridg	Tonge Darcy Lc-B	North	Mest East	Exchange	Bradford	Church Church	Derby	Hulton	Beane-cum-l	IlewilleH	Heaton	Astley Bridg	Tonge   Darcy Lc-I	Total cases r to Hosp
1	:	:	:		:	:					:	:	:													:	1						1
		:	:			:	:		1	:	:	:	:			:	:	1	;	:	1	-	-	1	-	-	1		-	:	-	:	:
Diphtheria (includ'g Membranous Croup)	79	S	32	37	S	6	1	-	61	17	3 11	4	w	~	01	:	~	1	~	-0-	:	:					1			:	:	: .	3
2	89	I	4	00	9	99	4	61	10	10	4 12	4	S	25	4	61	3	1	S	4		:		-		:	-		:				1
Scarlet Fever	866	ŝ	269	521	51	20	:	39	39	39 118 16 1	6 121	24	401	129	34 18	43	117	4 43	4	52 1	5 20 29		73 11		95 13 1	16 81	22	7 39	60	1 24	4	26 0	539
Typhus Fever	····			:	:	:	:	:	:	:	:	:	:			-	:	:	;	:	-	:	+	:	:	+	1	1	:	:	İ	1	:
Enteric Fever	135	:	S	42	28	60	:	0	11	15	20	4	13	26	5 4	4	13	1 1	0	00	4	4 10	7 1	13	H	3 14	4	-	4 IO	:	-	5	79
Relapsing Fever						:	:	:	:			:				-	-	:	:	:	-	:	-	-	Ť	:	:	:		-	-	-	:
Continued Fever			:			: '	:		1			-	-	:		:	1	1	1	:	-	:	:		:	:	-	: *	-	:	1	1	
Puerperal Fever	18	:	:		S	13	:	I	3	F			-	61	1	-	4	-	-	:		:	+	:	÷	:	1		:	:	:	-	
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Phthisis	194		61	18	32	135	7	13		31 13	3 26	4	5	27	- 6			01 0	-	5	3	T			÷1	1	1	11		:1	11	: 14	
	1381	11	302	626	127	303	12	63		79/192/38	8,190	0 40		70/216	55130		59 162	7 48	36	72'24	1 24	30	8112		100 142	22 105	5 27	8 43	3 70	1124	S	321 0	022

TABLE V. CAUSES OF, AND AGES AT, DEATH DURING YEAR 1907.

Total Deaths whether of "Residents"	or "Non- Residents" "in Public Institutions in the. District.	1-81 - 111 111 111 1 1 1 1 1 1 1 1 1 1 1	174
Residents" belonging to Localities. whether occurring in or beyond the District.	Breightmet		88
	Tonge	10 10 10 10 10 10 10 10 10 10 10 10 10 1	132
r occ	Astley Bridge	1 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	127
hethe	Smithills	······································	80
es. w	Heaton		55
caliti	Halliwell	25 25 25 25 25 25 25 25 25 25	371
o Lo trict.	Rumworth	121 121 121 121 121 121 121 121	152
e Dis	Lostock	1 a a - 1 6 1 - 1 1 1 1 6 6 6 9 a 1 - 1 1 1 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1	44
elong nd th	Hulton	14:0	78
ssidents" belongir in or beyond the	Derby	37 37 37 37 37 37 37 37 37 37 37 37 37 3	342
siden n or	Great Lever		167
"Re	Срисср		139
es of	Bradford		402
II Ag	Exchange		107
Deaths at all Ages of	West		491
eaths	East		233
0	North		118
s of ng	spieman pue Sg		_
Deaths at the subjoined Ages of " Residents" whether occurring in or beyond the District.	nuger 65 25 and	<td< td=""><td>1100010</td></td<>	1100010
er oc Dis	under 25 15 and		_
aths at the subjoined Age kesidents" whether occurri in or beyond the District.	nuqet 15	1999 Na 10 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	133 1117
the its" v	nuder 5 1 and		401 1
hs at siden	I Year Under		
Deat " Re	All Ages	234 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	3073 052
-	S S S C S S	s.	
	Causes of Death	Small-pox	All causes
		NAMER O R RORDEREDORODERED KONED RKNKI	1

## TABLE VI. INFANTILE MORTALITY DURING THE YEAR 1907.

sumption a market

DEATHS FROM STATED CAUSES IN WEEKS AND MONTHS UNDER ONE YEAR OF AGE.

1 1 1 1 1	12.01	1 1 1 1	10			1	
t otal Deaths	645	33 : 54 : : ]	47 19 11 105	41 :: 52	0 w : w	53 53 53 53	76
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sdinoM-11-01	36		4011	: : : • •	- : - : :	: - : 0 : 0	36 4
9-10 Months	31	::0:-4	а <u>а</u> : :		:-::	: 4 ; t	31 12
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- sdinoM 8-7	38		- ;- ;	:::-	a a : : :	: b ; v	0:0 8
ednom 7-9	4 :	1 : 20 : 1 0	∞ « : :		- : : : :	: 9 0 . : 0	o : a   ₫
5-6 Months	20	110110	- 3 3	· · · · 4 0	N : - : :	1 %	50 St + 4
stinoM 2-4			0	~ : : *	::-:-	: 01 01 01 ; *	t : 01 04
3-t Months	43	1 : : : : 4	r 4 - 1	- : : : ^		:: 00 07 : 0	··· 5
2-3 Months	36	· · · · · · · · · · · ·	4-40	: : : 4		: - <del>4</del> - ; •	30 0.0
edinoM 2-1	26		0: 34	a : : : .	- : : : -		
Total under	193		2 6	36			19
3-4 Weeks	20	114(11	9	<b>-</b> : :∞		: : 0 4 :	
z-3 Meeks	27	1 1 1 1 1 1	:::9	- : ; e	11111	1 1 20 4	4
1-2 Weeks	24		⊷ ; e ∞	:::•	Into Late	1.10-1	4 22
Under 1 Week	16		: : :8	so ∞	i i i interi-	1 1 2 1 1	9
7: - 5			: : : :	::::	rica		HI
1 1 14 12		Croup	teriti		sente		5-3-1
1 1 1 2	2	snot		g	s Me	and the second	110 12
	1.1	Small-pox Chicken-pox Measles Scarlet Fever Diphtheria (including Membranous Whooping Cough	Diarrhea, all forms Enteritis, Muco-enteritis, Gastro-en Gastritis, Gastro-intestinal Catarrh Premature Birth	Congenital Defects Injury at Birth Want of Breast-milk, Starvation Atrophy, Debility, Marasmus	Luberculous Meningius Tuberculous Peritonitis: Tabes M Other Tuberculous Diseases Erysipelas		
	1 : :		itis, ( stinal	 Star arasn	tis : liseas	Kickets	
Cause of Death		ing	iteri	Ma	Tuberculous Meningitis Tuberculous Peritonitis: Other Tuberculous Dise Erysipelas Syphilis	when	Suffocation, overlying Other Causes
Ä	111	Small-pox Chicken-pox Measles Scarlet Fever Diphtheria (includ Whooping Cough	Diarchœa, all forms Enteritis, Muco-ente Gastritis, Gastro-into Premature Birth	Congenital Defects Injury at Birth Waht of Breast-mil Atrophy, Debility,	erito erito ilous	t 1.	verly
e of		Small-pox Chicken-pox Measles Scarlet Fever Diphtheria (inc Whooping Coi	Diarrhœa, all for Enteritis, Muco- Gastritis, Gastro Premature Birth	Congenital Defec Injury at Birth Waht of Breast-n Atrophy, Debility	s P s P srcu	(no s	i or
ause	fied	ox n-po Fev	s, Ss, Gs, Ire	f B.B.	uble uble las	itis itis itis	tion
Ü	ifie	lll-p sles sles flet nthe	riti	gen ry a nt o phy	ercu ercu ipe	ing vul nchi nchi	er Oca
Carpon and and a series of the	Certified Uncertified	Small-pox Chicken-pox Measles Scarlet Feve Diphtheria (i Whooping C	Sinte Sinte Sast	Vat	Tuberculo Tuberculo Other Tub Erysipelas Syphilis	Kickets Meningitis ( Convulsions Bronchitis Laryngitis	Suffocation, or Other Causes
2. 2 . St.	100			0			
12.35 95	111	5	eal	200	4 -2-2 II		-
- 1. The 2. C	II ses	iou	rrho Ises	asti ises ube	nises	ses	
日日日の大力を火	All Causes	Common Infectious Diseases	Diarrho Diseases	l, Wasti Diseases	culous Diseases	Other Causes	8
「日本日前部間に		E .	II. Diarrhœal Diseases	III. Wasting Diseases IV. Tuber-	9	2. 5	1.
1	285		1. 1. 1. 1. 1.		4. 6. 8. 0	-	

- Deaths from all Causes at all Ages, 3,073. Population, estimated to middle of 1907, 182.917. Births in the year-Legitimate 4476; Illegitimate, 171.

