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County Borough



of Halifax

HEALTH DEPARTMENT.

REPORT

OF THE

Medical Officer of Health,

Together with the Report of the

SANITARY INSPECTOR,

FOR THE

Year ended December 31st, 1904.

Printed by order of the Health Committee.

HALIFAX :

MESSRS. EDWARD MORTIMER, PRINTERS, REGENT STREET.

1905.

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Staff of the Health Department.

Medical Officer of Health and Superintendent of the
Borough Fever Hospital.

JAS. T. NEECH, M.D., D.P.H., &c.

Assistant Medical Officer of Health.

J. F. HODGSON, M.D., D.P.H., &c.

Public Analyst.

W. ACKROYD, F.I.C., F.C.S.

Chief Sanitary Inspector.

DAVID TRAVIS.

Meat Inspector.

J. K. CRAWSHAW.

District Sanitary Inspectors.

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J. E. FIRTH.

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Laundry Engineer.

W. GUEST.

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H. VICKERMAN.

Gour Department.

Manager of Yard.

RD. TRAVIS.

Goux Inspectors.

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Clerk.

HARRY ASKE.

County Borough of Halifax.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH,

JAS. T. NEECH, M.D., D.P.H.,

For the year 1904.

INTRODUCTION.

*To the Chairman and Members of the Health
Committee.*

MR. CHAIRMAN AND GENTLEMEN,

In accordance with the requirements of the Local Government Board, I have now the honour of presenting you with the Thirty-second Annual Report on the Health and Sanitary condition of the Borough, together with an account of the work which has been carried out generally during the year in the Health Department.

I desire to acknowledge the valuable help of Dr. Hodgson, the Assistant Medical Officer of Health, who did most of the work in the Laboratory, and

assisted me in many other ways. My thanks are also due to Mr. Travis and all the Sanitary Inspectors, for the manner in which they have performed their duties during the year. Mr. Jackson, Chief Clerk, and Mr. C. Carlton have also rendered me valuable help.

I am further indebted to the Committee for its continued and generous support.

I am,

Gentlemen,

Your obedient Servant,

Jas. J. Keech M. D., D.P.H.

MEDICAL OFFICER OF HEALTH.

TOWN HALL,
HALIFAX,

June 8th, 1905.

STATISTICAL SUMMARY.

	1904.	1903.
	ACRES.	ACRES.
Area of County Borough ...	13,650	13,650
Rateable Value ...	£491,640	£483,498
Population, estimated to middle of 1904 ...	107,000	106,800
Population, 1901 Census ...	104,936	
Persons per Acre ...	7·8	7·8
Average number of Persons per Inhabited House, 1901 Census ...	4·2	
Average number of Persons per House, 1901 Census ...	4·0	
Birth Rate, 1904 ...	20·1	21·0
„ Average for previous 10 years ...	22·8	23·1
Death Rate, 1904 ...	15·5	15·0
„ Corrected ...	15·3	14·9
„ Average for previous 10 years ...	17·4	17·7
Death Rate for seven principal Zymotic Diseases ...	1·4	·64
Death Rate, the mean for previous 10 years of Zymotic Diseases ...	1·3	1·3
Death Rate of Infants under 1 year per 1000 Births ...	130	124
Illegitimate Births ...	113	102
Average Age at Death, 1904—Males ...	37·5 years	40·0 years
Average Age at Death, 1904—Females ...	41·2 years	43·3 years
Latitude—North ...	53° 43'	
Longitude—West ...	1° 52'	
Height above Sea Level, feet	625	
Total Rainfall, inches ...	29·31	44·25

Analysis of the Vital Statistics of Thirty-three of the
largest English Towns during the Year 1904.

TOWNS.	Estimated Population Middle of 1904.	Annual Rate per 1000 Living.			Deaths of Children under 1 year of age to 1000 Births.	Rate per Cent. of Uncertified Deaths.
		Births.	Deaths.	Principal Zymotic Diseases.		
London	4,648,950	28·0	16·1	2·1	144	0·03
Croydon	144,419	26·1	13·8	1·4	129	0·00
West Ham	288,424	32·1	16·7	3·4	165	0·02
Brighton	126,286	23·5	16·6	1·6	134	0·02
Portsmouth	198,038	28·3	16·9	2·0	141	0·18
Norwich	115,538	27·6	18·2	2·9	179	0·12
Plymouth	114,003	25·3	18·7	2·5	173	0·02
Bristol	343,204	26·0	15·4	1·5	133	0·05
Wolverhampton	98,194	29·8	14·6	2·8	152	0·09
Birmingham	537,965	31·5	19·3	3·3	195	0·53
Leicester	224,186	26·6	14·5	2·0	163	0·14
Nottingham	248,811	27·8	17·5	2·6	175	0·13
Derby	120,449	27·2	15·1	1·4	143	0·08
Birkenhead	114,814	33·1	19·8	3·5	180	0·06
Liverpool	723,430	33·5	21·9	4·6	196	0·71
Bolton	175,744	26·9	16·9	2·3	167	0·07
Manchester	557,938	31·2	21·3	3·3	187	0·39
Salford	228,983	31·7	21·0	4·3	193	0·08
Oldham	139,497	24·9	18·3	2·3	155	0·04
Burnley	100,569	26·5	19·5	3·9	228	0·32
Blackburn	132,134	23·5	17·2	2·4	191	0·19
Preston	115,055	28·2	17·8	3·0	183	0·62
Huddersfield	94,925	23·7	17·5	1·9	136	0·27
Halifax	107,580	20·1	15·5	1·4	130	0·28
Bradford	285,089	22·0	17·5	2·3	166	0·12
Leeds	450,142	28·0	17·9	2·5	176	0·03
Sheffield	432,940	32·0	16·8	2·2	158	0·46
Hull	253,865	30·8	18·0	3·2	181	0·20
Sunderland	151,157	34·4	19·4	2·3	165	0·66
Gateshead	118,067	34·4	18·5	2·8	175	0·73
Newcastle-on-Tyne	225,362	30·5	19·3	1·7	156	0·06
Cardiff	176,313	29·5	15·2	1·7	144	0·03
Swansea	95,931	30·5	17·7	2·2	172	0·23

Population and Area of the Borough.

Halifax is at present divided into fifteen Wards, of which the area and estimated population are set out in the following table.

WARDS.	Population Estimated to Middle of 1904.	Acreage.	Persons per Acre.	No. of Houses Built during 1904.
Ovenden ...	7270	531	13.6	10
Akroydon ...	6560	582	11.2	0
North ...	8310	168	49.4	9
Central ...	7835	82	95.5	0
West ...	9285	86	107.9	0
South ...	7690	296	25.9	4
East ...	7010	191	36.7	1
Southowram ...	7525	777	9.6	11
Skircoat ...	9505	513	18.5	63
Copley ...	2945	532	5.5	3
Pellon ...	9350	241	38.7	34
Kingston ...	10415	238	43.7	17
Illingworth ...	7180	4504	1.5	19
Northowram ...	3270	1555	2.1	9
Warley ...	2850	3354	0.8	0
Totals ...	107000	13650	...	180
Average ...	...	• ...	7.8	...

Marriages.

During the year under notice, there were 1039 marriages solemnised within the Borough, which gives a marriage rate of 9.7 per 1000, and which is slightly above that of the previous year, but considerably below the average of the previous five years. The

rates during the previous five years were:—1899, 12·3; 1900, 11·2; 1901, 10·5; 1902, 9·8; and 1903, 9·5 respectively. The marriage rate for England and Wales was 15·2 per 1000. The marriages took place as under.

In Churches of the Church of England	625
In Nonconformist places of worship, and at the Register Office	414
Total	1039

Births.

The total number of births registered within the Borough during the year ended December 31st, 1904, was 2154, or 83 less than during the previous year, and of which 1077 were males, and 1077 females. This gives a birthrate of 20·1 per 1000, which is the lowest birthrate yet recorded.

The birthrate of the Borough has been steadily diminishing, as well as that of the country generally, though the former has fallen more quickly than the latter.

The following table will illustrate the fact, by comparing the average birthrates per 1000, in periods between the year 1875, and the present time, for Halifax, and for England and Wales.

Period.	England and Wales.	Halifax.	Difference.	
1875-9	35.3	35.7	+	0.4
1880-4	33.8	30.7	—	3.1
1885-9	31.4	28.0	—	3.4
1890-5	30.7	25.4	—	5.3
1895-9	29.7	23.1	—	6.6
1900-4	28.4	21.5	—	6.9

The mean birthrate of the 33 largest towns, with which it has been usual to compare Halifax, for the year 1904 was 28.3 per 1000, and Halifax again had the lowest birthrate of those towns; that for Bradford, which came next, was 22.0 per 1000. The birthrate for England and Wales for 1904 was 27.9 per 1000, and for the other Yorkshire great towns as follows:—Leeds, 28.0; Sheffield, 32.0; Hull, 30.8; and Huddersfield, 23.7 respectively. See table, page 7.

The following table gives the number of births and the birthrates in each quarter of the year.

TABLE SHOWING BIRTHS AND BIRTHRATES IN
EACH QUARTER OF 1904.

Period.	Males.		Females.		Totals.		Birthrate per 1000 living.	
	1904.	1903.	1904.	1903.	1904.	1903.	1904.	1903.
1st Quarter	238	295	278	272	516	567	19.2	21.2
2nd „	299	293	289	286	588	579	21.9	21.6
3rd „	271	268	246	293	517	561	19.3	21.0
4th „	269	265	264	276	533	541	19.9	20.2
Whole Years	1077	1121	1077	1127	2154	2248	20.1	21.0

The following table gives the birthrates of the different Wards during the past five years.

WARDS.	BIRTH RATES.					
	1900.	1901.	1902.	1903.	1904.	Average.
Ovenden ...	24.3	22.0	20.7	21.9	21.4	22.0
Akroydon ...	24.0	28.5	28.2	26.0	25.3	26.4
North ...	28.5	27.9	25.2	27.6	22.9	26.4
Central ...	23.0	21.8	20.9	23.8	21.0	22.1
West ...	20.6	18.6	21.0	16.6	17.7	18.9
South ...	16.9	18.2	15.3	17.2	15.4	16.6
East ...	15.1	15.1	15.5	15.9	14.9	15.3
Southowram ...	31.0	27.0	28.9	23.4	25.1	27.0
Skircoat ...	20.3	21.1	17.9	22.3	22.3	20.7
Copley ...	22.1	23.7	14.0	13.2	14.6	17.5
Pellon ...	25.3	23.7	20.0	20.6	18.6	21.6
Kingston ...	25.1	21.4	17.5	18.9	16.9	19.9
Illingworth ...	20.6	21.3	20.2	21.9	19.3	20.6
Northowram ...	...	23.8	29.0	21.4	29.0	25.8
Warley ...	...	21.2	18.2	21.0	20.3	20.1

I sent the usual circular to the caretakers of all the cemeteries and burial grounds within the Borough, in all, 21, asking for the number of still births that were interred during the year. Of these, one only failed to reply, but from verbal information obtained afterwards, we understand no such burial took place in that burial ground.

The following table gives the names of the cemeteries or burial grounds in the Borough, and the number of still-born buried in each.

Name of Burial Ground.	Number of Still-born Children Buried therein.	
	1903.	1904.
Moor End Chapel ...	0	0
Nursery Lane Wesleyan ...	0	0
St. George's, Ovenden ...	4	3
Providence Chapel, Ovenden ...	0	1
Illingworth Church ...	7	7
Christ Church, Mount Pellon ...	15	11
Illingworth Wesleyan Chapel ...	2	0
Mount Zion, Ovenden ...	2	0
Borough Cemetery ...	33	41
Wesleyan Chapel, Northowram ...	0	0
All Saints' Church ...	4	5
Heywood Cemetery ...	2	8
Bradshaw Church ...	0	0
Mount Tabor Burial Ground ...	6	0
King Cross Wesleyan ...	23	14
St. Paul's Church, King Cross ...	5	5
All Souls' Cemetery ...	10	12
Warley Church ...	0	2
Wesleyan Chapel, Luddenden ...	0	0
Lister Lane Cemetery ...	15	12
St. Thomas' Church ...	No reply	0
Totals ...	118	121

The number of still-born children buried during 1901 was 108; 1902, 86; and 1903, 118 respectively. From these figures it appears that the number of still-births is on the increase, and last year was equal to a birthrate of 1.1 per 1000 of the population. In my opinion some form of registration of still-born children should be made compulsory.

Deaths.

During the year 1904 there were 1662 deaths registered within the Borough, of which 52 belonged to other districts, also there occurred 33 deaths outside the

Borough, among persons belonging thereto, so that excluding the former, and including the latter, the corrected number of deaths for the year was 1643. Of the latter number 832 were males, and 811 were females. This gives a deathrate for the year of 15·3 per 1000, which is only ·4 above that of the previous year, when the deathrate was the lowest ever recorded.

The deathrate for England and Wales for 1904 was 16·4 per 1000, the average of the 76 great towns was 17·2 per 1000, and of the other Yorkshire great towns as follows:—Leeds, 17·9; Sheffield, 16·8; Bradford, 17·5; Hull, 18·0; and Huddersfield 17·5 respectively.

The following table gives the average deathrate of the Borough in quinquennial periods from 1876 to the present time.

Period.	Deathrate.
1876-80	23·5
1881-5	21·1
1886-90	21·2
1891-5	17·9
1896-00	17·5
1901-4	15·4

The above table shows that the average deathrate taken in periods, as above, has fallen 8·1 per 1000 during the past 28 years.

The next table gives the mortality of the different wards for the year under notice, and serves to compare the various deathrates thereof.

WARDS.	Population.	Acreage.	Persons per Acre.	Total Deaths.	Death- rate per 1000.	Mortality per 1000 living.		
						Zy- moties.	Phthisis.	Other Respi- ratory Diseases.
Ovenden ...	7270	531	13·6	106	14·5	1·5	1·3	1·7
Akroydon ...	6560	582	11·2	122	18·5	2·4	0·6	2·1
North ...	8310	168	49·4	155	18·6	2·7	1·2	3·8
Central ...	7835	82	95·5	128	16·3	0·6	1·1	3·3
West ...	9285	86	107·9	136	14·6	1·4	1·4	2·9
South ...	7690	296	25·9	116	15·0	1·3	0·5	2·8
East ...	7010	191	36·7	151	21·5	1·5	1·9	3·8
Southowram	7525	777	9·6	99	13·1	1·1	0·7	2·7
Skirecoat ...	9505	513	18·5	153	16·0	1·0	2·1	2·4
Copley ...	2945	532	5·5	35	11·8	2·0	1·6	1·3
Pellon ...	9350	241	38·7	122	13·0	1·8	1·0	1·8
Kingston ...	10415	238	43·7	115	11·0	0·5	1·1	2·5
Illingworth	7180	4504	1·5	114	15·8	0·8	1·3	3·2
Northowram	3270	1555	2·1	55	16·8	2·4	0·9	1·5
Warley ...	2850	3354	0·8	36	12·6	...	1·4	1·4
Totals ...	107000	13650	7·8	1643	15·3	1·4	1·2	2·6

The following table shows the total number of deaths of each sex which have occurred within the Borough (including Institutions), the total age lived, and the average age at death during the past nine years.

MALES.				FEMALES.			
	Deaths.	Total Years.	Average Ages.		Deaths.	Total Years.	Average Ages.
0-1	153	153	...	0-1	129	129	...
1-5	91	200	2·2	1-5	76	174	2·2
5-15	36	327	9·0	5-15	34	292	8·6
15-25	31	631	20·3	15-25	43	874	20·3
25-65	336	16557	49·2	25-65	286	13936	48·7
65 and upwards	185	13395	72·4	65 and upwards	243	18082	74·4
Total... 1904.	832	31263	37·5	Total... 1904.	811	33487	41·2
1904	Average		37·5	1904	Average		41·2
1903	„		40·0	1903	„		43·3
1902	„		36·6	1902	„		40·2
1901	„		36·2	1901	„		40·1
1900	„		38·3	1900	„		41·2
1899	„		35·1	1899	„		38·4
1898	„		34·4	1898	„		38·2
1897	„		35·3	1897	„		37·9
1896	„		35·5	1896	„		38·4

It will be observed from the preceding table, that while the average age at death of both males and females has been gradually creeping up since the year 1896, with the exception of the year 1901, when there was a slight fall, there was a remarkable lowering in the average age at death during the past year. This is accounted for by the fact that a larger number died at each age period below 65, and a smaller number above that age. The following table shows this.

YEARS.	Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards
1903...	279	125	52	67	608	461
1904...	282	167	70	74	622	428
Difference	+ 3	+ 42	+ 18	+ 7	+ 14	- 33

The following table shows the deaths which occurred within the Institutions of the Borough, of persons from outside districts, and the districts to which they belonged.

ROYAL HALIFAX INFIRMARY.					
Todmorden	...	...	...	...	5
Elland...	...	...	...	...	5
Barkisland	...	...	...	...	1
Sowerby	...	...	...	...	3
Queensbury	...	...	...	...	1
Brighouse	...	...	...	...	1
Hebden Bridge	...	...	...	...	4
Sowerby Bridge	...	...	...	...	4
Leicester	...	...	...	...	1
Hipperholme	...	...	...	...	2
Keighley	...	...	...	...	1
Thornhill	...	...	...	...	1
Accrington	...	...	...	...	1
Wadsworth	...	...	...	...	1
Mytholmroyd	...	...	...	...	1
Ripponden	...	...	...	...	1
Greetland	...	...	...	...	1
IN A STABLE.					
Sowerby Bridge	...	...	...	...	1
POOR LAW HOSPITAL.					
Kendal	...	...	...	...	1
Midgley	...	...	...	...	1
Hunslet, Leeds	...	...	...	...	1
G.N. RAILWAY STATION.					
Bradford	...	...	...	...	1
WEST GROVE.					
Batley...	...	...	...	...	1
Little Horton, Bradford	...	...	...	...	1
Sowerby Bridge	...	...	...	...	1
Huddersfield	...	...	...	...	1
Dorking, London	...	...	...	...	1
PRIVATE HOUSES.					
Manchester	...	...	...	...	1
Eccles...	...	...	...	...	1
New Church, Lancashire	...	...	...	...	1
Sowerby Bridge	...	...	...	...	1
Helsby, near Warrington	...	...	...	...	1
Triangle	...	...	...	...	1
Kirkburton	...	...	...	...	1
America	...	...	...	...	1
Total	...	...	...	...	52

Zymotic Deathrate.

The seven principal zymotic diseases caused 151 deaths, which gives a deathrate for the year of 1·4 per 1000. This deathrate is much higher than that for the previous year, but this has been the case generally throughout the country.

The following table will show the diseases responsible for this increase in Halifax.

YEARS.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.
1903	·046	·046	·065	·093	·17	·10	·11
1904	·08	·41	·21	·15	·17	·09	·27
Difference	·034	·364	·145	·057	·0	— ·01	·16

From the above it will be observed that the death-rate from five of the above diseases is increased, and in some cases the increases are considerable. In one case only has it fallen, and in the other it remains the same as for the previous year.

While there has been an increase in this deathrate, in conjunction with that of the country generally, it must be still considered a low deathrate. That for the previous year was the lowest on record, and it could hardly be expected that it would be maintained at that low level. Yet as these are preventable diseases, even a lower rate than that of 1903 is the goal to aim at.

We are again in the usual position of having the lowest zymotic deathrate among the 33 great towns of England and Wales. Two, however, viz.—Croydon and Derby, have an equally low rate.

According to the Registrar-General's returns, the zymotic deathrate of the other Yorkshire great towns were as follows:—Leeds, 2·5; Sheffield, 2·2; Bradford, 2·3; Hull, 3·2; and Huddersfield, 1·9 respectively.

The following table gives the average zymotic deathrate of England and Wales, and the great towns, with which that of Halifax favourably compares.

	DEATHRATE FROM							
	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Zymotic Death-rate.
England and Wales	0·01	0·36	0·11	0·17	0·34	0·09	0·86	1·94
76 Great Towns ...	0·01	0·47	0·12	0·19	0·40	0·10	1·20	2·49
142 Smaller Towns	0·03	0·36	0·13	0·16	0·35	0·10	0·89	2·02
England and Wales, less the 218 towns	0·01	0·23	0·09	0·14	0·27	0·08	0·46	1·28
HALIFAX ...	0·08	0·41	0·21	0·15	0·17	0·09	0·27	1·41

From the above table it will be observed that the zymotic deathrate of Halifax is not only below the average of that of England and Wales, but also both the 76 great towns and the 142 smaller towns.

The chief cause of the rise in this deathrate was the greater number of deaths certified to be due to Measles and Scarlet Fever during the year.

The following table shows the distribution of the deaths, from the chief zymotic diseases, among the wards of the Borough.

WARDS.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Zymotic Death-rate per 1000.
Ovenden ...	...	...	7	1	...	...	3	1.5
Akroydon ...	...	11	...	...	3	1	1	2.4
North ...	1	10	1	...	5	1	5	2.7
Central ...	2	...	...	1	1	...	1	0.6
West ...	1	5	...	1	2	4	...	1.4
South ...	...	...	3	1	3	...	3	1.3
East ...	1	4	...	3	...	...	3	1.5
Southowram ...	...	...	...	2	...	...	7	1.1
Skircoat ...	2	1	2	3	...	1	1	1.0
Copley ...	...	...	3	1	...	1	1	2.0
Pellon ...	...	8	5	1	1	2	...	1.8
Kingston ...	...	1	2	2	1	...	...	0.5
Illingworth ...	2	...	...	...	3	...	1	0.8
Northowram ...	...	4	...	1	...	...	3	2.4
Warley ...	...	...	...	...	...	...	...	...
Totals ...	9	44	23	17	19	10	29	Avr'ge 1.4

The following table gives the average zymotic deathrate of the Borough during the past 28 years, and shows the fall in that deathrate.

Period.	Deathrate.
1877-81	2.50
1882-6	1.55
1887-91	1.43
1892-6	1.33
1897-01	1.40
1902-4	1.00

Infantile Mortality.

During the year there died 282 infants belonging to the Borough under 1 year of age, three more than during the previous year. This gives a mortality of 130 deaths to 1000 births registered. During the previous year the infant mortality was 124 deaths to 1000 births, which is the lowest on record.

The following table gives the number of births, the birthrates, the number of deaths of infants under one year of age in each ward, and the mortality per 1000 births.

WARDS.	Number of Births.	Birthrates.	Number of Deaths under 1 year.	Mortality per 1000 Births.
Ovenden ...	156	21·4	14	90
Akroydon ...	166	25·3	27	162
North ...	191	22·9	31	162
Central ...	165	21·0	24	145
West ...	165	17·7	21	127
South ...	119	15·4	14	117
East ...	105	14·9	24	228
Southowram ...	189	25·1	24	127
Skircoat ...	212	22·3	13	61
Copley ...	43	14·6	2	46
Pellon ...	174	18·6	22	126
Kingston ...	177	16·9	27	152
Illingworth ...	139	19·3	22	158
Northowram ...	95	29·0	13	136
Warley ...	58	20·3	4	69
Totals ...	2154	20·1	282	130

The following table gives the infant mortality of the different wards of the Borough during the past five years, and also the average birthrate of each ward during the same period.

WARDS.	Deaths under 1 year to 1000 Births registered.						Average Birthrate during the past five years.
	1900.	1901.	1902.	1903.	1904.	Average.	
Ovenden ...	137	103	154	132	90	123	22·0
Akroydon ...	110	149	140	122	162	136	26·4
North ...	142	118	216	126	162	152	26·4
Central ...	179	198	207	123	145	170	22·1
West ...	195	92	117	135	127	133	18·9
South ...	101	79	138	136	117	114	16·6
East ...	160	198	220	214	228	204	15·3
Southowram	114	148	179	193	127	152	27·0
Skircoat ...	83	122	110	90	61	93	20·7
Copley ...	70	57	97	50	46	64	17·5
Pellon ...	125	119	113	72	126	111	21·6
Kingston ...	111	105	138	126	152	126	19·9
Illingworth	173	93	97	101	158	124	20·6
Northowram	...	115	84	71	136	101	25·8
Warley ...	...	83	76	116	69	86	20·1

From the above table it will be seen that the height of the infantile deathrate does not depend upon the height of the birthrate, as the ward having the lowest birthrate has the highest infantile mortality.

The next table shows the number of deaths from some of the chief infantile diseases per 1000 births, during the past two years, and the rate of those deaths per cent. of the total deaths, at all ages.

DISEASES.	Total Deaths.		Rate per 1000 Births.		Rate per cent. of Total Deaths at all ages.	
	1904.	1903.	1904.	1903.	1904.	1903.
From all causes ...	282	279	130.9	124.1	17.1	17.4
Respiratory Diseases ...	61	59	28.3	26.2	3.7	3.7
Premature Birth, Inanition	59	50	27.3	22.2	3.5	3.1
Diarrhœa ...	22	8	10.2	3.5	1.3	.5
Whooping Cough ...	4	13	1.8	5.7	.2	.8
Convulsions ...	22	33	10.2	14.6	1.3	2.0
Serofula, Tuberculosis ..	10	20	4.6	8.8	.6	1.2
Dentition ...	10	8	4.6	3.5	.6	.5

The following table serves to compare the infantile mortality for 1904 of England and Wales, the great towns, &c., with that of Halifax.

	Deaths under 1 year per 1000 Births.
England and Wales ...	146
76 Great Towns ...	160
142 Smaller Towns ...	154
England and Wales, less the 218 Towns ...	125
Halifax ...	130

The above table shows that so far as infantile mortality is concerned, Halifax has a considerably lower

rate than the average of even the smaller towns of England and Wales, and is only slightly above the average of the rural districts of the country.

The infantile mortality of the other great towns in the West Riding of Yorkshire was as follows:—Leeds, 176; Sheffield, 158; Bradford, 166; Hull, 181; and Huddersfield 136 deaths per 1000 births respectively.

The following table gives the average infant mortality of the Borough in quinquennial periods, from 1875 to the present time. It shows the fall in that mortality, and compares it with that of England and Wales.

Period.	Halifax.	England and Wales.
1875-9	173	145
1880-4	161	141
1885-9	158	142
1890-4	163	148
1895-9	154	157
1900-4	132	143
1904	130	146

From the above table it will be observed that the deathrate of infants under one year of age per 1000 births remains the same to-day, as it was 30 years ago, as far as the country generally is concerned; while that of Halifax, which at that period was over 20 above the average of England, has gradually fallen, so that it is now at least 10 below that figure. Though this state of

matters is so far satisfactory, there is plenty of room for further improvement, especially in some of the wards of the Borough, in which this mortality is still very high. This question assumes a very serious aspect in view of the diminishing birthrate.

The following table gives the infant mortality of the 27 largest towns of the country, during the past five years, and as will be seen from the averages, Halifax occupies almost the bottom place.

27 LARGE TOWNS.			Deaths under 1 year to 1,000 Births Registered.					
			1900.	1901.	1902.	1903.	1904.	Average.
Preston	...	...	236	216	188	161	183	197
Salford	...	...	207	204	155	166	193	185
Blackburn	...	...	221	193	157	159	191	184
Manchester	...	...	189	198	152	168	187	179
Birmingham	...	...	199	186	156	158	195	179
Sheffield	...	...	200	200	149	182	158	178
Liverpool	...	...	186	187	162	159	196	178
Nottingham	...	...	196	193	158	164	175	177
Leeds	...	...	183	188	159	153	176	172
Norwich	...	...	178	186	156	149	179	169
Hull	...	...	183	174	137	162	181	167
Leicester	...	...	175	175	152	161	163	165
Birkenhead	...	...	160	181	148	155	180	165
Sunderland	...	...	169	181	152	156	165	164
Oldham	...	...	172	172	148	160	155	161
Newcastle-on-Tyne	...	...	170	178	139	165	156	161
Wolverhampton	...	...	206	162	133	141	152	159
Plymouth	...	...	175	149	154	144	173	159
Bolton	...	...	171	171	134	152	167	159
Bradford	...	...	141	168	138	147	166	152
Portsmouth	...	...	155	162	151	113	141	144
Derby	...	...	174	154	124	128	143	144
Cardiff	...	...	141	147	146	122	144	140
Brighton	...	...	166	160	125	110	134	139
Huddersfield	...	...	132	131	137	120	136	131
Halifax	...	...	132	127	143	122	130	131
Bristol	...	...	133	130	130	116	133	128

Comparison of Ward Deathrates.

The following table serves to compare the under-mentioned deathrates of the different wards of the Borough for 1904.

WARDS.	General Deathrates.	Zymotic Deathrates.	Respiratory Deathrates.	Phthisis Deathrates.	Infantile Mortality.
Ovenden ...	14.5	1.5	1.7	1.3	90
Akroydon ...	18.5	2.4	2.1	0.6	162
North ...	18.6	2.7	3.8	1.2	162
Central ...	16.3	0.6	3.3	1.1	145
West ...	14.6	1.4	2.9	1.4	127
South ...	15.0	1.3	2.8	0.5	117
East ...	21.5	1.5	3.8	1.9	228
Southowram ...	13.1	1.1	2.7	0.7	127
Skircoat ...	16.0	1.0	2.4	2.1	61
Copley ...	11.8	2.0	1.3	1.6	46
Pellon ...	13.0	1.8	1.8	1.0	126
Kingston ...	11.0	0.5	2.5	1.1	152
Illingworth ...	15.8	0.8	3.2	1.3	158
Northowram ...	16.8	2.4	1.5	0.9	136
Warley ...	12.6	...	1.4	1.4	69
Average ...	15.3	1.4	2.6	1.2	130

From the above table it will be seen that the deathrates of the different wards vary very much, ranging from 21.5 in East, to 11.0 per 1000 in Kingston. No doubt one reason why the deathrate is so high in East Ward is, that a number of the deaths which occur in the Workhouse Hospital are allocated to this ward, because a good many are tramps who have been removed from the lodging-houses. The infantile mortality, too, is very high in this ward.

As usual, lists containing the names and addresses of those notified each week, were sent to all the public libraries.

The following table gives the number of cases notified each month of 1904.

MONTH.	Small-pox	Typhoid Fever.	Scarlet Fever.	Puerperal Fever.	Diphtheria.	Erysipelas.	Total.
January ...	1	2	40	1	7	11	62
February ...	...	3	45	...	4	8	60
March ...	10	10	45	1	4	9	79
April ...	17	1	44	...	2	8	72
May ...	17	2	31	...	7	3	60
June ...	1	2	22	...	3	5	33
July ...	...	1	35	...	6	5	47
August ...	...	4	42	...	4	6	56
September ...	2	4	36	...	6	2	50
October ...	6	5	51	4	12	7	85
November ...	8	9	51	1	14	6	89
December ...	18	4	44	2	11	3	82
Totals ...	80	47	486	9	80	73	775

The following table shows the number of cases of each disease reported yearly, since notification became compulsory, and the rate per cent. which the total number reported bears to the population of the Borough.

YEAR.	Small-pox.	Cholera.	Typhus Fever.	Enteric Fever.	Scarlet Fever.	Continued Fever.	Puerperal Fever.	Relapsed Fever.	Diphtheria.	Erysipelas.	Chicken-pox.	Membranous Croup.	Total.	Rate percent- age of population.
1883	2 ...		2	108	158	43	2	1	14 ...				330	·43
1884	1 ...		1	69	269	24	4	4	13 ...				385	·50
1885	7 ...		1	56	214	22	1	...	25 ...				326	42
1886	3 1	...		57	124	7	5	...	59 ...				256	·32
1887	1 ...		1	66	727	8	7	...	26 ...				836	1·05
1888	1 ...		1	36	440	16	1	...	29 ...				524	·65
1889	2 ...		...	94	153	18	1	3	31 ...				302	37
1890	... ...		...	67	328	8	8	1	62 ...				474	·58
1891	... 1	...		99	429	14	5	2	23 ...				573	·68
1892	159 ...		1	56	256	9	4	2	71 ...				558	·66
1893	346 5	...		69	150	5	6	...	57 ...				638	·69
1894	16 ...		...	52	114	3	6	...	43 ...				234	·25
1895	... ...		...	58	52	3	4	...	29 ...				146	·15
1896	... ...		...	105	44	2	4	...	37 ...				192	·20
1897	... ...		...	78	476	1	8	...	67 ...				630	·66
1898	... ...		...	79	626	1	9	...	23 ...				738	·76
1899	... ...		...	92	762	2	3	...	58 ...				917	·93
1900	2 ...		5	79	330	1	4	3	41 1	...			466	·46
1901	3 ...		...	67	736	...	1	...	61 15	...			883	·83
1902	1 ...		...	65	452	1	3	...	37 27	...			586	·55
1903	130 ...		...	61	220	2	1	...	50 81	328	1		974	·91
1904	80 ...		...	47	486	...	9	...	80 73	...			775	·72

The Borough having been extended on several occasions since 1883, the rate per cent. of population in the above table will better serve for comparison than the totals notified.

Causes of Death.

The following table gives the causes of death in the Borough, excluding those not belonging thereto during the year 1904.

CAUSES OF DEATH.					Number.
Small-pox	...	...	...	...	9
Measles	...	...	...	...	44
Scarlet Fever	...	...	...	...	23
Whooping-cough	...	...	...	...	19
Diphtheria and Membranous Croup	...	...	...	...	17
Enteric Fever	...	...	...	...	10
Epidemic Influenza...	...	...	...	...	19
Diarrhœa	...	...	...	...	29
Enteritis	...	...	...	...	17
Puerperal Fever	...	...	...	...	5
Erysipelas	...	...	...	...	6
Other Septic Diseases	...	...	...	...	5
Phthisis	...	...	...	...	134
Other Tubercular Diseases	...	...	...	...	54
Cancer, Malignant Disease	...	...	...	...	91
Bronchitis	...	...	...	...	169
Pneumonia	...	...	...	...	115
Pleurisy	...	...	...	...	1
Other Diseases of Respiratory Organs	...	...	...	...	13
Alcoholism, Cirrhosis of Liver	...	...	...	...	20
Venereal Diseases	...	...	...	...	3
Premature Birth	...	...	...	...	59
Diseases and Accidents of Parturition	...	...	...	...	7
Heart Diseases	...	...	...	...	191
Accidents	...	...	...	...	33
Suicides	...	...	...	...	11
Brain and Nervous System	...	...	...	...	150
Digestive System	...	...	...	...	51
Urinary System	...	...	...	...	53
Convulsions	...	...	...	...	30
Old Age	...	...	...	...	106
All other causes	...	...	...	...	149
All causes	...	...	...	...	1643

Smallpox.

This disease was present in the Borough more or less throughout the year, February, July, and August being the only months during which no cases were reported.

In all 80 cases were notified, and the following table shows the number which occurred during each month.

Month.	Cases.	Month.	Cases.
January ...	1	July ...	0
February ...	0	August ...	0
March ...	10	September ...	2
April ...	17	October ...	6
May ...	17	November ...	8
June ...	1	December ...	18
Total ... 80 cases.			

Of the above cases, 9 contracted the disease outside the Borough. It is, however, the mild and unrecognised cases which are the danger to the public. During the past year, the tramp class has played little or no part in the spread of the disease, they disseminated the germs of the disease throughout the country during the previous year, when practically all the members of this class who were susceptible to smallpox either contracted the disease, or were re-vaccinated, and rendered insusceptible thereto. Thus this class of individuals became free from the disease. They had, however, together with the persons directly and indirectly infected by them, spread the virus of the disease over a

very wide area, and distributed it into unknown channels and unsuspected places. Some of it no doubt became stowed away in various articles and situations, and was doubtless from time to time picked up by some unfortunate individual, who developed the disease, and this explains the difficulty, and often the impossibility of tracing the origin of infection in so many cases. Several such cases occurred during the year, and the majority of such cases are as a rule overlooked until they have spread the disease to several others. These cases are as a rule, very mild, but as the disease spreads to others, it increases in virulence and severity. I believe the explanation of this is, that the virus, when "stowed away" outside the body, becomes attenuated, and loses a great deal of its virulency, only to regain the same on its entrance into the body of the unfortunate individual who happens to pick it up.

The re-cultivation, so to speak, of the attenuated virus, enables it to regain its original vitality and virulence, and hence succeeding cases infected by direct contact from such a person, usually develop the disease in a much severer form. We have experienced many such instances, and the above appears to be the explanation thereof. So long as the disease is caught by direct contact with individuals suffering therefrom, an outbreak can soon be arrested, but when the virus gets free from the body, and becomes scattered abroad in unknown channels and unsuspected places, we never know when nor where the disease will next crop up; and as the individuals who thus become infected nearly always suffer only from a very mild attack of the disease, the true nature of their complaint is not suspected, they move freely among the public throughout, and the

discovery that the affection from which they were suffering was smallpox, is not made until others develop the disease in a more virulent form. Then the mischief has been done. It is impossible both to trace the source of infection, and to ascertain the names of contacts. The only thing that can be done is to keep on the alert and wait for developments.

Smallpox is only slightly infectious during the first two days of eruption, and does not become seriously so until the vesicular stage is developed. There is an exception to this, however, for severe malignant smallpox, the hæmorrhagic type, is very infectious from the onset. These cases, however, are comparatively rare, and consequently do not give much trouble in the spread of the disease.

The fact that ordinary smallpox is only slightly infectious in the early stage, is of great value in stamping out the disease, because that being the case, cases removed to hospital early, are of very little danger to the public.

As I have stated, and tried to show above, it is the unrecognised cases which are the danger, and the Health Authorities cannot successfully deal with these cases, without the assistance of the public. While smallpox is present in the country, any slight malaise followed by an eruption of even only a few spots, especially on the face and wrists, should make a person suspicious, and expert advice should be sought. Were this generally done, a very large number would be prevented from catching the disease.

Early in the year under review and possibly during the month of February, a case or cases had passed unrecognised in Crossfields, with the result that further cases cropped up in this district and neighbourhood in March, and no less than 24 persons were infected directly and indirectly therefrom.

In April an unrecognised case occurred at Causeway Head, and four persons were directly infected thereby.

In May a similar thing occurred at Ovenden Wood, from which seven cases resulted.

Six cases were traced to some infected clothing, which either through carelessness or from some other cause, had escaped disinfection.

In eight cases the source of infection could not be traced, and in eleven cases, the disease appeared to have been caught outside the Borough.

A few weeks before Christmas, the proprietor of Bell Hall Post Office took an order from a nurse stationed at a smallpox hospital outside the Borough. He received a letter from the said smallpox hospital, sometime during the second week in December, and on December 24th, his wife was removed to hospital, suffering from the disease. On December 29th, another woman in the neighbourhood who had been visiting at the Post Office, developed smallpox. Several other cases afterwards arose out of the above, but they will be dealt with in my next Annual Report. I was also informed by Dr. Cameron, of Leeds, that a young man living in that City had visited the above Post Office early in

December, and developed the disease on the same day as the case occurred in the Post Office. This young man was the cause of the outbreak of several cases in Leeds, and was a relative of the people living at the above post office.

I consider it most unwise that a business man should have such intimate and direct dealings with a smallpox hospital.

The remaining 16 cases were contacts with those who are supposed to have caught the infection outside the Borough, or with those in which the source of infection was traced.

On December 9th, the head mistress of the girls' department of Haugh Shaw School was found to be suffering from smallpox. I knew a number of cases of chickenpox had occurred among the children attending the infants' department of this school, and I was very anxious lest some case of smallpox had been overlooked, consequently I had this department closed, and had supplied to me a list of all the children attending the same, with their addresses. I then put on three Inspectors, who visited the house of every child, and made full enquiries; at the same time, a handbill was left, giving the parents instructions should any suspicious case arise. From the reports I received from these Inspectors, my mind was set at rest, and it was further discovered that this lady had been out of Halifax during the period corresponding to that when she most likely caught the infection.

The steps taken during the year to combat the disease were as follows :—

Immediately the existence of a case came to our knowledge, it was removed to hospital. The remaining members of the family were detained in the house until the house and all its contents were disinfected, including the inmates and their clothing. The vaccination officer was informed of each outbreak, and the Public Vaccinator visited the vicinity and offered vaccination to all.

The names of all contacts possible were obtained, and they were kept under observation for 14 days.

A house to house visitation was made in a large area surrounding each infected house by the District Inspectors, who at the same time left the following handbill :—

COUNTY BOROUGH OF HALIFAX.

SMALL-POX.

NOTICE.

Small-Pox having broken out in Halifax, and as Vaccination is the only preventative known, it is strongly advised that all should protect themselves by being Vaccinated or Re-Vaccinated as the case may be.

Vaccination may be performed by your own Medical Attendant, or by the Public Vaccinator, Dr. Drury, of Ferguson Street.

In coping with an outbreak of Small-Pox, it is highly essential that the Medical Officer of Health should have early information of the existence of cases of this disease, because it is not so infectious in

the early stages. The very mild cases also are always a source of danger, because in consequence of their mild character they are liable to be overlooked, and spread the disease.

Small-Pox always begins, however mild the case may be, with pains in the back and head, and shivering, then in the course of a day or two a rash appears, sometimes having the character of measles, but usually consisting of small red spots, appearing first on the face and wrists. The spots enlarge, and in a few days become vesicles containing a watery fluid, when the disease is very infectious.

It is hoped the Public will assist and co-operate with the Health Authority in every possible way, by calling in Medical Advice where any of the above symptoms occur, or giving early information thereof to the Medical Officer of Health. Whenever red spots, even only two or three in number appear on the forehead or wrists, they should arouse suspicion, and the case be reported.

JNO. F. COE, J.P., Chairman of Health Committee.

JAS. T. NEECH, M.D., Medical Officer of Health.

January, 1905.

The following schools were closed during the year in consequence of smallpox.

School.	Date of Closure.	Length of Closure.
Akroyd Place ...	March 23rd	4 weeks
Haugh Shaw Girls'...	December 9th	2 weeks

Of the 80 cases of smallpox which occurred during the year, 40 were stated to be unvaccinated, and three were stated to have been vaccinated in infancy, but bore no sign of having successfully undergone that operation.

The following table shows the number of cicatrices presented by the remaining 37 patients.

1 Cicatrix.	2 Cicatrices	3 Cicatrices.	4 Cicatrices.
2	13	18	4

Only one of the above cases had been successfully re-vaccinated.

The following table gives the type of the cases as to severity, and shows the relation to vaccination.

Type.	Total No. of Cases.	Unvaccinated.	Vaccinated with number of Cicatrices.			
			1	2	3	4
Discrete ...	55	24	1	12	14	4
Semi-Confluent	14	11	1	...	2	...
Confluent ...	11	8	...	1	2	...

From the above table it will be seen that while 43 per cent. of the milder cases were unvaccinated, 76 per cent. of the severe cases had not successfully undergone that operation.

No person of eleven years of age and under, who had been vaccinated, caught smallpox, though 27 of that age and under who had not been vaccinated suffered therefrom, 7 of whom died, giving a mortality of 26 per cent. of those attacked.

The following table shows the number of cases, deaths, and percentage mortality under five and over five years of age.

	UNVACCINATED			VACCINATED		
	No. of Cases.	Deaths.	Mortality per cent.	No. of Cases.	Deaths.	Mortality per cent.
Five years and under ...	14	7	50·0	0	0	0
Over 5 years	29	2	7·0	37	0	0
Totals...	43	9	21·0	37	0	0

The above table is a marked example of the value of vaccination. It also especially demonstrates the value of infantile vaccination.

Taking the unvaccinated and the vaccinated together, the mortality of those attacked was 11·2 per cent. During the previous year it was only 4·26 per cent., but during that year over three-fourths of the cases occurred in vaccinated persons, while during the year under review, more than half were unvaccinated, and this fact accounts chiefly for the higher rate of mortality.

Scarlet Fever.

This disease was prevalent in the Borough throughout the year, though it at no time assumed a serious epidemic form; the period of greatest prevalence was during the months of October and November, as in the previous year, and Ovenden, Skircoat, and Kingston

were the wards most affected thereby. In all, 486 cases were reported, against 320 during the previous year.

Dr. Hime of Bradford has recently read a paper in which he stated to be a fact, as borne out by statistics, that there is greater prevalence of infectious diseases to-day, than obtained at the time when notification first became law, and this notwithstanding the amount of money which has been expended in providing and maintaining isolation hospitals, and the erection of disinfecting apparatus throughout the country. All the money which has been spent, and the enormous amount of work which has been done in securing the notification, isolation, and disinfection in cases of infectious disease, has failed to reduce the prevalence thereof; in fact, on the contrary, it has increased in amount.

I have gone into this question so far as Halifax is concerned, and in so doing, have taken periods of five years, so as to get a fair average, and eliminate the fluctuations of special epidemic years, which will always occur from time to time.

The following table gives the result.

Period.	Average No. of Cases of Scarlet Fever per annum Notified.	Average Population.	Average Attack Rate per 1,000 Population.	Average Case Mortality per cent. Attacked.
1885-9	331	79,207	4.1	30.8
1890-4	255	86,808	2.9	29.0
1895-9	392	95,755	4.0	17.3
1900-4	465	105,211	4.4	16.9

From the above table it will be observed that while there has been an increase in the number of cases notified in the Borough, the population has also increased, and that the attack rate is therefore only slightly above what it was 20 years ago. This, however, cannot be considered altogether satisfactory. When, however, we look at the mortality from the disease, we find this has fallen nearly half. As shown above, the case mortality 20 years ago was 30·8 per cent. of those attacked, while to-day, the average is only 16·9 per cent. It will be observed that a great fall in the mortality occurred in the period beginning with 1895; previously to this, only from 4 to 10 per cent. of the cases notified had been isolated in hospital, while since then, 50 to 75 per cent. of the cases have been removed there for treatment. That being the case, it seems only reasonable to conclude that if the hospital has not been successful in reducing the prevalence of the disease, it has been the means of considerably reducing the deathrate therefrom. It is worth noting also, that had the rate of mortality which obtained during the first of the above periods continued throughout till the present time, some 590 more persons would have died from the disease.

The Borough Hospital was made a free institution in June, 1892. Previously to that, patients were charged for admission. There was also great prejudice on the part of parents against the hospital, and it took two or three years to overcome this, consequently it was not till the year 1895 that it was possible to secure hospital isolation for 50 per cent. of the cases notified. If the hospital has been the means of saving that number of lives during the past ten years, it has done good work.

While that is so, however, it must be admitted that isolation hospitals have not had the beneficial effect of controlling the prevalence of the disease which it was predicted they would have. The reason of this, no doubt, is that when that prediction was made, the true nature of the disease, its method of origin and spread, was not understood. The same is true to a great extent to-day. There is one fact, however, pretty clear, and that is that the virus of scarlet fever, whatever it may be, is ever present in our midst. The disease is endemic. In the majority of cases, no doubt, the disease is spread by contact, but cases crop up, from time to time, in districts in which it has been absent for months or even years. Young children become affected with it at times who have not been out of the house for weeks, and cases occur under conditions which make its origin from a previous case very difficult to trace, very doubtful, and almost impossible.

It seems to me most probable that these difficulties and doubts will remain until the microbe or microbes that cause scarlet fever have been definitely discovered, and until their life history and possibly their relationship to other microbes have been worked out and brought to light.

The organism connected with scarlet fever has been described by different observers as appearing as a micrococcus, diplococcus, streptococcus, and bacterium, but no definite proof as to its true nature appears yet forthcoming. The streptococcus pyogenes is a fairly well-known micro-organism, and its characters both cultural and otherwise are pretty constant. This micro-organism is constantly found in the secretion from the

tonsils in scarlet fever cases as well as in the nasal and oral discharges which occur in the course of this disease. Other streptococci have been found associated with this disease which appear to differ somewhat from streptococcus pyogenes, and which have been called streptococci scarlatinae.

Dr. Gordon has described a streptococcus which he considers to be the cause of the disease, and which he calls streptococcus scarlatinae. This streptococcus, according to him, differs considerably in its cultural characteristics from streptococcus pyogenes; sometimes it grows as a diplococcus, at others as a streptococcus, or a staphylococcus, and in each case the coccal elements tend to elongate into bacillary forms. When it grows in the form of a streptococcus some of the elements of the chain appear like bacilli, so that the streptococcus has the appearance of being composed of both cocci and bacilli. This tendency to bacillary formation appears to be an important and distinguishing characteristic of this organism. Should Dr. Gordon's investigations be confirmed, it is possible that the different forms which this organism assumes may have led to the differences in the opinions expressed by observers as to the character of the organism which causes scarlet fever. The constant association of the streptococcus pyogenes and other more or less similar streptococci with the tonsillar secretion and other discharges in this disease cannot, I think, be considered only a casual one. Then, again, there is a great tendency in this disease to the formation of pus in the way of abscess and pustular discharges from the ears, nose, &c. These discharges are very infectious, and continue to be so for long periods.

The points, then, I wish to especially draw attention to are, that the streptococcus pyogenes has invariably been found in the tonsillar secretion and the discharges from the nose, ear, and suppurating glands in connection with scarlet fever. That the so-called streptococcus scarlatinae is found also in the tonsillar secretion and nasal discharges, though, so far, it seems it has not been isolated from the oral discharge. The constant association of the latter, however, with the streptococcus pyogenes, points to the possibility of its relationship to that organism. I may also mention that I have had several cases during my experience in which scarlet fever has followed on severe burns, and it has been impossible to trace the source of infection.

I think it is pretty well admitted now that typhoid fever is not always due to one and the same organism, viz., the bacillus of Eberth, but to several different bacilli, all of which, however, have certain characteristics in common, and belong to the colon group. Now, in view of what I have just said, I venture to suggest that the various forms of scarlet fever we come across are not all due to the same organism, but to different microbes belonging to a class more or less associated and identified with, and related to the streptococcus pyogenes group. I am aware that this is at the best only a tentative answer, but still I venture to think that it is an explanation worth bearing in mind until the time arrives when further investigation and extended research bring to light facts as they exist, and place the bacteriology of scarlet fever on the basis of established knowledge. The idea that scarlet fever is due to a variety of microbes will explain the occurrence of secondary attacks in hospital.

In private practice secondary attacks are not seen, there is not the material there to furnish a second type of microbe; but in hospital, where cases are brought together from all parts of the town or district, you are more likely to get together all types of the disease. Some types are evidently more virulent than others, and it is quite possible that some varieties of microbe may not render the system altogether immune to others, and so these secondary attacks occur. This is, of course, simply a theory, and further investigation is needed in order to elucidate the truth in connection with this important matter.

The following table gives the number of cases notified during each month of the year.

Scarlet Fever.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Cases notified...	40	45	45	44	31	22	35	42	36	51	51	44	486

Of the above 486 cases notified, 23 died, which gives a deathrate of .21 per 1,000, and a case mortality of 4.7 per cent. of those attacked with that disease. During the previous year, the deathrate was .065, and the case mortality 2.15 per cent.

Fever.

The above term includes the diseases known as enteric or typhoid, typhus, and continued fever, and during the year under review 47 cases of typhoid fever were reported, as against 61 during the previous year.

Those reported as having occurred in public institutions mostly belonged to outside districts.

No case of typhus fever has been reported in the Borough for several years.

Typhoid fever was present in the Borough more or less throughout the year, but the greatest prevalence occurred during March and November.

The following table gives the sanitary conditions connected with, and the probable or assigned causes of the notified cases of typhoid fever.

Disease.	Number of Cases notified.	Drainage.		Ventilation.		Old Middens.	Goux Closets.	Water Closets.	Probable or assigned cause.		
		Good.	Bad.	Good.	Bad.				From a cold.	From Defective Drains.	From a previous case in same house.	No trace.
Typhoid Fever	47	37	10	47	...	236	9	111	5	30	

In cases where patients were not removed to hospital, special attention was paid to the goux tubs at infected houses, and any infected house which had connected therewith an old-fashioned privy midden, was supplied with a pail for the collection of the infected excretions, to enable the same to be safely disposed of.

Of the 47 cases, including those which occurred in the public institutions of the Town, reported, 10 ended fatally, which gives a deathrate of 0·43 per 1,000, and a case mortality of 21 per cent. of those notified. During

the previous year the deathrate was 0.1 per 1,000, and the case mortality 18 per cent. respectively.

Diphtheria.

Judging by the cases reported, the disease was present in the Borough throughout the year, as notifications were received during each month. The period of greatest prevalence was during the last quarter, when 37 out of the total 80 cases were reported.

The number notified during the previous year was 50.

An outbreak of sore throat occurred among children attending Holy Trinity Elementary School, about the end of October. Four of these children were reported as suffering from diphtheria. Swabs were taken from their throats, but in two only was the diagnosis confirmed thereby, though second swabs were taken.

I obtained lists of absentees from the school, all of whom were visited, and as far as we could ascertain, 25 children were suffering or had suffered from sore throats.

Swabs were taken from the throats of 10 children, which on cultivation gave negative results as far as the diphtheria bacillus was concerned. In several cases, however, a diplococcus was found.

I tested the drains thoroughly, found them defective, and discovered that drain air could find its way into several class rooms. In view of that fact, and the negative results obtained in the bacteriological examinations, I formed the opinion that the defective drains were the cause of this outbreak.

A detailed report on this outbreak was made to your committee at the time.

The following table gives the sanitary conditions connected with, and the probable or assigned causes of the notified cases of diphtheria.

Disease.	Number of Cases notified.	Drainage.		Ventilation.		Old Middens.	Goux Closets.	Water Closets.	Probable or assigned cause.						
		Good.	Bad.	Good.	Good.				From a Cold.	From Defective Drains.	Previous case in same house.	Other cases in the neighbourhood.	Contracted at School.	From house visiting.	No trace.
Diphtheria	80	63	17	80	...	10	63	7	5	14	2	1	4	1	53

Of the above 80 cases, 17 died, which gives a deathrate of .15 per 1,000, and a case mortality of 21 per cent. of those reported to be suffering from the disease. During the previous year the deathrate was 0.09, and the case mortality 20 per cent. respectively.

I am of opinion that a great number of cases reported as diphtheria are a malignant type of sore throat, and not diphtheria. It is possible that some mild cases of diphtheria are also overlooked. I was led to come to that opinion from the cases sent into hospital, and consequently I took swabs from the throats of the patients during the latter half of the year under notice. In only two of these cases was a positive result obtained; in several of the other cases, however, a diplococcus grew on the cultivation, indicating, in my opinion, an

infectious sore throat, but not diphtheria. Clinical observation bore out the bacteriological diagnosis, and I quite think that only two of those 16 patients actually had diphtheria, or 13 per cent. If these figures represent the exact state of things throughout the district, then there occurred only 10 cases of true diphtheria in the Borough instead of 80 during the year under notice.

Erysipelas.

During the year 73 cases of this disease were reported, which includes 27 in the Poor Law Hospital, and 2 in the Infirmary, or nearly half the total number. The number reported during the previous year was 81. The notification of this disease is of very doubtful value.

Measles.

A few cases of this disease cropped up from time to time during the first half of the year, but about the end of May it assumed an epidemic form in the upper part of the Town, the epidemic then gradually spread like a wave from one part of the Town to another, until the whole Borough had been visited therewith. By the beginning of November, the epidemic had very much diminished in severity, and the disease had practically disappeared before the end of the year.

An epidemic of measles is very difficult to control, but although that is the case, much more might be done by parents in the way of isolating the sick, if they would only take the trouble.

The infants' department of day schools, more especially the babies' classes, are a means of spreading the disease. It should be borne in mind that measles is practically an affection of early life, and that increasing years bring immunity to the disease. It is true also to say that it is a dangerous disorder only below the age of five years, because above that age the mortality is very slight, as the following table will show.

The following table gives the total deaths and the number under five and over five years of age for the previous five years.

Year.	Total Deaths.	Deaths under 5.	Deaths over 5.
1899	14	11	3
1900	49	45	4
1901	33	33	0
1902	36	32	4
1903	5	5	0
Totals	137	126	11
1904	44	44	0

The above table is very striking, and bears out what is stated above, for it shows that of the total deaths from measles during the past six years, 94 per cent. were of children under five years of age, and only 6 per cent. above that age.

The following table gives the average number of deaths from measles in quinquennial periods since the year 1871.

Period.	Number of Deaths from Measles.
1871-5	35
1876-1880	11
1881-5	15
1886-90	41
1891-5	30
1896-1900	39
1901-4	29

The largest number of deaths from measles occur among children between the ages of one and five years, as the following table will show.

Year.	Ages.			Total.
	0-1	1-5	5-15	
1898	18	47	5	70
1899	5	6	3	14
1900	17	27	5	49
1901	7	26	0	33
1902	10	22	4	36
1903	3	2	0	5
1904	16	28	0	44

That being the case it is evident that if children could be protected from the disease during the earlier years of life the chances of recovery would be greatly enhanced, and the deathrate therefrom considerably diminished.

That being so, and considering as I do that the babies' classes at our day schools are an important

means of spreading the disease, I must reiterate the opinions expressed in my last Annual Report with reference to children under five years of age being allowed to attend school. I can discover no valid reason in favour of such a course, but a large number of strong facts against the admission of children of such tender age. The meeting together of children in a class-room of these tender years, promotes the spread of diseases like measles and whooping cough, both of which kill more children under five than any other infectious disease, but very few indeed over that age. In the year under review, measles caused more deaths under the age of five years than any other disease except pneumonia.

The attendance at school at this tender age is practically of no value to the child, but is injurious to its health.

In Switzerland, an exceptionally well educated country, the earliest school age is seven years, which in the opinion of many well able to judge is quite young enough. The Education Acts in this country, however, require the attendance of children at school at five years of age. That being so, why should children be admitted at three years? If at three, why not younger? There is just as much reason for so doing, and as much necessity. And every argument I have seen brought forward in support of children between three and five attending school, applies with even greater force to those below that age. If children at these ages require other than the mothers' influence, it is the influence of a good nurse they need rather than that of the school teacher.

Under present circumstances, the school is made to do the work of a creche, at far greater cost, and with

far less beneficial results, because the creche takes charge of children almost from their birth, and it is especially during the first year of life that careful attention is needed.

It is argued that the Board of Education can compel the provision of accommodation for these children, though I understand it is doubtful from whence they obtain their authority to do so, and as to whether the department can compel managers of elementary schools to admit such children even after provision has been made, is still more doubtful.

A paragraph has recently appeared in the public press, stating that the Board of Education is proposing to give local authorities the option of ceasing to provide accommodation for children below the age of five. If all the children in the country below five were excluded from school, there would be a considerable saving both to the local rates, and the National Exchequer.

It was found necessary to close the following schools during the year in consequence of the outbreak of measles.

School.			Date of Closure.	Length of Closure.
Battinson Road " Infants "	...		June 6th	3 weeks
Queen's Road	do.	...	June 7th	3 weeks
St. Augustine's	do.	...	June 7th	3 weeks
Queen's Road	do.	...	July 5th	3 weeks
Parkinson Lane	do.	...	July 8th	2 weeks
Christ Church	do.	...	July 13th	2 weeks
Mixenden	do.	...	July 19th	5 weeks
Moorside	do.	...	Sept. 17th	3 weeks
Portland Road	do.	...	Sept. 30th	3 weeks
Boothtown	do.	...	Sept. 30th	3 weeks

Measles caused 44 deaths during the year against 5 during the previous year. The deaths occurred chiefly during the latter 7 months of the year, as the following table shows.

Month.	January	February	March	April	May	June	July	August	September	October	November	December	Total
Deaths from Measles	0	0	1	0	0	8	3	11	3	11	3	4	44

This gives a deathrate of 0·41 per 1000 against deathrates of 0·046 during 1903; 0·34 during 1902; 0·31 during 1901; and 0·4 during 1900.

Whooping Cough.

Cases of this disease were present in the Borough during the greater part of the year, but the exact extent of the prevalence was unknown. It became more prevalent during the latter end of the year, especially in the month of December, during which month eight deaths occurred. This disease caused 19 deaths during the year, and like measles is fatal to the very young. The whole of the above 19 deaths were of children under five years of age. The remarks I have made with regard to measles are also applicable to this disease. The above deaths give a deathrate for the year of 0·17, which is the same as that of the previous year.

Diarrhœa.

There were 29 deaths registered within the Borough during the year from those causes which are classified

under diarrhœa, an increase of 17 compared with the previous year.

The four-foot earth thermometer reached 56° on September 12th, but only remained there four days, the mean for the whole month being 55°. The disease was most prevalent during this month, and 11 deaths resulted therefrom.

The above 29 deaths give a deathrate for the year of 0·27, against a deathrate of 0·11 during the previous year.

The following table serves to compare the diarrhœa deathrate with the average of other towns, and with England and Wales.

	Deathrate per 1000.
England and Wales	0·86
76 Great Towns	1·20
142 Smaller Towns	0·89
England and Wales, less the 218 Towns	0·46
Halifax	0·27

It will be seen from the above table that the death-rate from diarrhœa in Halifax continues to be below the average of even the smaller towns, as well as the country generally.

Influenza.

This disease appears to have been rather more prevalent than was the case during the previous three years, though it did not assume an epidemic form.

There were 19 deaths registered as having resulted from this cause, and these occurred chiefly during the months of January, February, March, and December. During the previous five years, the annual deaths from this cause numbered 10, 9, 9, 56, and 22 respectively.

Respiratory Diseases.

The diseases included under the above heading are Pneumonia, Bronchitis, and Pleurisy, and during the year 285 deaths were registered as having resulted from these causes, viz.—Bronchitis, 169; Pneumonia, 115; and Pleurisy, 1. The above number gives a deathrate of 2·6 per 1000, the lowest on record. The respiratory deathrates of the previous five years were—2·8, 3·1, 3·0, 3·7, and 3·6 per 1000 respectively.

We have, as a rule, a higher respiratory deathrate than many places, though there appears to be an improvement in this direction.

The following table gives the number of deaths from respiratory disease during each month of the year under notice, and the two previous years, also the average of these years.

Deaths from Respiratory Diseases.	January	February	March	April	May	June	July	August	September	October	November	December	Total
1904	38	28	25	28	18	20	13	10	13	23	26	43	285
1903	39	29	30	34	29	18	16	15	14	21	24	40	309
1902	35	46	38	30	22	23	21	16	15	15	30	37	329
Average ...	37	34	31	30	23	20	16	13	14	19	26	40	...

The above table shows that the greatest number of deaths occur from respiratory diseases during the winter and spring months, December being the month when the maximum number of deaths occur, owing, no doubt, to the fogs which occur about that period of the year.

A great many of these diseases could be prevented if greater care was exercised by the public, and more attention paid to the provision of warm woollen clothing.

Phthisis.

During the year, consumption of the lungs caused 134 deaths, against 133 during the previous year. This gives a deathrate of 1·25 per 1000, the same as that for the previous year.

There were also 54 deaths from other tubercular diseases, which together with the above 134 deaths from Phthisis, make 188 deaths in all due to tubercular affections, and this gives a deathrate for the year of 1·7 per 1000 from the various forms of tubercular diseases. This deathrate for the previous three years was 1·8, 1·6, and 2·07 per thousand respectively.

The Phthisis deathrate of the country generally has been steadily diminishing during the past 50 years, so also has that of Halifax. This is no doubt due to better feeding, and better houses than formerly existed, and if people would only pay greater attention to the provision of fresh air, and to the destruction of the sputum of infected patients, there would be still less of this disease.

The following table shows the fall which has taken place in the deathrate from Phthisis in the Borough during the past 23 years.

	Average Deathrate from Phthisis.
Ten years - 1881-1890	2·00
Ten years - 1891-1900	1·50
Four years - 1901-1904	1·22

A register is kept of all the cases of Phthisis which come to our knowledge. I have not yet recommended the Committee to adopt voluntary notification in this disease, because so far it appears to have been a failure in other districts, and in the absence of compulsory notification we of course only get to know of about one-third of the cases in the Borough, and most of these we first hear of from the weekly death returns of the registrar.

The number of cases registered during the year was 114, of which 63 were males, and 51 were females. In 16 out of the above 114 houses, a previous case had occurred within recent times.

A pocket spittoon is supplied free of charge to all who require the same, and when a death or removal to hospital or elsewhere of persons suffering from the disease takes place, disinfection is offered in all cases. During the year 79 houses were disinfected after death, and 12 after removal to hospital. In 13 cases disinfection was refused.

Cancer.

The various forms of malignant tumours which affect the human subject are included under this heading, and during the year under notice 91 deaths were registered as having resulted from these causes, against 108 during the previous year. This gives a deathrate for the year of 0·85 per 1000.

The Cancer deathrate in Halifax has varied very little during the past 12 years, as the following table will show.

Years.	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Death-rate	·8	·7	·8	·8	1·1	·6	·6	·7	·7	·8	·8	1·0	·8

This disease is being studied very carefully at present, but no definite cause has, it appears, been so far discovered.

Deaths from Violence and Uncertified.

The table which follows gives the number of inquests held during each month of the year, and shows the total number to have been 114, against 127 during the previous year.

The table which follows is taken from the Report of the Chief Constable. It differs slightly from the returns which have been furnished me by the Registrars of Births and Deaths, and includes 9 deaths from accident

which occurred in the Borough of persons not belonging thereto. According to the returns of the Registrars, there were 33 verdicts of accidental death, 11 suicides, 48 natural causes, and 12 other verdicts, in the case of persons belonging to the Borough.

The 48 deaths certified by the Coroner after inquests are equal to 2·8 per cent. of the total deaths belonging to the Borough. There also occurred 16 deaths which were neither certified by a registered medical practitioner nor the Coroner. This number is equal to 1·0 per cent. of the total deaths.

The following table gives the percentage for the past four years.

Years.		1901	1902	1903	1904
Percentage certified by Coroner	...	2·6	2·9	3·1	2·8
Percentage uncertified	... ..	3·4	2·6	1·5	1·0

The above table shows that the number of uncertified deaths is gradually diminishing.

Inquests in the Borough during the Year.

Verdicts.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
Accidental Deaths ...	3	3	...	2	2	2	1	3	1	1	1	1	1	1	2	...	...	2	4	...	5	2	1	2	24	17
Natural Causes ...	2	1	2	5	3	3	4	2	1	1	1	1	2	1	3	2	1	1	2	1	1	2	2	24	22	
Suicide by various means ...	...	1	1	1	1	...	1	1	1	...	1	...	...	...	...	1	1	...	2	...	1	...	...	9	4	
Other Verdicts ...	1	2	1	...	1	...	1	...	1	...	...	...	1	1	1	...	...	2	1	...	...	...	1	...	8	6
Total	6	7	4	8	7	5	8	4	5	3	3	2	4	3	6	3	2	5	9	1	7	4	4	4	65	49
"	10	6	7	2	6	1	12	5	7	...	1	1	7	2	3	3	6	4	13	3	8	7	8	5	88	39
"	8	5	7	4	6	1	3	2	1	5	3	...	5	4	3	4	12	6	4	2	6	7	7	5	75	45
"	5	1	8	...	7	2	6	1	4	2	6	1	6	...	5	1	3	4	8	4	6	4	6	2	70	22
"	8	2	3	3	4	2	4	...	4	2	5	...	2	3	6	3	6	1	4	3	5	2	5	3	56	24
"	4	3	1	3	3	5	7	2	7	1	4	2	1	2	4	...	3	...	4	2	1	...	4	1	53	21
"	5	6	5	2	4	1	6	3	5	5	10	...	5	1	7	2	2	1	1	2	7	2	7	1	64	26
"	5	3	7	1	5	2	3	3	5	4	4	1	3	4	3	...	1	3	7	3	4	2	8	8	55	34
"	4	2	3	4	7	5	3	1	3	3	7	1	4	1	6	3	4	1	3	3	5	...	11	4	60	28
"	7	5	8	1	5	1	5	3	5	4	6	1	5	4	5	1	4	2	4	4	2	7	6	1	62	34

Sewerage and Drainage.

The sewers throughout the main portion of the Borough are, I understand, mostly in a good and satisfactory condition, and the condition of house drains is improving. A large number have been reconstructed and relaid each year, so that the number of nuisances accruing therefrom is gradually diminishing, in consequence of the drains now being in a more perfect condition.

I believe the sewerage scheme for Warley has been completed, and connected up to the outfall works, but that the drains generally have not yet been connected thereto.

There are other parts of the Borough which have not yet been provided with a proper system of drainage, but which no doubt will receive attention in due course. The district of Copley is one which needs attention, and on the instructions of your Committee, I made a thorough inspection of this ward during the year under review. I presented a detailed report thereon in October last, in which I recommended that the work should be carried out without undue delay. I understand this will be done.

The sewage outfall works at Salterhebble have not yet been completed, but I am informed that the work will be proceeded with in due course.

Scavenging, Disposal of Night Soil and House Refuse.

The scavenging, cleansing, and watering the streets is carried out by the Corporation workmen, and the work during the past year appears to have been satisfactorily

carried out. There is no doubt that this is a very important branch of Corporate work, and the thoroughness and efficiency with which it is done has an important bearing on the maintenance of the public health. I quite believe however that great improvements generally are possible in the methods now in use in carrying out this work.

There are about 60 men employed in this department, including a foreman, a horsekeeper, 13 drivers, 5 gangers, 31 sweepers, and some 10 others. There are also engaged in this work 13 horses and carts, 1 pony cart for collecting dung from the streets in the centre of the town, 12 water carts, and 3 sweeping machines.

The above are for the scavenging of the paved streets only. The scavenging of the macadamised roads is carried out by the Borough Engineer.

The Borough is divided into four districts, and the sweepers into four gangs, one district to each gang, and each gang takes the various districts in turn.

The greater part of the night soil of the Borough is dealt with under the Goux system, the closets being constructed with movable tubs which are lined with shoddy. There are 17,428 of these closets in the Borough, and they are emptied on an average of once in 9 days.

I again desire to draw the attention of the Corporation to the continued growth and consequent increasing expense of this department. Water closets, in my opinion, should be put into all new houses, and this

increase of goux closets put a stop to. The longer this change is delayed the greater will be the charge of this department upon the rates.

Engaged in emptying and removing the goux tubs there are 26 specially constructed vans, 26 horses, and 39 men.

There are at present 964 privy middens in the Borough, a decrease of 28 during the year. These middens are emptied quarterly by our own men, and the contents taken by farmers.

There are now 489 dry ashpits in the Borough, against 496 a year ago, a decrease of 7 during the year. These are also, as a rule, emptied quarterly, and their contents removed to a tip.

All houses besides those having privy middens or dry ashpits are furnished with ashes tubs, which are emptied on an average of once in 10 days, and the contents carted to tips. There are 19,820 ashes tubs in use in the Borough, and engaged in emptying these, the middens and ashpits, there are 20 horses and carts, and about 40 men.

Water Supply.

The waterworks derive their supply from five separate valleys, the Hebble, the Luddenden, the Widdop, the Greave, and the Walshaw Dean. The collecting ground or drainage area of the reservoirs comprise over 4,800 acres, and is chiefly moorland or high mountain pasture, and of the mill-stonegrit formation.

The water is stored in seven storage and six service reservoirs, having a total capacity of 1,345,952,000 gallons.

Three new reservoirs are being constructed at Walshaw Dean. The water is delivered in the town at a high pressure, and with a constant supply, and coming as it does from moorland, is very soft, and liable to contain an excess of peaty acids. This is more especially the case with regard to Ogden Reservoir, which supplies certain parts of the town. This water has now been treated for several years with chalk and lime, and the results have been satisfactory.

The following table shows the average acidity of the samples of Ogden water taken monthly, before and after treatment. The acidity is given in terms of sulphuric acid, and in parts per 100,000, and are the figures furnished by the Public Analyst.

Month.	Average Acidity of Sample of Water.	
	Taken from Reservoir.	Taken after Treatment and as supplied to the Consumer.
January ...	·78	·19
February ...	1·03	·29
March ...	·63	·29
April ...	·63	·29
May ...	·58	·21
June ...	·54	·19
July ...	·39	·14
August ...	No estimation.	No estimation
September ...	·68	·22
October ...	No estimation	No estimation
November ...	No estimation	No estimation
December ...	·84	·19

The following table gives the monthly average acidity of the water in Ogden Reservoir during the past four years.

OGDEN WATER.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Four Years' average	.83	1.03	1.08	.70	.75	.64	.65	.78	.68	.93	.88	.80

The above table shows that the water contains the largest quantity of acid during the early months of the year.

The water supplied to the main portion of the town is mixed in Ramsden Wood Reservoir, into which the storage reservoirs flow, and this mixing acts beneficially in reducing the acidity thereof.

The following table gives the acidity of the monthly samples of this water.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
.41	.29	No estima- tion.	.29	.73	.26	.24	No estima- tion.	.24	.24	No estima- tion.	.34

The mixed water, as the above table shows, still contains acid, and the Waterworks Committee have now made arrangements for treating it with lime, so that no doubt the water supplied during the coming year will show even better results than the above.

In every other respect the water is pure, and no cases of lead poisoning came under my notice during the year.

A great deal of correspondence has taken place in the public press during the year with reference to the premature decay of teeth. Among the reasons which have been urged as the cause of this are (1) the acidity and consequent plumbo-solvent qualities of certain water supplies, including that of Halifax, and (2) the under-feeding of children.

I venture to state emphatically that the above conditions have practically nothing to do with the cause or causes which produce the early decay of teeth.

I know that acids act injuriously upon the teeth, in dissolving the protective enamel which covers the same, but the amount of acid present in ordinary drinking water is in infinitesimal quantities, and therefore so diluted that it can have no effect in this direction. Again, the decay of teeth is general throughout the country, and occurs in districts in which hard water is supplied, containing quantities of lime in solution. This would not be the case if acid water was the cause.

It has also been urged that acid water, by virtue of its plumbo-solvent qualities, sets up the disease called pyorrhœa, which is a suppurative inflammation around the roots of the teeth.

Of course no one can advocate the presence of lead in drinking water, even in small quantities, but the contrary. Whether, however, the presence of lead in water in minute quantities acts as a predisposing cause of pyorrhœa, by lowering the vitality of the gum, I am

not certain ; I will not go so far as to say it does not. But the presence of pyorrhœa is not a cause of the decay of teeth ; I am informed that it is a clinical fact that pyorrhœa acts rather as a preventative of decay. Hence the use of acid water does not favour the decaying process even indirectly. It must not be understood that I am urging that pyorrhœa is a good thing on this account, because that disease is much more serious than is generally recognised, for it very injuriously affects the health in other ways of individuals suffering therefrom, and is therefore a disease which should be prevented. Neither is underfeeding the cause, because the early decay of teeth is as prevalent among those classes of people who have been fully fed from their birth upwards.

The early decay of teeth is a very serious question ; it may almost be regarded as a national calamity, for I have no doubt it is one among the many contributory causes which are in operation in promoting the apparent physical deterioration of the people.

Can nothing be done to remedy this state of matters ?

In order to answer this question satisfactorily, we must consider the causes of this decay. It is a law of nature that so soon as anything begins to cease to be of use, or the function of any organ begins to become superfluous, she proceeds to dispense therewith. It is therefore absolutely certain that the maintenance of the full physical development of any organ depends upon the continued necessity and maintenance of its function.

There is a primary and there are also contributory or secondary causes of the early decay of teeth. First then as to the primary cause,

The character of the food now consumed by the public is very different from what it was a few generations ago, and the art of preparing and cooking that food in order to make it more palatable, has resulted generally in producing food of a softer nature, which requires less mastication, consequently there is less work to do both for the teeth jaws and muscles of mastication. Thus in accordance with nature's law, there has been a deterioration in these organs, so that children to-day start life with teeth that are physically inferior in development, compared with the standard that obtained a few generations ago.

With regard to the secondary causes of decay, there are, no doubt, many, but I will only refer to one or two.

The actual process of decay is brought about by the activity of certain microbes present in the mouth. But these microbes cannot injuriously affect the teeth, so long as the protective enamel is intact, but as soon as that is removed from any part of the tooth or teeth, these microbes commence their destructive action.

In consequence of the soft nature of the food now consumed, particles adhere to the teeth, which if not removed, undergo decomposition, resulting among other things in the formation of acids, which gradually assist in dissolving the enamel.

Then again, the tons of sweets that are consumed annually have a similar effect. Unfortunately the sweets sold to-day, especially the cheaper kinds, are not made from cane sugar, but from a manufactured sugar called glucose, which is produced from starch by the action of a strong acid. Of course this acid is removed in the

course of manufacture of the article, yet even then there is enough left behind to injuriously affect the teeth.

Acids, generally, however taken, have of course the same effect. The mouth requires to be neutral, or alkaline, to preserve the teeth, and nature endeavours to maintain it in that condition, by secreting an alkaline saliva.

The above, among others, cause the destruction of the protective enamel, and thus render the teeth vulnerable to the attack of the ever present and vigilant microbe.

The question then which presents itself is how to improve the development and prevent the premature decay of the teeth of the people.

I am of opinion that both these results can be obtained. The foundations of ten of the permanent teeth are laid in the jaw before birth, and of the remainder during the early years of life. There they are gradually formed and developed.

It is a well-known fact that exercise promotes development. This is the object of all physical training. Exercise will promote the development of both the muscles of mastication and the jaws, together with the teeth which are forming therein. The muscles of mastication require physical training equally as much as any other set of muscles if they are to be brought up to the highest possible state of efficiency. The soft character of the food given to young children is not sufficient for this purpose, and the methods of cooking and preparing the great variety of articles of diet for consumption in after years, is not conducive to that end. The change which has taken place in the character of the food eaten

is, no doubt, the result of the advancement of civilisation and the direct outcome of the improved social condition of the people. That being so, it is not likely there will ever be a return to a kind of diet better calculated to the more perfect development of the teeth. Under these circumstances, therefore, if the teeth of the nation are to be preserved, a physical training must, so to speak, be applied to the jaws and muscles of mastication, especially during the early years of life. This could be done by teaching young children, when they are old enough for food, to systematically and regularly eat hard crusts, and chew hard biscuits. If this method were universally resorted to, it would tend to prevent a further deterioration in the quality of the teeth generally; it would also tend to improve their development in future generations, and render them more able to resist the process of decay.

The preservation of the teeth is also a most important matter. To do this, constant attention is needed, and little or nothing is done in this direction by the great majority of the people, hence a vast amount of premature decay takes place which could be prevented. Teeth should really be cleansed after each meal, but certainly this ought to be done at least once a day, and that at night before going to bed. Children should be taught to do this, but parents do not realize their responsibility in this direction, and until such be the case it is impossible to see how any improvement can take place. This question seems to me to be of such great importance that it deserves a place in the day school. The tooth-brush could be provided, and its use taught to the children. The tooth-brush is a great preserver of health, and good health stands before education, because the latter is of little value apart from the former.

Common Lodging Houses.

There are now 16 Common Lodging Houses in the Borough, and they are registered to accommodate 821 lodgers, the same number as the previous year.

The registration of these houses requires, under a local Act of Parliament, to be renewed each year in May, and the same was granted in each case.

The Bye-laws require the provision of 300 cubic feet for each lodger.

The supervision of the lodging houses is under the Police, and Inspector Osborne has charge of them, and is responsible for seeing that the bye-laws are carried out. I am informed by the Chief Constable that there has been no overcrowding, and no cause for complaint during the year.

In consequence of the continued prevalence of smallpox during the year, these houses were frequently visited by Inspector Archbell, and were always found to be kept in a satisfactory condition.

Dairies, Cowsheds, and Milkshops.

The above have been kept under supervision and have been regularly visited during the year by the Inspectors. I have also visited a number myself. The number at present on the register is as follows :—

Cowsheds	...	...	504
Milkshops	...	...	60
Total	...	...	564

The total for the previous year was 559, being an increase of 5.

The number of dairy farmers and purveyors of milk on the register is 421, against 402 for the previous year, or an increase of 19.

There is a gradual improvement taking place in the cowsheds of the Borough, both in regard to their structural condition, and the manner in which they are kept. There are still, however, a considerable number which are very defective as regards structure, air space, light, ventilation, and drainage. We are gradually dealing with these, and 25 were altered and reconstructed during the year, which, together with 17 that had been previously done, make a total of 42 cowsheds dealt with in this way, since the present Regulations came into force.

While further improvements are still necessary in the above direction, and steps are, and will be taken in the future to secure the same, the matter of greater cleanliness on the part of the farmers and milk-sellers is of more immediate importance. Some progress has, I believe, been made in this direction, but there is still room for much improvement. That the milk should be clean and practically free from microbes is highly important to the consumer, and especially children.

In my opinion, greater progress would be made in this direction if the general public demanded it. The points which require more attention on the part of the cowkeepers are:—

(1.) Greater cleanliness in connection with the process of milking, including the cow, hands of the milker, and the cowshed generally.

(2.) The thorough scalding out of all milk vessels, which destroys all deleterious germs. This, I fear, is not always efficiently carried out, and at many farms adequate provision is not made for this important purpose.

(3.) The cooling of the milk by means of a refrigerator, more especially during the summer months. This cooling process prevents the development of germs in the milk, and milk that has been so treated will keep twice as long as the untreated article, even during summer weather.

(4.) Greater cleanliness in the delivery of the milk. The ladling out of milk to customers is a bad method, and should be supplanted with a tap to withdraw the milk from the stock can. The milk carts should be kept clean, and not used for conveying all kinds of substances, which should never be brought near an important article of diet like milk.

The above, among others, are points which should have much greater attention on the part of the milk-sellers than at present obtains, but I fear that perfection in this direction is still afar off, and that even anything like an approach to that condition will not be reached until the farmer and milk-seller come fully to realize the great responsibility of their calling, and its important relationship to the maintenance of the public health.

The inspection of cowsheds is carried out by the Meat Inspector (J. K. Crawshaw) and District Inspector (R. Pickard), who between them paid 959 visits to these cowsheds during the year, as well as 139 visits to the various milkshops in the Borough.

The following table gives the number and nature of the defects found, together with the number remedied.

Nature of Defects.					Number Reported.	Number Remedied.
Want of Light	...	...	...	...	10	26
Do. Airspace	...	...	...	...	9	23
Do. Ventilation	...	...	...	...	9	26
Made up and defective drainage	...	...	...	...	26	37
Untrapped drains inside Cowsheds	...	...	...	...	12	13
Defective floors	...	...	...	...	13	22
Dirty floors and stands	...	...	...	...	25	25
Cowsheds requiring limewashing	...	...	...	...	27	27
Offensive and defective Cesspools	...	...	...	...	10	10
Delivery can unlabelled	...	...	...	...	1	1
Improper position of Middenstead	...	...	...	...	3	7
Totals for 1904					145	217
No. of Defects on books, Jan. 1st, 1904					283	...
Total					428	...
Defects still on books, Dec. 31st, 1904					211	...

As will be seen by the above table, the number of defects standing on the books is still large. This has arisen through the coming into force of the present

Regulations, for it takes time to get the necessary improvements carried out. The number of outstanding defects is, however, being gradually reduced, as the following table will show.

No. of defects on books, Dec. 31st, 1902	...	360
Do.	do.	1903 ... 283
Do.	do.	1904 ... 211

It is expected that in the course of a year or two, these defects will all have been remedied, and the condition of the cowsheds in the Borough will be gradually improved as a result thereof.

During the year, 308 cows were individually examined, and four were found to have diseased udders. The details of these inspections are set out in a table on opposite page.

INSPECTION OF CATTLE.

Date of Inspection.	No. of Folio.	Cattle and Condition.			Condition of Shed.	Remarks.
		No. Examined	Udders Diseased.	General Conditions.		
1904.						
Jan. 6	119	8 cows	...	1 Cow ailing	[structed, being too small, etc. 4 sheds, 2 of which are very badly con- Very small and bad Small Moderate	4 tuber. pigs brought from here, 4 on at present. [1 of which appears diseased. [2 months, 1 cow destroyed 2nd cow slaughtered from here within 1 tuberculous pig brought from here
" 28	132	21 "	...	2 Cows appear suspicious		
Feb. 14	144	4 "	...	Fair		
" "	...	3 "	...	Good		
" "	...	3 "	...	"	Good 1 fair and 2 bad ones Mod. " Light and ventilation bad Small Mod.	Probably stomach derangement Sep. 23—recovered
" 19	147	9 "	...	Fair		
" 147	147	35 "	...	Good		
Mar. 2	156	10 "	...	"		
" 15	163	13 "	...	"	Good 2 bad cowsheds 2 bad cowsheds Fair 2 bad cowsheds	Recovered—May 10
Jan. 20	126	6 "	...	"		
Mar. 11	161	3 "	...	"		
" 16	164	4 "	...	"		
" "	164	7 "	...	"	Good 1 bad cowshed Mod. Bad Mod. Bad	Improving—May 17 Sold later to man just out of borough. In pasture. [Vet told him it was tuber. Sent to knacker (bacilli found in milk) One quarter of udder amputated by vet, surgeon. [Cow recovered, and disease not tuber. Cow declared tuberculous by vet, but on slaughter Mamitis (exam. bacter.) found free from tuber. Retained placenta
" "	164	1 "	...	Ill		
" "	164	1 "	...	1 with indurated udder		
" 18	166	5 "	...	Good		
" "	166	17 "	...	"	Good 1 bad cowshed Mod. Bad Mod. Bad	Recovered—May 10
" "	166	8 "	...	"		
" "	166	5 "	...	"		
" "	166	16 "	...	"		
" 21	167	24 "	...	1 with abscess on leg	Good 1 bad cowshed Mod. Bad Mod. Bad	Improving—May 17 Sold later to man just out of borough. In pasture. [Vet told him it was tuber. Sent to knacker (bacilli found in milk) One quarter of udder amputated by vet, surgeon. [Cow recovered, and disease not tuber. Cow declared tuberculous by vet, but on slaughter Mamitis (exam. bacter.) found free from tuber. Retained placenta
" "	168	10 "	...	Good		
" "	168	20 "	...	"		
" 28	172	12 "	...	"		
" "	173	12 "	...	"	Good 1 bad cowshed Mod. Bad Mod. Bad	Improving—May 17 Sold later to man just out of borough. In pasture. [Vet told him it was tuber. Sent to knacker (bacilli found in milk) One quarter of udder amputated by vet, surgeon. [Cow recovered, and disease not tuber. Cow declared tuberculous by vet, but on slaughter Mamitis (exam. bacter.) found free from tuber. Retained placenta
Apr. 6	176	10 "	1	1 with swollen udder		
" 19	184	8 "	...	1 thin cow with a cough		
" 26	193	...	...	Same as 184
June 3	215	6 "	...	1 black cow, very bad	Good 1 bad cowshed Mod. Bad Mod. Bad	Improving—May 17 Sold later to man just out of borough. In pasture. [Vet told him it was tuber. Sent to knacker (bacilli found in milk) One quarter of udder amputated by vet, surgeon. [Cow recovered, and disease not tuber. Cow declared tuberculous by vet, but on slaughter Mamitis (exam. bacter.) found free from tuber. Retained placenta
" 23	229	1 "	...	Tuberculous probably [Lane)		
" "	230	6 "	1	"		
" 28	233	1 "	...	Improving (Greenwood, Abbey		
July 27	249	1 "	1	Been struck by lightning	Good 1 bad cowshed Mod. Bad Mod. Bad	Improving—May 17 Sold later to man just out of borough. In pasture. [Vet told him it was tuber. Sent to knacker (bacilli found in milk) One quarter of udder amputated by vet, surgeon. [Cow recovered, and disease not tuber. Cow declared tuberculous by vet, but on slaughter Mamitis (exam. bacter.) found free from tuber. Retained placenta
Aug. 26	266	1 "	...	Milk fever		
Oct. 29	7	1 "	...	Poor, high temp.		
Nov. 28	26	8 "	1	Good		
Dec. 29	47	1 "	...	Mod.		

Slaughterhouses.

At present there are nine private slaughterhouses in the Borough, and they are mostly situated in those districts which have recently been added thereto. They have been regularly visited during the year, and on the whole were found to have been kept in a satisfactory condition.

The public slaughterhouse is an old building, and was in existence when the Borough was incorporated in 1848. It had got into a very insanitary condition and defective state of repair. The Markets Committee has now had it renovated and put into a sanitary condition.

The following table gives the number of animals that were slaughtered in the public slaughterhouse during the year ended June 30th, 1904.

Cattle.	Calves.	Pigs.	Sheep.	Total.
4290	3916	6678	16788	31672

There were 353 separate seizures of meat unfit for food during the year.

The following table shows the number of carcasses condemned, and the total weight of the same.

	Cattle.	Calves.	Sheep.	Pigs.	Total.
Number of Animals killed ..	4290	3916	16788	6678	31672
Do. condemned	19 $\frac{3}{4}$	18	5	75	117 $\frac{3}{4}$
Weight of those condemned in pounds	8500	1066	370	11480	21416

The following table gives the diseases and other conditions which led to the condemnation of meat during the year.

	Tuberculosis	Inflammation.	Crokers.	Rheumatism.	Febrile Diseases.	Carcinoma.	Milk Fever.	Coccidien Disease.	Anthrax.	Unwholesome.	Jaundice.
Cows ...	11 $\frac{1}{4}$	2	...	...	2	...	2	...	1 $\frac{1}{4}$	$\frac{1}{2}$	...
Calves ...	...	3	3	..	3	...	...	..	...	6	...
Sheep ...	...	3	2	...	...	...	...	...	...	...	...
Pigs ...	35	9	1	6	4	4	...	...	...	2	6
Rabbits ...	...	...	...	...	...	...	...	2	...	...	...
Totals ...	46 $\frac{1}{4}$	17	6	6	9	4	2	2	1 $\frac{1}{4}$	8 $\frac{1}{2}$	6

Besides the above, the following were also destroyed :—

	lbs.
Offals ...	5695
Fish ...	4574
Fruit ...	650

Tuberculosis was the chief cause of the seizure and destruction of meat, as the following table shows.

	lbs.
Total amount destroyed ...	30,654
Total amount of Meat destroyed	
on account of tuberculosis	15,138
Total amount of Offals destroyed	
on account of tuberculosis	4,688
Total amount destroyed on account	—
of tuberculosis ...	19,826
Total amount destroyed from other causes...	<u>10,828</u>

I desire to acknowledge the assistance rendered to the Inspector and myself by the butchers during the year. The butchers generally appear to be desirous of supplying only wholesome meat to the public, and they report to us suspicious carcasses. A book has been placed in the slaughterhouse for this purpose, when the Inspector is not on the premises. The greater part of the meat shown to have been destroyed, in the above table, was taken with the consent of the butchers concerned. Only two prosecutions were instituted during the year for exposing diseased meat for sale.

The following table gives the number of animals killed in the public slaughterhouse during the past six years.

Year ended	Cattle.	Calves.	Sheep.	Pigs.	Total.
June 30th, 1899	5333	4208	20270	7019	36830
" 1900	5530	4395	17245	7896	35066
" 1901	4859	4089	16479	6924	32351
" 1902	5312	5018	17802	5702	33834
" 1903	4991	4422	17776	6599	33788
" 1904	4290	3916	16788	6678	31672

The preceding table shows that there has been a falling off in the amount of slaughtering done in the public slaughterhouse. No doubt this is due to the increased amount of dead meat brought from Birkenhead, and the importation of the frozen article.

The Butchers appear to be now more interested in the diseases from which animals suffer, more especially tuberculosis. I attended their annual tea by request, and gave them an address on Tuberculosis, which they appeared to appreciate.

Factories and Workshops.

A considerable number of factories were visited during the year, in order to inspect the condition of the sanitary conveniences and drainage, and also for the purpose of supervising the carrying out of any necessary alterations thereto. Several were also visited in consequence of a notice received by the sanitary authority from H. M. Inspector of Factories.

The workshops in the Borough have also been under supervision, and on the whole, have been fairly well kept, so far as the requirements of the Factory Acts are concerned.

The following table gives the number of visits that were made to factories and workshops, and to shops under the Shop Hours Act, by the Sanitary Inspectors.

District.	Number of Visits made to Factories.	Number of Visits made to Workshops.	Number of Visits made under Shop Hours Act.
A	79	655	364
B	69	239	249
C	28	344	337
D	34	108	...
Total	210	1346	950

The above visits resulted in the discovery of certain sanitary and other defects, which are set out in the following tables. Each table represents a district over which a sanitary inspector has supervision.

District A.

INSPECTOR JAMES ARCHBELL.

Number of Workshops on Register ... 225

Nature of Nuisance.	Number Registered.
IN FACTORIES.	
Insufficient privy accommodation ...	17
Defective water closets ...	14
Defective drains ...	11
IN WORKSHOPS.	
Insufficient privy accommodation ...	18
Defective water closets ...	10
Defective drains ...	11
Want of ventilation ...	3
Workrooms requiring limewashing ...	65
Total ...	149

District B.

INSPECTOR JOHN WOOD.

Number of Workshops on Register ... 297

Nature of Nuisance.	Number Registered.
IN FACTORIES.	
Insufficient flush to water closets ...	6
Broken closet seats ...	3
Doors not labelled for sexes ...	21
Defective closets and drainage ...	10
Insufficient closet accommodation ...	3
Dirty closets ...	6
Offensive sewage ...	2
IN WORKSHOPS.	
Rooms requiring limewashing ...	16
Insufficient privy accommodation ...	3
Untrapped drainage ...	2
Defective and made up W.C's. ...	2
Insufficient flush to water closets ...	3
Defective sink pipes ...	3
Defective troughing and want of troughing ...	2
Dirty closets ...	7
Insufficient ventilation ...	1
Overcrowded workroom ...	2
Offensive fumes from gas stoves ...	3
Accumulation of rubbish.. ...	4
Nuisance from horse in workshop ...	1
Total ...	100

District C.

INSPECTOR JAMES EDWARD FIRTH.

Number of Workshops on Register ... 182

Nature of Nuisance.	Number Registered.
IN FACTORIES.	
Broken W.C's. ...	1
Closets requiring limewashing ...	4
Offensive privies ...	12
Defective and made up water closets ...	5
Offensive urinals ...	5
IN WORKSHOPS.	
Defective, broken, and made up W.C's. ...	2
Insufficient privy accommodation ...	1
Door broken off closet ...	2
Accumulation of rubbish... ..	1
Workrooms requiring limewashing ...	15
Dirty closets	12
Defective roofs and damp walls ...	2
Insufficient ventilation	1
Broken fall pipe and defective flagging ...	1
Offensive fumes from gas fires	1
Total	65

District D.

INSPECTOR ROBERT PICKARD.

Number of Workshops on Register 77

Nature of Nuisance.					Number Registered.
IN FACTORIES.					
Dilapidated Closets	...	...	...	...	10
Dirty privies	...	...	...	...	6
Want of urinal	...	...	...	...	1
Insufficient closet accommodation	...	...	...	...	1
Want of separate closets for sexes	...	...	...	...	3
Accumulation of offensive matter	...	...	...	...	1
IN WORKSHOPS.					
Workrooms requiring limewashing	...	...	...	...	3
Dirty closets	...	...	...	...	2
Want of ventilation	...	...	...	...	1
Total	...	...	...	...	28

The nuisances and sanitary defects in connection with the factories and workshops, as shown by the foregoing tables, number 342, of which 340 were remedied or abated, and 2 remained unabated at the end of the year, and 39 of the nuisances and defects were remedied as the result of a notice from the Factory Inspector. A formal notice of abatement was sent by me to the Inspector in each case after the work was completed.

In accordance with Section 107 of the Factory and Workshops Act, the number of outworkers notified during the year were as follows:—

	Tailors.	Shoe-makers.	Dress-makers.	Seamstresses.	Total.
No. of Outworkers	10	2	2	5	19

One of the above resided outside the Borough, and the name and address was sent to the Medical Officer of Health, in accordance with the provisions of the Act.

The houses of the remaining 18 persons were visited, and found satisfactory.

On the following page is a detailed list of all the Workshops in the Borough.

Boot, Shoe, and Clog Makers	133	Fibrous Plaster Works	1
Dress and Mantle Makers	81	Joiners & Cabinet Makers	72
Saddlers	11	Brush Makers	16
Milliners	61	Mineral Water Makers	7
Cotton Doubler	1	Provision Merchants	6
Coopers	5	Rag Sorters	10
Bakehouses	164	French Polishers	19
Flock Merchant	1	Tailors	74
Silversmiths	9	Marine Store Dealers	4
Whitesmiths	7	Blacksmiths	24
Coach Builders	3	Upholsterers	4
Rope Makers	2	Umbrella Makers	3
Wood Carvers	9	Box Makers	4
Wool Sorters	10	Surgical Inst'm't Maker	1
Cork Cutter	1	Fruit Boilers	3
Gun Makers	2	Paper Maker	1
Carpet Repairers	2	Hosiers and Knitters	23
Picture Frame Makers	4	Wheelwrights	11
Wire Workers	3	Painters	15
Basket Makers	3	Basket Makers	3
Tinners	14	Plumbers	22
Locksmiths... ..	2	Printers	13
Dentists	4	Sweet Boilers	6
Cutlers	2	Tripe Dealers	2
Underclothing Makers...	3	Clog Sole Makers	2
Venetian Blind Makers	2	Belt and Brace Makers	2
Electrical Engineer	1	Billiard Table Makers ..	2
Piano Makers	5	Sewing Machine Makers	3
Soap Maker	1	Shirt Makers	3
Drysalter	1	Watch Makers	8
Boot Upper Maker	1	Old Clothes Dealers	4
Cycle Works	2	Pattern Maker	1
Tea Packers	3	Leather Cutter	1
Brass Works	2	Sugar Packers	3
Laundries	11	Designers	2
Hair Pad Makers	2	Metal Engraver	1
		Beer Bottling	1
Total number of Workshops		945	

Bakehouses.

The bakehouses were regularly and systematically visited during the year by Inspector J. K. Crawshaw. I have also visited a number of them from time to time.

There is now considerable improvement in comparison to what formerly obtained with regard to the suitability of the buildings in use as bakehouses, several new ones having been erected, and buildings suitable for the purpose have been converted into bakehouses to supplant those formerly in use. There has also been an improvement in the matter of cleanliness, though in every case this matter is not yet satisfactorily attended to.

In the beginning of the year under notice, 37 underground bakehouses were in use in the Borough. Under Section 101 of the Factory and Workshops Act, these bakehouses required to be certified if they were to be continued in use. This necessitated a considerable amount of work in the way of special inspection, as a result of which 10 were considered unfit to be continued in use, and were consequently closed. Of the remainder, certificates had been granted to 23 by the end of the year, and four remained uncertified. A certificate has since been granted to the latter.

As no direct powers were given by the Act for the suspension of a certificate when once granted, the settlement of a suitable form of certificate required some consideration.

One difficulty which presented itself was to secure the subsequent identification of the room or rooms certified.

In order to provide for this, a plan of the buildings

attached to the certificate suggested itself, but certain difficulties cropped up, and we eventually decided to describe the situation, number and size of rooms on the certificate.

The following table shows the number of bakehouses on the register, and the number of visits paid to them during the year.

Description of Premises.	Number on Register.	Number of visits made.
Wheat bread and muffin bakers, including confectioners ...	139	395
Oat bread and muffin bakers ...	29	

As a result of the above visits, some 48 defects were found, and which are set out in the following table, together with the number remedied.

Nature of Defects.	Number Reported.	Number Remedied.
Brought forward from last year ...	20	...
Defective drains, and sink waste pipes to disconnect ...	4	9
Bakehouses requiring limewashing ...	25	25
Insufficient ventilation ...	...	10
Do. light ...	3	8
Damp walls ...	7	5
Dirty floors ...	4	5
Bakehouse connected to wash-house	2	2
Defective roof ...	1	1
Closets converted to W.C's. ...	2	2
Total ...	68	67

Some of the above defects were remedied after

notice from the Factory Inspector, and only one remained unabated at the end of the year.

Ice Cream Makers and Vendors

There are a less number of itinerant dealers in this article than formerly. The rooms in which they make the ice cream have been visited from time to time during the year, and there has been found no serious cause of complaint with reference thereto.

Congress of the Royal Institute of Public Health.

The Annual Congress of the above Institute was held at Folkestone. It was attended by Alderman Coe, J.P., and myself, and we made a joint report to the Committee and Council on the proceedings of the Congress, which, consequently, it is not necessary to reproduce here.

Public Health Laboratory.

The usefulness of the above Laboratory appears to have increased during the year, as 204 specimens and samples were examined therein, against 86 during the previous year.

The following table gives some of the details of the work done.

DISEASE.	Number of Specimens.	Results of Examination.	
		Positive.	Negative.
Diphtheria (Swabs) ...	46	6	40
Tuberculosis (Sputum) ...	41	9	32
Do. (Urine) ...	2	0	2
Do. (Milk) ...	3	2	1
Do. (Pus) ...	1	0	1
Typhoid (Widal's Reaction) ...	6	2	4
Total ...	99	19	80

Besides the foregoing, 16 samples of milk were examined bacteriologically on account of abnormal conditions.

Sixteen specimens obtained in the slaughterhouse in the course of meat inspection were examined, among which were found Tuberculous, 7 cases; Hydatid, 1 case; Sarcoma, 1 case.

A cow which died suddenly at a farm was discovered, on microscopic examination, to have suffered from Anthrax, and also one which had recently been removed from that farm in a dying condition.

The remaining specimens examined included the analysis of 27 samples of water, and 9 of air, and 4 of food stuffs bacteriologically.

It will be observed from the table above that most of the swabs taken from the cases of sore throats gave negative results as far as diphtheria is concerned. This bears out my remarks on the question in this report under the heading of diphtheria, and point to the conclusion that diphtheria is not of such frequent occurrence in Halifax as it is supposed.

The laboratory was found to be of great value during the year, in fact, it has become almost an indispensable institution in the work of the Health Department.

Midwives Act.

The administration of the above Act has been entrusted to the Health Committee by the Council, and the following steps have been taken with the object of bringing the Act to the notice of the midwives, and of putting the same into operation.

In November, 1903, the Town Clerk advertised the chief provisions of the Act in the local press.

Soon after this, I addressed a letter to all the medical men in the district, asking them if they would kindly furnish me with the names and addresses of all the practising midwives they knew of. As a result I obtained the names of 96 women engaged in this work. I then addressed a circular to each one, giving them further particulars with reference to the Act, and informed them that they could see me at a specified hour if they desired any further information.

A number of them called for further information, with the result the following 17 obtained the necessary certificate, and were registered at the Health Office during the year under notice.

Name.	Address.
Buckley Mary Ann...	8, Wainhouse Terrace
Firth Margaret ...	7, Concrete Street
Shelley Emelina ...	59, Clive Street
Bowling Betty ...	3, Buttress, Luddenden
Connew Sarah ...	23, Clay Street, Hanson Lane
Lumb Elizabeth Ann ..	5, Dunkirk Street
Lake Lucy ...	14, Kell Lane, Shibden
Wade Hannah ...	4, Lintelfield Street
Fielden Louisa ...	6, Holden Street
Robinson Mary Ann ...	14, Ashbourne Grove
Haslem Sarah Ann...	59, Bath Place, Woodside
Firth S. A. ...	5, Prince Street
Ogden Emma ...	5, Summer Street
Halstead Frances Ellen ...	3, Aspinall Street East
Crabtree Isabella ...	31, Bright Street
Crowther Hannah Elizabeth...	39, Hammond Street
Haigh Matilda ...	142, Southowram Bank

Several others have been since registered, but even now only a very small proportion of those in practice have taken advantage of the opportunity of obtaining the necessary certificate. A large number, I have learned, gave up the idea when they discovered the responsibilities that were thrown upon them by the Act.

A lady health visitor is very much needed to undertake the supervision of these women and for other purposes.

Disinfection.

The disinfecting chamber for ordinary purposes is situated at Stoney Royd, and that for smallpox is a movable one, but is chiefly kept in the grounds in which the smallpox hospital is situated.

During the year under notice there were 8,594 different articles disinfected at the Stoney Royd disinfecting station, and about 500 in the disinfector at the smallpox hospital, making a total of 9,094.

There were 1,182 rooms fumigated with sulphur or formaline, and disinfected, also 5 elementary day schools.

The latter are given in the following table.

Date.	Name of School.	Number of Rooms Fumigated.
February 16th ..	All Saints', Salterhebble ..	9
March 3rd ..	St. Marie's ..	18
„ 21st ..	Akroyd Place ... 24	60
„ 22nd ..	„ ... 12	
„ 23rd ...	„ ... 24	
November 18th ...	Holy Trinity (Girls) ...	8
December 10th ..	Haugh Shaw ...	36
Total number of rooms disinfected		131

Disinfecting fluid continues to be supplied free of charge to those in whose family infectious disease occurs, on application to the Health Office, and disinfecting powder is given to all who apply at the Scavenging Dépôt, Lister Lane, between the hours of 10 and 12 a.m. and 2 and 4 p.m. On Saturdays between 10 and 12 a.m. only.

Meteorological Observations.

Meteorological observations are taken by Mr. Whiteley in the grounds of the Public Library, and the results are set out in a table which follows.

The following table gives the number of days on which rain fell, and the rainfall in inches during the past 11 years.

Year.	No. Days Rain Fell.	Amount of Rainfall.
1894	158	30·31
1895	149	33·78
1896	172	32·02
1897	187	29·72
1898	182	29·49
1899	153	35·33
1900	205	39·68
1901	179	29·41
1902	191	28·03
1903	219	44·25
1904	191	29·32

It will be seen from the above table that much less rain fell, and that there were fewer wet days than during the previous year.

The rainfall is also collected at 10 other stations distributed over the area of the Halifax Corporation Waterworks. The following table gives the stations, the height above sea level of each in feet, and the rainfall for the year 1904.

HEIGHTS ABOVE SEA LEVEL IN FEET.

	1380	1350	1325	1375	1050	1060	990	815	795	568
1904.	Walshaw Dean. *	Midgley Moor. *	Warley Moor. *	Ovenden Moor. *	Widdop.	Castle Carr Lodge.	Ogden.	Ramsden Wood.	Albert.	Gibbet.
	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.	ins.
January ..	4.15	5.37	4.42	4.39	4.52	4.45	4.18	3.91	3.65	4.06
February	4.03	5.01	4.91	5.21	4.52	5.16	5.40	5.30	4.73	5.13
March ...	2.55	2.67	3.15	2.99	2.68	2.83	3.01	2.21	1.93	2.40
April ...	2.52	3.62	3.28	3.04	3.14	2.94	2.60	2.53	2.46	2.38
May ...	3.08	3.36	3.34	3.47	3.26	3.45	3.16	3.29	2.75	2.59
June ..	1.69	1.61	1.45	1.22	1.27	1.32	1.11	.98	.78	.90
July ...	2.56	2.45	2.28	2.28	2.75	2.17	2.28	2.17	2.19	2.51
August ...	4.63	5.36	5.03	5.38	5.28	5.10	5.37	5.08	4.78	4.80
September	1.24	1.60	1.38	1.24	1.57	1.32	.97	.84	.73	.56
October ...	2.06	2.37	1.92	2.00	1.87	1.89	1.52	1.17	1.06	.98
November	4.55	4.68	3.94	3.99	3.54	3.21	3.42	2.81	2.52	2.38
December	2.87	3.72	3.32	3.15	3.76	2.85	2.86	2.39	2.07	1.97
Totals ...	35.93	41.82	38.42	38.36	38.16	36.69	35.88	32.68	29.65	30.66

Average Rainfall over Gathering Grounds (marked *), 38.63.

The average rainfall on all the guages, 1903 ... 54.38

Do. do. 1904 ... 35.82

Difference ... 18.56

General Summary of Meteorological Observations taken at the Public Library, Belle Vue, from January 1st, 1904, to December 31st, 1904.

By J. WHITELEY, SECRETARY AND LIBRARIAN.

LATITUDE OF STATION = 53° 43' N.

LONGITUDE = 1° 52' W.

HEIGHT ABOVE SEA LEVEL = 625 FEET.

1904.	Pressure of Atmosphere in Month.		Temperature of Month.						Mean Temperature.		Vapour.		Mean degree of Humidity.	Mean Weight of a cubic foot of Air.	Mean Reading of Thermometer.		Wind.				Rain.		REMARKS.			
Month.	Mean.	Range.	Highest.	Lowest.	Range.	Mean		Air.	Dew Point.	Elastic Force.	In a cubic foot of Air.				Maximum in Rays of Sun.	Minimum on Grass.	Estimated Savings.	Relative proportion of				Mean amount of Cloud.		No. of Days it fell.	Amount Collected.	
						Of all Highest.	Of all Lowest.				Daily Range.	Mean.						Short of saturation.	N.	E.	S.					W.
	in.	in.	°	°	°	°	°	°	°	in.	gr.	gr.		gr.	°	°						in.				
January	29.256	1.770	50.8	26.0	24.8	42.8	33.7	9.7	38.1	36.9	0.220	2.5	0.2	97	545.8	46.5	31.0	1.2	1	7	19	14	7.7	21	3.48	The observations have been reduced to mean values by Glaisher's Barometrical & Diurnal Range Tables, and the Hygrometrical results have been deduced from the seventh edition of Hygrometrical Tables, after corrections for Index errors of the Instruments employed.
February	28.797	1.476	49.4	19.8	29.6	38.1	31.8	6.3	35.7	30.9	0.174	2.0	0.4	82	538.9	50.8	27.2	1.2	6	15	7	11	8.2	22	5.19	
March	29.317	0.852	54.8	21.1	33.7	42.0	32.4	9.6	38.5	34.9	0.204	2.4	0.4	87	545.2	58.5	28.2	1.4	18	9	10	14	7.4	20	2.25	
April	29.180	0.990	58.2	30.0	28.2	49.9	38.2	11.7	44.3	37.5	0.224	2.6	0.7	77	536.7	73.0	31.4	2.5	5	6	10	32	6.9	19	2.25	
May	29.224	0.676	67.9	33.8	34.1	53.7	41.3	12.4	48.0	45.2	0.291	3.4	0.4	91	532.8	77.8	37.9	2.6	15	6	13	21	7.5	17	2.57	
June	29.360	1.018	72.6	41.6	31.0	59.7	45.1	14.6	52.3	46.5	0.318	3.7	0.9	83	530.2	90.1	40.0	2.8	15	8	12	17	6.8	9	0.77	
July	29.331	0.012	76.2	44.4	31.8	65.5	51.1	14.4	58.5	53.1	0.394	4.4	1.0	85	523.3	95.4	47.3	2.1	8	11	13	23	6.7	14	2.63	
August	29.296	0.684	79.2	48.9	37.8	62.2	48.9	13.3	56.6	48.2	0.318	3.5	1.5	71	525.1	88.9	45.4	2.2	6	4	16	28	6.6	19	4.60	
September	29.263	0.622	69.1	39.5	29.6	58.6	45.7	13.1	52.7	45.9	0.310	3.5	0.9	80	530.5	82.4	40.6	2.2	5	18	14	13	6.6	5	0.33	
October	29.357	1.028	59.6	30.9	28.7	53.1	41.1	12.0	47.6	43.0	0.275	3.2	0.5	86	535.1	68.4	35.7	1.8	6	12	14	17	6.5	11	0.94	
November	29.365	1.160	54.9	21.9	33.0	45.8	36.4	9.4	41.7	37.0	0.224	2.5	0.5	85	542.0	52.0	32.3	2.2	7	4	7	32	7.6	18	2.56	
December	29.182	1.692	53.4	22.6	30.8	41.6	32.3	9.3	37.1	34.5	0.199	2.3	0.3	90	544.3	45.9	29.7	1.2	2	5	9	20	7.6	16	1.85	
Annual Means	29.244	0.998	62.2	30.0	32.2	51.1	39.8	11.3	45.9	40.3	0.263	3.0	0.7	85	535.8	69.1	35.6	2.0	8	9	12	20	7.2	...	29.32	

NOTE.—The Annual Means give the Averages for Twelve Months.

The Mean Readings of the Earth Thermometer, four feet below the surface, were as follows:—January, 41°; February, 41°; March, 40°; April, 41°; May, 44°; July, 50°; August, 53°; September, 55°; October, 54°; November, 51°; December, 48°. The Highest Readings were from September 8th—12th, which reached 56°.

Rain fell on 191 days, and the amount collected 29.32 inches.

From the foregoing it will be observed that over 18 inches less rain fell over the above area than during the previous year, the result being that the reservoirs contained at the end of the year a smaller quantity of water than they did at the end of the previous year.

Sale of Food and Drugs Act.

There were 209 samples of foods and drugs analysed during the year, against 155 during the previous year.

The following table gives the number analysed per 1,000 population during the past five years.

Year.	Number of Samples Analysed.	Estimated Population of the County Borough.	Number of Samples Analysed per 1000 of the Population.
1900	210	101,187	2·07
1901	183	105,120	1·74
1902	217	105,978	2·04
1903	155	106,800	1·45
1904	209	107,000	1·95

The following table shows the kind of samples and number of each dealt with, together with the results of the analyses.

Kind of Sample.	Number Analysed.	Results of Analyses.		
		Genuine.	Doubtful.	Adulterated
Laudanum	1	1	...	...
Butter	18	15	...	3
Margarine	6	6	...	...
Milk	137	124	2	11
Cream of Tartar	2	2	...	...
Olive Oil	4	4	...	...
Pepper	5	5	...	...
Coffee	7	7	...	...
Ales	7	7	...	...
Cod Liver Oil	2	1	1	...
Brandy	3	3	...	...
Sweet Nitre	6	3	...	3
Jams	2	...	...	2
Oil of Turpentine	2	2	...	...
Cheese	1	1	...	...
Ginger	2	2	...	...
Mustard	1	1	...	...
Arrowroot	3	3	...	...
Totals	209	187	3	19

The percentage of adulteration was 9·09, against 5·8 during the previous year.

Borough Fever Hospital.

The Borough Hospitals have at present a total accommodation for patients as follows.

Stoney Royd Fever Hospital	80 beds
Birks Hall Convalescent Home	25 „
Belle Vue Smallpox Hospital	40 „
Total number of beds	145 „

The number of beds set apart for the various diseases are as follows.

					Number of Beds.
Scarlet Fever	56	}	81		
Do. Convalescents ...	25				
Typhoid Fever ... ..	...				18
Diphtheria ... ..	...				6
Smallpox ... ..	...				40
Total					145

Birks Hall is only used when there is extra pressure on the wards at Stoney Royd, and it was not necessary to use it for Scarlet Fever during the year.

The hospital staff at present consists of the following.

Matron,

Four Charge Nurses,	One General Servant,
Seven Probationer Nurses,	One Kitchen Maid,
Cook,	One Laundry Engineer,
Head Laundress,	One Disinfecter,
Three Ward Maids,	One Porter,
Three House Maids,	Caretaker, Birks Hall,
One Dining Hall Maid,	Do. Smallpox Hospital.

On January 1st there remained in the hospital 50 patients. There were admitted during the year a total of 486 cases, and 67 patients remained in the institutions on December 31st last.

There were 33 deaths, and 436 patients recovered and were discharged from the hospital during the year.

Scarlet Fever.

There were 349 cases of this disease admitted during the year, including 16 which came from outside districts, consequently 333 cases out of the total of 486 notified in the Borough were removed to hospital, or nearly 69 per cent. During 1903, the percentage was 67; 1902, 78·9; and 1901, 80 per cent. respectively.

Of the 349 cases, 15 died, which gives a mortality of 4·3 per cent., against 2·25, 2·4, 2·7, and 3·2 per cent. respectively during the previous four years.

The above is rather a high deathrate, and the reason was that an exceptional number of very severe cases were admitted during the year.

There were 324 patients discharged during the year, and the average stay in hospital was six weeks.

There were 19 return cases during the year, which gives a percentage of 5·4. Of these, however, four came from one house, three from another, and two from a third, so that 13 children discharged appear to have infected others, which gives a percentage of 3·7.

It is very difficult to prevent the occurrence of return cases. No doubt the majority of such cases are infected by children who have suffered from either nasal or aural discharges. Children are not sent out from the hospital in this condition, but on their return home, either from having had a chill or some other cause, the discharges return, and appear often to be as infectious as ever. Seven of the return cases occurred in children a few days after they had slept with the returned convalescent.

The following table shows the number of cases of scarlet fever that have been admitted into the hospital since the year 1881.

YEAR.	Number Admitted.	Number of Deaths.	Percentage of Deaths to Cases Admitted.
1881	34	2	5.8
1882	15	1	6.6
1883	8	0	Nil.
1884	13	1	7.6
1885	23	3	13.0
1886	24	0	Nil.
1887	54	0	Nil.
1888	28	0	Nil.
1889	33	0	Nil.
1890	39	5	12.8
1891	47	5	10.6
1892	15	1	6.6
*1893	1	0	Nil.
1894	39	3	7.6
1895	25	3	12.0
1896	30	0	Nil.
1897	237	12	5.0
1898	341	10	2.9
1899	515	12	2.3
1900	250	8	3.2
1901	598	13	2.1
1902	365	9	2.4
1903	219	5	2.2
1904	349	15	4.3
Total 24 years	3302	108	3.2 Average.

*Epidemic of Smallpox, only one case of Scarlet Fever admitted.

Typhoid Fever.

There were 22 cases of this disease admitted during the year, against 24 and 30 during the two previous years.

There were 47 cases reported, so that nearly 47 per cent. of the notified cases were removed for isolation.

During the previous four years, 39, 46, 24, and 52 per cent. respectively were isolated in the hospital.

There were 7 deaths during the year, which gives a mortality of 32 per cent. This is rather a high death-rate. During the three previous years the mortality was 17, 26·6, and 22·2 per cent. respectively.

There were 21 patients discharged during the year, and the average period during which each remained in hospital was 29 days.

The following table shows the number of cases of fever (typhoid, typhus, &c.) which have been admitted into the hospital since 1881, and gives the mortality per cent. thereof.

YEAR.	Number Admitted.	Number of Deaths.	Percentage of Deaths to Cases Admitted.
1881	17	2	11·7
1882	24	2	8·3
1883	26	9	34·0
1884	29	10	34·4
1885	16	1	6·2
1886	18	4	22·2
1887	18	0	Nil.
1888	25	5	20·0
1889	54	13	24·0
1890	35	8	22·8
1891	47	7	14·8
1892	17	2	11·7
1893	4	1	25·0
1894	15	2	13·3
1895	39	7	17·9
1896	56	8	14·2
1897	32	4	12·5
1898	28	6	21·4
1899	38	6	15·7
1900	44	10	22·7
1901	17	2	11·7
1902	30	8	26·6
1903	24	4	16·6
1904	22	7	31·8
Total 24 years ...	675	128	18·9
			Average.

Diphtheria.

There were 25 cases of this disease removed to hospital out of a total of 80 notified during the year, which represents 31 per cent.

Of the above 25 cases, one only died, giving a mortality of only 4 per cent., which is exceedingly low.

The average stay in hospital was 23 days.

Smallpox.

Two cases of this disease were remaining in hospital at the beginning of the year under notice, and 84 were admitted during the year, 6 of which belonged to outside districts.

Of the 86 cases, 10 died, which gives a mortality of 11·6 per cent.

There were 62 patients discharged during the year, and the average stay in hospital was 29 days.

The following table shows the number of cases that have been admitted to the fever hospital since the year 1881.

Year.	Small-pox.	Cholera.	Typhus Fever.	Typhoid Fever.	Scarlet Fever.	Diphtheria.	Others.	Total.
1881	16			17	34		2	69
1882	13		3	24	15		5	60
1883	2		2	26	8		5	43
1884	1			29	23		2	45
1885	15		1	16	23		4	59
1886	3			18	24		3	48
1887	3			18	54		1	76
1888	5		1	25	28		7	66
1889	4			54	33			91
1890				35	39		7	81
1891		1		47	47		6	101
1892	188		1	17	15		1	222
1893	340			4	1			345
1894	15			15	39		1	70
1895				39	25		7	71
1896				56	30		20	106
1897				32	237		3	272
1898				28	341			369
1899				38	515			553
1900	3			44	250		9	306
1901	3			18	597	12	43	633
1902	1			30	365	7		403
1903	140			24	219	17	4	404
1904	84			22	349	25	6	486

The administration of the hospital has been quite satisfactory under the management of the matron, Miss Robison, and the nurses as usual, have been unremitting in their care of the patients.

County Borough of Halifax.

THE
Sanitary Inspector's Report

FOR THE

Year ended 31st December, 1904.

*To the Chairman and Members of the Health
Committee.*

GENTLEMEN,

I have the pleasure to submit for your consideration my Thirtieth Annual Report on the operations of the Health Department for the year ended December 31st, 1904.

TOWN HALL, HALIFAX,

June, 1905.

HEALTH DEPARTMENT.

Summary of Work done.

Total number of Visits made by the District Inspectors...	27996
Total number of Visits to Houses	11381
" " Lodging Houses and Furnished Rooms	1450
Number of Visits to Houses with reference to Defective Drainage	4340
Number of Visits to Houses with reference to Cleanliness, Overcrowding, &c.	777
Number of Visits to Houses with reference to Infectious Diseases	3092
Rooms Disinfected	1182
Cases removed to the Hospital	486
Infectious Diseases reported	773
Nuisances reported	2242
Nuisances abated	2380
Notices served	1009
Letters served (referring to Nuisances, &c.) ...	280
Summonses taken out	11
Smoke Observations taken	703
Old Ashpits altered to Goux System	35
Goux Closets registered	264

It must be remembered that many nuisances are frequently included under one notice, and therefore the number of nuisances represent considerably more than the number of notices.

Removal of Nuisances.

At the commencement of the year 365 complaints remained on the books and in course of removal, since then 2242 have been registered and 2380 removed, leaving at the close of the year 227 to be dealt with. The following table shows the nature of nuisances registered.

Nature of Nuisances.				Number Registered.
Defective Sink Drains	...	...	...	139
„ „ Pipes	...	...	...	86
„ „ Syphon Traps	...	...	...	40
„ Basement Drains	..	...	...	30
„ Yard Drains	...	...	..	102
„ Urinal Drains	...	...	...	5
„ W.C. Drains	...	...	..	23
„ Area Drains	...	...	...	12
„ Private Street Drains	...	...	...	6
Made-up Sink Pipes	..	...	..	36
„ Bath Pipes	..	...	...	7
„ Lavatory Pipes	...	...	...	5
„ Basement Drains	...	...	...	46
„ Water Closets	...	..	...	43
„ Yard Drains	...	...	...	63
„ Urinal Drains	...	...	...	14
„ Gullies •	...	...	...	29
„ Private Street Drains	...	...	...	4
Untrapped Basement Drains	...	..	...	28
„ Sink Drains	...	...	...	61

NUISANCES—*Continued.*

Nature of Nuisances.				Number Registered.
Untrapped Area Drains	...	...	...	14
„ Yard Drains	...	...	...	52
„ Urinal Drains	...	..	...	10
„ Bath Pipes	...	...	...	7
„ Lavatory Pipes	...	...	...	4
Drains not efficiently Trapped :				
Sink Drains	...	...	...	7
Cellar Drains	..	...	...	5
Yard Drains	...	...	...	1
Urinal Drains	...	...	...	5
Area Drains	...	...	...	2
Sink Drains requiring Disconnecting	...	...	...	130
Defective Fall-pipe Drains	...	...	...	12
„ Fall-pipes	...	...	...	73
„ Spouting	...	...	...	88
„ Roofing	...	...	...	35
Broken Pot and Iron Traps...	...	..	..	2
Insufficient Supply of Water to Closets...	...	...	...	2
Nuisances from Water in Cellar	...	•	...	36
„ Want of Drains	...	...	...	33
„ Smoke	...	...	...	10
„ Poultry	...	...	...	1

NUISANCES—*Continued.*

Nature of Nuisances.	Number Registered.
Nuisances from Pigeons	1
„ Rabbits	1
„ Swine	4
Houses Overcrowded	7
„ requiring limewashing	66
Accumulations of Offensive Matter	59
Privies requiring Limewashing	186
Insufficient Privy Accommodation	45
Offensive Ashpits and Privies	49
„ Goux Closets	63
„ Ash Tubs	20
Doors off Closets	52
„ Ashes Tub Places... ..	30
Dilapidated Closets	56
Ashpits requiring Re-construction	38
Miscellaneous	118
COWSHEDS.	
Defective Drains	26
Want of Light, Room, Air Space, and Ventilation ..	43
Dilapidated Cowsheds and Floors	9
Cesspools requiring Emptying and Defective ...	6
Offensive Middensteads	12
Cowsheds requiring Limewashing	19

NUISANCES—*Continued.*

Nature of Nuisances.				Number Registered.
FACTORIES AND WORKSHOPS.				
Rooms requiring Limewashing	...	...	...	13
Insufficient Privy Accommodation	...	...	...	9
Want of Ventilation	...	...	...	9
BAKEHOUSES.				
Want of Ventilation	...	..	...	1
Rooms requiring Limewashing	..	..	..	2
TOTAL ...				2242

The above list does not include work carried out after mere verbal notice.

Night Scavenging.

The following table shows the number of ashpits cleansed during the year, and the number of loads of manure and rubbish collected.

Month.		Number of Ashpits Emptied.	Loads of Soil.	Loads of Rubbish.	Total Number of Loads.
January	...	351	75	112	187
February	...	482	122	141	263
March	...	317	153	108	261
April	...	432	109	167	276
May	...	441	139	148	287
June	...	608	252	142	394
July	...	427	100	97	197
August	...	266	131	44	175
September	...	501	167	104	271
October	...	461	98	129	227
November	...	254	117	60	177
December	..	285	113	65	178
TOTAL	...	4825	1576	1317	2893

The total number of ashpits cleansed during the year is 4825, as against 5502 in the previous year. 35 ashpits with privies have been altered to the Goux system, and ashes tubs supplied in the place of 9 dry ashpits. The above includes Ovenden, Illingworth, Copley, Warley, and Northowram Wards.

TABLE SHOWING THE NUMBER OF ASHPITS WITHIN
THE BOROUGH DECEMBER 31st, 1904.

District.	Wards.			Ashpits with Privies.	Dry Ashpits.	Total.
1	Akroydon and North			49	53	102
2	Ovenden and Illingworth			298	27	325
3	Central and East	...	...	34	91	125
4	West and South	...	...	12	194	206
5	Skircoat and Southowram			34	32	66
6	Pellon and Kingston			7	35	42
7	Copley	...	...	101	35	136
8	Warley	..	...	247	22	269
9	Northowram			182	...	182
	TOTAL			964	489	1453

Goux Scavenging.

The following Table shows the number of Closet Tubs and Loads of Ashes collected during the year.

Month.			Number of Closet Tubs Collected.	Loads of Ashes Collected.
January	...	...	54557	1838
February	...	...	51719	1721
March	...	...	58898	1937
April	...	...	52225	1789
May	...	...	54316	1766
June	...	...	55717	1505
July	...	...	54468	1436
August	...	...	57796	1524
September	...	...	55606	1511
October	...	...	54766	1612
November	...	...	52296	1565
December	...	...	55347	1943
TOTAL			657711	20147

The above represents 31319 loads of Night Soil (each load containing 21 Closet Tubs) as against 31197 and 19949 loads of Ashes respectively for the preceding year.

The number of additional Closets registered is 264, being a decrease of 92 on the number registered during the year 1903.

Goux Scavenging.

The following Table shows the number of Goux Closet Tubs registered since the commencement of the Goux System.

Year.			Number of Closet Tubs.	Number Registered during each year.
1871	...	...	1102	1109 in 15 months
1872	...	...	1895	786
1873	...	...	2440	545
1874	...	...	2820	380
1875	...	...	3088	268
1876	...	...	3316	228
1877	...	...	3769	453
1878	...	...	4277	508
1879	...	...	5858	576
1880	...	...	5071	218
1881	...	...	5552	481
1882	...	...	6057	505
1883	...	...	6506	449
1884	...	...	7405	899
1885	...	...	8049	644
1886	...	...	8727	678
1887	...	...	9327	600
1888	...	...	9831	504
1889	...	...	10446	615
1890	...	...	11098	652
1891	...	...	11644	546
1892	...	...	12068	419
1893	...	...	13047	984
1894	...	...	13450	403
1895	...	...	13797	347
1896	...	...	14145	348
1897	...	...	14444	299
1898	145 Tubs returned in connection with Property pulled down.	...	14881	437
1899		...	15287	551
1900	...	...	15974	687
1901	38 Tubs returned	...	16397	461
1902	...	...	16808	411
1903	...	...	17164	356
1904	...	...	17428	264

During the year 187 Closets have been erected in connection with new property, and 67 have been altered from the old system, 1 substituted for Water Closet, and 9 added where the accommodation was previously insufficient.

Birks Hall Tips.

Table showing the number of loads of Ashes and Rubbish tipped during the year.

Names.	Number of Loads.
Goux Department	18552
Markets Committee	160
Highways Committee	400
Private Firms	4080
Waterworks	160
TOTAL	23352

Mozley Tip.

Table showing the number of loads of Rubbish tipped during the year.

Name.	Number of Loads.
Goux Department	365

Streets Scavenging.

Table showing number of Streets and Miles requiring Sweeping in each Ward.

Wards.				Number of Streets.	Number of Lineal Miles of Setting.	
					Miles.	Yards.
East	...	...	...	90	7	304
Central	...	...	...	41	4	522
South	...	...	...	51	6	1015
West	...	...	...	41	5	1031
North	...	...	...	33	4	1417
Akroydon	...	...	...	24	3	1468
Southowram	...	...	...	39	7	116
Skircoat	...	...	...	26	3	600
Kingston	...	...	...	15	2	1090
Pellon	...	...	...	18	3	601
Ovenden and Illingworth	...	...	...	31	10	1265
TOTAL				409	59	629

Streets Scavenging.

Table showing number of Lineal Yards and Miles Swept during the year in each Ward.

Wards.			Number of Lineal Yards Swept.	Miles.	Yards.
East ...	...	...	2,769,973	1573	1493
Central	...	...	982,237	558	157
South	...	...	1,154,186	655	1386
West ...	...	...	716,988	407	668
North	...	...	577,458	328	178
Akroydon	...	...	290,524	165	124
Southowram	...	...	616,167	350	167
Skircoat	...	...	205,101	116	941
Kingston	...	...	126,415	71	1455
Pellon	...	...	263,366	149	1126
Ovenden & Illingworth Part Swept by Halifax Gang			891,496	506	936
Total ...	...	...	8,593,911	4882	1591

Streets Scavenging.

The subjoined Table gives at a glance the work done in this Department.

	1904.
Number of Streets swept	34,182
Lineal Yards swept	8,593,911
Square Yards swept	68,563,566
Number of Streets watered	9,253
Loads of Water used for that purpose...	10,836
Loads of Sweepings gathered ...	5,572
Loads of Snow removed from the Streets	5,295
Number of Gullies emptied	198,859
Number of Street Drains flushed ...	765
Garbage removed from Market Hall ...	1,046

During the year 340 loads of garbage have been removed from fishmongers, fried fish shops, and green-grocers.

THE FOLLOWING TABLE SHOWS THE AMOUNT OF WORK DONE IN THIS DEPARTMENT FROM
1889 to 1904.

	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Number of Streets Swept ...	27149	28244	28869	27019	30700	29800	26921	32204	30569	31960	30997	31402	33395	33703	34810	34182
Number of Streets Watered ...	8620	5337	5404	8016	7822	5382	10055	9762	10045	10637	13036	11519	15699	8137	11204	9253
Loads of Water used ...	12442	6877	6598	8057	8648	5969	10965	11850	11824	12435	15002	14831	21877	11457	13898	10836
Loads of Sweepings gathered ...	4574	6882	5102	4833	6571	5184	4926	5364	6522	6979	6153	6119	7343	6815	6461	5572
Number of Gullies emptied ...	89852	100103	122611	120004	144019	153411	133784	175903	176664	196044	195316	181384	209356	210434	221036	198854
Loads of Snow removed from the Streets ...	972	884	291	14564	8844	1215	14331	41	9081	806	3417	12679	1793	2727	140	5295
Drains flushed ..	306	523	1278	1822	2211	1006	709	592	684	1177	810	98	534	197	86	765

ANALYSIS OF REFUSE COLLECTED IN THE BOROUGH
OF HALIFAX DURING THE YEAR 1904.

	Number of Loads.
From Wet and Dry Ashpits ...	2,893
From Ashes Tubs ...	20,147
From Goux Closet Tubs ...	31,319
Sweepings gathered from the Streets, and Refuse from Gullies ...	5,572
Garbage removed from Market Hall ...	1,046
Horse Droppings from Streets ...	267
Garbage from Fried Fish Shops ...	340
Total Number of Loads ...	61,584

Smoke Observations.

The following Table shows the number of Smoke Observations taken during the year, and the average number of minutes of dense smoke emitted.

	Number of Observations taken.	Average Number of minutes of Dense Smoke emitted.
Number of Observations taken	703	
Number showing moderate Smoke or <i>nil</i>	279	
Number of Observations taken for a period of 60 minutes, each showing Dense Smoke	424	
Average number of minutes of Dense Smoke emitted from Chimneys ... ..	...	2·0

Smoke Observations.

The following Table shows the number of observations taken, names of firms, and number of boilers working.

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Akroyd J. & Sons, Ltd.	Bowling Dyke ...	3	7	1.5
Akroyd W. ...	Lucy Street ...	1	7	0.2
„ Ltd. ...	Copley Mills ...	1	4	0.5
Baldwin J. & J. ...	Clark Bridge Mills ...	5	9	2.4
Baldwin & Walker ...	West Croft Mill, King Cross	2	2	0.5
Balme & Pritchard ...	Lister Lane, brick chimney	2	2	4.0
Black William ...	Bobbin Works, Beacon Hill Road	1	4	nil.
Butler James ...	Adelaide Street ...	1	3	1.6
Berry John ...	New Bank ...	1	5	nil.
Booth J. & Son ...	Lee Bridge ...	6	3	nil.
Bowman J. M. ...	Lee Bank ...	2	5	0.8
Bradford & District Dyeing Co.	1, Lee Bank ...	4	5	nil.
„	2, Lee Bank ...	6	5	nil.
„	1, Old Lane ...	4	5	2.0
Bancroft Alfred ...	Lister Street ...	1	3	1.0
Bancroft W. ...	Fenton Estate ...	2	1	nil.

SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Binns J. & A., Messrs	West Mount Works ...	1	1	3·0
Butler J. & Co. ...	Adelaide Street, new chimney	1	5	1·0
Bennett Bros. ...	Aked's Road ...	1	2	nil.
Calder & Hebble Co ...	Engine House Lane ...	1	3	2·6
Clayton & Murgatroyd	Lower Wade Street ...	4	6	3·0
Charlestown Brick & Tile Co.	Charlestown Road ...	1	3	1·3
Crossley & Porter Orphanage	Skircoat Moor ...	1	6	1·0
Crossley J. & Sons, Ltd.	Dean Clough ...	4	5	2·4
„	Old Lane Chimney ...	1	4	0·2
„	Office Chimney ...	8	5	0·2
„	Lee Bridge, stone chimney	6	4	2·2
„	Lee Bridge, brick chimney	6	4	2·0
Calvert W. & Sons ...	Illingworth Mills ...	2	4	1·0
Crabtree J. & Sons ...	Cotton Mill, Salter-hebble	3	9	3·8
Crown Hardware Co.	New Bond Street ...	1	2	0·5
Charnock G. ...	North Parade ...	1	4	0·5
Charnock J. & Son ..	Pellon Lane Saw Mill	1	2	2·5
Crossley J. & Sons, Ltd.	Hebble Mills, Wheatle	1	6	0·8
Crossland J. & Sons...	North Bedford Street	1	3	0·3
Dobson A. ...	Back Clarence Street	1	1	1·0
Drake J. & Co. ...	Foundry Street ...	1	6	1·0
Earnshaw A. ...	Grantham Road ..	1	3	nil.

SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Eastwood A. ...	Hopwood Lane ...	1	7	2·1
Edwards & Sutcliffe ...	Canal Mills, Copley ...	1	4	1·0
Farrar J. B. ...	Lower Wade Street ...	2	5	2·4
Feather Bros. ...	Sun Works, Winding Road	2	4	2·7
Foster E. & Sons ...	Woolshops ...	1	3	2·0
Farnell E. & Son ...	Gibbet Street ...	1	4	0·7
Fleming, Birkby & Goodall	Bond Mill, Bond Street	1	3	1·6
Fletcher Bros. ...	Raglan Dye Works, Raglan Street	1	2	2·0
„ ...	„ new chimney ...	...	2	2·0
Fletcher Harold ...	Bowling Dyke ...	2	6	0·6
Farrar H. & Son ...	Upper Clay Pits ...	1	1	1·0
Foster Adam ...	Builder, Arundel Street	1	2	nil.
Forest Mill Co. ...	Ovenden ...	1	10	3·0
Fleming, Birkby & Goodall	Hopwood Lane ...	1	1	1·0
Fleming A. ...	Premier Works, Grantham Road	1	3	nil.
Green J. ...	Corporation Street ...	1	5	nil.
Greenwood J. ...	Cross Hills ...	1	5	3·0
Goodall E. ...	Farrar Mill Lane ...	1	5	1·6
Halifax Corporation Gasworks	The Holme, Mulcture Hall Road	1	3	nil.
Hanson W. ...	Range Royd Mill ...	3	5	nil.
Halifax Corporation Baths	Woodside, Haley Hill	1	3	nil.
Halifax Flour Society	Bailey Hall ...	4	9	2·5

SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Halifax Steam Laundry	Parkinson Lane ...	1	1	1·0
Halifax Industrial Society	Northgate ...	1	4	0·5
Halifax Corporation ...	Albert Road ...	1	3	1·0
„ „ ...	Electric Light Works	3	4	0·2
„ „ ...	Electric Light Works, new brick chimney	1	4	3·2
„ „ ...	Mulcture Hall Road ...	1	3	nil.
Gasworks				
„ Infirmary ...	Free School Lane ...	1	5	1·2
Haigh Allan & Co. ...	Winding Road ...	1	5	1·8
Harrison & Singleton	Horton Street ...	1	6	1·1
Holdsworth J. & Co....	Shaw Lodge Mills ...	10	7	2·1
Highfield Leyland ...	Croft Mill, Gaol Lane	3	4	0·5
Halliday G. & W. ...	Holmfield Brickworks	1	1	nil.
„ „ No. 1	„ ...	1	1	nil.
Halifax Workhouse ...	Gibbet Street ...	2	4	0·7
Halliday G. & W. No. 2	Holmfield Brickworks	1	1	nil.
Hartley & Sugden	Gibbet Street ...	1	6	2·0
Hanson William ...	Jumples, Mixenden ...	1	2	1·5
Hoyle Richard ...	Queen's Road Mill ...	2	3	4·3
Huntress Exors. ...	Stone Dam Mills ...	2	2	1·5
Haley M. ...	Stannary Street ...	1	4	nil.
Howson J. M. & Co....	Albert Street ...	2	2	2·0
Hebden W. C. ...	Winding Road ...	1	3	nil.

SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Hanson & Keighley ...	Adelaide Mills ...	1	5	1·4
Hollingrake & Clegg...	Miall Street ...	5	2	1·0
„ „ ...	old chimney	5	2	2·5
„ „ ...	new „ ...	5	2	2·5
Hirst & Sons ...	Weymouth Street ...	1	3	nil.
Horsfall Eli ...	Commercial Road ...	1	6	nil.
Hoyle J. & T. ...	Range Bank ...	4	7	1·7
Horsfall & Co. ...	Pellon Lane ...	1	3	1·0
Howarth G. ...	Gibbet Street ...	1	1	nil.
Inman Brothers ...	Union Street South ...	1	3	1·6
Ingham Bros. ...	Washer Lane ...	2	4	2·5
Jackson & Greenwood	Prospect Mill, Ovenden	1	8	1·2
Law S. & Sons ...	Square Road ...	1	3	0·6
Lee & Sons ...	Timber Street ...	1	5	nil.
Lee Bros. ...	King Cross ...	1	5	0·2
Morton J. ...	Siddal ...	1	4	2·5
„ ...	Siddal Lane ...	1	4	0·5
„ ...	Cinderhills Lane ...	1	4	nil.
Martin ...	Falcon Laundry, Salterhebble	1	9	1·1
Maude & Turner ...	Gibbet Street ...	1	5	0·2
McNaught Thos. ...	Hare Street ...	1	4	1·2
Martin & Sons ...	Pellon Lane ...	3	6	0·8
Milner & Sowerby ...	Raglan Mill, Raglan Street	1	5	0·4

SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
McCrea H. C. & Co...	Horley Green Road ...	1	6	nil.
Moore Fred & Co. ...	Shaw Mill, Mixenden	1	5	3·4
Mitchell Bros. ...	Pellon Lane ...	2	6	2·0
Mackintosh & Co. ...	Queen's Road ...	1	6	0·5
Moore Bros. ...	Hanson Lane ...	1	2	1·0
Northern Engineering Co.	Parkinson Lane ...	1	2	1·0
North A. ...	Old Lane ...	1	3	5·3
Oates J. E. ...	Hanson Lane, stone chimney	1	6	2·0
„ ...	Hanson Lane, brick chimney	1	6	3·5
Oates & Green, Ld. ...	Horley Green Road ...	1	6	2·3
„ ...	Beacon Road ...	1	6	2·8
„ ...	Ellen Royd ...	1	7	2·0
Ovenden Worsted Co.	Holmfild ...	1	1	nil.
Parker & Co. ...	Horley Green Road ...	1	6	nil.
Parker Thos. & Co. ...	Pellon Lane ...	1	1	1·0
Pohlman & Sons ...	Piano Works, Hall Street	1	3	0·3
Pickles Messrs. & Sons	Victoria Mills ...	2	4	1·2
Priestley James ...	Grove Mill, Ovenden	1	3	1·6
Ramsden Thos. & Son	Trinity Road ...	1	6	2·5
Robinson E. ...	Battinson Road ...	3	2	3·0
Robinson Jesse ...	New Bond Street ...	2	3	2·0
Redman C. ...	Top of Parkinson Lane	1	1	2·0

SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Rushworth W. ...	Hayes Mill, Mixenden	1	5	0·2
Sagar J. & Co. ...	Water Lane ...	1	7	2·8
Smeeton J. ...	Stoney Royd ...	3	5	0·6
Smith D. & Co., Ld...	Siddal ...	1	6	1·8
Smith F. G. ...	South Parade ...	1	4	0·7
Standard Screw Co. ...	Dispensary Walk ...	1	8	1·8
Swan Bank Brick & Tile Co.	Swan Bank ...	1	8	0·5
Scott Brothers ...	Johnson Street ...	1	6	0·5
Smithson J. ...	Lister Lane ...	2	2	24·5
Stott Bros. ...	Mount Street ...	1	1	nil.
Soothill B. ...	North Castle Street ...	1	5	nil.
Standeven & Earnshaw	Ladyship ...	3	3	0·3
Speak Paul ...	Mixenden ...	1	5	nil.
Smith B. G. ...	Stannary Street ...	1	4	1·5
Smithson J. ...	Horton Street ...	1	5	nil.
Sewell Brothers ...	Well Lane ...	1	4	1·2
Sharp & Mallet ...	Chemical Works, Copley	1	4	nil.
Simpson & Sons, Ld...	Heath Road ...	2	4	nil
Stead Bros. ...	Hare Street ...	1	5	0·6
Stott & Ingham ...	Battinson Road Mill ...	1	2	4·5
Tillotson Bros. ...	Sedburgh Road ...	2	7	4·1
Taylor J. ...	Archer Street ...	1	2	1·0

SMOKE OBSERVATIONS—*Continued.*

Name of Firm.	Address.	Number of Boilers working.	Number of Observations taken.	Average number of Minutes of Dense Smoke emitted.
Tetley T. S. ...	Bradshaw Mill, ... Bradshaw	1	1	nil.
Todd J. & Sons ...	Shay Lane, Ovenden	1	2	nil.
Turner Albert ...	Jumples Mill, Mixenden	1	3	1·6
Turner Edwin ...	Dapper Mill, Wheatley, long chimney	3	6	3·1
„ ...	Dapper Mill, Wheatley, short chimney	1	6	2·1
Union Hospital ...	Salterhebble ...	1	9	0·5
Willey, Pearson & Co.	Haugh Shaw Road ...	6	7	7·2
Ward J. W. & Son ...	Walnut Street ...	5	4	2·2
Wade Josiah ...	Hopwood Lane ...	1	1	nil.
Whitley S. & Co. ...	Hanson Lane ...	5	5	1·4
Whiteley J. & Sons ...	West Parade ...	2	2	nil.
Webster S. ...	Ovenden Wood ...	1	6	2·3
Whitaker R. & Sons...	Corporation Street ...	2	4	0·5
West Riding Ice Co....	Thomas Street ...	1	6	nil.
Walsh, Brierley & Eastburn	Pellon Lane ...	1	5	2·8
Walkers Messrs. ...	Union Mills, Pellon Lane	6	1	6·0
Wade J., Ltd. ...	Dunkirk Mills, Parkinson Lane	1	2	1·5
Whitaker J. & Co. ...	Hopwood Lane ...	1	3	2·6
Wood George ...	Pellon Lane ...	1	2	4·0

TABLE SHOWING NUMBER OF PREMISES REQUIRING
INSPECTION BY THE MEAT INSPECTOR,
J. K. CRAWSHAW.

Description of Premises.				Number.
Public Slaughterhouses	...	...	...	1
Private Slaughterhouses	...	...	...	9
Borough Market	...	...	...	1
Wholesale Market	...	...	...	1
Cattle Lairs	...	...	...	4
Potted Meat and Tripe Boiling Houses	...	...	...	62
Fried Fish Shops	...	...	...	120
Fat and Bone Boilers	...	...	...	4
Cowsheds	...	...	...	145
Milkshops	...	...	...	60
Wheat Bread and Confectioners	...	...	...	96
Oat Bread and Muffin Bakers	...	...	...	9
TOTAL	...	...	...	513

TABLE SHOWING NUMBER OF VISITS MADE BY THE
MEAT INSPECTOR.

Description of Premises.				Number of Visits.
Public Slaughterhouses	...	...	...	514
Private Slaughterhouses	...	...	...	204
Borough Market	...	...	...	539
Wholesale Market	...	...	...	415
Fasting Sheds	...	...	...	179
Potted Meat Houses	...	...	...	326
Tripe Boiling Houses	...	...	...	98
Butchers' Shops	...	...	...	2730
Fried Fish Shops	...	...	...	138
Cowsheds	...	...	...	378
Dairies and Milkshops	...	...	...	139
Bakehouses	...	...	...	346
Other Visits	...	...	...	594
TOTAL	...	...	...	6600

TABLE SHOWING MEAT, FISH, FRUIT, Etc., DESTROYED
AS UNFIT FOR HUMAN FOOD.

Kinds of Food Destroyed.					Quantity in lbs.
19	Carcases of Beef	...	...	...	8500
	Beef not in Carcase	...	...	...	2497
66	Carcases of Pigs	...	...	...	10130
	Pork not in Carcase	...	...	...	2394
5	Carcases of Mutton	...	...	...	370
18	Carcases of Veal	...	...	...	1066
2	Rabbits	...	...	...	2
	Fish	...	...	...	4574
	Fruit	...	...	...	650
	Offals	...	...	...	5695
	TOTAL	...	...	...	35878

TABLE SHOWING NUMBER OF SEIZURES DURING
THE YEAR BY MAGISTRATES' ORDER AND
WITH CONSENT OF OWNERS.

Months.				Destroyed by Magistrates' Order.	Destroyed by consent of Owners.	Total.
January	...	...	...	...	22	22
February	...	...	...	4	31	35
March	...	...	...	2	25	27
April	...	...	...	2	36	38
May	...	...	...	1	40	41
June	...	...	...	...	24	24
July	...	...	...	...	25	25
August	...	...	...	3	42	45
September	...	...	...	5	13	18
October	...	...	...	6	38	44
November	...	...	...	6	22	28
December	...	...	...	...	26	26
TOTAL	...	...	...	29	344	373

TABLE SHOWING MEAT, FISH, FRUIT, ETC., DESTROYED
AS UNFIT FOR HUMAN FOOD,
FROM 1886 TO 1904.

Year.	Meat.	Fish.	Fruit.	Other Articles of Food.	Total.
	lbs.	lbs.	lbs.	lbs.	lbs.
1886	4527	769	196	180	5672
1887	2110	17	...	...	2127
1888	6955	3672	30	80	10737
1889	3651	1646	70	...	5367
1890	15494	3062	230	2250	21036
1891	4182	6240	40	230	10692
1892	6724	5697	910	63	13394
1893	6028	3512	1064	989	11593
1894	6112	29156	177	406	35851
1895	8466	18661	180	458	27765
1896	14420	9615	1083	847	25965
1897	11030	3840	100	382	15352
1898	9435	8760	90	564	18849
1899	8670	85	...	7605	16360
1900	16586	2432	3072	1592	23682
1901	19873	8057	8324	2824	39078
1902	20586	2171	1304	1113	25174
1903	20652	4488	4182	163	29485
1904	30652	4574	650	2	35878

THE FOLLOWING TABLE SHOWS THE POPULATION
AND ACREAGE FOR EACH DISTRICT, WITH NAMES
AND ADDRESSES OF INSPECTORS.

District.	Population.	Area in Acres.	Names and Addresses of Inspectors.
A	26985	1997	J. Archbell, 1, Moorlands Place.
B	37452	1211	J. Wood, 24, Ashbourne Grove.
C	25975	2387	J. E. Firth, 7, Randolph Street.
D	16588	8039	R. Pickard, Crossley Terrace, Shay Lane, Ovenden.
	107000	13634	

District A.

INSPECTOR JAMES ARCHBELL.

Nature of Defects.	Number of Defects.
Defective Sink Drains	31
,, Sink Pipes	63
Made-up Cellar and Walled Drains	18
Defective Yard and Private Street Drains	131
,, Area Drains	11
Untrapped Sink Drains	8
Drains to Disconnect	57
Defective Water Closet Soil Pipes	22
Made-up Water Closets	17
Defective Water Closets	21
Untrapped Bath and Lavatory Waste Pipes	6
Bath and Lavatory Waste Pipes connected to Soil Pipes	7
Defective Roofing... ..	33
,, Fall Pipes	20
,, Troughing	45
,, Urinals	25
Water in Cellars	71
Offensive Swill Tubs	3
Houses Overcrowded	16
Offensive Accumulations	122
Ashpits requiring Re-construction	25

DISTRICT A—*Continued.*

Nature of Defects.	Number of Defects.
Notices served	268
Water in Sleeping Rooms	28
Offensive Poultry and Pigeons	8
Disused Closets	9
Closet and Ash Tub Places requiring Doors	28
Insufficient Privy Accommodation	14
Bad Smells	56
Nuisances from Workshop Chimneys	5
Drains Tested	71
Smoke Observations taken	291
Houses requiring Limewashing	89
Furnished Rooms requiring Limewashing	73
Closets requiring Limewashing	94
Visits to Lodging Houses	361
,, Houses where Fever Cases existed	545
,, Workshops	655
,, Factories	79
,, Furnished Rooms	957
,, Children Absent from School	715
Visits under the Shop Hours Act	364
Houses Inspected	1205
Rooms Disinfected	386
Fever Cases removed to the Borough Fever Hospital	101
Seats for Shop Assistants' Act, 1899	49
Beddings Disinfected at Lodging Houses	48
Rooms Disinfected at Lodging Houses	45
Rooms Disinfected at Schools	45
Total Visits	7287

District B.

INSPECTOR JOHN WOOD.

Nature of Defects.	Number of Defects.
Defective Sink Drains	89
Defective Syphon Traps	35
Sink Pipes to Disconnect	86
Untrapped Sink and Lavatory Waste Pipes	42
Broken Pot and Iron Traps... ..	26
Made-up Sink Pipes	19
Made-up Disconnecting Traps	23
Untrapped Cellar Drains	5
Bell Traps in Cellars	2
Made-up and Defective Cellar Drains	56
,, Area and Wash Kitchen Drains	43
Water in Cellar from Defective and Sub-Soil Drainage...	65
Made-up Yard and Private Street Drains	53
Defective Stone Wall Drains	48
Made-up W.C's and Defective W.C. Drains	31
Defective W.C. Cisterns or Insufficient Flush to W.C. ...	18
Insufficient Ventilation to Soil Pipes... ..	14
Defective and Made-up Troughing and Fall Pipes ...	38
,, ,, Fall Pipes and Drains ...	25
Drains Disconnected	33
Defective Roofing	23

DISTRICT B—*Continued.*

Nature of Defects.	Number of Defects.
Nuisance from leaky Gas Fittings ...	4
Offensive Accumulations of Filth and Sewage ...	40
„ Swine and Poultry ...	6
Dilapidated Closets and Ash Tub Places ...	36
Doors off and Broken Seats ...	18
Defective Urinals ...	5
Insufficient Ash Tub Accommodation ...	10
„ Privy „ ...	39
Ashpits to convert ...	18
Dirty Closets ...	23
„ Houses ...	13
Bad Smells in Houses from Defective Drains ...	65
Defective Flagging and Paving in Yards ...	10
„ Cellar and Bedroom Floors ...	10
Offensive and Broken Sinks ...	17
Nuisances from Smoke ...	11
Dirty Courts and Passages ...	10
Nuisances from Leaky Cistern Overflows ...	2
Made-up and Untrapped Street Gullies ...	39
Drains Tested ...	139
Smoke Observations ...	178
Houses Overcrowded ...	3
Visits to Workshops ...	239

DISTRICT B—*Continued.*

Nature of Defects.				Number of Defects.
Visits to Factories ...	...	...	...	69
„ Shops under the Shop Hours Act...			...	249
„ Fever Cases ...	...	...	...	965
„ Furnished Rooms ...	...	...	...	159
„ Vans used as Dwellings ...		...	...	114
Cases removed to the Borough Hospital ...			...	121
Rooms Disinfected ...	...	...	...	321
No Abstract hung in Shops ...	...	...	...	16
Houses Inspected ...	...	...	...	676
Total Visits ...	...	...	...	5018

District C.

INSPECTOR JAMES EDWARD FIRTH.

Nature of Defects.				Number of Defects.
Made-up and Leaky Sink Pipes	...	...	...	86
Defective Syphon Traps	...	...	...	20
„ Cellar Drains	...	...	...	6
Broken Soil Pipes	...	...	...	2
Made-up Cellar Drains	...	...	...	38
Defective and Made-up Water Closets	...	...	...	33
Offensive Privies	...	...	...	11
Untrapped Bath and Lavatory Waste Pipes	...	...	...	4
„ Sink Drains	...	...	...	23
„ and Stone Walled Drains	...	...	...	24
„ Drains in Wash Kitchen	...	...	...	2
Defective Connections to Drain Pipes	...	...	...	20
Broken Fall Pipes	...	...	...	15
Made-up Fall Pipe Drains	...	...	...	35
„ Troughing	...	...	...	40
Defective Bell Traps in Cellars	...	...	...	1
Privies Converted	...	...	...	26
Made-up Yard and Area Drains	...	...	...	38
Broken Pot and Iron Traps	...	...	...	50
Disconnecting Traps without Grates	...	...	...	5
Offensive and Made-up Urinals	...	...	...	8
Insufficient Privy Accommodation	...	...	...	9

DISTRICT C—*Continued.*

Nature of Defects.	Number of Defects.
Insufficient Ash Tub Accommodation	5
Bad Smells	41
Damp Walls from Defective Roofs and Sub-Soil Drainage	7
Defective Cisterns to Water Closets	7
School Rooms Disinfected	43
Drains Disconnected	40
Offensive Swine	3
„ Poultry, &c.	3
Water in Cellars from Defective Drainage and Burst Water Pipes	44
Houses Insufficiently Drained	2
„ Overcrowded	2
Dirty Houses	17
„ Closets	66
Doors off Closets and Ash Tub Places	49
Dilapidated „ „	46
Offensive Accumulations and Middensteads	20
Defective and Made-up Street Gullies	40
Rooms Disinfected	297
Drains Tested	76
Visits to Workshops	344
„ Factories	28
„ Shops under the Shop Hours Act	337

DISTRICT C—*Continued.*

Nature of Defects.	Number of Defects.
No Abstract hung in Shops	13
Visits to Vans used as Dwellings	39
„ Furnished Rooms	132
„ „ „ to Limewash	14
„ Houses of Infectious Diseases	742
Houses Inspected	795
Fever Cases removed to the Borough Hospital	122
Smoke Observations taken	168
Wash Kitchens to Limewash	2
Houses with Defective Flagging	12
Want of Guides to Closets	8
Samples of Water for Analysis... ..	2
Notices served	78
Nuisances from Smoke	8
Total Number of Visits	5928

Ovenden and Illingworth.

District D.

INSPECTOR R. PICKARD.

Nature of Defects.	Number of Defects.
Insanitary Yards and Open Places	5
Bad Smells in Houses	14
Defective and Drawn-out Syphons	14
Untrapped, Leaking and Made-up Sink Pipes ..	38
Sink Pipes and House Drainage to Disconnect ...	63
Want of Sink Pipes and New Sinks	20
Water in Cellars from Leaking Drains, &c.	21
Made-up and Defective House Drains	120
Untrapped and Defective Cellar Drains	32
Made-up Disconnecting Chambers	2
Insufficient Flushing Cisterns	4
,, Ventilation to Soil Pipes and Drains	3
Defective Connections and Made-up Soil-Pipes ...	14
Want of proper Drainage	27
Old Wall Drains and Defective Drain Connections ...	75
Untrapped Yard Drains	69
Made-up Yard and Street Gullies and Drains ..	42
Defective Gulley Traps, Broken Grates, and Bell Traps...	23
Drains requiring Disconnecting from Sewer	3
Offensive Cesspools and Gullies require Cleansing ...	39
Offensive Urinals, Defective Floors, Walls, and want of Ventilation to same	6
Untrapped Street Drains	9
Polluted Water in Domestic Wells, and Insufficient Water Supply	4

DISTRICT D—*Continued.*

Nature of Defects.				Number of Defects.
Damp Walls, Defective Roofs and Floors of Houses	...			13
Dirty Houses and Overcrowded	...	...		2
Closets requiring Limewashing...	...	...		5
Defective Troughing, Leaking and Broken Fall Pipes	...			39
Insufficient Closet Accommodation	...	..		14
Dilapidated Privies, etc.	...	...	...	19
Privies and Ashpits to convert	...	...	...	18
Broken Doors and Seats of Closets and Ash Tub Places				3
Want of Ash Tub Places	...	...	...	4
Offensive Privies, Middens, Sewage and Filth Accumulation				49
Drains Tested	...	...	...	99
Visits to Houses	...	...	...	495
„ Fever Cases	...	...	...	270
„ Cowsheds	...	...	...	581
„ Factories	...	...	...	34
„ Workshops	...	...	...	108
„ Bakehouses	...	...	...	49
Rooms Disinfected	...	...	...	178
Fever Patients removed to Hospital	...	...		90
Smoke Observations	...	...	...	86
Samples obtained for Analysis	...	...	...	33
Total Visits	...	...	...	3163

Streets Scavenging.

The following Table shows the work done in this Department :—

OVENDEN AND ILLINGWORTH DISTRICTS.

W. GLEDHILL, FOREMAN

Number of Miles of Setting	10 $\frac{1}{4}$
„ Streets Swept	1,532
„ Square Yards Swept	5,488,840
„ Loads of Sweepings	824
„ Gullies Emptied	10,366
„ Roads Watered	240
Loads of Water used for that purpose ...	1,160

TABLE SHOWING NUMBER OF ROADS AND STREETS
SWEPT AND AREA IN YARDS BY THE
OVENDEN AND ILLINGWORTH GANG.

Number of Roads and Streets Swept.	Number of times each Road and Street Swept.	Lineal Yards.	Square Yards.
1	96	63,936	511,488
1	93	109,740	768,180
2	92	95,864	534,980
1	91	12,103	96,824
1	87	17,400	121,800
1	84	94,080	611,520
1	83	8,715	97,940
2	82	68,306	409,836
1	69	7,728	54,096
1	64	74,496	595,968
1	51	10,200	51,000
2	49	23,377	134,407
1	47	49,350	300,775
2	46	35,328	211,968
2	45	60,525	363,150
1	44	14,080	84,480
1	16	8,528	51,168
1	14	44,800	313,600
2	12	5,520	29,520
2	11	9,860	67,920
1	10	7,660	53,620
1	5	2,500	15,000
1	4	1,600	9,600
30		825,696	5,488,840

Total number of miles swept ... 469.

TABLE SHOWING NUMBER OF INFECTED HOUSES
VISITED BY THE DISTRICT INSPECTORS.

WARDS.	Small-pox	Typhoid Fever.	Scarlet Fever.	Puerperal Fever.	Diphtheria.	Erysipelas.	Total.
Ovenden ...	5	3	68	...	11	9	96
Northowram ...	...	1	5	...	1	1	8
Akroydon ...	...	2	28	1	3	5	39
North ...	5	8	22	3	1	4	43
Central ...	22	2	31	1	8	2	66
West ...	3	5	34	...	7	4	53
South ...	2	1	28	...	10	...	41
East ...	9	5	12	1	6	3	36
Southowram ...	5	2	27	...	3	8	45
Skircoat ..	11	8	94	3	11	31	158
Pellon ...	...	4	46	...	5	...	55
Kingston ...	2	1	51	...	3	1	58
Illingworth ...	9	...	18	...	1	3	31
Copley ...	...	4	17	...	4	1	26
Warley ...	7	1	5	...	6	1	20
Total ...	80	47	486	9	80	73	775

TABLE SHOWING THE NUMBER OF INFECTIOUS
DISEASES REMOVED TO THE BOROUGH FEVER
HOSPITAL BY THE DISTRICT INSPECTORS FOR
THE YEAR 1904.

WARDS.		Small-pox.	Typhoid Fever.	Scarlet Fever.	Diphtheria.	Isolated Cases	Total.
Ovenden	...	5	1	52	7	2	67
Akroydon	...	...	2	22	2	...	26
North	...	5	7	13	...	...	25
Central	...	22	1	24	2	...	49
West	...	3	3	26	1	...	33
South	...	2	1	17	2	...	22
East	...	9	...	11	4	2	26
Southowram	...	5	...	22	1	...	28
Skircoat	...	11	1	57	1	2	72
Pellon	...	...	2	33	1	...	36
Kingston	...	2	1	27	...	...	30
Illingworth	...	9	...	12	1	...	22
Copley	...	...	3	8	...	...	11
Warley	...	7	...	5	3	...	15
Northowram	...	...	...	4	...	...	4
Out of Borough	...	6	...	16	...	...	22
Total	...	86	22	349	25	6	488

ROOMS DISINFECTED.

THE FOLLOWING TABLE SHOWS THE NUMBER OF
ROOMS DISINFECTED BY THE DISTRICT
INSPECTORS DURING THE YEAR.

WARDS.				Number of Rooms Fumigated.
Illingworth ... ..	..	...	...	40
Ovenden ... ..	...	...	...	110
Northowram ... ..	...	...	...	20
Akroydon ... ..	...	...	...	60
North ... ..	...	...	..	83
Central ... ..	...	...	...	134
West ... ..	..	...	...	80
South ... ..	...	...	...	69
Kingston ... ..	...	...	...	90
Pellon ... ..	...	...	...	80
East ... ..	...	...	...	50
Southowram ... ..	...	...	...	60
Skircoat ... ..	...	...	...	236
Warley ... ..	...	...	...	30
Copley ... ..	...	...	...	40
Total				1182

Disinfection.

THE FOLLOWING TABLE SHOWS THE NUMBER AND
DESCRIPTION OF THE ARTICLES DISINFECTED
AT THE DISINFECTING HOUSE, STONEY
ROYD, DURING THE YEAR.

Description of Articles.						Number of Articles.
Beds ...	...	...	...	...	...	471
Mattresses	...	...	...	...	...	401
Pillows...	...	...	...	...	...	819
Sheets ...	...	...	...	...	...	788
Bolsters	...	...	...	...	...	403
Blankets	...	...	...	...	...	1046
Counterpanes	...	...	...	...	...	384
Carpets and Rugs	...	...	...	...	...	19
Stockings	...	...	...	...	...	10
Flannel Vests, Dresses and Petticoats	...	...	...	...	...	837
Mats and Sundries	...	...	...	...	...	1921
Dressing Gowns and Shawls	...	...	...	...	...	310
Coats ...	...	...	...	...	...	214
Cushions	...	...	...	...	...	24
Trousers	...	...	...	...	...	148
Waistcoats	...	...	...	...	...	126
Hose ...	...	...	...	...	...	382
Capes and Bed Covers	...	...	...	...	...	50
Drawers	...	...	...	...	...	241
TOTAL	...	...	...	...	...	8594

Canal Boats.

The Inspections are made periodically by the Chief Sanitary Inspector.

The number of Boats inspected during the year 1904 was 57. Of this number 56 were found to conform with the Acts.

Infringement of the Acts and Regulations was found in 1 case only, that of painting.

In all cases where females and children were on board, proper provision was made for the separation of the sexes. Of the 57 boats inspected there were 5 with women and children on board, and 7 with women only. The children in all cases having been brought for the single journey only.

All Boats were free from bilge water, ventilation was fairly good, and good provision was made for the storage of water. The boats generally were clean and in good condition. There has not been a single case of sickness or overcrowding on board.

The Boats plying in this district chiefly belong to one Company, and are registered either at Goole, Mirfield, or Leeds, consequently no arrangements have been made for Registration.

Number of Boats Inspected.	Number Registered. to carry.	Number of Males on board.	Number of Females on board.	Total.
57	415	116	13	129

AGES OF CHILDREN FOUND ON CANAL BOATS.

	Under 1 Year.	Years.						Total.
		2	3	4	5	6	7	
Number ...	3	2	1	1	2	1	1	11

TABLE SHOWING PROSECUTIONS UNDER THE PUBLIC HEALTH ACT & FOOD & DRUGS ACT.

Date.	Defendant's Name.	Nature of Offence.	Decision of Court.			Remarks.
			Penalties.	Costs.	Total.	
1904 Feb 19th ...	W. B. Woodrow ...	Selling Sweet Spirits of Nitre, 80 % deficient of Nitrate Ether	£ s. d. ...	£ s. d. 0 16 6	£ s. d. 0 16 6	No Penalty was inflicted, Defendant paying costs
do. ...	James Greenwood...	Selling Sweet Spirits of Nitre, 80 % deficient of Nitrate Ether	0 10 0	0 16 6	1 6 6	
Feb. 23rd ...	Wright Clegg ...	Selling Milk adulterated with 12 % of added Water	5 0 0	0 16 0	5 16 0	
Mar. 15th ...	Henry Shoesmith ...	Selling Milk adulterated with 7 % of added Water	5 0 0	1 4 0	6 4 0	
April 15th ...	George Wilson ...	Selling Milk adulterated with 8 % of added Water	20 0 0	0 16 0	20 16 0	
May 20th ...	Samuel Robinson ...	Selling Milk adulterated with 15 % of added Water	2 0 0	0 16 0	2 16 0	

TABLE SHOWING PROSECUTIONS UNDER THE PUBLIC HEALTH ACT & FOOD & DRUGS ACT.

Date.	Defendant's Name.	Nature of Offence.	Decision of Court.			Remarks.
			Penalties.	Costs.	Total.	
1904			£ s. d.	£ s. d.	£ s. d.	
Aug. 23rd ...	W. E. Thomas ...	Exposing for sale Diseased Meat in the Dead Meat Market, and at 50, King Cross Street	1 0 0	0 5 6	1 5 6	
Aug. 30th ...	Henry Crowther ...	Cowshed Insufficiently Lighted	1 0 0	0 7 6	1 7 6	Continuing Penalty, £2 per day after 28 days
do. ...	do. ...	Cowshed Insufficiently Ventilated.	1 0 0	0 7 6	1 7 6	
do. ...	do. ...	Cowshed not properly Drained	1 0 0	0 7 6	1 7 6	
Sept. 9th ...	Walter Wood ...	Being in possession of Un-sound Meat (Pig)	...	...	...	Case Dismissed.

During the year legal proceedings have been instituted in 10 cases, as against 6 in the previous year. The total fines including costs amount to £43 3s. 0d., as against £23 12s. 0d. for the previous year.

153 visits have been made to vans occupied as dwellings. All have been found in a satisfactory condition.

1450 visits have been made to Lodging Houses and Furnished Rooms. These were also found in a very fair condition.

During the year 57 inspections have been made of Canal Boats, and generally the Boats were found clean, and not a single case of sickness or overcrowding was detected.

703 Smoke Observations have been taken of one hour duration, showing an average of 2·0 of dense smoke emitted. No legal proceedings have been taken during the year.

In concluding this Report I would draw attention to the large quantity of waste paper constantly seen in the streets, principally contributed by Tradespeople and Newsvendors. Fried Fish Shops play a very important part, also some of the Hawkers of Vegetables, who no doubt think that to throw in the streets what they cannot sell is about as easy a way of getting rid of it as any, and will ultimately be picked up by the scavengers. In order to reduce to some extent the large accumulation of paper and other refuse being thrown into the streets, I would recommend that the Committee fix a few wire baskets at different points in the centre of the Town for

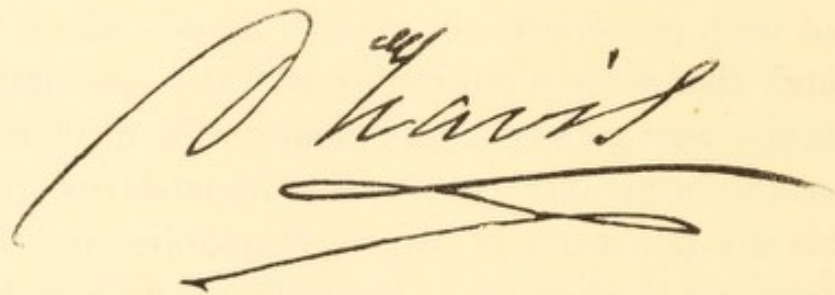
the public to put in any waste paper, orange peel, etc. If they would only do this the nuisance caused by refuse of this kind blowing about would be reduced to a minimum. Three years ago I drew attention to the large quantity of unnecessary refuse put into the Ash Tubs, and pointed out the necessity of burning it, thinking that it would have the effect of reducing the cost of collection, but I am sorry to say that the difference has not been perceived, not even in houses where you would think that perfect Sanitation would be the first consideration. Servants certainly come in for a share of blame but the occupants cannot free themselves, in allowing this accumulation of paper, vegetables and fish refuse being put in the tubs. It simply shows a lack of supervision of those concerned. Can any one conceive that at this advanced age of Sanitation, accumulations of this kind are found to exist in close proximity to their doors, when it may be so easily disposed of in the kitchen fire, without causing the least possible nuisance. During the year 20,147 loads of refuse have been taken from Ash Tubs within the Borough, and fully one-third of this could have been disposed of in the way I have suggested, and thus saved the ratepayers hundreds of pounds in the cost of collection, preventing the nuisance that must certainly arise from accumulations of the kind I have named. Is it worth an effort to accomplish the two objects of saving money and making the surroundings more pure. I say try it, and you will be astonished with the result.

The District Inspectors have carried out their work in a very satisfactory manner. A great amount of extra work was put upon the department by the outbreak of Smallpox.

I personally thank them and the Chief Clerk (Mr. J. W. Jackson) for the great assistance rendered in carrying out the important duties of this department.

I have the honour to remain,

Your obedient Servant,

A handwritten signature in cursive script, appearing to read "J. Harris". The signature is written in dark ink on a light-colored, aged paper. It features a large, sweeping initial "J" followed by the name "Harris" in a fluid, connected script. Below the name, there is a long, horizontal flourish that extends to the right and then curves back under the signature.

Chief Sanitary Inspector
and
Scavenging Superintendent.

APPENDIX.

VITAL STATISTICS OF THE BOROUGH OF HALIFAX DURING 1904 AND PREVIOUS YEARS.

Y EAR.	Population estimated to Middle of each Year.	BIRTHS.			TOTAL DEATHS REGISTERED in the DISTRICT					Total Deaths in Public Institutions in the District.	Deaths of Non- residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NET DEATHS AT ALL AGES BELONGING TO THE DISTRICT.							
		Number.	Rate.*	3	Under 1 year of age.		At all ages.						Number.	Rate.*						
					Number.	Rate per 1,000 Births Registered	Number.	Rate.*	7						8	9	10	11	12	13
1894	92,104	2128	23.1	292	137.2	1548	16.8	168	26	20	1542	16.7								
1895	92,815	2186	23.5	354	161.4	1826	19.6	195	23	...	1803	19.4								
1896	93,581	2329	24.8	351	150.7	1694	18.1	197	27	21	1683	18.0								
18 7	94,311	2147	22.7	301	140.2	1603	16.9	220	33	28	1598	16.9								
1898	95,037	2205	23.2	369	167.3	1751	18.4	235	28	28	1751	18.4								
1899	95,767	2209	23.3	363	162.1	1806	18.8	258	34	30	1802	18.8								
1900	98,910	2316	23.4	314	135.5	1874	18.9	277	42	19	1851	18.7								
1901	105,120	2351	22.3	301	128.2	1726	16.4	294	38	21	1709	16.2								
1902	105,950	2225	21.0	324	145.6	1645	15.5	282	36	25	1634	15.4								
1903	106,800	2248	21.0	279	124.1	1610	15.0	308	54	36	1592	14.9								
Averages for years 1894-1903	98,045	2237	22.8	324	145.2	1708	17.4	243	34	22	1697	17.3								
1904	107,000	2154	20.1	282	130.9	1662	15.5	303	52	33	1643	15.3								

* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

TABLE SHOWING THE NUMBER OF INFECTIOUS DISEASES IN EACH LOCALITY OF THE BOROUGH, NOTIFIED DURING THE YEAR, AND CLASSIFIED ACCORDING TO AGE; ALSO THE NUMBER OF CASES REMOVED FROM EACH LOCALITY TO THE BOROUGH FEVER HOSPITAL

NOTIFIABLE DISEASES.	CASES NOTIFIED IN WHOLE DISTRICT.							TOTAL CASES NOTIFIED IN EACH LOCALITY.																	NUMBER OF CASES REMOVED TO HOSPITAL FROM EACH LOCALITY.															
	At all Ages.	At Ages—Years.						Oxenden Ward.	Abbeydon Ward.	North Ward.	Central Ward.	West Ward (W.).	South Ward.	East Ward.	Southdown Ward (W.).	Skirood Ward.	Pellon Ward.	Kingsdon Ward.	Hillmorth Ward.	Coker Ward.	Northdown Ward.	Wesley Ward.	Oxenden Ward.	Abbeydon Ward.	North Ward.	Central Ward.	West Ward (W.).	South Ward.	East Ward.	Southdown Ward (W.).	Skirood Ward.	Pellon Ward.	Kingsdon Ward.	Hillmorth Ward.	Coker Ward.	Northdown Ward.	Wesley Ward.	Out of Borough.		
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	65 and upwards.																																	
Small-pox ...	80	4	7	23	13	32	1	5	...	5	22	3	2	9	5	11	...	2	9	7	5	...	5	22	3	2	9	5	11	...	2	9	7	6		
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria ...	80	1	23	43	4	9	...	11	3	1	8	7	10	6	3	11	5	3	1	4	1	6	7	2	...	2	1	2	4	1	1	1	...	1	3	...		
Membranous Croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas ...	73	1	1	4	8	46	13	9	5	4	2	4	...	3	8	31	...	1	3	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever	486	1	97	303	59	26	...	68	28	22	31	34	28	12	27	94	46	51	18	17	5	5	52	22	13	24	26	17	11	22	57	33	27	12	8	4	5	16		
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	47	...	2	16	8	21	...	3	2	8	2	5	1	5	2	8	4	1	...	4	1	1	1	2	7	1	3	1	...	...	1	2	1	...	3	...	...	
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	9	...	...	...	1	8	...	...	1	3	1	...	...	1	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Removed for Isolation	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	2	...	2	...	...	...	...	...	...	...	...
TOTALS...	775	7	130	389	93	142	14	96	39	43	66	53	41	36	45	158	55	58	31	26	8	20	67	26	25	49	33	22	26	28	72	36	30	22	11	4	15	22		

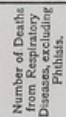
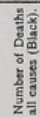
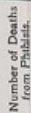
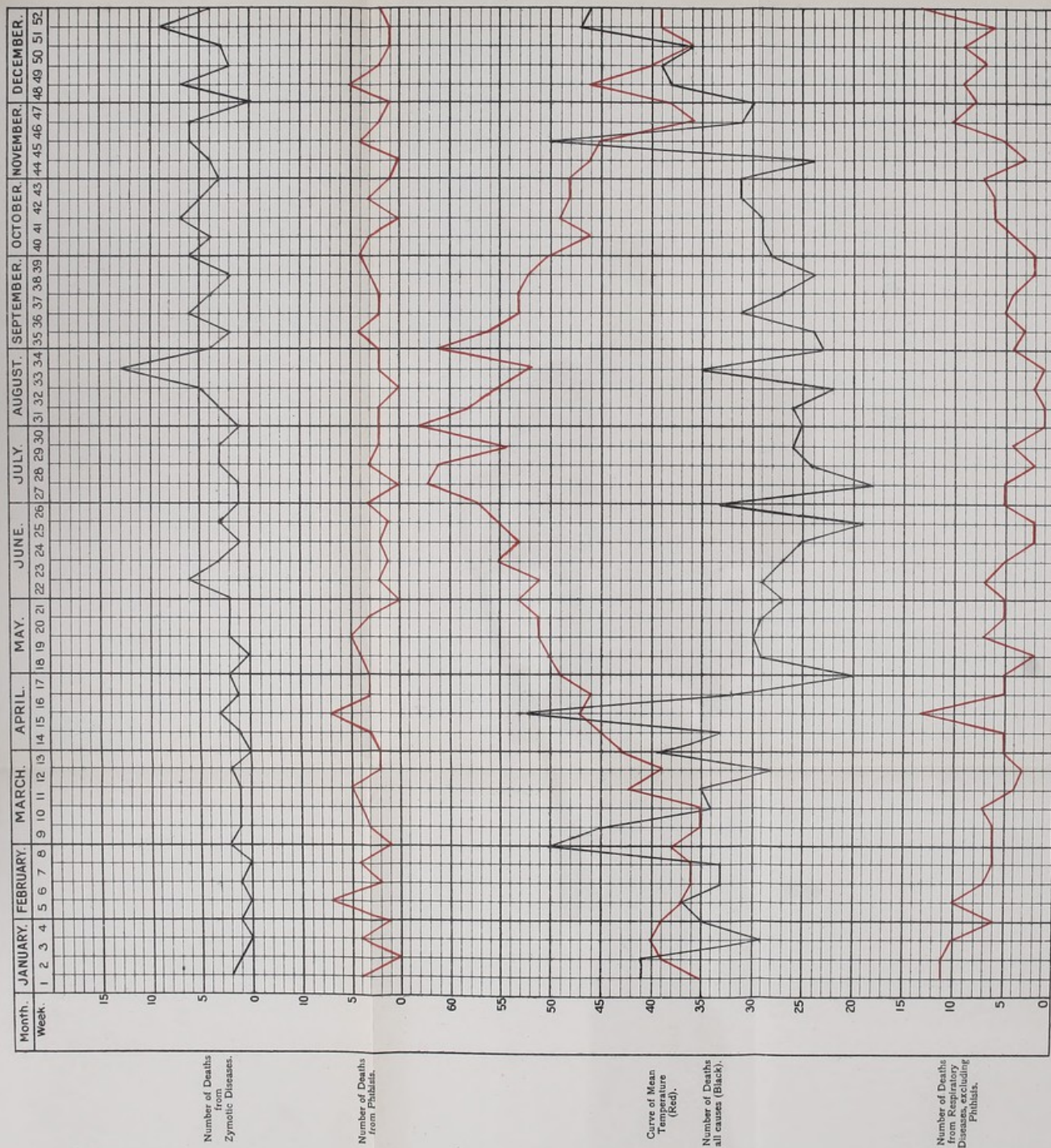


TABLE SHOWING CAUSES OF, AND AGES AT, DEATH DURING THE YEAR, 1904 IN THE SEVERAL LOCALITIES OF THE BOROUGH.

CAUSES OF DEATH.	DEATHS IN OR BELONGING TO WHOLE DISTRICT.							DEATHS IN OR BELONGING TO LOCALITIES (AT ALL AGES).															Total Deaths in Public Institutions in the District.	
	AT SPECIFIED AGES.							Oversden Ward.	Alvington Ward.	North Ward.	Central Ward.	West Ward.	South Ward.	East Ward.	Southover Ward.	Shroton Ward.	Copley Ward.	Pulton Ward.	Kilnsey Ward.	Hilgarth Ward.	Northover Ward.	Wooly Ward.		
	At all Ages.	Under 1.	1 to 4.	5 to 14.	15 to 24.	25 to 64.	65 and upwards.																	
Small-pox	9	4	3	...	1	1	...	...	...	1	2	1	...	1	...	2	...	...	...	2	...	...	...	6
Measles	44	16	28	...	...	...	...	...	11	10	...	5	...	4	...	1	...	8	1	...	4	...	...	6
Scarlet Fever	23	...	11	8	2	2	...	7	...	1	...	...	3	...	...	2	3	5	2	...	...	...	...	13
Whooping Cough	19	4	15	...	...	...	...	...	3	5	1	2	3	...	...	...	...	1	1	3	...	...	...	...
Diphtheria and Membranous Croup	17	...	8	9	...	...	...	1	...	...	1	1	1	3	2	3	1	1	2	...	1	...	...	5
Enteric Fever	10	...	5	1	4	...	...	...	1	1	...	4	...	...	...	1	1	2	...	...	...	...	...	7
Epidemic Influenza	19	1	1	...	1	9	7	3	2	2	...	1	1	1	...	2	...	1	...	6	...	...	...	...
Diarrhoea	29	22	3	1	...	1	2	3	1	5	1	...	3	3	7	1	1	...	...	1	3	...	...	...
Enteritis	17	10	1	2	...	3	1	3	2	2	1	1	...	3	3	...	...	2	...	...	...	...	...	2
Puerperal Fever... ..	5	...	...	...	5	...	...	...	1	2	1	...	...	1	...	...	...	...	...	...	...	...	...	1
Erysipelas	6	...	...	...	4	2	...	...	1	...	1	1	...	1	...	2	...	...	...	...	...	...	...	4
Other Septic Diseases	5	...	2	...	1	2	...	...	...	1	...	...	...	...	1	1	2	...	...	...	...	...	...	2
Phthisis	134	...	2	1	28	97	6	10	4	10	9	13	4	14	6	20	5	10	12	10	3	4	...	25
Other Tubercular Diseases	54	10	17	9	7	9	2	6	5	6	5	5	4	7	4	2	1	4	2	3	...	...	...	7
Cancer, Malignant Disease	91	...	...	2	...	64	25	2	6	4	4	6	5	7	8	7	2	8	11	14	6	1	...	29
Bronchitis	169	31	7	...	...	61	70	5	10	20	18	22	11	16	13	14	1	8	13	10	4	4	...	14
Pneumonia	115	30	23	4	7	31	20	8	4	12	8	5	11	11	8	9	3	8	14	13	1	...	...	11
Pleurisy	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...
Other Diseases of Respiratory Organs	13	2	2	3	...	5	1	...	1	...	4	...	1	5	1	...	...	...	...	...	1	...	...	...
Alcoholism, Cirrhosis of Liver	20	...	...	...	17	3	...	2	1	1	3	3	...	...	...	3	...	2	1	4	...	...	...	4
Venereal Diseases	3	2	...	...	1	...	...	...	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...
Premature Birth... ..	59	59	...	...	...	...	...	3	4	5	3	3	4	2	5	...	9	6	7	3	2	...	...	3
Diseases and Accidents of Parturition	7	...	...	...	...	7	...	...	...	2	...	1	1	1	...	...	...	...	...	...	...	...	...	...
Heart Diseases	191	...	1	4	8	102	76	11	13	15	16	14	17	14	9	17	8	18	10	11	6	12	...	28
Accidents	33	2	3	6	3	14	5	3	5	5	2	2	4	1	3	2	2	1	2	...	1	...	...	21
Suicides	11	...	...	...	1	9	1	...	...	...	...	...	...	3	...	3	1	...	1	1	1	1	...	1
Diseases—Brain and Nervous System	150	1	12	4	1	70	62	10	13	11	11	12	9	16	6	20	1	13	5	13	7	3	...	21
„ Digestive System	51	16	1	5	1	20	8	5	8	4	4	4	6	3	2	4	...	3	4	3	1	...	...	14
„ Urinary System	53	1	1	2	4	31	14	5	3	2	4	9	6	2	2	6	1	2	4	1	5	1	...	7
Convulsions	30	22	8	...	...	...	...	2	1	7	1	2	2	3	3	1	...	...	4	2	1	1	...	2
Old Age	106	...	...	...	...	7	99	8	9	6	12	7	13	9	8	13	1	3	8	5	2	2	...	35
All other Causes... ..	149	49	18	5	7	46	24	9	12	15	16	10	8	17	10	11	3	12	12	5	6	3	...	35
All Causes	1643	282	167	70	74	622	428	106	122	155	128	136	116	151	99	153	35	122	115	114	55	36	...	303

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