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County Borough



of Blackpool.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE YEAR 1908,

BY

E. W. REES JONES, M.D., D.P.H.,

*Medical Officer of Health, and
Medical Superintendent to the Infectious
Diseases Hospital.*

Blackpool :

H. MAXWELL CO., CHURCH STREET.

1909

HEALTH COMMITTEE,

1908-1909.

Mr. COUNCILLOR FIELDING, J.P. (Mayor).

Mr. COUNCILLOR HAMPSON, J.P., Chairman.

Mr. COUNCILLOR HILL, J.P., Vice-Chairman.

Mr. ALDERMAN T. BICKERSTAFFE, J.P.

Mr. ALDERMAN MATHER, J.P.

“ “ HEYES, J.P.

“ “ WARD, J.P.

Mr. COUNCILLOR BAMBER

Mr. COUNCILLOR DEWHURST

“ “ BANCROFT, J.P.

“ “ EAVES, J.P.

“ “ BEAN

“ “ ELLIS

“ “ BROWN, J.P.

“ “ GATH

“ “ CARTLEDGE

“ “ HARDMAN

“ “ CHADWICK

“ “ IREDALE, M.B., &c.

“ “ CHARNLEY

“ “ PARKINSON

“ “ COCKER, J.P.

“ “ PRICHARD,

“ “ CRITCHLEY

L.R.C.P., &c.

“ “ DAWSON

“ “ TILLOTSON

*MEETINGS:—Usually the third Wednesday
of the Month.*

HEALTH GENERAL SUB-COMMITTEE.

Mr. COUNCILLOR FIELDING, J.P. (Mayor).

Mr. COUNCILLOR HAMPSON, J.P., Chairman.

Mr. COUNCILLOR HILL, J.P., Vice-Chairman.

Mr. ALDERMAN HEYES, J.P.

Mr. COUNCILLOR BEAN

Mr. COUNCILLOR COCKER, J.P.

“ “ CARTLEDGE

“ “ DEWHURST

“ “ CHADWICK

“ “ HARDMAN

“ “ CHARNLEY

“ “ PRICHARD,

L.R.C.P., &c.

*To the Mayor and Council of the County Borough
of Blackpool.*

GENTLEMEN,

I herewith submit for your consideration the Annual Report on the Health and Sanitary Condition of Blackpool for the year 1908.

I commenced my duties as your Medical Officer of Health on the 6th of October, 1908, in succession to Dr. Coutts, who was appointed a Medical Inspector in the Foods Department of the Local Government Board. By arrangement with him I have prepared the Report for the whole year, and I must ask you to accept the fact of my short experience in your town as the reason why, in the main, the present report is a compilation of vital statistics, and of records of work done. In future reports, when I shall have had more opportunity of becoming familiar with local conditions, I hope to be able to enter more fully into general sanitary surveys and to call your attention to any conditions which require your special consideration.

The organisation of the Health Department and the loyalty of the Clerical and Inspectorial staff have ensured a continuity of the work throughout the year.

The Vital Statistics are somewhat complicated by the large influx of temporary residents, but these statistics, corrected for visitors give the following figures:—Death Rate, 14 per 1,000; Birth Rate, 17.5 per 1,000; Zymotic Death Rate, 1.12 per 1,000; and Infantile Mortality Rate, 128 per 1,000 births. These figures are on the whole satisfactory, and comparison of them with those of previous years will be found in the Report.

With regard to Infectious Disease, Measles was prevalent during the early part of 1908, but otherwise, notications were much on a par with former years.

Since writing the body of the Report I have to record with much satisfaction that the Corporation have decided to adopt a voluntary system of notification of Consumption of the Lungs. In my report

to the Health Committee on this subject I emphasised the necessity of not imposing any social disabilities on the sufferers from this disease, nor of interfering with their livelihood, and I look forward with confidence to the co-operation of the Medical Profession and of the patients with the Health Authority in their attempts to stamp out a disease, the death-rate from which is already declining. Phthisis is a preventable and a curable disease, and if the hygienic instructions are rigidly carried out, we are able to preach in no uncertain voice, a gospel of hope.

I am, Gentlemen,

Your faithful Servant,

E. W. REES JONES.

PUBLIC HEALTH OFFICES,

BLACKPOOL, 28th MAY, 1909.

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County Borough of Blackpool.

STATISTICAL SUMMARY, 1908.

Situation :—Latitude 53° 49'; Longitude 3° 3' W.

Area of Borough (exclusive of foreshore)		3,495 acres
Area of foreshore.....		478 acres
Population (Census, 1st April, 1901)		47,348 persons
Persons per House as per Census		4.766
	1907	1908
Rateable Value (General District Rate).....	£479,037	£489,120
Do. (Borough Rate).....	£489,743	£499,792
Number of Dwelling Houses on Rate Book	12,487	12,778
Do. do. do. empty ...	153	171
Population of Residents estimated at middle of year from number of inhabited houses ..	58,431	59,741
Density of Population (persons per acre)	16.72	17.09
Number of Births	1,057	1,048
Birth Rate (per 1,000 inhabitants)	18.09	17.54
Number of Deaths	788	881
Death Rate (gross, per 1,000 inhabitants)	13.49	14.75
Number of Deaths of Visitors	111	120
Death Rate (corrected for Visitors)	11.59	12.74
Do. (corrected for age and sex distribu- tion; factor for 1901 Census 1.093) ..	12.67	13.92
No. of Deaths from seven principal Zymotic Diseases	41	75
Zymotic Rate (per 1,000 inhabitants)	0.70	1.26
Do. (corrected for Visitors)	0.65	1.12
Number of Deaths of Children under 1 year of age	119	144
Infantile Mortality (per 1,000 Births)	112.58	137.40
Infantile Mortality (corrected for Visitors)	110.69	127.86

PRELIMINARY.

A circular from the Local Government Board, dated November, 1908, deals with the subject of the Annual Health Reports. It states that these reports being for the information of the Board and County Council as well as the local Council, there should be in each report a detailed statement of all local circumstances, and while these details may seem superfluous for the latter they may often be needed by the former bodies. This circular specifies the following subjects upon which, amongst others, remarks should be made. Physical features, chief occupations, house accommodation, water supply (with special comments on plumbosolvency), milk supply, food supply, sewerage and drainage, scavenging, disposal of sewage, nuisances, bye-laws, sanitary conditions of schools, infectious disease, the control of tuberculosis, infant mortality, medical inspection of school children, vital statistics, &c.

AREA.

The Municipal Borough of Blackpool comprises the township of Layton-with-Warbreck, part of the township of Marton, and that part of the township of Bispham-with-Norbreck known as Bispham Hawes. The following is the area of the Wards exclusive of the foreshore :—Claremont 689 acres, Talbot 540 acres, Bank Hey 49 acres, Brunswick 520 acres, Foxhall 686 acres, and Waterloo 1,011 acres.

DENSITY OF POPULATION.

The mean density of population for the whole Borough is equal to 17.09 persons per acre :—In Claremont Ward it is 14.96; Talbot Ward, 23.83; Bank Hey Ward, 38.43; Brunswick Ward, 18.59; Foxhall Ward, 24.84; and Waterloo Ward, 7.89.

ELEVATION.

The mean elevation of the Borough is about 28½ feet above sea level, and varies between about 97 feet at Warbreck Hill, and about 9½ feet in the field north of Bloomfield Road (West).

Blackpool presents the curious condition that the main direction of the natural drainage is away from the sea. Commencing at the north end, there is a depression near the Gynn Inn, not extending far inland, and then the land rises to the top of Warbreck Hill, with a short slope towards the sea, and a longer slope inland. There is a long slope also in a southerly direction to about the Manchester Hotel, where the main sewer outfall is situated. South of this, to the boundary between Blackpool and St. Annes, the surface is very flat, and averages only about 20 feet above sea level. The main natural drainage of the northern part of the Borough is by means of a watercourse, known as the Layton Dyke (for part of its course the boundary between Blackpool and Hardhorn), into Marton Mere, and thence into the Wyre, and thus into the sea at Fleetwood.

GEOLOGY.

The town may be roughly divided into two portions; the first being that north of the Central Station, and having a subsoil of glacial boulder clays, the two beds being separated by sands and shingle, together at Norbreck reaching more than 100 feet in thickness, and resting on an ancient plane of marine denudation cut in the new red marls which, east of Fleetwood are salt bearing, the rock salt being thicker than any in Cheshire. The second, which lies south of the Central Station, consists of peat, lying on the glacial drift. This bed of peat is of varying thickness of 10, 20, or even 30 feet, being overlain with a greater or less thickness of blown sand. North of Blackpool it reappears at Rossall, and is associated with a submerged forest.

The boulder clay subsoil extends beneath Claremont, Talbot, Bank Hey, and a portion of Brunswick Ward, and also the easterly portion of Foxhall Ward. The portion of Brunswick Ward from the Central Station to Princess Street, and to a short distance east of the coast railway line, has a peaty subsoil, which, in this locality, comes nearly to the surface, and is of variable depth, rendering the ground very treacherous in places. The remainder of Foxhall and Waterloo Wards has a good depth of blown sand overlying the peat, except in isolated places. In parts of this portion of the Borough the sand is very fine, and in the ground it has almost the consistency of mortar.

SEWERAGE.

The District is drained as follows :—

(i) By the chief system of sewers which drains by gravitation the Borough except those portions mentioned below. This empties into a large sewer chamber, under Rigby Road and Tyldesley Road, which is egg-shaped, being thirteen feet in vertical diameter, and nine feet across at its widest part.

The Lytham Road Sewer, which is, for about one-third of its length at the lower end a 3ft. by 2ft. 6in. brick culvert, and at its upper end a pipe sewer varying from 15in. to 12in., enters this chamber from the south, and the Bonny Street culvert enters it from the north, as well as the old culvert beneath the Promenade, whilst the inland main sewer empties into it from the east.

(ii) A small sewerage system which carries the sewerage from Little Layton by gravitation into a tank situated in a field east of the Cemetery, whence it is pumped daily into the terminus of the inland main sewer in Layton Lane, down which it flows by gravitation.

(iii) The drainage from the district east of the portion of Lytham Road south of the South Shore Station, and east of the railway line south of the Destructor, extending inland to Middle Lane and Central Drive, flows by gravitation to a tank at the Destructor, whence it is pumped into a new sewer chamber under the extension of Rigby Road, connected to the old one, whence sewage can flow by gravitation to the sea.

(iv.) The district east of Middle Lane and south of Waterloo Road is drained by gravitation to a pumping station at the corner of Waterloo Road and Bloomfield Road, whence it is pumped into the tank at the Destructor mentioned under (iii).

Iron and steel outfall pipes, each three feet in diameter, are laid down seawards for a distance of 950 lineal yards from high-water mark, the sewage being discharged through the northerly pipe, and the Spen Dyke surface water being discharged through the southerly one. Valves

fixed in a pen-stock chamber beneath the Promenade, serve to keep all sea water from the sewage chambers and sewers whilst the outfall is tide-locked. Sewage is discharged immediately the level of the sea is below the level of the sewage in the storage chamber, until $1\frac{1}{2}$ hours below low water, when the valves are again closed. Both the Sewer outfall and the Spen Dyke surface water outfall terminate sea-ward, at a depth of about five feet below the lowest level of low water of a high spring tide.

During the re-construction of the penstock chamber necessitated by the widening of the Promenade, storm overflow pipes were provided to relieve the sewage chambers during heavy rains with an incoming tide, and also a pumping chamber, if required, for use when the sewerage system is full at high tide.

(v.) A smaller system takes the sewage from a portion of Claremont Park, and from an estate in Claremont Ward, which contains Cheltenham, Chesterfield, Clifford, Carshalton, and Handsworth Roads, etc., and also from a portion of the Gynn Estate, outside the Borough in the district of Bispham. This sewage flows by gravitation to an outfall at the Gynn, which extends seawards to a distance of 440 yards, sewage discharging at all states of the tide. A portion of this sewer has been defective for some time, owing to sinking in the peaty subsoil, and this portion is being relaid on piles driven through the peat into solid clay.

SEWER VENTILATION.

There is no complete system of Sewer Ventilation in the Borough, but I am informed by the Borough Surveyor that a commencement has been made with a system of ventilating the sewers by means of tall columns 30 to 40 feet in height, placed at intervals of about 200 yards, and in such positions as not to be a nuisance or injurious to the inhabitants of adjacent houses. Practically all the surface ventilators have been closed.

COLLECTION OF EXCRETA AND HOUSEHOLD REFUSE.

Blackpool is almost entirely a water carriage town. There are no cesspools or pail closets or privies in any of the inhabited parts, but on the outskirts there are a few of these. On the extension of the sewerage

system they are being gradually abolished. During the year a sewer was put in across a portion of the Gipsy Encampment and the Pleasure Grounds, and suitable latrines provided in lieu of earth closets which previously existed. In other parts of the town also one cesspool and one privy have been abolished. The cesspools and privies are emptied and cleaned at least once a week in all parts of the Borough where they exist, while those in connection with the Fair Ground are emptied daily during the season.

With regard to household refuse, galvanised iron bins with tight-fitting covers are the most satisfactory of all forms of receptacles, and these are the forms which are being encouraged by my department. I am informed by the Cleansing Superintendent that during the season a daily collection was carried out at the Hotels, Hydros, Restaurants, and the larger Boarding Houses, whilst from the ordinary Company-houses, the refuse is removed from two to three times a week. With a slight modification requisite for meeting the reduced demand in connection with company-houses, this system is maintained during the winter months. The refuse collected is dealt with at the Destructor, and during the year 17,888 tons were destroyed.

WATER SUPPLY.

This is under the jurisdiction of the Fylde Water Board, a body composed of representatives from Blackpool, Lytham, St. Annes, and Fleetwood. The water is now laid on to every inhabited part of the Borough, and is an upland surface water derived from the Bleasdale and Grizedale Fells. The gathering ground is a good one, but the water derived from it is soft and of a peaty nature, and occasionally contains a certain amount of sediment, detracting from its appearance. This is particularly likely to occur in streets where the branch pipes supply come to a dead end, and sometimes complaints are received (from occupiers of houses in such streets) of the sediment in the water. The trouble could probably be entirely obviated by more frequent flushing of such branch supply pipes.

As is well known, soft upland surface water of this nature, especially if containing peaty matter, is liable to act on lead pipes and thus cause contamination of the water by lead, and this is apt to occur to a

slight extent with the Fylde water. There is absolutely no danger to health likely to arise from this cause, provided occupiers of houses would take the precaution of making sure that the first water drawn off in the morning is not used for drinking or culinary purposes. It is only the water which has been standing all night in contact with the lead house service pipes which is likely to be contaminated.

During 1903, the Fylde Water Board commenced to make an immense new reservoir on their property, near the gathering grounds, which will largely increase the reserve stock of water available during any prolonged drought, and which should render the Fylde District secure from any chance of water famine for many years to come. This reservoir is estimated to cost £137,727, and to contain when completed 332 million gallons.

REPORT.

PART 1.—VITAL STATISTICS.

POPULATION.

The method of calculating the population during an intercensal period which is believed to approximate closest to the exact state of affairs, and on which the vital statistics are based, gives a population of 59,741 for the middle of the year 1908. This figure is obtained by multiplying the actual number of inhabited houses by the average number of residents per house (4.76), as obtained at the last census. The number of inhabited houses is found by the Overseers at the August-September enumeration for rate purposes, but in order to bring this down to the middle of the year, one quarter of the increase since the previous September is subtracted. The usual method of calculating populations, viz., by assuming that the rate of increase during the decennium 1890-1901 had continued up to the present would give a figure of 77,852 for Blackpool, which is undoubtedly too high.

The Ward figures supplied to me by the Borough Treasurer for the autumn months are as follows :—

WARD.	NUMBER OF HOUSES.		
	Empty	Inhabited.	Total.
Claremont.....	16	2,164	2,180
Talbot	21	2,647	2,668
Bank Hey	1	390	391
Brunswick	37	2,023	2,060
Foxhall	58	3,679	3,737
Waterloo.....	38	1,704	1,742
Totals	171	12,607	12,778

From these figures the Ward populations calculated to the middle of the year are as follows :—

Claremont	10,310
Talbot	12,869
Bank Hey.....	1,883
Brunswick	9,668
Foxhall	17,039
Waterloo	7,972
Total	<u>59,741</u>

The annual increases in population since the last census are as follows :—

PERIOD.	Increase in estimated Population.
June, 1901, to June, 1902 ...	1,424
June, 1902, to June, 1903 ...	841
June, 1903, to June, 1904 ...	1,323
June, 1904, to June, 1905 ...	1,374
June, 1905, to June, 1906 ...	1,403
June, 1906, to June, 1907 ...	1,316
June, 1907, to June, 1908 ...	1,310

The total number of inhabitable houses is an increase of 291 over the previous year, but of these there were 171 empty as compared with 153 previously.

BIRTHS.

During the year 1,048 births were registered, including 16 in the Kirkham Workhouse. These, divided into males and females for the four quarters of the year, are as follows :

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Males	130	150	152	122	554
Females...	122	111	140	121	494
Total	252	261	292	243	1,048

The birth-rate for the year on the gross population was 17.54, and this is the lowest recorded for Blackpool, the nearest approach to it being 17.91 in 1906. This rate compares with other divisions of the country as follows :—

England and Wales	26.5	per 1,000.
76 Great Towns	27.0	,,
142 Smaller Towns	26.0	,,
Rural England and Wales	26.2	,,
Blackpool	17.5	,,

The continuous decline of the birth-rate presents a formidable problem for the future prosperity of the country, but I do not intend commenting upon it in this, my first report, to you. There is, however, a brighter side to this picture when we see the declining death-rate and the increasing

efforts which are being made by the Blackpool Authorities, amongst others, to lower the Infantile Mortality rate.

The earliest recorded birth rate which I have of Blackpool is for the year 1878, when, with a population of 13,000 there was a rate of 38.8. I have prepared a table, based on the same lines as a table in the Annual Report of the Registrar-General for the year 1907. The rate for 1878 is taken as a standard and is called 100, and the subsequent years are given as percentages compared with this year, 1878:

Period.	Birth rate Blackpool.	Birth rate Blackpool compared with rate for 1878 taken as 100	Birth rate England and Wales.	Birth Rate England and Wales compared with rate for 1878, taken as 100.
1878	38.8	100	35.6	100
1879	36.6	94.3	34.7	97.5
1880	34.0	87.6	34.2	96.1
1881	30.6	78.9	33.9	95.2
1882	30.0	77.3	33.8	94.9
1883	30.0	77.3	33.5	94.1
1884	29.8	76.8	33.6	94.3
1885	27.4	70.6	32.9	92.4
1886	25.9	66.8	32.8	92.1
1887	25.3	65.2	31.9	89.6
1888	24.5	63.1	31.2	87.6
1889	26.5	68.3	31.1	87.4
1890	23.7	61.1	30.2	84.8
1891	22.3	57.5	31.4	88.2
1892	24.0	61.9	30.4	85.4
1893	22.4	57.7	30.7	86.2
1894	23.9	61.6	29.6	83.1
1895	26.7	68.8	30.3	85.1
1896	25.7	66.2	29.6	83.1
1897	26.25	67.7	29.6	83.1
1898	27.74	71.5	29.3	82.3
1899	27.34	70.5	29.1	81.7
1900	25.27	65.1	28.7	80.6
1901	22.90	59.0	28.5	80.1
1902	23.96	61.8	28.5	80.1
1903	22.97	59.2	28.4	79.8
1904	21.53	55.5	27.9	78.4
1905	20.30	52.3	27.2	76.4
1906	17.91	46.2	27.1	76.1
1907	18.09	46.6	26.3	73.9
1908	17.54	45.2	26.2	73.6

ILLEGITIMATE BIRTH RATE.

There were 68 illegitimate children born during the year, including 12 at the Kirkham Workhouse. This figure gives the following rates :—

- (1) 1.14 per 1,000 of the inhabitants.*
- (2) 4.64 per 1,000 females of conceptive age.
- (3) 6.49 per cent. of the total births.

These figures for the past few years have been as follows :—

	1907	1906	1905	1904	1903	1902	1901
	—	—	—	—	—	—	—
(1).....	1.08	1.14	1.24	1.34	1.14	1.11	1.50
(2).....	4.39	4.64	5.05	5.47	5.38	4.53	7.33
(3).....	5.96	6.35	6.10	6.24	5.75	4.64	6.54

The second figure, *i.e.*, the proportion of illegitimate births to women at conceptive ages is the one which represents best the progress of illegitimacy in the country, and it will be seen from the years quoted that there is a gradual decline in this rate.

* Calculated on there being 14,665 females at child-bearing age—20 to 45.

DEATHS.

The number of deaths registered during the year was 881, and of these 120 were of visitors residing temporarily in the town.

The death-rate on which comparison with previous years and with other towns is made, is based on the estimated population of 59,741, which, during the summer months, is greatly exceeded. Therefore the deaths of only

those people who were probably included in this estimated population are taken into account in obtaining the rate. By this means the death-rate for 1908 was 12.74, and corrected for age and sex distribution, it was 13.92. This rate compares with other portions of the country as follows :—

England and Wales	14.7
76 Great Towns	15.8
142 Smaller Towns	14.7
Rural England and Wales ...	13.8
Blackpool	13.9

There were 27 deaths of residents in Kirkham Workhouse, and of 7 residents who died away from Blackpool, whose deaths were notified to me by the Medical Officer of Health of the districts in which these deaths occurred.

The deaths of the 120 non-residents mentioned above include 14 cases which died in the Victoria Hospital. These deaths have been notified to the Medical Officers of Health of the districts from which they came.

The Registrar-General's method of calculating rates for other districts is by means of excluding only deaths of non-residents in Institutions, and including deaths of residents occurring in Institutions outside the district. By this means the rate works out at 15.83.

There are thus three death-rates :—

(1) Gross Rate	14.73
(2) Rate for Residents only	13.92
(3) Registrar's Rate	15.83

It is the second of these rates which represents in its truest form the state of the town. This rate, though somewhat in excess of that for the past four years, is quite

satisfactory. The vital statistics for 1907 were of an exceptionally favourable character, and it would almost be unreasonable to expect an immediate improvement upon them; yet, the Blackpool Corporation may feel assured that the efforts which they make to justify their existence as a Sanitary Authority are not in vain, and by providing a good water supply, by strictly supervising the food supply, by suitable scavenging, by enforcing Building Bye-Laws, by providing a Refuse Destructor, and a properly equipped Isolation Hospital, a distinct impression is made on the death-rate.

The deaths divided into Males and Females and Residents and Non-Residents for the four quarters of the year are as follows:—

		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Totals.	
Males ...	Residents	106	83	84	96	369	433
	Non-Residents .	11	18	26	9	64	
Females	Residents	118	102	76	96	392	448
	Non-Residents .	12	15	22	7	56	
Totals		247	218	208	208	881	881

The Ward statistics with regard to deaths and death-rates are as follows:—(the rates for the previous year being included for the sake of comparison).

WARDS.	Estimated Population.	Number of Deaths (Residents).	Death Rate 1908	Death Rate 1907
Claremont.....	10,310	110	10.67	10.14
Talbot	12,869	191	14.84	10.37
Bank Hey	1,883	19	10.09	11.86
Brunswick	9,668	116	12.00	12.67
Foxhall	17,039	223	13.09	12.40
Waterloo.....	7,972	102	12.79	12.44

The number of deaths at various ages and the percentage of the total deaths is as follows :—

Age period.	Number of deaths	Percentage of total deaths.
Under 12 months...	144	16.34
1 and under 5 years.	53	6.02
5 and under 65 years	440	49.94
65 years and over ...	244	27.70

More details of this character will be found in Table IV. The proportions of males and females living at different ages are presumed to be the same as those recorded at the 1901 census, but the period of time which has elapsed since that census, and the variations in the birth and death rates render the estimation somewhat unreliable.

TABLE IV.

POPULATION AND DEATH-RATES (RESIDENTS),
AT VARIOUS AGES.

	BLACKPOOL, 1908.								Death Rates of persons at different ages.	England and Wales 1891-01	England and Wales 1891-01
	Per cent. of population living at various ages (1901 census)		Number estimated living in 1908		Total Deaths		Death Rate				
	Males	Females	Males	Females	Males	F'mls'	Males	Females			
Under 5 years ...	5.01	5.32	2,994	3,180	106	77	35.40	24.21	29.64	62.11	52.33
5-15 " ...	8.22	9.04	4,911	5,403	11	14	2.24	2.59	2.42	3.32	3.42
15-25 " ...	8.01	10.96	4,783	6,545	11	14	2.30	2.14	2.21	4.35	3.95
25-35 " ...	8.20	10.60	4,901	6,333	18	21	3.67	3.32	3.47	6.60	5.93
35-45 " ...	6.14	7.80	3,668	4,662	35	23	9.54	4.93	6.96	11.24	9.38
45-55 " ...	4.37	5.80	2,609	3,466	45	46	17.25	13.27	14.98	18.53	14.44
55-65 " ...	2.88	3.99	1,722	2,381	53	69	30.78	28.98	29.73	34.24	27.79
65-75 " ...	1.08	1.74	643	1,037	51	78	79.32	75.22	76.79	69.06	59.35
75-85 " ...	0.31	0.47	184	283	31	40	168.48	141.34	152.03	143.32	128.11
85 and upwards	0.02	0.04	11	25	8	10	727.27	400.00	500.00	281.82	256.14

Of the 881 gross deaths in 1908, the causes of 815 or 92.5 per cent. were certified by medical practitioners. Inquests were held respecting 45, or 5 per cent., whilst the remaining 21, or 2.4 per cent., were uncertified. These figures compare with previous years as follows :—

	Certified by Medical Practitioner.		Inquest Cases.		Uncertified Cases.	
	Total.	Per cent. of total.	Total.	Per cent. of total.	Total.	Per cent. of total.
1901.....	766	90.44	45	5.31	36	4.25
1902.....	735	92.34	39	4.90	22	2.76
1903.....	723	89.92	38	4.73	43	5.35
1904.....	718	89.53	47	5.86	37	4.61
1905.....	741	91.59	37	4.57	31	3.83
1906.....	738	90.89	53	6.53	21	2.59
1907.....	729	92.51	37	4.70	22	2.79
1908.....	815	92.51	45	5.11	21	2.38

CAUSES OF DEATHS.

According to the groups of diseases the following deaths occurred :—

	No. of deaths.	Percentage of Total Deaths.
Specific Febrile or Zymotic Diseases	169	19.18
Parasitic	1	0.11
Dietetic	3	0.34
Constitutional	91	10.33
Developmental	86	9.76
Local	453	51.42
Deaths from Violence	32	3.63
Other causes	46	5.22

These deaths, divided into age groups, into residents and visitors, and into males and females, are seen on the Table on pages 43-53.

SYPHILIS.—Only one death is recorded from this disease, viz., that of an infant under one year of age, and which was undoubtedly an inherited disease.

CHRONIC ALCOHOLISM AND DELIRIUM TREMENS account for 3 deaths (2 of the former and one of the latter).

RHEUMATIC FEVER caused three deaths (one male and two females), and of ages varying between 25 and 45. There was one death in each of the months of January, June, and October. In 1907, 1906, 1905, and 1904, there were 4, 1, 5, and 1 deaths respectively from this disease.

CANCER was the cause of 60 deaths, which is the highest figure yet recorded for Blackpool. 27 of these were males and 33 females, and of the 27 males 4 were visitors, and of the 33 females 5 were visitors. I here reproduce a Table which appeared on page 52 of the 1907 Health Report, and with the 1908 figures added:—

CANCER MORTALITY IN BLACKPOOL.

YEAR.	Total Deaths	Deaths of Visitors.	Gross Death Rate	Nett Death Rate	England and Wales.
1895	19	3	0.577	0.486	0.753
1896	20	3	0.546	0.464	0.762
1897	33	3	0.820	0.746	0.785
1898	29	7	0.638	0.484	0.799
1899	36	2	0.747	0.705	0.826
1900	49	2	0.976	0.937	0.829
1901	59	5	1.162	1.064	0.842
1902	51	4	0.977	0.901	0.844
1903	55	3	1.037	0.981	0.872
1904	51	10	0.938	0.755	0.877
1905	58	4	1.041	0.969	0.885
1906	59	5	1.033	0.946	0.917
1907	57	5	0.975	0.890	0.781
1908	60	9	1.004	0.854	—

The parts of the body affected with the disease were as follows :—

	Males.	Females.	Total.
Stomach	4	3	7
Liver	3	3	6
Breast	—	5	5
Bowels	2	5	7
Pancreas	3	1	4
Urinary Organs.....	3	1	4
Generative Organs	—	10	10
Respiratory Organs	4	1	5
Rectum	1	3	4
Tongue	4	—	4
Other sites	3	1	4
Total	27	33	60

and the deaths occurred in the following age groups :—

25 to 35, 2 cases.	55 to 65, 17 cases.
35 to 45, 6 cases.	65 to 75, 14 cases.
45 to 55, 17 cases.	75 and over, 4 cases.

Enquiries have been made into the family history of the cases, and the following results were obtained :—

Sister died of Cancer	3 cases.
Brother Do.	4 cases.
Father Do.	2 cases.
Mother Do.	2 cases.
Uncle Do.	1 case.
Aunt Do.	1 case.
Son Do.	1 case.
Wife Do.	2 cases.
No information	1 case.
No family history of Cancer.	43 cases.

Offers of disinfection have been made in all the cases, but in five only was disinfection by the Sanitary Authority accepted. In the other cases it was done by the occupiers.

Experimental work is now being done in the treatment of Cancer by means of "Radium," and a Radium Institute has been formed in London under the direction of several eminent men of science. Cases of Rodent Ulcer are said to have been cured where the X-rays have failed, also cures of Epitheliomata of the tongue and lip have been effected. Too great hopes must not be entertained for the future of Radium, but if it advances to a slight extent even the present powers of the Medical profession to eradicate the disease, sanitarians as well as the general public will hail it with delight. All experimental and research work which has for its object the alleviation of suffering or the prolongation of life should receive our encouragement and support.

DIABETES AND GLYCOSURIA. — 13 deaths were registered from these causes, 3 of which were males and 10 females.

The age groups of these cases were :—

Under 1	1
5 to 15	1
25 to 35	2
45 to 55	1
55 to 65	5
65 to 75	2
75 and over ...	1

It will be noted that the deaths were most numerous during the age group 55 to 65. It is very rare for a death to occur under one year of age, as has happened in the year under review.

APOPLEXY caused 76 deaths, 31 of males and 45 of females. The age groups were:—

35 to 45 years....	3
45 to 55 years....	9
55 to 65 years....	22
65 to 75 years....	25
75 and over	17

CONVULSIONS was vaguely attributed as the cause of 8 deaths, 4 males and 4 females, all under one year of age. It would be more satisfactory that this term should only be applied when it is not possible to indicate what was the cause of the convulsions, as they are only symptoms not a disease in themselves.

DISEASES OF THE CIRCULATORY SYSTEM accounted for 101 deaths, 9 of which were diseases of blood vessels, and the remaining 92 were diseases of the heart. There was one death from Aneurysm, that of a male visitor between 55 and 65 years of age.

DISEASES OF THE RESPIRATORY ORGANS (apart from Phthisis), accounted for 115 deaths, of which 109 were due to Bronchitis and Pneumonia.

The months in which these 109 deaths occurred were as follows :—

January	19	July	4
February	11	August	7
March	10	September	6
April	15	October	3
May	13	November.....	10
June	4	December	7

NEPHRITIS AND BRIGHT'S DISEASE caused the deaths of 19 males and 14 females. 14 of these deaths occurred in the age group of 55 to 65 years.

PHTHISIS accounted for 55 deaths, viz., 47 residents and 8 visitors. The ages at death and the months in which they occurred were as follows :—

		Males.	Females.
		—	—
1 to 5 ...	...	... 1.....	—
5 to 15 ...	...	... —.....	1
15 to 25 ...	...	... 6.....	7
25 to 35 ...	...	... 7.....	4
35 to 45 ...	...	... 9.....	2
45 to 55 ...	...	... 7.....	4
55 to 65 ...	...	... 4.....	—
65 to 75 ...	...	... 1.....	1
75 and over	...	... —.....	1
		—	—
		35	20
		==	==

January	2	July.....	7
February	6	August	3
March	4	September	5
April	5	October	1
May	7	November.....	1
June	6	December	8

Much good could be done in certain cases of Phthisis (especially among the poorer classes) by advising as to the best means of preventing the spread of the disease, such as the destruction or disinfection of sputum, the wet dusting of bedrooms with the subsequent boiling of the dusters, the importance of fresh air, &c. I concur heartily in the views of my predecessor as to the advisability of adopting Phthisis as a voluntary notifiable disease. Already a step in this direction has been taken, as it is now obligatory on Poor Law Medical Officers to notify cases of Consumption which they meet either in their parish or workhouse practice, to the Medical Officer of Health. A memorandum, dated February, 1909, has been issued by the Medical Officer of the Local Government Board as to the administrative measures which might be taken under these regulations. I will report fully on this matter next year.

At present the only measures taken by the Sanitary Authority with regard to this disease are (1) the gratuitous examination of sputum ; (2) the gratuitous disinfection of premises on request or on the death of a patient. Four specimens were submitted for bacteriological examination. Two were positive and two were negative. With regard to disinfection, 37 premises were disinfected by the Sanitary

Authority, in 7 cases I have no information on the subject, one case refused disinfection, and the remainder were disinfected by the occupants. Inquiries into the family history of the fatal cases of Phthisis reveal the following :—

3 cases—	Father died of Phthisis.
1 case —	Mother Do.
5 cases—	Aunt Do.
1 case —	Uncle Do.
4 cases—	Brother Do.
3 cases—	Sister Do.
1 case —	Cousin Do.
1 case —	Mother and 2 Aunts died of Phthisis.
1 case —	Husband died of Phthisis.
1 case —	Daughter Do.
34 cases—	No family history of Phthisis.

The duration of illnesses was as follows :—

1 to 6 months	4 cases.
6 to 12 months	11 cases.
1 to 1½ years.....	14 cases.
1½ to 2 years.....	2 cases.
2 to 2½ years.....	10 cases.
3 to 3½ years.....	6 cases.
4 to 4½ years.....	2 cases.
5 to 5½ years.....	1 case.
6 to 6½ years.....	2 cases.
Indefinite	3 cases.

TUBERCULAR DISEASES OTHER THAN PHTHISIS caused the following deaths :—

Tuberculosis of Brain ...	13 cases.
Do. Peritoneum	2 cases.
Do. Intestines	2 cases.
Do. Larynx	2 cases.
General Tuberculosis	1 case.
	—
	20
	==

THE GROUP OF SPECIFIC, FEBRILE, OR ZYMOTIC DISEASES was the cause of 169 deaths. The diseases in this group, which are notifiable, will be dealt with in detail under Part II.

WHOOPIING COUGH caused 12 deaths, all under the age of 5 years (and of these 6, or 50 per cent. were infants under 12 months). All the wards were affected, except Bank Hey. Two of the fatal cases of this disease were of visitors temporarily resident in the town. One of them had been in Blackpool for 3 weeks, but had been ill with Whooping Cough for six weeks, the other one had been here for six weeks, but had Whooping Cough for three weeks only, but was stated to be a delicate child from birth.

The months in which the twelve deaths occurred were as follows :—

January	1	July	1
March	1	September ...	4
April	2	October	1
May	2		

It is somewhat strange that September should have the most deaths, as it might be expected that the summer would be more favourable for a disease of this type.

In the latter part of the year the Health Committee had under consideration the advisability of including Whooping Cough in the list of compulsorily notifiable diseases, as in several cases parents bring their children to the seaside to help them to get rid of the last traces of the disease. I was instructed to prepare a report on this matter. Having regard (1) to the varying periods of infectiousness (which in some cases may extend to six months); (2) to the impossibility of adopting any Hospital Isolation for the disease; and (3) to the probability that infection does not take place to any appreciable extent in the openness of the sands, I advised that the matter be left in abeyance for the present.

The numbers of deaths in previous years have been as follows :—

1907	1906	1905	1904	1903	1902	1901	1900
—	—	—	—	—	—	—	—
27	6	3	13	1	3	12	19

INFLUENZA caused 13 deaths, as compared with 11, 15, 11, 4, and 10 in the five years immediately preceding.

The age periods and the months in which they occurred were as follows :—

Age 25 to 35—1	.....	January—4.
Age 35 to 45—1	.....	February—4.
Age 45 to 55—2	.....	March—1.
Age 55 to 65—1	.....	April—1.
Age 65 to 75—6	.....	September—1.
Age 75 and over—2	.....	November—1.
		December—1.

DIARRHŒA caused 28 deaths at the following age periods :—

0 to 1—21.	65 to 75—1.
1 to 5—4.	75 and over—1.
45 to 55—1.	

It will thus be seen that the great majority of these deaths occurred during the first year of life. They have all been inquired into by Miss Heaton, and the conditions as to housing and feeding found will be given in detail under the next paragraph. The months in which the deaths occurred were as follows :—

	Under 1.	Over 1.		Under 1.	Over 1.
	—	—		—	—
June	1	—	October	9	3
August	2	—	November	3	—
September	5	3	December	1	1

INFANTILE MORTALITY.—During the year 144 children died in the town before reaching the age of 12 months. 86 of these were males and 58 were females. The Infant Mortality figure works out at 137 per 1,000 births. Of these 144 children, however, 4 males and 6 females were visitors

to the town, and their births were not included in our total of 1,048 births for the year. The Infantile Mortality corrected for visitors was 128 per 1,000 births. The following Table gives these figures for the past 29 years, and the chart following it represents in a more diagrammatic manner the fluctuations from year to year :—

INFANT MORTALITY, 1879-1908.

Rate per 1,000 Births.

Year.	Blackpool.		England and Wales
	Gross.	Nett residents only	
1879	122	122	135
1880	206	206	153
1881	126	126	130
1882	221	221	141
1883	140	123	137
1884	146	140	147
1885	174	162	138
1886	152	150	149
1887	116	110	145
1888	137	137	136
1889	169	162	144
1890	182	177	151
1891	193	182	149
1892	160	143	148
1893	210	193	159
1894	160	132	137
1895	206	192	161
1896	159	146	148
1897	191	169	156
1898	178	163	160
1899	184	173	163
1900	161	149	154
1901	168	156	151
1902	123	118	133
1903	135	130	132
1904	170	161	145
1905	135	127	128
1906	140	131	133
1907	113	111	118
Mean of 29 years	161	152	144
1908	137	128	121

The figure compares with other parts of the country as follows :—

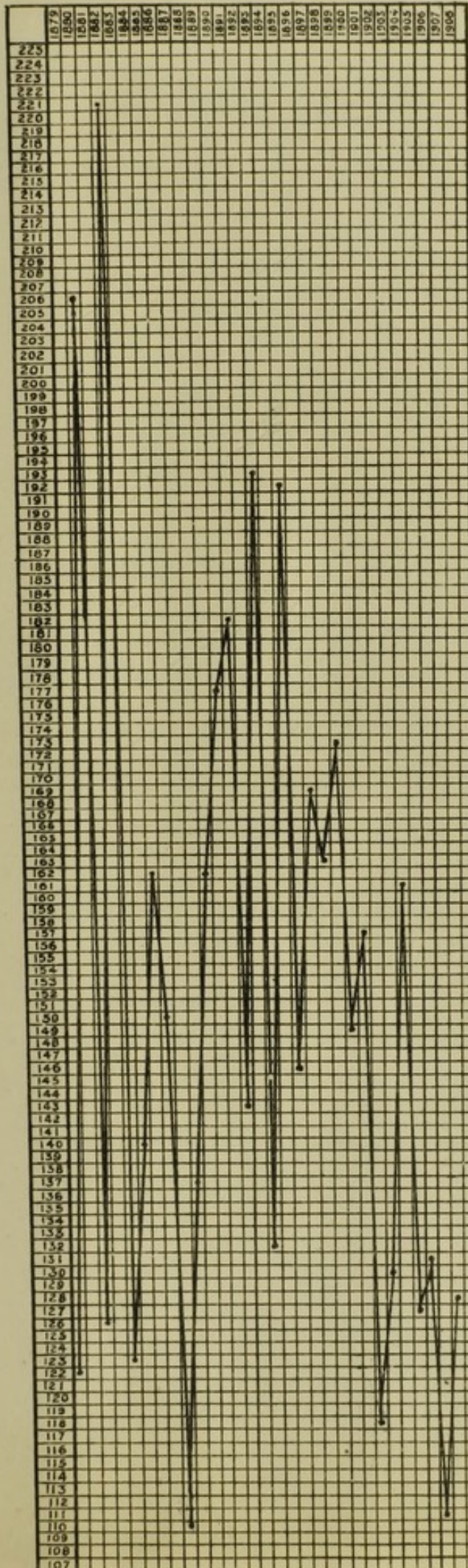
England and Wales	121
76 Great Towns	128
142 Smaller Towns	124
Rural England and Wales	110
Blackpool	128

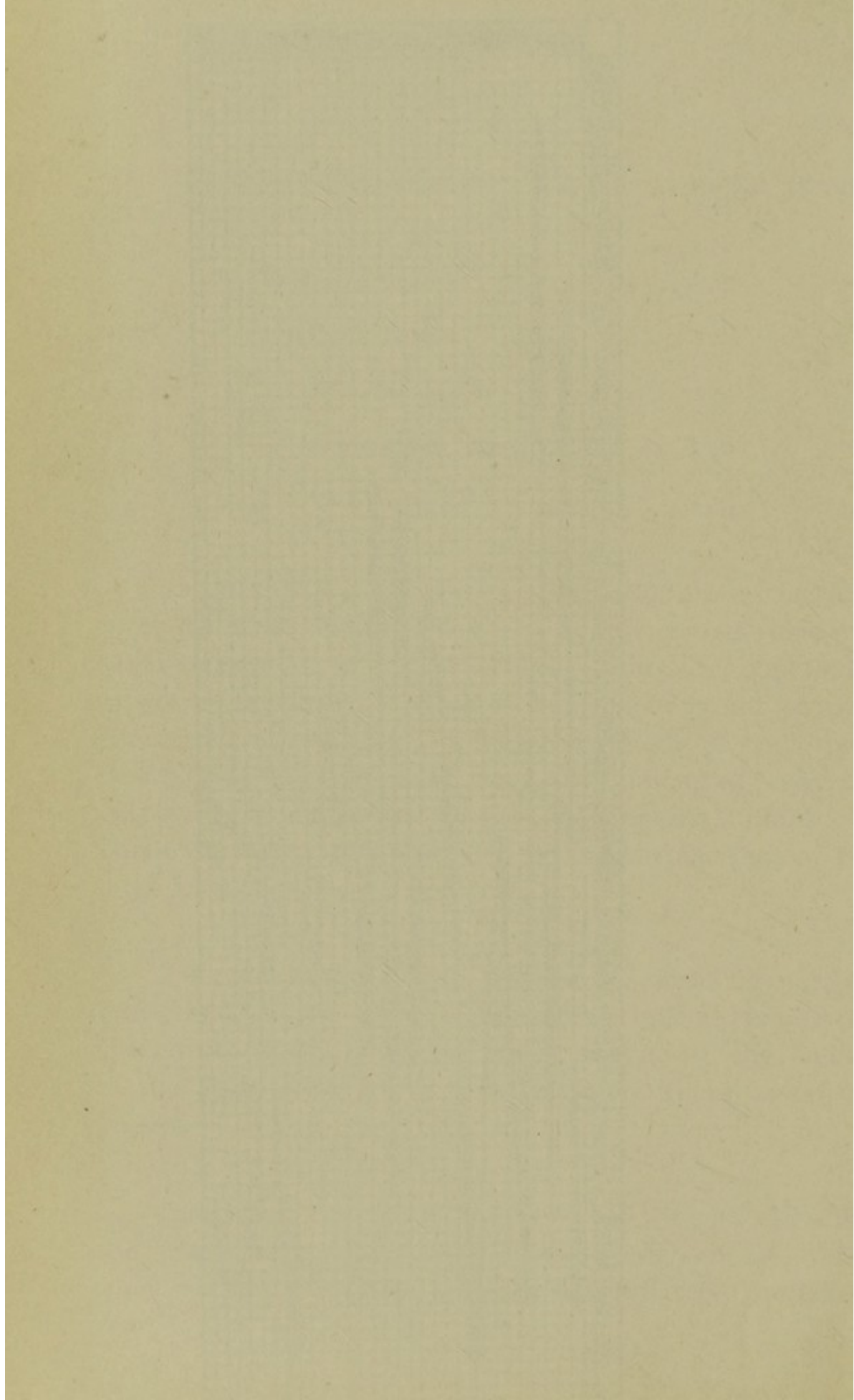
It will thus be seen that the Blackpool rate is the same as that for the 76 Great Towns. I must confess some disappointment at this. Considering that our population is not so congested, that our atmosphere is not so contaminated by smoking chimneys or effluvia of trade processes, and that we have not any industrial concerns employing female labour to any great extent, I think our Infant Mortality rate ought to be lower than that of the large manufacturing towns.

I urge, however, that in spite of this slight discouragement the Sanitary Authority should continue as before with the efforts which are being made to get at the causes of this high mortality, and to eradicate them as far as possible.

Compared with previous years the Infant Mortality will seem to compare favourably, though it is somewhat above the figure for the immediately preceding year.

CHART SHOWING INFANTILE MORTALITY from 1879 to 1908.





The rates for the four quarters of the year were as follows :—

1st Quarter.....	123.02.	3rd Quarter ...	119.86.
2nd Quarter ...	134.10.	4th Quarter ...	176.95.

The following Tables (V. and VI.) show the numbers of infantile deaths and the infantile mortality for the various wards for a succession of years :—

TABLE V.

Number of Children (residents only) under one year old who died in the respective Wards.

WARD.	1891-5	1896-1900	1901-1905	1901	1902	1903	1904	1905	1906	1907	1908
Claremont.....	78	98	125	23	22	26	26	28	20	17	15
Talbot	179	271	243	51	47	53	56	36	39	21	41
Bank Hey	15	23	16	5	1	3	6	1	2	8	—
Brunswick	91	148	83	21	12	11	22	17	22	18	18
Foxhall	159	289	268	57	53	50	54	54	40	38	40
Waterloo.....	60	107	84	24	13	15	24	8	11	15	20
Total for Borough.	582	936	819	181	148	158	188	144	134	117	134

TABLE VI.

Infant Mortality ; Deaths of Children (residents only)
under one year old per 1,000 births :—

WARD.	1891-5	1896-1900	1901-1905	1901	1902	1903	1904	1905	1906	1907	1908
Claremont ..	172.5	117.2	142.1	129.9	110.6	152.0	145.3	172.84	139.85	103.03	104.90
Talbot	162.8	162.6	151.8	174.1	146.9	154.1	172.3	111.80	150.00	81.71	155.30
Bank Hey...	112.0	157.5	133.6	217.4	40.0	136.4	230.8	43.48	111.11	347.83	—
Brunswick ..	168.2	188.3	119.4	128.0	81.6	75.3	163.0	149.12	165.41	139.53	120.00
Foxhall	187.2	172.7	143.5	157.0	137.0	126.3	152.1	145.16	119.76	112.76	118.69
Waterloo ...	163.9	151.3	114.1	169.0	75.6	107.9	160.0	57.97	81.48	102.74	144.93
Total for Borough ...	168.3	160.2	138.4	155.8	118.4	129.72	160.68	127.32	130.99	110.69	127.86

Table VII. in the Appendix shows the causes of deaths, and the ages at death. It will be seen that 42 deaths, or 29 per cent., occurred during the first month of life ; 22, or 15 per cent. during the second ; and 18, or 12.5 per cent. during the third. Thus 82, or 57 per cent. of all deaths of infants under one year of age occurred during the first three months. Sixteen infants died on the first day of life. Fourteen of these deaths were caused by prematurity, one by injury at birth, and one by debility.

The groups of diseases caused the following deaths :—

Common Infectious Diseases	11
Diarrhœal Diseases (including 21 Diarrhœa)...	28
Wasting Diseases (including 33 from prematurity and 14 from Debility)	52
Tuberculous Diseases	4
Other causes (including 23 from Bronchitis and Pneumonia, and 8 from Convulsions).....	49

Inquiries into the Infantile deaths have been made by the Female Health Visitor, and the conditions found with regard to feeding were as follows:—

DEATHS UNDER ONE.—TOTAL.
(Calendar Quarters).

CAUSES.	YEAR.		QUARTERS.								FEEDING.			Mother employed away from home.	Illegitimate.
	Under Three Months.	Total.	First		Second		Third		Fourth		Not Fed.	Breast Fed.	Hand Fed partly or entirely.		
			Under 3 Months.	Total	Under 3 Months.	Total	Under 3 Months.	Total	Under 3 Months.	Total					
1.—Common Infectious Diseases (Measles, Diphtheria, and Whooping Cough)...	2	11	0	4	0	2	1	4	1	1	0	5	6	1	0
2.—Diarrhoeal Diseases:—Diarrhoea, Enteritis and Gastritis	8	28	2	2	2	4	0	8	4	14	0	3	25	6	4
3.—Wasting Diseases:—Premature Birth, Congenital Defects, &c.	36	38	8	8	15	15	7	8	6	7	18	2	17	5	9
Debility	11	14	3	3	1	1	4	5	3	5	2	3	9	3	1
4.—Tubercular Diseases	2	4	1	1	1	2	0	0	0	1	0	0	4	0	1
5.—Other Causes {	5	8	2	3	2	2	0	1	1	2	0	4	4	1	0
Convulsions	5	11	1	4	1	2	1	2	2	3	0	4	7	0	1
Bronchitis.....	6	12	1	2	1	6	1	1	3	3	0	4	8	0	0
Pneumonia	7	18	2	5	0	1	2	5	3	7	0	2	17	1	1
Other causes															
TOTALS	82	144	20	32	23	35	16	34	23	43	20	27	97	17	17

Twenty died before they were fed, *i.e.*, before it could be said that any particular mode of feeding had any influence on their chances of viability. Twenty-seven cases were breast fed, and 97 were hand fed either partly or entirely. I would call your special attention to the last two figures, for, as similar comparisons come out whenever and wherever such inquiries are made, it can be safely assumed that breast feeding is more conducive to viability than is artificial feeding, and one of the chief functions of the Health Visitor is to impress upon mothers the importance of persevering with the breast. I confidently anticipate that in future years, when the work of this official is widespread and more appreciated, there will be a decided reduction in the Mortality Rate on this account.

With regard to Infant Insurance the following results were obtained :—

- Insured for 10s. or less—2 cases.
- „ between 10s. and £1—2 cases.
- „ between £1 and £1 10s.—14 cases.
- „ between 30s. and £2—2 cases.
- „ between £2 and £3—8 cases.
- „ for over £3—1 case.
- „ but amount not stated—9 cases.
- Not insured—102 cases.
- Doubtful—4 cases.

In 17 cases only were the mothers employed away from home, and as I have before stated this is one of the reasons why we should not be satisfied until our Infant Mortality rate reaches and remains at 100.

The months in which the infantile deaths occurred were :—

January	9	May	17	September	16
February	10	June	7	October	21
March	12	July	7	November	14
April	11	August	12	December	8

With regard to the Diarrhœa deaths the following mode of storage of food was found :—

Food stored in scullery—17 cases.

Food stored in pantry or larder—4 cases.

DEATHS FROM VIOLENCE.—These total 32, and are grouped together in the following Table :—

	Accident.	Suicide.	Homicide.	Total
Fractures and Contusions	4	—	—	4
Drowning	4	3	—	7
Hanging	—	3	—	3
Suffocation	1	—	—	1
Poisoning	—	3	—	3
Stabbing	—	1	—	1
Burns and Scalds	2	—	—	2
Gunshot wounds	—	1	—	1
Manslaughter	—	—	1	1
Others	7	2	—	9
Total	18	13	1	32

INQUESTS.

The number of inquests held during the year was 45. The rate of inquest deaths was 51 per 1,000 deaths, as compared with 70 per 1,000 deaths in England and Wales.

The following is an analysis of the verdicts :—

ACCIDENTAL.	
Burns and Scalds	2
Erysipelas—Result of injuries	1
Fall	5
Injuries (including 3 by Motor Car)	7
Suffocation—Coal Gas	1
SUICIDE.	
Carbolic Acid Poisoning	1
Cut Throat	1
Drowning	2
Gun-shot.....	1
Hanging	3
Oxalic Acid Poisoning.....	1
Poisoning	1
Run over by Train	1
Suffocation	1
NATURAL AND OTHER CAUSES.	
Found drowned	4
Inflammation of Brain	1
Manslaughter	1
Natural causes	7
Convulsions	1
Heart failure	2
Premature birth	1

TABLE IX. (Part I).

Analysis of Causes of Deaths at several Groups of Ages from Different Causes.
53 Weeks ending 2nd January, 1909.

CAUSE OF DEATH.	Resident or Visitor	AGES AND SEXES.														WARDS																		
		0 to 1		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 75		75 and over		TOTAL		Claremont	Talbot	Bank Hey	Brunswick	Foxhall	Waterloo	TOTAL	Institutions			
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F											
I. SPECIFIC FEBRILE or ZYMOTIC DISEASES	R V	15 3	16 3	14 1	20 1	7 2	5 1	8 2	4 1	7 2	5 1	2 1	2 1	7 1	9 1	4 1	1 1	2 1	5 1	3 1	2 1	75 12	73 9	18 5	40 2	2 2	19 10	56 2	13 2	148 21	20 1			
II. PARASITIC DISEASES	R V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
III. DIETETIC DISEASES	R V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
IV. CONSTITUTIONAL DISEASES ...	R V	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
V. DEVELOPMENTAL DISEASES ...	R V	22	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
VI. LOCAL DISEASES	R V	31	15	8	5	2	2	4	8	6	4	5	11	13	17	21	35	48	33	54	16	27	178	210	57	98	13	63	114	43	388	30		
VII. DEATHS FROM VIOLENCE	R V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
VIII. DEATHS FROM ILL-DEFINED and not SPECIFIED CAUSES	R V	11	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Grand Totals	R V	82	52	24	25	106	77	11	14	11	14	18	21	35	23	45	46	53	69	51	78	39	50	369	392	110	191	19	116	223	102	761	80	
		4	6	3	1	7	7	4	3	5	4	5	4	5	4	5	4	7	12	13	10	9	4	3	64	56	32	12	4	20	38	14	120	13

TABLE IX. (Part II.—Continued).

CAUSE OF DEATH.	AGES AND SEX.										WARDS.										
	0 to 1	1 to 5	Total under 5 years	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 and over	TOTAL	Claremont	Talbot	Bank Hey	Brunswick	Foxhall	Waterloo	TOTAL	Institutions	
	M	F	M	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Laryngismus Stridulus (Spasm of Glottis)																					
Disease of Spinal Cord, Paraplegia, Paralysis Agitans																					
Other Diseases of Nervous System																					
2.—DISEASES OF ORGANS OF SPECIAL SENSE.																					
Of Ear, Eye, Nose																					
3.—DISEASES OF CIRCULATORY SYSTEM																					
Pericarditis																					
Acute Endocarditis																					
Valvular Diseases of Heart																					
Other Diseases of Heart																					
Aneurysm																					
Embolism, Thrombosis																					
Other Diseases of Blood Vessels																					
4.—DISEASES OF RESPIRATORY ORGANS																					
Laryngitis																					
Croup																					
Empysema, Asthma																					
Bronchitis																					
Pneumonia																					
Pleurisy																					
Other Diseases of Respiratory System																					

TABLE IX. (Part II.—Continued.)

CAUSE OF DEATH.	AGES AND SEX.										WARDS.																					
	0 to 1		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 75		75 and over		TOTAL		Claremont	Talbot	Bank Hey	Brunswick	Foxhall	Waterloo	TOTAL	Institu'tus		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F										
Poison	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F									1	2	3	4	5	6	7	8
Drowning																																
Suffocation																																
Otherwise																																
2.—HOMICIDE.																																
Manslaughter																																
Murder																																
3.—SUICIDE.																																
Gunshot Wounds																																
Cut, Stab																																
Poison																																
Drowning																																
Hanging																																
Otherwise																																
VIII.—DEATHS from ILL-DEFINED and not SPECIFIED CAUSES																																
Dropsy																																
Debility, Atrophy, Inanition	9	5	1																													
Mortification																																
Tumour																																
Abscess																																
Hæmorrhage																																
Sudden Death (cause not ascertained)																																
Causes not specified or ill-defined																																
Natural Causes	1	1																														
Injury at Birth																																
Totals	82	52	24	25	106	77	11	14	11	14	18	21	35	23	45	46	53	69	51	78	39	50	369	392	110	191	19	116	223	102	761	

TABLE IX. (Part III. VISITORS ONLY.)

CAUSE OF DEATH.	AGES AND SEX.										WARDS.										
	0 to 1	1 to 5	Total under 5 years	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 and ov'r	TOTAL	Claremont	Talbot	Bank Hey	Brunswick	Foxhall	Waterloo	TOTAL	Institutions	
	M	F	M	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
I.—SPECIFIC, FEBRILE, OR ZYMOTIC DISEASES.																					
1.—MIASMATIC DISEASES.																					
Measles.....																					
Whooping Cough.....																					
Tubercular Meningitis, Hydrocephalus.....																					
Phthisis.....																					
Other forms of Tuberculosis, Scrofula.....																					
Influenza.....																					
2.—DIARRHOEAL DISEASES.																					
Diarrhoea, Dysentery.....	2	2	2																		
3.—SEPTIC DISEASES.																					
Pyæmia, Septicæmia.....																					
IV.—CONSTITUTIONAL DISEASES																					
Rheumatism.....																					
Cancer, Malignant Disease.....																					
Anæmia, Chlorosis, Leucocythæmia.....																					
Glycosuria, Diabetes Mellitus.....																					
Other Constitutional Diseases.....																					
V.—DEVELOPMENTAL DISEASES																					
Premature Birth.....	1		1																		

TABLE IX. (Part III. VISITORS ONLY—Continued).

CAUSE OF DEATH.	AGES AND SEX.														WARDS.						TOTAL	Institu'tns
	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 and ov'r	TOTAL		Claremont	Talbot	Bank Hey	Brunswick	Foxhall	Waterloo	TOTAL			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F								
VI.—LOCAL DISEASES.																						
1.—DISEASES OF NERVOUS SYSTEM.																						
Inflammation of Brain or Membranes																						
Apoplexy, Softening of Brain, Hemi- plegia, Brain Paralysis																						
Disease of Spinal Cord, Paraplegia, Paralysis Agitans																						
Other Diseases of Nervous System																						
2.—DISEASES OF ORGANS OF SPECIAL SENSE.																						
Of Ear, Eye, Nose																						
3.—DISEASES OF CIRCULATORY SYSTEM																						
Acute Endocarditis																						
Valvular Diseases of Heart																						
Other Diseases of Heart.....																						
Aneurysm.....																						
Embolism, Thrombosis																						
Other Diseases of Blood Vessels																						
4.—DISEASES OF RESPIRATORY ORGANS																						
Bronchitis.....																						
Pneumonia																						
Pleurisy.....																						
5.—DISEASES OF DIGESTIVE SYSTEM.																						
Dentition																						
Enteritis																						
Obstructive Diseases of Intestines																						
Hernia.....																						
Peritonitis																						
Cirrhosis of Liver.....																						
Jaundice and other Diseases of Liver																						
Other Diseases of Digestive System																						

TABLE IX. (Part III. VISITORS ONLY—Continued).

CAUSE OF DEATH.	AGES AND SEX.												WARDS.																		
	0 to 1		1 to 5		5 to 15		15 to 25		25 to 35		35 to 45		45 to 55		55 to 65		65 to 75		75 and over		Total										
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Total								
6.—DISEASES OF URINARY SYSTEM.																															
Nephritis																															
Bright's Disease, Albuminuria																															
Disease of Bladder or Prostate																															
Other Diseases of the Urinary System																															
7.—DISEASE OF REPRODUCTIVE SYSTEM																															
(a) Of Organs of Generation.																															
Female Organs																															
(b) Of Parturition.																															
Other Accidents of Childbirth																															
8.—DISEASE OF BONES AND JOINTS.																															
Other Diseases of Bones and Joints																															
VII.—DEATHS FROM VIOLENCE.																															
1.—ACCIDENT OR NEGLIGENCE.																															
Fractures and Contusions																															
Drowning																															
Suffocation																															
Otherwise																															
2.—SUICIDE.																															
Poison																															
Drowning																															
Hanging																															
VIII.—DEATHS from ILL-DEFINED and not SPECIFIED CAUSES																															
Natural Causes																															
Totals	4	6	3	1	7	4	3	5	4	4	5	4	5	14	7	12	13	10	9	4	3	64	56	32	12	4	20	38	14	120	13

PART II.

INFECTIOUS DISEASES.

NOTIFICATION OF INFECTIOUS DISEASES DURING THE YEAR.

The following notifications were received :—

Scarlet Fever	238
Diphtheria	61
Enteric Fever	65
Puerperal Fever	3
Erysipelas	18
Measles	1,268
	—————
	1,653
	=====

The comparison of these figures with those of the years from 1894 will be seen in Table XVII., page 57. Apart from the excessive incidence of Measles the comparison is not unfavourable to the year under review.

The notifications as they occurred month by month are seen in the following Table :—

TABLE XV.

(Cases of Infectious Disease notified).

DISEASE.	January	February	March	April	May	June	July	August	September	October	November	December	TOTALS
Small Pox .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	114	327	464	156	77	61	16	16	9	19	4	5	1,268
Rötheln.....	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever...	30	17	13	18	23	12	5	32	25	13	25	25	238
Diphtheria	5	2	3	4	1	4	6	7	3	10	6	10	61
Membranous Croup .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever...	8	6	8	4	3	2	1	1	4	10	12	6	65
Puerperal Fever	1	...	...	...	...	...	...	...	...	2	...	...	3
Erysipelas.....	...	...	...	...	2	1	3	5	2	1	1	3	18
Chicken Pox ...	9	4	9	11	20	13	4	6	5	7	10	6	104
TOTALS	167	356	497	193	126	93	35	67	48	62	58	55	1,757

In Table XIII. in the Appendix will be found a classification showing the number of persons attacked at various age-periods, and also the number of cases removed to Hospital from each locality.

The next Table shows the number of houses infected with the different diseases for each month of the year :—

TABLE XVI.

DISEASE.	January	February	March	April	May	June	July	August	September	October	November	December	TOTALS
Small Pox .....	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	84	223	274	82	53	34	13	16	7	5	1	4	796
Rötheln.....	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet Fever...	26	13	11	12	15	7	4	26	20	11	21	19	185
Diphtheria	5	2	3	4	1	4	5	6	3	9	6	9	57
Enteric Fever .	8	4	6	4	3	2	1	1	4	10	12	7	62
Puerperal Fever	1	...	...	...	...	...	...	...	...	2	...	...	3
Erysipelas.....	...	...	...	...	2	1	3	5	2	1	1	3	18
Membranous Croup ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chicken pox ...	8	3	7	10	13	10	3	3	1	4	5	3	70
TOTALS.....	132	245	301	112	87	58	29	57	37	42	46	45	1,191

TABLE XVII.

Cases of Infectious Diseases notified during the years 1894-1908 (inclusive).

	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
Smallpox	20	8	—	—	—	—	—	4	2	22	8	3	9	—	—
Diphtheria	11	17	6	7	10	13	24	131	74	40	43	48	53	84	61
Membranous Croup	2	—	—	—	—	—	—	3	1	—	3	1	1	—	—
Erysipelas	—	—	—	—	—	—	14	13	13	19	26	17	18	13	18
Scarlet Fever.....	76	154	208	177	77	141	187	271	197	257	179	200	183	177	238
Typhus Fever	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever	61	79	66	50	67	59	68	58	70	42	28	51	39	41	65
Puerperal Fever ...	1	1	1	2	5	5	3	2	2	3	5	3	2	2	3
Measles	320	108	148	794	259	370	302	532	863	127	1,386	871	389	309	1,268
Rótheln	8	2	2	—	—	1	2	5	5	5	13	27	6	1	—
TOTALS.....	499	369	431	1,031	418	589	600	1,019	1,227	515	1,691	1,221	700	627	1,653

SCARLET FEVER.

Notifications, 238. Deaths, 4.

The ages and sexes of the notified cases were as follows:—

	Males.	Females.	Total.
Under 5 years.....	25	31	56
5 years to 10 years	59	40	99
10 „ 14 „	13	34	47
14 „ 20 „	4	11	15
20 „ 25 „	4	6	10
25 „ 30 „	2	1	3
30 years and over	1	7	8
Totals	108	130	238

It will be seen that 146 of the cases, or over 61 per cent. occurred in children of school age (5 to 14), though there was no school which was specially affected.

The cases occurred in 185 different houses. In 146 houses there was one case each, in 30 houses two cases each, in 6 houses 3 cases each, in 1 house 4 cases, and in 2 houses 5 cases each.

The Ward incidence in each of the four quarters of

the year was as follows :—

	1st Quar- ter.	2nd Quar- ter.	3rd Quar- ter.	4th Quar- ter.	Total 1908	1907	1906	1905
Claremont...	8	4	13	4	29	32	19	32
Talbot	15	13	12	11	51	39	60	52
Bank Hey .	1	—	—	—	1	7	5	1
Brunswick .	5	3	12	12	32	22	16	26
Foxhall	23	23	24	24	94	50	60	74
Waterloo....	8	10	1	12	31	27	23	15
Total	60	53	62	63	238	177	183	200

The disease was very prevalent towards the end of 1907, but this prevalence subsided early in 1908. 217 of the cases, or 91 per cent., were removed to Hospital. This is rather a high figure, but it is important that cases of this and other infectious diseases should be removed from dwelling-houses to an Institution where they are efficiently isolated and treated.

The case mortality was 1.68 per cent., and the death-rate was 0.067 per 1,000 of the population.

The ages and sexes of the fatal cases were:—male of two-and-a-half years, and females of 3 $\frac{9}{12}$, 4, and 7 years, and all these deaths occurred among Hospital patients.

The apparent discrepancy between these figures and those in the Table on page 75 is due to the fact that one of the Hospital deaths, though it occurred in 1907, was not registered until early in 1908.

DIPHTHERIA.

Notifications, 61. Deaths, 9.

The sexes and age groups of the notified cases were as follows :—

	Males.	Females.	Total.
Under 5 years.....	8	8	16
5 and under 10 years	11	20	31
10 „ 14 „	—	1	1
14 „ 20 „	1	4	5
20 „ 25 „	1	4	5
25 „ 30 „	1	1	2
30 and over.....	—	1	1
Totals	22	39	61

It will be observed that 32 of the cases, or 52 per cent., were of children of school age (5 to 14), though no special school was affected, nor was the disease limited to any part of the town. 33 of the cases, or 54 per cent., were removed to Hospital. The ages and sexes of the nine fatal cases were as follows :—

Males.....1⁹₁₂, 2³₁₂, 5⁴₁₂, 6¹¹₁₂, 9...Total 5

Females...3¹¹₁₂, 4⁶₁₂, 6, and 11...Total 4

—
9
—

Four of the deaths occurred in cases treated in Hospital, and five in cases which were kept at home. The case mortality of the Hospital cases was 12.5 per cent., and of the home cases 17.8 per cent. The total case mortality was 14.7 per cent., and the death-rate from this disease was 0.15 per 1,000 of the population. The months in which the cases were notified are seen in Table XV., page 55.

The Ward incidence for the four quarters of the year was as follows :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total. 1908	1907	1906	1905
Claremont...	1	2	5	8	16	7	17	10
Talbot	2	—	2	3	7	12	11	21
Bank Hey .	—	—	1	—	1	—	1	3
Brunswick .	1	3	1	7	12	13	8	3
Foxhall	3	2	3	8	16	28	10	11
Waterloo....	3	2	4	—	9	24	6	—
Total ...	10	9	16	26	61	84	53	48

The comparison of the total notifications with previous years will be seen in Table XVII., on page 57. It will be observed that the disease is endemic in the town, and the 1908 notification may be considered as an average number, though in the years 1896 to 1899, 6, 7, 10, and 13 cases only were notified.

Diphtheria antitoxin is kept at the Health Offices, and

is given to all cases where application is made, irrespective of whether they are being treated at home or hospital.

There are doubtless many mild and unrecognised cases of the disease, which act as centres of infection and account for the inability to detect the cause of many of the notified cases. All cases of sore throat in children should be considered suspicious and should be excluded from school until the non-infectious nature has been determined. Bacteriological examinations are conducted by the Health Department free of charge.

SMALLPOX.

No cases of this disease occurred in Blackpool during 1908. Between the years 1896 and 1900 inclusive, the town was free from the disease ; then there were cases in each year up to 1906, while 1907 and 1908 were again free.

The increased facilities which are being placed in the way of those who are not ashamed to avoid their moral obligations to the community, are undoubtedly leading to an increased number of people susceptible to the disease, and therefore when another outbreak occurs very stringent measures will have to be taken to prevent it attaining large proportions.

There is only one safeguard against Small-pox, and that is efficient and recent vaccination. The dangers of this simple operation are so remote that they may be disregarded.

VACCINATION.

Through the courtesy of Mr. Thomas Dixon, the Registrar of Births and Deaths, I am informed that the number of successful primary vaccinations during the year was 650. This includes those performed by the private practitioners as well as by the public vaccinators. This is not a satisfactory figure. It compares with previous years as follows :—

1907, 809 ; 1906, 868.

The Report of the Poor Law Commission, just issued, advocates the transference of many of the duties of the Poor Law Guardians to the County or County Borough Councils. This transference is, in my opinion, somewhat remote, but the greatest anomaly of all, and one which should be rectified forthwith, is that the working of the Vaccination Acts should be in hands of the Poor Law Authority and not in the hands of the Authority whose chief duty is to safeguard the health conditions of the community at large.

MEASLES.

Notifications, 1,268 ; Deaths, 15.

This disease (which has been notifiable in Blackpool since the year 1879) was very prevalent during 1908. In Table XVII., on page 57, the comparisons with previous years will be found, and it will be seen that only once in the period

comprised in that Table was the number of notifications exceeded, *i.e.*, in the year 1904, when it was 1,368. The epidemic lasted from October, 1907, to June, 1908, but the majority of the cases occurred during the first quarter of 1908. The Ward incidence for each quarter of the year was as follows :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total 1908
Claremont...	132	35	5	1	173
Talbot	307	44	4	19	374
Bank Hey .	26	7	3	1	37
Brunswick .	112	22	4	2	140
Foxhall	207	102	18	3	330
Waterloo....	121	84	7	2	214
Total ...	905	294	41	28	1,268

The ages and sexes of the notified cases were :—

	Males.	Females.	Total.
Under 5 years.....	310	362	672
5 to 14 years	272	297	569
14 to 20 years	4	17	21
20 years and over	1	5	6
Total	587	681	1,268

It will be seen that there were almost 100 more females than males attacked, and that about half of the cases occurred in children of school age. It was necessary on several occasions to recommend closure of a school when it was particularly affected, and the list of schools closed, and the periods for which they were closed will be seen on page 70. The 1,268 cases occurred in 796 houses. In 491 houses there was one case each; in 198 houses, 2 each; in 72 houses, 3 each; in 27 houses, 4 each; in 4 houses, 5 each; and in 4 houses there were more than 5 each.

It was necessary to send 16 letters to householders for failing to notify to the Medical Officer of Health the cases of Measles which occurred in their houses. There were 15 deaths from Measles during the year, but as one of these was of a case which had the disease prior to its arrival in Blackpool, it is not included in the list of notifications. The case mortality works out at 1.18 per cent., while the death rate was 0.25 per 1,000 of the population. The ages and sexes of the fatal cases were :—

	Males.	Females.	Total
Under 5 years	4	7	11
5 to 14 years	3	1	4
Totals	7	8	15

ENTERIC FEVER.

Notifications, 65 ; Deaths, 7.

The total number of notifications is somewhat in excess of that for each of the five immediately preceding years. The comparisons will be seen in Table XVII., page 57.

The ages and sexes of the notified cases were as follows:—

AGE PERIOD.	Males.	Females.	Total
Under 5 years.....	3	2	5
5 and under 10 years	3	4	7
10 „ 14 „	4	2	6
14 „ 20 „	4	4	8
20 „ 25 „	3	7	10
25 „ 30 „	5	2	7
30 and over.....	10	12	22
Totals	32	33	65

Forty-nine cases, or 75 per cent. were removed to Hospital. Details of the fatal cases are as follows:—Hospital cases—Males of 5 and 37 and Females of 24, 47 and 49; home cases—Females of 19 and 28. The case mortality was 10.8 per cent. and the death-rate was 0.1 per 1,000 of the population. The Ward incidence in each of

the four quarters was as follows :—

Ward.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
Claremont...	3	—	2	3	8
Talbot	7	2	1	6	16
Bank Hey .	—	—	1	2	3
Brunswick .	1	3	—	2	6
Foxhall	8	4	1	5	18
Waterloo....	3	—	1	10	14
Total ...	22	9	6	28	65

Inquiries into the causation have not yielded satisfactory results, and in most cases the source of infection remained undetected. In 19 cases there was a history of having eaten shellfish prior to the onset, and it is now admitted that these comestibles are capable of carrying and conveying the specific infection of Enteric Fever. In six instances there had been previous cases in the same house.

The Widal Blood Test has been an aid to diagnosis. Eight cases gave a negative result. Five of these were removed to Hospital, and when kept under observation the diagnosis of Enteric Fever was either withdrawn or rendered in doubt. In two cases no specimens were submitted. One case was doubtful, but all the remainder gave positive results.

In all instances where there are cases under observation, or where the patient is treated at home Typhoid Pails are sent, into which the excreta are placed. These pails are changed daily, and their contents burned at the Destructor.

PUERPERAL FEVER.

Notifications, 3 ; Deaths, 2.

Two of the cases were attended by Registered Midwives during the time of confinement, and one case by a neighbour. In each case the attendant was prohibited from attending any other confinements for some time, and their instruments and apparatus were disinfected.

ERYSIPELAS.

Notifications, 18 ; Deaths, 3.

Nine of the cases were Males and 9 were Females. All the cases were treated at their homes. One case was due to a wound, one to an infectious sore, but in the remaining 16 no cause was detected. The location of the disease was as follows :—

Face and neck	17
Foot and ankle	1

DISINFECTION.

After cases of the chief notifiable diseases, the houses are fumigated with formaldehyde vapour after washing down the walls and furniture with a solution of perchloride of mercury, or spraying the walls with a solution of formaldehyde. The spraying machines purchased some years ago have given very good results. Clothes, bedding, &c., are removed to the Sanatorium, and disinfected in the steam disinfectors there; 35,712 articles were so treated during 1908.

In the case of Typhoid Fever and Diphtheria the drains are flushed with a solution of chloride of lime, and in case of an outbreak of disease in a particular district, the sewers in the district are similarly treated.

After cases of Measles, and after deaths from Phthisis or Cancer, fumigation of the room with formaldehyde is carried out.

All typhoid excreta, whether the case is treated at the Sanatorium or at home, are collected in special pails and burned at the Destructor.

Disinfectants are distributed on application at the Health Office to the houses where infectious diseases have occurred.

The drains are tested after all cases of enteric fever, diphtheria, and after diarrhoea deaths.

SCHOOL CLOSURE, 1908.

SCHOOL.	Cause.	CLOSED.	
		From	To
Waterloo Road Council School (Mixed and Infants' Departments)	Measles	Feb. 10th	Feb. 24th
Talbot Rd. R.C. School (Infants' Dept.)	Do.	Feb. 10th	March 2nd
Ashburton Rd. Council School	Do.	Feb. 21st	March 2nd
St. John's School (Infants' Department)	Do.	Feb. 18th	March 9th
St. Kentigern's R.C. School (Mixed and Infants' Departments)	Do.	Feb. 18th	March 9th
Devonshire Rd. Council School (Infants' Department)	Do.	March 9th	March 30th
St. Cuthbert's R.C. School (Infants' Department)	Do.	March 20th	April 13th
South Shore Council School (Infants' Department)	Do.	March 20th	April 13th

THE SANATORIUM.

From the Table which appears at the end of this paragraph, it will be seen that a great deal of work has been done at the Sanatorium during the year. 78 cases remained over from 1907, viz. :—67 of Scarlet Fever, 5 of Diphtheria, and 6 of Enteric Fever. All these cases were discharged during the early part of 1908 in a convalescent condition. During the year 324 fresh cases were admitted, viz. :—221 of Scarlet Fever, 33 of Diphtheria, 47 of Enteric Fever, 16 of Measles, and 7 of other diseases. Thus during the year there were altogether 402 cases under treatment. Of these, 346 were discharged convalescent (viz. :—254 Scarlet Fever, 28 Diphtheria, 41 Enteric Fever, 16 Measles, and 7 others), twelve died during the year (3 Scarlet

Fever, 4 Diphtheria, and 5 Enteric Fever), and the remainder, 44 in number (31 Scarlet Fever, 6 Diphtheria, and 7 Enteric Fever) remained in at the end of the year. These figures are the actual diseases under treatment, and vary somewhat from Table XIII. in the Appendix, as several of the cases were, on admission or after a short observation, found to be wrongly diagnosed, and the figures on the latter Table are prepared according to the diseases for which the patients were originally admitted.

SCARLET FEVER.—288 cases of this disease were under treatment during the year. 23 males and 44 females remained in from 1907, and 107 males and 114 females were admitted during 1908. 114 males and 140 females were discharged convalescent. One male and two females died, leaving in at the end of the year 15 males and 16 females. The average stay in hospital of the convalescent cases was 51 days, the longest being 123 days and the shortest 26 days. The average stay of the fatal cases was 13 days, the longest being 20 and the shortest 8 days. Nineteen of the cases were peeling on admission, and it will be understood how difficult it is to keep the prevalence of this disease under control, as most of these cases were not kept under isolation until the peeling commenced. The case mortality was 1.17 per cent. Three of the cases had second attacks of the disease. One girl of five developed a typical scarlet rash while in the stage of peeling from the previous attack, and a girl of seven and a boy of ten who were admitted with typical scarlet fever were stated to have had the disease some years previously.

Two cases admitted as Diphtheria proved to be Scarlet Fever. These cases were, of course, admitted to the

Diphtheria wards first, and were the means of infecting two others with the disease. One case of Scarlet Fever developed a Chicken Pox rash eight days after admission, but fortunately there were no extensions from this case.

One case of Scarlet Fever developed a Measles rash three days after admission, and from this case, two further cases of Measles extended. Three cases of Scarlet Fever also had traces of Whooping Cough on admission. One case of Scarlet Fever was probably accompanied by some Diphtheritic affection. One case admitted as Enteric Fever proved to be Scarlet Fever, and one nurse developed the disease during the year.

With regard to the complications of Scarlet Fever, the following occurred :—

- (a) OTORRHŒA (discharging ears) 16, or 6.2 per cent. of the total cases. All but one were cured.
- (b) RHNIORRHŒA (discharging nose) 32, or 12.5 per cent. All were cured before discharge.
- (c) NEPHRITIS (inflammation of the kidneys) 21 cases, or 8.2 per cent. Several of these were only transient cases of albuminuria, but others were associated with hæmaturia. Two of the cases did not clear up before discharge.
- (d) ARTHRITIS (inflammation of the joints, resembling rheumatism) 3 cases, all cured.
- (e) SUPPURATING ADENITIS (inflammation of the glands of the neck proceeding to abscess formation), one case. Swollen neck glands are almost constant accompaniments of Scarlet Fever, but it is rare for these to go on to the formation of pus, requiring surgical treatment.

- (f) MASTOIDITIS, 3 cases requiring surgical treatment. Two of the cases healed readily, but the third was in a very chronic condition, and was subjected to a further operation after she had returned home.
- (g) HEART COMPLICATIONS, 6 cases, or 2.3 per cent. These were not of a serious nature, and the conditions were much relieved before discharge from Hospital.

DIPHTHERIA.—38 cases of this disease were under treatment during the year, viz., 14 males and 24 females. Five of these cases had remained in Hospital from 1907, and 12 males and 21 females were admitted during the year. Nine males were discharged convalescent, with an average stay in Hospital of 39 days; 19 females were discharged with an average stay of 40 days. Three males and one female died, each within 24 hours of admission, the shortest time being one hour and the longest $20\frac{1}{2}$ hours. Six cases remained in at the end of 1908, and will be dealt with in the 1909 Report. The case mortality of the Hospital cases was 12.5 per cent.

Anti-Diphtheritic serum was administered to nearly all cases as soon as possible after admission. Six cases admitted as Diphtheria proved on observation to be of doubtful diagnosis, and fortunately all were discharged without contracting the disease. Bacteriological examination of throat swabs gave negative results, and there were none of the common sequelæ of the disease, *e.g.*, Albuminuria, Palatal Paralysis, &c. In six other cases bacteriological examination failed to reveal the presence of the specific organism, but these cases were of undoubted

diagnosis in that they had either typical diphtheritic membrane on the throat or there were the sequelæ of the disease:—nasal voice, regurgitation of liquids through the nose, or squint.

One case of Diphtheria developed Scarlet Fever in Hospital.

ENTERIC FEVER.—53 cases of this disease were under treatment during the year, 6 of which had remained over from 1907, and 24 males and 23 females were admitted during 1908. 22 of the males and 19 of the females were discharged convalescent after an average stay in Hospital of 54 and 46 days respectively, 2 males and 3 females died after an average stay of 12 and 6 days respectively, and 7 cases remained under treatment at the end of the year 1908. The case mortality of the Hospital cases was 10.9 per cent. The blood of all the cases was examined either before or after admission for the Widal Reaction. Of the 43 cases which passed through the typical course of the disease, 40 gave a definite reaction, while in the other three cases the reaction was partial or delayed. One case admitted as Enteric Fever proved to be Pneumonia, the Widal reaction being present, but on inquiry the patient was found to have had the fever some years previously. Of six cases which did not at any time of their stay in Hospital give the reaction it is probable from clinical observations that they were not Enteric Fever, but cases of appendicitis and meat poisoning.

One case was admitted as Scarlet Fever in the first instance, and another female was admitted four months advanced in pregnancy. One of the fatal cases had been ill at home for some time without treatment.

MEASLES.—16 cases of this disease were admitted and all discharged convalescent after an average stay of 14 days. One case was admitted as Scarlet Fever in the first instance, and three cases were taken from the Victoria Hospital.

From the observations which I have made on the various diseases it will be seen that the administration of a large fever hospital, such as ours, presents many difficulties. In many instances the diseases are so mild or atypical as to make the diagnosis difficult. Yet if they are left at home they may act as centres of infection for others.

From the short experience which I have had as Medical Superintendent of the Sanatorium, I can speak with praise of the Matron, Miss Procter, for her skill in management, and of the whole Nursing Staff, for the conscientious and able way in which they have carried out their duties of attendance upon the sick.

TABLE XVIII.

CASES OF INFECTIOUS DISEASE REMOVED TO THE SANATORIUM:—

		Remaining in at end of 1907.	Admitted during 1908.	Discharged during 1908.	Died during 1908	Average stay of non-fatal cases.	Average stay of fatal cases.	Remaining in at end of 1908.
Scarlet Fever	M.	23	107	114	1	51	11	15
	F.	44	114	140	2	50	14	16
Diphtheria	M.	2	12	9	3	39	1	2
	F.	3	21	19	1	40	1	4
Enteric Fever	M.	3	24	22	2	54	12	3
	F.	3	23	19	3	46	6	4
Measles	M.	—	6	6	—	13	—	—
	F.	—	10	10	—	15	—	—
Other diseases	M.	—	4	4	—	11	—	—
	F.	—	3	3	—	24	—	—
Totals	—	78	324	346	12	—	—	44

The details of the cost of the Hospital, as nearly as can be ascertained, are appended.

INFECTIOUS DISEASES HOSPITAL

(SANATORIUM).

	£
Matron	79
Porters, Nurses, and other salaries	478
Provisions for Inmates, Staff, &c.	700
Gas, Coal, Water, Rates, and Taxes, and Insurance	724
Furniture, Cutlery, Crockery, &c.	32
Building Repairs	15
Gardening	62
Materials for Uniforms	39
Medicine and Medical Appliances	77
Washing and Cleaning Materials	47
Advertising, Printing, and Stationery	20
Miscellaneous	27
	—
	2,300
Less Receipts from Inmates	90
	—
	2,210
Interest and Sinking Fund	1,427
	—
	<u>£3,637</u>

Up to 1905 it was customary to give the cost for the financial year ending 31st March, but it is obviously more desirable to give, if possible, the actual cost for the year under review. I have accordingly made arrangements which enable me to give the cost of the upkeep of the Hospital for the year beginning 1st January, 1908, and ending 31st December, 1908.

During the year ending 31st December the average stay in the Hospital of the 358 patients was 46.4 days.

Not including the interest and sinking fund in the Hospital expenses, the cost per week (per patient) was 19s. 4.5d. or £50 7s. 6d. per year, as compared with £1 8s. 5.1d. per week in 1907.

Deducting the amount received from patients, and including interest and sinking fund, the actual loss to the ratepayers of each patient averaged £1 10s. 7.7d. per week, as compared with £2 8s. 1.8d. per week in 1907. *In this expenditure, the cost of disinfecting articles sent from houses in the Borough to be disinfected is included.*

PART III.

GENERAL SANITARY WORK.

NOTIFICATION OF BIRTHS ACT, 1907.

This Act was adopted by the Corporation, and by an order of the Local Government Board it came into operation on the 11th of February, 1908.

A copy of the following circular was sent to the Medical Practitioners and Midwives :—

COUNTY BOROUGH OF BLACKPOOL.

PUBLIC HEALTH DEPARTMENT.

DEAR SIR OR MADAM,

Notification of Births Act, 1907.

On behalf of the Council of the Borough of Blackpool, in accordance with Section 2 of the above mentioned Act, I beg to inform you that the Council, as the local authority, have by resolution adopted the Notification of Births Act, 1907.

The consent of the Local Government Board has been obtained, and the Board have fixed the 11th February, 1908, as the date on which the Council's resolution of adoption shall come into operation. I am to call your attention to the provisions of the Act as affecting Medical Practitioners and Midwives. Section I, sub-sections (1) to (5) inclusive, of the Act (set out on the fly leaf) state, with respect to every confinement, that the person in attendance upon the mother at the time of, or within 6 hours of the birth, must send notice in writing to the Medical Officer of Health within 36 hours of the birth, I would draw your special attention to sub-section (5) which requires the notification of Still-births and of all miscarriages after the 28th week of pregnancy.

I enclose a number of addressed forms for your use, and shall be glad to furnish you with additional forms as required.

I propose to keep an account of all notifications received by post, and to refund the postage to you every quarter.

Yours faithfully,

FRANCIS J. H. COUTTS,

Medical Officer of Health.

21, Birley Street,
Blackpool,

February 8th, 1908.

COPY OF SECTION I. OF THE NOTIFICATION OF BIRTHS ACT, 1907.

SECTION I.—The provisions of this section shall have effect in the area of any local authority in which this Act is adopted by that authority in accordance with the provisions of this Act:—

- (1) In the case of every child born in an area in which this Act is adopted it shall be the duty of the father of the child, if he is actually residing in the house where the birth takes place at the time of its occurrence, and of any person in attendance upon the mother at the time of, or within six hours after the birth, to give notice in writing of the birth to the Medical Officer of

Health of the District in which the child is born, in manner provided by this section.

- (2) Notice under this section shall be given by posting a prepaid letter or postcard addressed to the Medical Officer of Health at his Office or Residence, giving the necessary information of the birth within thirty-six hours after the birth, or by delivering a written notice of the birth at the Office or Residence of the Medical Officer within the same time : and the Local Authority shall supply without charge addressed and stamped postcards containing the form of notice to any Medical Practitioner or Midwife residing or practising in their area, who applies for the same.
 - (3) Any person who fails to give notice of a birth in accordance with this section shall be liable on summary conviction to a penalty not exceeding twenty shillings : Provided that a person shall not be liable to a penalty under this provision if he satisfies the court that he had reasonable grounds to believe that notice had been duly given by some other person.
 - (4) The notification required to be made under this Act shall be in addition to and not in substitution for the requirements of any Act relating to the registration of births ; and any registrar of births and deaths whose sub-district or any part thereof is situate within any area in which this Act is adopted shall at all reasonable times have access to notices of births received by the Medical Officer of Health under this Act, or to any book in which those notices may be recorded, for the purpose of obtaining information concerning births which may have occurred in his sub-district.
 - (5) This section shall apply to any child which has issued forth from its mother after the expiration of the twenty-eighth week of pregnancy, whether alive or dead.
-

The Act ensures that births shall come to the knowledge of the Medical Officer of Health at the soonest possible moment, and that in those cases where it is necessary to offer advice on the rearing of infants, the opportunity for doing so shall not be deferred until irreparable damage may be done by injudicious feeding.

There has been a certain amount of opposition to this Act by the Medical Profession generally in the country. This is mainly due to three causes :—

- (1) A resentment of interference between the medical attendant and patient. If the Medical Officer of Health is cognisant of the fact that a medical man is in attendance, no official of the Health Department is allowed to interfere in the case. If the medical man himself notified the case I should then know that he were in attendance.
- (2) It is stated to be a breach of professional secrecy (especially in cases of illegitimate children). The births would have to be notified to the registrar in any case within six weeks, so the secrecy cannot be maintained, and it is compulsory to notify cases of infectious disease which are just as much professional secrets, yet no hardship is felt.
- (3) No fee is offered for notification. I have great sympathy with this objection, for it is not fair to impose a duty to be performed without payment, especially when a penalty may be inflicted for the non-performance. A medical man should be as much entitled to a fee for notification of births as for notification of a case of infectious disease.

The instructions which I have given to the Lady Health Visitor are that she should not visit cases notified by a doctor unless on request, and in cases notified by persons other than medical men, but where a doctor is in attendance, the same conditions should apply. I think this method of working should allay any fear of undue interference on the part of the staff of the Health Department.

From the time the Act came into operation (11th February, 1908) to the end of the year, the following notifications were received by the Medical Officer of Health :—

Notified by—

(1) Medical men	330
(2) Midwives	405
(3) Others	137

There were 108 births which were not notified as required under the Notification of Births Act, but which came to my knowledge through the usual returns received from the Registrar of Births. Many of these were due to a misunderstanding, and thinking that some other person had notified, others to oversight, others to ignorance of the requirements of the Act, while the others were due to intentional ignoring of the Act. I trust that the remarks which I have made above will lead to a more whole-hearted co-operation with the Health Authority.

The work under this Act has been entirely done under the Medical Officer of Health, by Miss Annie Heaton, the Lady Health Visitor, and no fewer than 1,207 visits have been paid by her in this connection (including primary and subsequent visits). Advice has been given on the storage of food, and on feeding and clothing of infants, and a special

point has been made of urging upon mothers the importance of persevering with the breast milk, even if it has to be supplemented by cows' milk suitably prepared. A copy of the booklet "How to manage a baby," by Mrs. Frank Stephens, has been left at each house. Upon subsequent visits observations were made upon the progress of the child and upon the use which had been made of the advice proffered on the previous visit. I do not think it would serve any useful purpose to state statistically the observations upon subsequent visits, for though in practically all cases the visits have been welcomed, in many, unsatisfactory methods of feeding have been resorted to; yet the seed has not always fallen upon stony ground, and we have had the satisfaction of observing good results of judicious feeding, results which have been pleasing to the parents and to the Medical Officer of Health and Lady Health Visitor.

In connection with visits under this Act, 46 cases of poverty have been met, and these cases have been referred to the Ladies' Sick Poor Association, and once more, as in previous years, the aid rendered by the Association has been invaluable. I desire to place on record my extreme indebtedness to that Association for their aid and co-operation, and I feel confident that I am also expressing the feeling of the Health Committee. I trust their good work will continue to flourish and prosper, and that I may have their co-operation in such cases, which come under my observation, as may be in need of supplemental aid.

Nine cases have been referred to the Local Inspector of the N.S.P.C.C., and his visits have had a salutary effect.

Forty-nine still births have come to the knowledge of

the department during the year, 26 being notified by medical men, 12 by midwives, and 11 through other sources. From the circular letter sent out it will be seen that it is also necessary to notify under this Act still births of such cases which have reached the 28th week of foetal life.

SPECIAL HOME OFFICE ENQUIRY.

This enquiry was described in the 1907 Report, and it has for its object the ascertaining to what extent the industrial employment of women tends to increase the Infantile Mortality. Though there is not much industrial employment in Blackpool, yet assistance was given, but as the enquiry will continue until the close of 1909 no definite results will be obtainable until the next report is issued. The enquiry consisted of a visit at the time of birth and subsequent visits at the ages of 6 and 12 months. 461 cases were under observation at the time of the 1st visit. Of these 41 removed, and we were unable to trace them, 57 died, leaving now 363 under observation.

In regard to first visits 490 visits were paid, and 356 in regard to second visits. As the enquiry comprised only cases which occurred during 1908, all the third visits will be undertaken in 1909, and no mention is now made of them. Miss Heaton's observations on the second visits (at age of six months) are all of a satisfactory nature, but there is no doubt that many parents who admit only breast feeding are also supplementing this by bottle feeding, or bread, biscuits, &c.

In March, 1908, a Select Committee of the INFANT LIFE PROTECTION ACT, 1897, issued a report and

recommended that the provision of this Act should be extended to homes in which more than one infant is kept in consideration of periodical payment, and that the homes admitting one or more children of the age of seven years, or under, should be registered and inspected. This is a reform which has been advocated by Medical Officers of Health for a considerable time, and the "Children's Act, 1908," incorporates it amongst other valuable measures of protecting the children.

The "CHILDREN'S ACT," which came into force on the 1st April, 1909, should be welcomed heartily by those who have the good of the community at heart, and especially by the sanitarians, and the thanks of all people of whatever shade of political opinion are due to the Government which has at last put into actual operation reforms which most people have advocated for years. Indulgence in alcohol and tobacco are two most important factors in stunting intellectual development and inhibiting physical growth, and this Act lessens the opportunity of taking children into the atmosphere of alcohol, and prohibits the public smoking of cigarettes by boys under the age of 16 years. I trust the next forward step will be the abolition of the "Penny-in-the-Slot Cigarette Machines."

I regret to find that the inspection of homes where children are put out to nurse is placed in the hands of the Poor Law Guardians, and not of the Sanitary Authority. For this purpose I advocate women inspectors, and already on the staff of the Health Departments of most towns there is a Lady Health Visitor who would be well suited for the purpose. "No infant shall be kept in any premises which are overcrowded, dangerous, or insanitary."

MIDWIVES' ACT, 1902.

Total on Register 1st January, 1908	25
No. who sent in form VIII. of intention to practise	22
No. of midwives who came to Blackpool during 1908	3
No. of midwives who left the district during 1908	1
Changes of address reported to Central Midwives' Board	5
Notifications received from midwives :—	
Sending for medical help	12
Still Births	19
Death of child	1
Warning letters sent to midwives :—	
Failing to notify sending for medical help	5
Failing to notify still births	3
Infringement of Rule 16	1
	—
	<u>9</u>
Visits paid Medical Officer of Health or Lady Health Visitor	78

Of the 25 midwives on the roll, 17 are certified because they were in practice for one year prior to the passing of this Act, 3 have the L.O.S. Certificate, 4 have the St. Mary's Hospital, Manchester certificate, and one has a certificate from the Ladies' Charity Lying-in Hospital, Liverpool.

The midwives are on the whole satisfactory, and an attempt is made by them to comply with the rules of the Central Midwives' Board, though considering the fact that 17 of the 25 have had no special training, it would be unreasonable to expect a complete compliance with these rules. The washable dresses and the carrying of suitable materials for cleaning the hands is insisted upon. From and after 1st April, 1910, no woman may habitually and for gain attend women in child-birth other than under the direction of a qualified medical practitioner, unless she be certified under this Act. This will mean that several monthly nurses who are now practising in Blackpool will have to discontinue doing so, but it is not anticipated that there will be any shortage of midwives in the town, as several of those who are already certified have not sufficient work to do, and who supplement their livelihood by keeping company-houses. The fees charged by midwives vary between 10s. 6d. to £2 2s., but they are chiefly 10s. 6d. to 15s.

EDUCATION (ADMINISTRATIVE PROVISIONS) ACT, 1907.

This work was not commenced until the beginning of 1909, and in my next Report I shall be able to make some statement as to the efficiency of the scheme adopted in Blackpool, and the results of the inspections. In the 1908 Report Dr. Coutts gave it as his opinion that the best method of administering this Act was to appoint an Assistant Medical Officer of Health as School Medical Officer, to make the medical inspection under the supervision of the Medical Officer of Health, who would organise the work, tabulate

the results, and report to the Education Committee thereon. I am quite in accord with this view of my predecessor, as I think the arrangements recommended by him would have centralised the general medical work of the Corporation, and would have made the Chief Medical Officer the responsible official.

After much deliberation the following scheme was decided upon at a meeting of the Education Committee, held on the 29th September, 1908 :—

- (1) The duties connected with the medical inspection of school children shall be administered by the School Attendance Sub-Committee ; and the sanitary and hygienic inspection of school buildings shall, as heretofore, be under the supervision of the Medical Officer of Health.
- (2) A fully-qualified School Medical Officer shall be appointed by the Education Committee, to devote her full time to the services of the Education Committee.
- (3) The School Medical Officer shall be subject to the supervision of the Medical Officer of Health ; but the whole of the administrative work and correspondence shall be done in the Education Office, and shall be under the control of the Director of Education, and all reports, recommendations, suggestions, &c., from the Medical Officer of Health, or the School Medical Officer shall be made to the Director of Education for the consideration of the Education Committee.
- (4) The following duties shall be performed by the School Medical Officer :—
 - (a) The medical inspection of school children as required in Section 13 of the Education (Administrative Provisions) Act, 1907, *e.g.* :—
 - (1) The medical inspection of school children at regular intervals. For the year 1908-9 this inspection may be confined to children entering or leaving school.

- (2) The systematic supervision of the personal and home life of the child.
 - (3) The prevention of the spread of infectious and contagious diseases.
- (b) The keeping of such records and forms, and the making of such reports, as may be prescribed from time to time by the Education Committee of the Board of Education.
 - (c) Examining and reporting (as required by the Committee) upon all cases of children proposed to be transferred to an industrial school; a school for blind or deaf children; or a school for mentally or physically defective children; and the granting of the necessary certificates.
 - (d) The examining (when required by the School Attendance Sub-Committee) of any child who is stated to be physically unfit to attend school, and the granting of the necessary certificate.
 - (e) The examining of all candidates for scholarships; or for appointment as pupil teacher, P.T. bursar, or student teacher; and the making out of the necessary certificates.
 - (f) The reporting (when required by the Committee) on cases of teachers absent owing to illness.
 - (g) Submitting an Annual Report to the School Attendance Sub-Committee, and the making of such special reports as the Committee may require.
 - (h) Performing any other duties as may from time to time be required by the Education Committee, or its Sub-Committees; but medical or surgical treatment shall be no part of the School Medical Officer's duty.
- (5) The Director of Education shall be responsible for the performance of the following duties :—
- (a) The notifying of head teachers of each proposed inspection, and the forwarding of the necessary material.

- (b) The notifying of parents of any defects revealed by the inspection, and of the treatment indicated as necessary by the School Medical Officer.
- (6) Each head teacher shall be responsible for :—
- (a) Notifying the parents of the proposed inspection.
 - (b) The provision of the best facilities available for carrying out such inspection.
 - (c) Conducting and recording the physical and historical part of the inspection, *i.e.*, name, address, date of birth, height, weight, previous infectious disease, condition *re* boots, clothes, and other matters as shall be found desirable.
- (7) Resolved, that a Lady School Medical Officer be appointed by the Blackpool Education Committee at a salary of £200 per annum, to devote her full time to the service of the Committee.

It will be noted that the Medical Officer of Health is called upon to supervise the work without having any control in its administration. As I stated above, in my 1909 report I shall be able to report on the scheme adopted by the Education Committee, and to state whether in my opinion it is working in conformity with the spirit of the circulars of the Board of Education relating to the subject.

I think it specially important that the sanitation of the School Buildings and the duty of advising closure for Infectious Diseases should, as before, remain in the hands of your Medical Officer of Health.

With regard to the GENERAL SANITATION OF THE SCHOOLS, I am not in a position as yet to make any statement thereon, but I intend as early as possible in 1909 visiting all the Elementary Schools with a view of

familiarising myself with their conditions as regards health. The occasions and the periods of school closure are shown on page 70. Class-rooms and cloak-rooms have been disinfected as occasion arose. Sanitary work has been done in the following schools :—

- (1) Thames Road Council School.—Repairs to drains and yard surface.
- (2) Baines' School, Marton.—Repairs to drains and manholes.
- (3) Claremont Council School.—Manhole cover tightened, flushing fittings repaired, gullies unblocked, and cap to rodding arm fixed suitably in position.
- (4) St. Kentigern's School, (5) St. John's School, (6) Talbot Road, (7) Ashburton Road, (8) Christ Church, (9) Devonshire Road, and (10) Marton Infants' School—Manhole covers sealed and rendered airtight.
- (11) St. Cuthbert's School.—Drainage alterations. (These alterations are still in progress at the end of 1908).
- (12) The W.C.'s, drains, and gullies at all the Elementary Schools in the Borough, and the Secondary School, were cleansed and disinfected during the month of August by order of the Education Committee.

THE REPORT OF THE CONSULTATIVE COMMITTEE UPON THE SCHOOL ATTENDANCE OF CHILDREN BELOW THE AGE OF FIVE YEARS was issued in July, 1908, and though the subject is one which mainly affects Education Authorities, yet it has much import-

ance from a sanitary point of view, and I consider it not out of place to insert some of the recommendations of the Committee. They are as follows :—

- (1) The proper place for a child between three and five is, of course, at home with its mother, provided that the home conditions are satisfactory in the sense defined by the Committee at the beginning of this Report (see page 16).
- (2) Under existing economic conditions, however, the home surroundings of large numbers of children who attend elementary schools are not satisfactory in this sense, and children from these homes should be sent during the day time to places specially intended for their training (see pages 16 to 18).
- (3) The Committee consider that the best place for this purpose is a Nursery School, such as is described in the body of the Report. On the ground of educational advantages, economy, and convenience of administration the Committee consider that, so far as provision by a public authority is concerned, such nursery schools should, as a rule, be attached to Public Elementary Schools. Private institutions, however, if under public inspection, are desirable in certain circumstances and under certain conditions (see pages 20, 53, and 54).
- (4) With respect to children under five who are admitted to school, it is essential that they should not be subjected to any mental pressure or undue physical discipline, and that the premises in which they are trained should be roomy, and well lighted, warmed, and ventilated (see pages 20, 21, 22, and 33).
- (5) Formal lessons in reading, writing, and arithmetic should be rigidly excluded from the curriculum of younger infants, and also everything that requires prolonged complex operations of the nervous or muscular systems. Freedom of movement, constant change of occupation, frequent visits to the playground, and opportunities for sleep, are essential (see page 21).
- (6) In assessing the amount of school accommodation necessary for the many younger infants for whom public provision should be

made, the industrial and social conditions of the area should be considered, so that no obstacle should be raised to the admission of children whose home conditions are not yet satisfactory in the sense defined by the Committee (see page 48).

- (9) In view of the extreme importance of training children in cleanly habits at an early age, nurse-attendants or schoolhelps should be provided, if possible, to attend to the general physical needs of the children (see pages 23 and 32). Such attendants, however, must be in addition to, and not in place of, the teacher.
- (10) The present size of infants' classes should be reduced. No teacher should be put in sole charge of more than 30 younger infants at once. A teacher, however, who had the assistance of a school-help might be allowed a rather larger class (see pages 23 and 24).
- (12) As regards premises, financial considerations may prevent the immediate or universal construction of Nursery Schools. But the Committee do not think it is impracticable to demand a great improvement in the near future. All new buildings for infants should be framed on the lines suggested in the body of the Report. In the case of existing buildings an effort should be made to improve them as quickly as possible, so that at least the proper amount of light, ventilation, and space is secured. Galleries, where they still remain, should be abolished at once. Heavy desks should also give place to light chairs and tables, and generally any unsuitable equipment should be replaced by more appropriate apparatus as early as possible (see pages 20, 21, and 22).
- (14) The Committee do not recommend any change at present in the lower age limit either of voluntary or compulsory attendance at school (see page 54).
- (15) Lastly, the Committee strongly recommend that the Board of Education should appoint a body of experts to make a thorough and conclusive inquiry into the question of the impurity of the air in public Elementary Schools, and the best methods of heating and ventilation (see pages 27-30 and 254-255).

SANDS INSPECTION.

The sands and foreshores have been kept well under observation during the year, 214 visits of inspection having been paid.

I have accompanied deputations to Glasgow and Stockport to view the screening apparatus at work, and I feel confident that similar installations in Blackpool would prevent entirely the deposit of solid matter on the sands, which has been liable to occur during strong westerly winds.

Plans for screening chambers have been approved by the Council, and application made to the Local Government Board for permission to borrow money for their construction.

SMOKE NUISANCES.

Ten full half-hour observations have been made, and in four of the cases the limit of $2\frac{1}{2}$ minutes black smoke in the half-hour was exceeded. In two of the instances (Corporation Electricity Works, and the Blackpool Laundry, New Road) the cases were brought before the Magistrates for emitting $16\frac{1}{2}$ and $8\frac{1}{2}$ minutes respectively of black smoke in half an hour, and orders for abatement were made. In the other two cases, one was warned by telephone and one by letter. In addition to the above very many observations of shorter period have been made, and warning letters sent even where the limit had not been exceeded.

It is a most important item in maintaining the reputation of Blackpool as a health resort that the atmosphere shall be kept as free from smoke as possible.

FACTORY AND WORKSHOP ACT, 1901.

In accordance with the provisions of Section 132 of the Act, every Medical Officer of Health is required in his Annual Report to "report specifically on the administration of this Act in workshops and workplaces, and he shall send a copy of his Annual Report, or as much of it as deals with this subject, to the Secretary of State."

The administration of the Act as regards Factories comes more under the Government Factory Inspector, which accounts for the fact that only ten visits have been paid to Factories by our Inspectors during the year. If the Government Inspector on his visit to a Factory notices any deficiencies as to sanitary accommodation, &c., he sends word to the Medical Officer of Health, and then our Inspectors take the matter up.

There are 187 Factories registered in the Borough, and through the courtesy of Mr. Eraut, the late Inspector of Factories for this district, I am able to give the following classification :—

<i>Building and Furnishing</i>	Forward.....	53
<i>Trades :</i>	<i>Engineering :</i>	
Joinery, Sawmill, and Cabinet Works	Engineering Works and Smithies	9
Stone Works and Mortar Mills	Cycle and Motor Car Works	7
Brick Works	Toolmaking	1
—53	Rolling Stock	1
—		—18
53		71

Forward.....	71	Forward.....	148
Coachbuilding and Wheelwrights	6	<i>Lighting :</i>	
— 6		Electricity generating .	10
		Gas Works	1
			—11
<i>Preparation of Food, &c. :</i>		<i>Laundries :</i>	
Bake-houses	18	Laundries and Carpet-beating Works	10
Sausage Works.....	3	Bedding, &c., Cleaning Works	1
Sugar Boiling	2		—11
Ice Cream Making	3	<i>Miscellaneous :</i>	
Dairies	1	Fancy Linen Making ...	1
Aerated Water Manufacturing, Beer Bottling, and Brewing	21	Electro-plating	2
Other provisions	1	Photograph Printing ...	1
	—49	Toy Making	1
<i>Wearing Apparel :</i>		Picture Frame Making	1
Dress, Millinery, and Tailoring	1	Firewood Cutting	1
Hosiery Works	1	Wood Turning	1
Bootmaking & repairing	8	Cigar Making	2
	—10	Provender and Corn Mills	8
<i>Letterpress Printing :</i>			—18
Letterpress Printing and Bookbinding	12		—
	—12		—
	—		—
	148	Total.....	188

As regards Workshops, there are 627 in all registered in the Borough, an increase of 20, classified as follows:—

Clothing, &c. :

Milliners	33
Tailors	50
*Dress.....	115
Boots and Clogs.....	90
Underclothing and baby linen	5
Hosiery.....	4
	—297

Food and Drink :

Bakers and confectioners	183
Sugar boiling	5
Beer bottling	4
Plucking place	1
Pickle works	1
	—194

Building Trades :

Plumbing	11
Joiners	19
	— 30

Furniture :

Cabinetmaking and uphol- stery	16
Wire mattresses	1
French polisher	3
	— 20
	—
	541

Forward541

Conveyances, &c. :

Wheelwrights and coach builders	3
Coach painters	1
Saddlery	5
Black and whitesmiths .	18
Cycle repairs	7
Gunsmith.....	1
	— 35

Jewellery, &c. :

Watch repairing	5
Jewellery	1
Photo mounting, &c. ..	12
Picture-frame making ..	6
	— 24

Other Trades :

Hand Laundries	5
Dry cleaning	1
Cigar manufacturer ...	2
Brush manufacturer ...	2
Painter	3
Bookbinder	2
Fibrous Plasterer.....	1
Firewood	2
Electrical Appliances ..	2
Basket Manufacturer....	2
Printers	3
Stone Sawing	1
Motor Garage.....	1
	— 27

Total627

* NOTE.—Where Millinery and Dress are made on the same premises, they are classified under "Dress."

There were crossed off the Register during the year :—

- 1 Milliner's workroom.
- 2 Tailors' workrooms.
- 3 Boot Repairing workrooms.
- 1 Sugar Boiling workroom.

The following new Workshops were added :—

- 11 Dressmakers.
 - 1 Plumbing.
 - 1 Joiner.
 - 2 Cabinet Making.
 - 3 Black and Whitesmiths.
 - 1 Picture Frame Maker.
 - 1 Painter.
 - 1 Firewood Cutter.
 - 1 Basket Manufacturer.
 - 3 Printers.
 - 1 Stone Sawing.
 - 1 Motor garage.
-

I now submit, in the official form required by the Home Office, the following report as to the proceedings which have been taken in Blackpool in connection with the supervision of the Factories, Workshops, and Workplaces of the Borough in regard to those matters placed by the Act under the control of the local sanitary authority.

FACTORIES, WORKSHOPS, LAUNDRIES, WORK- PLACES, AND HOMEWORK.

I.—INSPECTION.

INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR
INSPECTORS OF NUISANCES.

PREMISES	Number of		
	Inspections	Written Notices	Prosecutions
FACTORIES (Including Factory Laundries)	10	2	.....
WORKSHOPS (Including Workshop Laundries)	275	23	.....
WORKPLACES (Other than Outworkers' premises)	285	...	.....
TOTAL	570	25	.....

2.—DEFECTS FOUND.

PARTICULARS.	Number of Defects			Number of Prosecutions		
	Found	Re-medied	Referred to H.M. Inspector.			
<i>Nuisances under the Public Health Acts :—*</i>						
Want of cleanliness	3	3	...	...
Want of ventilation	3	3	...	...
Overcrowding .....	...	...	...	...
Want of draining of floors .....	...	...	...	...
Other nuisances	34	23	...	...
†Sanitary accommodation ...	{	insufficient	2	2
		unsuitable or defective	1
		not separate for sexes	2	2
<i>Offences under the Factory and Workshop Act :—</i>						
Illegal occupation of underground bakehouse (s. 101) .....	...	...	...	...
Breach of special sanitary requirements for bakehouses (ss. 97 to 100)	28	25	...	...
Other offences .....	...	...	...	...
(Excluding offences relating to Outwork which are included in Part 3 of this report).						
TOTAL	72	59	...	...

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

† Section 22 Public Health Acts Amendment Act, 1890, has been adopted.

3.—HOME WORK.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.											OUTWORK IN UNWHOLESOME PREMISES, SECTION 108.			OUTWORK IN INFECTED PREMISES, SECTIONS 109, 110.			
	Lists received from Employers.					Numbers of Addresses from other Councils.			Numbers of Addresses of Outworkers forwarded to other Councils.		Number of Inspections of Outworkers' premises. (12)	In-stances. (13)	Notices served. (14)	Prosecu-tions. (15)	In-stances. (16)	Orders made (S 110). (17)	Prosecu-tions (Sections 109, 110) (18)	
	Twice in the year.		Once in the year.		Outworkers. (4)	Con-tract-ors. (3)	Lists. (5)	Con-tract-ors. (6)	Work men. (7)	Prosecutions.								
	Lists. (2)	Con-tract-ors. (3)	Outworkers. (4)	Con-tract-ors. (6)						Work men. (7)								Failing to keep or permit inspection of lists. (10)	Failing to send lists. (11)
Wearing Apparel :—																		
(1) Making, &c.	54	21	83	1	—	1	—	1	—	—	—	—	—	—	—	—		
(2) Cleaning and Washing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Lace, lace curtains and nets ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Artificial flowers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Nets, other than wire nets	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Tents, Sacks	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Furniture and Upholstery	2	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—		
Fur pulling	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Feather sorting	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Umbrellas, &c.	4	4	4	—	—	—	—	—	—	—	—	—	—	—	—	—		
Carding, &c., of buttons, &c.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Paper Bags and Boxes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Brush Making, Basket Making	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Racket and Tennis balls	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Stuffed Toys	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
File Making	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Electro Plate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Cables and Chains	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Anchors and Grapnels.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Cart Gear	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Locks, Latches, and Keys ...	2	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—		
Pea picking	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Block cutting	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—		
TOTAL	62	25	95	1	—	1	—	6	19	—	—	—	—	—	—	—		

4.—REGISTERED WORKSHOPS.

Workshops on Register (s.131) at end of 1908.		Number.
Important classes of workshops, such as workshop bakehouses, may be enumerated here.	Making of wearing apparel	297
	Workshop Bakehouses.....	183
	Preparation of other Foods, &c.....	11
	Building Trades	30
	Furniture Making, &c.	20
	Conveyances, &c.	35
	Other Trades	51
Total number of workshops on Register ...		627

5.—OTHER MATTERS.

CLASS.	Number.
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (S. 133)	7
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (s. 5)	Notified by H.M. Inspector Reports (of action taken) sent to H.M. Inspector...
Other.....	6
Underground Bakehouses (s. 101) :—	
Certificates granted during the year .....	...
In use at the end of the year	6
New Workshops reported to H.M. Inspector	17

The total number of visits to "Workplaces," viz., 285, includes 110 visits to restaurant kitchens, and 175 to Ice Cream Workshops, but does not include 972 visits to Slaughter-houses, which should probably be considered workplaces also, which would bring the number of visits to workplaces up to 1,257.

Defects as to want of cleanliness, &c., in many of these workplaces were remedied on verbal notice by the Inspector, but no record was kept of these.

The BAKEHOUSES were kept well under observation, and 129 visits were paid to them. Eight verbal and 13 written preliminary notices were served relating to some minor sanitary points. Letters were sent to two occupiers of bakehouses to discontinue the use of cellars for processes incidental to baking.

With regard to OUTWORKERS lists, circular letters have been sent out at the beginning of February and of August asking for the lists, and these have been promptly sent in. It is not obligatory upon the Department to ask specially for the lists, and persons failing to forward their lists are liable to a penalty, yet the system adopted in 1908 has worked so satisfactorily that I purpose continuing it in future years.

The conditions of the premises of the Outworkers were satisfactory from a sanitary point of view. These premises are kept well under observation, and I have instructed the Inspectors to visit each outworker twice a year.

In the absence of any large textile industry in Blackpool the number of Outworkers is small, but in other

large towns the problem of dealing with them is somewhat great, and it would be well for us to look further afield and familiarise ourselves with some of the conditions of other places. The report of a Select Committee on Homework was issued in July, 1908. It is stated that sweating prevails extensively, that is, sweating as understood to mean that work is paid for at a rate which, under the conditions in which many of the workers do it, yields to them an income which is quite insufficient to enable any able person to obtain anything like proper food, clothing, and house accommodation. The Committee gives the following reasons why the pay is so pitiably small :—(1) Much of the work is sewing, and requires little or no previous training or experience. (2) The work is done by women whose circumstances, household duties, feeble health, age, invalid husband, parents, or children, render it impossible or difficult for them to undertake regular work in Factories. (3) Payment is usually at piece rates, and those who are slow, owing to age, feeble health, inexperience, &c., find it more easy to obtain this kind of work than any other. (4) The supply of homeworkers is very large and elastic. (5) Competition with machinery. (6) Many Homeworkers are makers of Baby Linen and Ladies' Blouses and Underclothing, and unless the price at which these articles are sold to the wives and daughters of the better-paid working man and the middle class people is low, those who would otherwise be purchasers will buy the materials and make the articles at home. (7) Competition of foreign made articles (referring especially to the Irish lace trade and hook and eye trade). (8) Homeworkers, though not exclusively, are almost entirely women. (9) Women Homeworkers are unorganised and cannot act together to promote common interest.

(10) The intervention of the middleman between the employer and the worker. (11) Competition amongst employers.

The select Committee summarise their conclusions as follows :—

- (1) That there should be legislation with regard to the rates of payment made to Home Workers who are employed in the production or preparation of articles for sale by other persons.
- (2) That such legislation should at first be tentative and experimental, and be limited in its scope to Home Workers engaged in the tailoring, shirtmaking, under-clothing, and baby linen trades, and in the finishing processes of machine-made lace. The Home Secretary should be empowered after enquiry made, to establish Wages Boards for any other trades.
- (3) That Wages Boards should be established in selected trades to fix minimum time and piece rates of payment of Home Workers in those trades.
- (4) That it should be an offence to pay or offer lower rates of payment to Home Workers in those trades than the minimum rates which had been fixed for that district by the Wages Board.
- (5) That the delivery and collection of work done at home should be done by persons in the direct employ and pay of the employer. Where that was not done, the amount which a worker could earn in a specified time should be calculated on a basis which included the time spent in fetching and returning the work as time occupied in doing the work.

- (6) That all Home Workers who are employed by other persons in producing or preparing articles for sale should be required to register their name, address, and class of work at, and receive a certificate of such registration from, the offices of the Local Authority, and that the keeping of accurate outworkers' lists by employers should be strictly enforced.
- (7) That it should be an offence for any person to employ any Home Worker to produce or prepare any articles for sale by another person unless the worker produce a certificate of registration.
- (8) That the provisions of Section 91 of the Public Health Act, 1875, with regard to factories and workshops which are not kept clean or are ill-ventilated or overcrowded should be extended to rooms in which Home Work is done, and power should be given to Sanitary and Factory Inspectors to inspect them and secure the enforcement of the law.
- (9) That the full protection of the Truck Acts should be secured to Home Workers.

SHOP HOURS ACTS, 1892, 1893, AND 1895.

These Acts require that no young person (*i.e.*, a person under the age of 18 years) may lawfully be employed in a shop for a longer period than 74 hours, including meal times, in any one week, and that a notice to this effect must be exhibited in a conspicuous place in any shop where a young person is employed. The employer is liable to a fine not exceeding £1 for each young person employed in

contravention of these Acts, and to a fine not exceeding 40s. for failure to exhibit the notice.

The working of these Acts is in Blackpool entrusted to the Department of the Medical Officer of Health.

Thirty-three visits were paid to various shops, and in 8 instances there was a failure to exhibit the notice. Prosecutions were instituted in 5 cases, fines of 5s. and costs, and in 3 cases fines of 2s. 6d. and costs, were inflicted.

EMPLOYMENT OF CHILDREN ACT, 1903.

This Act requires that :—

A child shall not be employed between the hours of nine in the evening and six in the morning.

A child under the age of eleven years shall not be employed in street trading ;

No child who is employed half-time under the Factory and Workshop Act, 1901, shall be employed in any other occupation ;

A child shall not be employed to lift, carry, or move anything so heavy as to be likely to cause injury to the child ;

A child shall not be employed in any occupation likely to be injurious to his life, limb, health, or education, regard being had to his physical condition.

If the local authority send to the employer of any child a certificate signed by a registered medical practitioner that the lifting, carrying, or moving of any

specified weight is likely to cause injury to the child, or that any specified occupation is likely to be injurious to the life, limb, health, or education of the child, the certificate shall be admissible as evidence in any subsequent proceedings against the employer in respect of the employment of the child, a child being (unless otherwise mentioned) a person under the age of 14 years.

Fifteen visits were paid under this Act, and in ten instances contraventions were found. Prosecutions were instituted, and in 7 cases fines of 5s. and costs, and in 3 cases fines of 2s. 6d. and costs, were inflicted. In one instance a child was found working as late as 10-45 p.m.

**THE BLACKPOOL CLOSING ORDER, 1908.
BARBERS' AND HAIRDRESSERS' SHOPS.**

This Order, made under powers granted by the Shop Hours Act, 1904, states that from the 1st day of November, to the 30th day of April, both days inclusive, Barbers and Hairdressers Shops shall close at the following hours:—

Mondays and Thursdays	8 p.m.
Tuesdays and Fridays	8-30 p.m.
Wednesdays	1 p.m.
Saturdays	10 p.m.

The following dates are exempted:—December 18th, to 24th, both days inclusive, and from Wednesday previous to Easter Day to the Wednesday following Easter Day, both days inclusive.

In the case of "mixed shops" a notice must be exhibited as follows :—

SHOP HOURS ACT, 1904.

These premises are NOT now OPEN
for any of the purposes of a Barbers'
or Hairdressers' Shop.

There is nothing particular to report under this order up to the end of 1908.

SUPERVISION OF FOOD SUPPLIES.

This has been carried out during the year by Inspector Newby, under the direction and supervision of the Medical Officer of Health.

The following food places exist in the Borough :—

	1907	...	1908
	<u> </u>		<u> </u>
Butchers' shops	108	...	108
Frozen Meat shops	33	...	25
Fish and Chips and Tripe shops	84	...	87
Fish Dealers mostly selling also Fruit and Game	33	...	43
Provision shops mostly selling also Fruit and Game	295	...	239
Provision shops (selling also Butcher's meat)	25	...	26
Fruit shops	76	...	73
Restaurants, where food is cooked	48	...	49
Tea Rooms	21	...	14
Oyster shops (not counting stalls)	15	...	11
Confectioners and Sweet Shops	198	...	209
	<u> </u>		<u> </u>
	936		884
	<u> </u>		<u> </u>

It will be observed that the 1908 figure is 52 fewer than 1907, though it is 20 in excess of that for 1906.

During certain parts of the year the above list is considerably augmented by Meat Stalls, Ice Cream Barrows, Fish Carts, &c.

As in previous years, and as I trust will continue to be the case, the inspection of food has been one of the most important branches of the work of the Health Department, and I am pleased to be able to record that the efficiency and harmony of the work has been greatly aided by the co-operation of all the food vendors in the town, and it is to be hoped that the good feeling will continue to exist.

The following visits have been paid :—

	1907	1908
	—	—
Visits to Milkshops and Dairies	389 ...	229
„ Cowsheds in the Borough	272 ...	203
„ Cowsheds out of the Borough	8 ...	14
„ Ice Cream Stalls	147 ...	146
„ Ice Cream Workshops	219 ...	175
„ Public Slaughter-houses	279 ...	265
„ Other Slaughter-houses in the Borough	704 ...	707
„ Slaughter-houses out of the Borough...	85 ...	33
„ Butchers' shops	2,250 ...	2,575
„ Other shops	2,350 ...	2,123
„ Restaurant Kitchens	90 ...	110
	—	—
	<u>6,793</u> ...	<u>6,580</u>

In all cases where the shop keepers have any doubt as to the quality of any article, they are invited to send to

the Health Office, when the Medical Officer of Health or Food Inspector will at once call and pass an opinion on the article.

During the year the following articles were destroyed as unfit for food (not including meat from the Public Slaughter-house) :—

- 137½lbs of Frozen Pork (Musty).
- 3 Rabbits (with cysts).
- 16 Ox Kidneys "frozen" (Musty).
- 3 Chickens.
- 2 Boxes of Plaice (4cwt.)
- 6 Frozen Lambs (256lbs.), 29lbs. of Loin of Frozen Lamb).
- All musty.
- 58lbs. of Legs of Pork.
- 30lbs Strawberries.
- 1 Pot of Potted Shrimps.
- 50 Bananas.
- 6lbs. Cooked Lamb.
- 223lbs. Halibut.
- 8 Boxes of Kippers.
- 137 Rabbits (decomposed).
- 546lbs. Prunes.
- 44 Chickens.
- 2 Pots of Potted Shrimps.

In the case of the last two named articles it was deemed advisable to obtain a Magistrate's Order for destruction.

The chickens were frozen and sent into the Borough by a wholesale dealer in Manchester, and upon the receiver opening the box he found them not fit for food and sent for us, and although the receiver signed a consent note for their destruction, we also got a Magistrate's permission to destroy them in case the sender turned awkward. We heard nothing more about them, the affair being settled between the two.

The two pots of shrimps were duly reported to the Health Committee, and a strong letter of caution sent to the shopkeeper by order of the Committee.

SLAUGHTER-HOUSES AND THE INSPECTION OF MEAT.

There are in the Borough the Corporation Abattoirs and three other Private Slaughter-houses. The system of letting private slaughter-houses at the Corporation Abattoirs greatly facilitates the examination of meat as well as obviates the inseparable nuisance attached to such buildings when scattered over the town. Six of the private slaughter-houses at the Abattoirs were let to the following:—Mr. J. Cocker, Mr. T. Holroyd, Messrs. Holt and Hull, Messrs. Rainford and Valiant, Messrs. Garsden and R. Hull, and Messrs. Co-operative Society. Other premises were let for Hide Skin and Fat Warehouses, for Gut Scraping, for Tripe Boiling, and for Blood Drying. The public slaughter-houses at the Abattoirs were regularly used by a considerable number of butchers during the year.

The following animals were slaughtered during the year at the Abattoirs:—

	1907	1908
	—	—
Cows	114	99
Heifers	2,209	2,159
Bullocks	740	658
Bulls	31	24
Calves	788	736
Sheep	37,240	35,070
Pigs	1,431	1,340
	—	—
	<u>42,553</u>	<u>40,086</u>

These figures show a decrease in all the animals.

There were killed at the Private Slaughter-houses (other than the Abattoirs) in and out of the Borough and brought into the Borough for sale :—

Heifers	936
Bullocks	208
Calves	1,040
Sheep	12,428
Pigs	100
	14,712
	14,712

Meat surrendered and destroyed during 1908 :—

(1) At the Corporation Abattoirs :—

(a) : Tuberculosis :

5 Pigs (601lbs.)

2 Cows (1,108lbs.)

2 Calves (140lbs.)

Viscera of 8 Heifers and 1 Cow.

(b) Inflammation :

1 Pig and viscera.

Viscera of 2 Pigs.

(c) Abscesses :

Heads of 2 Pigs (43lbs.)

1 Lamb (24lbs.)

(d) Dropsy and Pleurisy :

1 Pig (67lbs.)

(e) Actinomycosis :

1 Sheep.

(f) Anthrax :

1 Cow and viscera.

(g) Found dead :

5 Lambs (223½lbs.)

1 Sheep (52lbs.)

Of the 5 lambs and the one sheep found dead, 3 lambs died of suffocation. The other 2 lambs and the sheep died of Anthrax, and the cases were duly reported to the Chief Constable, and every precaution taken. The cow which had Anthrax was dressed. It was killed owing to illness, and upon examination of the blood under the microscope the bacilli of Anthrax were found.

(2) At Private Slaughter-houses within the Borough :—

Viscera of Heifer and 70lbs. of Beef (Tuberculous), and
28lbs. of Bruised Beef.

(3) At Slaughter-houses outside the Borough :—

Viscera of Heifer and viscera of Cow (Tuberculous).
Lungs of Heifer (Inflammation).
Lungs of Cow and 42lbs. of Beef (Abscess).

On 6 occasions the Meat Inspector has been requested to inspect meat at these Slaughter-houses, which was intended to be sent into Blackpool.

It has not been necessary to institute any legal proceedings in regard to the above meat, as in the majority of instances the attention of the Meat Inspector was called as soon as a carcass was dressed, and in the other instances it was clear that there was no intention to pass for consumption unsound meat, but they were cases of oversight or ignorance. Every facility has been accorded in the inspection of Slaughter-houses and the examination of meat, and I trust that the confidence which the butchers have in the fairness of our decisions will continue. Your Medical Officer of Health is at all times ready to see or to

send the Meat Inspector to see any meat which is of a suspicious character. 707 visits have been paid to the private Slaughter-houses in the Borough, and the Abattoirs were visited at least once every day.

THE MILK SUPPLY.

As in previous years every effort has been made to ensure that all precautions are taken that the milk supply shall be pure. On taking up my appointment in Blackpool I made it one of my first duties to inspect personally all the Cowsheds in the Borough. On the whole the structural conditions are very satisfactory. There were, however, one or two conditions of which I did not approve, *e.g.*, the manure heap and cowshed being contiguous to each other, with a direct opening between. These conditions were at once remedied. With regard to the cleanliness of the cows, and the process of milking, there is still room for improvement. I hold most strongly that it is not unreasonable to ask that cows shall be groomed just as much as horses. Doubtless their excreta are of such a nature that the caking of it on the haunches of the cows is very apt to occur, but considering that their milk yield is of such importance in the daily diet, this should call for increased exertions in keeping the bodies of the cows clean. The udders should be wiped with a damp cloth, and the milkers should scrub their hands always before milking. It would be a decided improvement if the persons distributing the milk from house to house would keep the measuring can hanging inside the stock can, and not hanging out of their pockets. If these conditions were attended to there would be a great diminu-

tion in the amount of sediment which we so frequently see at the bottom of a glass of milk.

The Royal Commission on Tuberculosis have recently issued their third interim report, and two important findings, based on the results of numerous experiments, are contained therein :—

- (1) The milk of cows obviously suffering from tuberculosis contained tubercle bacilli in the milk.
- (2) In the case of cows with slight tuberculous lesions, tubercle bacilli in small numbers are discharged in the fæces, while as regards cows clinically tuberculous, experiments show that the fæces contain large numbers of living and virulent tubercle bacilli.

These two points give a direct lead to our future action in supervising milk supply. It was formerly thought that milk from tuberculous cows was non-infective provided there was no tuberculosis of the udder, but this is now disproved, and the milk of all cows suffering from tuberculosis of any part of their body must be considered dangerous for human beings, and withheld from the public supply. Not only must the milk from these cows be withheld, but the cows must be excluded from the cowshed in which there are milch cows.

The following is a list of Milk Sellers in the Borough :—

Dairies selling by retail	17
Provision dealers selling by retail	56
Butchers	4

Persons meeting carts from farms and delivering milk direct and not taking it to Dairy	17
Tea Rooms and Sweet shops selling in glasses as refreshments when asked for	74
Dining Rooms selling in glasses as refreshments when asked for	12
Places selling sterilised milk in bottles	2
Total	<u>182</u>
No. of Cowsheds in Borough during 1908, the occupiers of which sold milk during the year	51
Farmers outside Borough bringing milk into Borough ...	142
Ice Cream dealers	162

During 1908, as seen on page 110, Mr. Newby paid in all 203 visits to Cowsheds in the Borough, 14 to Cowsheds outside the Borough, 229 to Milkshops and Dairies, 146 to Ice Cream Stalls, and 175 to Ice Cream Workshops.

During the year 49 Milk Dealers and 39 Ice Cream Dealers have been registered, and 80 certificates have been issued. In 38 cases persons have been cautioned for selling milk without being on the register and all came and registered.

Letters were sent in three cases where the shippens required limewashing.

No samples of ice cream were submitted for analysis. Five samples of milk were submitted for Bacteriological analysis, but none of them were found to contain tubercle bacilli.

SALE OF FOOD AND DRUGS ACTS.

195 samples have been taken during the year by Inspector Sanderson, who is the Sampling Officer under these Acts.

The samples were composed of the following :—

SAMPLE.	Total taken.	Certified not Genuine.
Beef (Potted)	1	—
Borax	2	—
Butter	42	1
Coffee	14	—
Cream	5	2
Cream of Tartar	4	1
Jam	1	—
Lard	3	—
Lobster (Potted)	3	3
Marmalade	1	—
Meat (Potted)	1	—
Milk	72	21
Olive Oil	1	—
Pearl Barley	1	—
Pepper (White)	16	—
Salmon and Shrimps (Potted)...	1	—
Shrimps (Potted)	8	5
Shrimps (Picked)	3	1
Shrimps	1	—
Sweets	2	—
Tea	4	—
Tongue Ox (Potted)	1	—
Vinegar Malt	1	—
Whisky (Irish)	1	—
Whisky (Scotch)	6	1
Totals	195	35

The following are some of the details of the samples certified to be "not genuine" :—

MILKS.

SAMPLE No. 434.—Fat, 3.34 per cent. ; Solids not fat, 8.12 per cent., added water 5 per cent. Official sample purchased at a dairy. This milk had gone through two persons hands after leaving the farm. Five further samples were taken in attempting to trace this milk, but all were found genuine, and were fairly good milks. A warning letter was, however, sent to the vendor.

SAMPLE No. 459.—Adulterated with 3.2 grains of Borates per pint. Fined 5s. and 16s. 6d. costs.

SAMPLE No. 466.—Fat, 2.62 per cent. ; Solids not fat, 8.59 per cent. Deficient in cream. The sampling inspector took two further samples of this milk at the railway station, but each of them contained over the requisite amount of fat. No further action was taken than a letter of caution.

SAMPLE No. 479.—Fat, 2.48 per cent. ; Solids not fat, 9.01 per cent. Deficient in milk fat. A further sample was taken at the farm. Eight cows were milked, and a sample of the mixed milk gave :—(Sample 484). Fat, 2.12 per cent. ; Solids not fat, 9.08 per cent. The sampling inspector states that these cows were "stripped." At the same time a sample was taken of milk which was being delivered at the farm, and the following analysis was obtained :—(Sample 485). Fat, 2.87 per cent. ; Solids not fat, 9.13 per cent. A further sample was taken from another

farmer who delivered milk to the vendor of No. 479, and the analysis gave:—(Sample 486), Fat, 2.82 per cent. ; Solids not fat, 9.03 per cent. No further action was taken.

SAMPLE No. 480.—Fat, 2.72 per cent. ; Solids not fat, 9.12 per cent. Deficient in fat. The farm was visited within two days and three samples were taken immediately after milking, of the mixed milk of 16 cows, with the following results:—(Sample 487). Fat, 2.67 per cent ; Solids not fat, 9.08 per cent. Sample 488:—Fat, 2.95 per cent. ; Solids not fat, 9.0 per cent. Sample 489:—Fat, 3.15 per cent. ; Solids not fat, 8.9 per cent. Each cow was milked dry. No further action was taken.

SAMPLE No. 496.—Fat, 2.82 per cent. ; Solids not fat, 8.95 per cent. Deficient in fat. This was a sample taken out of two glasses in a Restaurant. It was evident that the deficiency was due to carelessness, and not to intentional fraud, and no further action was taken than a warning letter.

SAMPLE No. 497.—Fat, 2.81 per cent. ; Solids not fat, 9.11 per cent. Deficient in fat. The same remarks apply as to No. 496.

SAMPLE No. 505.—Fat, 2.7 per cent. ; Solids not fat, 9.1 per cent. Deficient in cream. No further action was taken than a warning letter.

SAMPLE No. 506.—Fat, 2.82 per cent. ; Solids not fat, 8.54 per cent. Deficient in fat. A warning letter was sent.

SAMPLE No. 507.—Fat, 2.73 per cent. ; Solids not fat, 9.08 per cent. Deficient in fat. A warning letter was sent.

SAMPLE No. 508.—Fat, 2.58 per cent. ; Solids not fat, 8.72 per cent. Deficient in fat. In consequence of this sample five further samples were taken on the farm from which this milk came, with the following results :—

- (a) Fat, 3.05 per cent.; Solids not fat, 8.75 per cent.
- (b) Fat, 3.0 per cent. ; Solids not fat, 8.85 per cent.
- (c) Fat, 3.2 per cent. ; Solids not fat, 8.9 per cent.
- (d) Fat, 3.4 per cent. ; Solids not fat, 8.9 per cent.
- (e) Fat, 3.4 per cent. ; Solids not fat, 8.85 per cent.

The Inspector observed at the farm that the manner of conveying the milk from the Cowsheds to the cans might account for the deficiency in fat, as a quantity of fore milk was carried separately and poured into one can. The attention of the farmer was called to this, and he promised that each cow's milk should be conveyed separately into the stock can.

SAMPLE No. 529.—Fat, 2.47 per cent. ; Solids not fat, 8.83 per cent. Deficient in fat. As a result of this sample five further samples were taken at the farm from which it came, and the following results were obtained :—

- (a) Fat, 3.7 per cent. ; Solids not fat, 8.73 per cent.
- (b) Fat, 2.8 per cent. ; Solids not fat, 8.84 per cent.
- (c) Fat, 3.05 per cent. ; Solids not fat, 8.77 per cent.
- (d) Fat, 2.81 per cent. ; Solids not fat, 8.70 per cent.
- (e) Fat, 3.30 per cent. ; Solids not fat, 9.04 per cent.

No further action was taken.

SAMPLE No. 435.—Fat, 2.10 per cent. ; Solids not fat, 8.93 per cent. Deficient in fat. This was purchased at

a shop, and a sample was taken from the farmer who delivered milk to this shop, with the result: Fat, 3.4 per cent.; Solids not fat, 8.9 per cent. The deficiency was attributed to carelessness on the part of the shopkeeper, and no further action was taken than a warning letter.

SAMPLE No. 482.—Fat, 2.78 per cent.; Solids not fat, 9.21 per cent. Deficient in fat. No further action was taken than a warning letter.

(Board of Agriculture Standard:—Fats, 3 per cent.; Solids not fat, 8.5 per cent).

The 21 adulterated samples are thus accounted for. It will be observed that seven of the samples, though they contained less than the standard amount of fat, were known to be genuine milk, and not tampered with. It is obvious that a diminution in the percentage of fat alone, if unaccompanied by a diminution in the percentage of "solids not fat," does not point conclusively to an adulteration of the milk either by an addition of water or subtraction of cream.

It is presumed that the irregularity in the intervals which elapse between the periods of milking account to some extent for the variations in the percentage composition of the milks. Thus, the afternoon milking must be done shortly after noon in order that the milk may be delivered to the customers' houses by 4 p.m. or before that.

ADULTERATED BUTTER.

SAMPLE No. 539.—The analysis of this sample gave 18.76 per cent. water, 77.05 per cent. butter fat, 2.07 per cent. salt, 2.12 per cent. curd, and the analyst remarked that it contained 2.76 per cent. excess of water.

Two further informal samples were taken, with genuine results. No action was taken further than a "caution."

POTTED LOBSTER.

Three samples were adulterated. The analyst certified as follows:—

SAMPLE No. 405.—"65 per cent. fish, 20 per cent. bread, coloured with a red coal tar dye, and contained 0.5 per cent. boracic acid as a preservative, and was entirely devoid of lobster." The vendor was also the manufacturer and was fined 20s. and £1 costs.

SAMPLE No. 406.—This was purchased from a retailer and was certified to contain upwards of 40 per cent. of foreign fish, 10 per cent. of bread, coloured with a red coal tar dye, and contained 0.2 per cent boracic acid as a preservative. At the request of the retailer a sample of Potted Lobster was taken on its arrival in town from the manufacturers in a neighbouring town, and the following result of analysis was obtained:—

SAMPLE No. 423.—"Not less than 50 per cent. of foreign fish, 7 per cent. of bread, coloured with a red dye and contained 0.2 per cent. boracic acid." The manufacturer was prosecuted and fined £3 and £5 1s. 6d. costs.

The result of the actions taken with regard to Potted Lobster is that the manufacturers are declaring on their labels, that additions are made to the constituents of the tin, though in many cases the word "lobster" is so prominent as to detract attention from the smaller printing on the labels.

SCOTCH WHISKY.

SAMPLE No. 414.—One sample was adulterated, and was certified to be 26.5 per cent. under proof (the limit allowed being 25 per cent.) A warning letter was sent.

CREAM OF TARTAR.

SAMPLE No. 418.—The adulterated sample was certified to contain 12 per cent. of gypsum, and 5 per cent. of phosphate of lime. A warning letter was sent, but no further action was taken.

POTTED SHRIMPS.

SAMPLES Nos. 491, 516, 526, 548, 550.—Five of the eight samples taken were certified as not genuine, and contained respectively 0.52, 0.45, 0.5, 0.5, and 0.45 per cent. of boracic acid. No action was taken, as they contained less than 35 grains per pound (or 0.5 per cent.) of this preservative.

PICKED SHRIMPS.

SAMPLE No. 522.—The adulterated sample contained 0.6 per cent of boracic acid. A warning letter was sent.

CREAM.

SAMPLES Nos. 469 and 498.—Two of the five samples taken were certified not genuine. (1) 0.3 per cent. borates as a preservative. No action was taken. (2) 0.43 per cent. of borates as a preservative. A warning letter was sent.

FERTILISERS AND FEEDING STUFFS ACT.

Inspector Sanderson is the Sampling Officer under this Act, but during the year no samples were submitted to the Analyst. The Secretary of the Fylde Dairy Farmers' Association informed the members that samples would be taken and submitted for analysis if they were thought suspicious, but no application or complaint was received by the Health Department.

INSPECTION OF NEW HOUSES.

On completion of building, the Borough Surveyor notifies the Medical Officer of Health of any new houses. These are then examined and reports thereon made, and sent to the Surveyor, and, if satisfactory, an inhabiting certificate is issued. 401 houses were examined during the year by my Department. In 24 cases the drains were found fully satisfactory on first examination, 366 were passable, while the remainder required some alteration or improvement before they could be passed. 418 tests were applied to the drains of New Houses. 492 Waterclosets were satisfactory and 46 were of defective construction and required alteration. 290 of the houses had satisfactory ash receptacles on the first examination, and all the houses were built with a suitable foundation.

DRAIN TESTING OF INHABITED HOUSES.

293 existing houses had their drains tested, and it is a point worthy of consideration in determining the future work of the Health Department, that only 54 of these houses had drains which were fully satisfactory. The remaining 239 had some defect or other, and this necessitated 542 further tests during the process of repairing or relaying. 145 houses were passed off as satisfactory after the drainage defects had been repaired.

STORAGE OF HOUSEHOLD REFUSE.

The efficient supervision of this storage is a most important item in maintaining the health of the district, and one which I would urge upon the Health Authority the necessity of keeping up to as high a standard as possible.

The large brick ashpits, holding a large amount of decomposable organic matter, should not be tolerated. Galvanised iron bins, with iron covers, are by far the most satisfactory form of receptacle when they are frequently emptied, as they are in Blackpool. There are few sights more disgusting than to see cats and dogs raking for food in ash receptacles, and then going into the houses where they are nursed or played with by the children. The bins which I have mentioned would obviate this, if the covers were kept on.

No fewer than 1,173 visits were paid during 1908 for the purpose of inspecting ash receptacles. Nineteen modified ash receptacles were repaired, one ashpit was abolished,

and 284 galvanised iron ashbins were provided. 255 preliminary notices and 46 Council notices were served during the year to provide ashbins.

FORMATION, PAVING, &c., OF STREETS.

The Borough Surveyor has kindly supplied me with the following list of streets made during the year 1908 :—

FRONT STREETS—2.

Warley Road, from Queen's Drive to Warbrick Road.
Duke Street.

BACK STREETS—18.

Between Cross Street and Lewtas Street.
Behind Chapel Street, and 4 to 10, Coop Street.
Behind Chapel Street, on West side of Coop Street.
Behind No. 2 to 10, Whitegate Drive.
Behind No. 5 to 13, Harrison Street.
Behind No. 27 to 55, High Street.
Behind houses on North side of Montrose Avenue.
Behind No. 69. to 71, Park Road.
Between Church Street and Upper Adelaide Street.
Between Nos. 53 and 55, High Street.
Behind Lytham Road from Horncliffe Road to Boscombe Road.
Between Horncliffe Road and Boscombe Road.
Behind Nos. 55 to 61, Dean Street.
Behind Nos. 142 to 208, Palatine Road.
Between Nos. 160 and 162, Palatine Road.
Between Nos. 200 and 202, Palatine Road.
Behind Dean Street, from Bright Street to Moore Street.
Behind houses on South side of Thomas Street.

PASSAGES—5.

Between Dickson Road and Francis Street.
Behind Cocker Street, from Dickson Road and Francis Street.
Behind Nos. 1 and 3, Coop Street.
Behind Nos. 23 and 27, High Street.
On South side of house No. 100, Regent Road.

HOUSING OF THE WORKING CLASSES ACT.

In the early part of the year notices were served on the owners of the Starr Cottages, South Shore, calling upon them to render the houses in a habitable condition. The houses were without suitable water supply, sanitary conveniences, or drainage.

The necessary work was completed satisfactorily.

OFFENSIVE TRADES.

The following exist in the Borough :—

Blood Drier—At Public Slaughter-house.....	1
Tripe Boilers Do.	2
Gut Scrapers Do.	1
Fat receiving depôt Do.	1
Hide, Skin, and Fat depôt—Public Slaughter-house	1
Rag and Bone depôts in the Borough	3
	—
Total.....	9
	==

The first six premises were under daily inspection. The last three were visited weekly, and found satisfactory.

Two prosecutions were instituted against persons for establishing and carrying on the trade of rag and bone dealer without the permission of the Corporation. In one case fines of 5s. and 2s. 6d. and costs were imposed, and in the other case the summons was dismissed.

COMMON LODGING-HOUSES.

Under the Blackpool Improvement Act, 1901, Sec. 47,

the three Common Lodging-Houses previously existing were re-registered. These houses, with their accommodation are as follows :—

Eden Street....160 Adults and 1 Child.
 Seed Street....56 Adults and 1 Child.
 Gavan Street...148 Adults and 22 married
 couples, or
 217 Adults and 1 Child.

952 visits of inspection were paid to them, and it was found that they were on the whole kept in a cleanly condition and managed satisfactorily.

GENERAL SANITARY WORK.

In addition to the work which has already been dealt with under special headings, a vast amount of work has been carried out by the staff of the Health Department. The huge total of 15,819 visits paid is detailed in the summary which appears at the end of this portion of the report. This total does not include the visits paid by the Food Inspector, or visits to houses in connection with ash receptacles, but it does include visits paid to houses where births have occurred, and visits under the Employment of Children Act.

All the Inspectors report fully on their work to the Medical Officer of Health.

The storage of manure for an undue length of time in the vicinity of houses still requires much supervision, no fewer than 978 visits having been paid in this connection during the year. The bye-laws require the occupier to have the manure completely removed once a week, and I think this bye-law should be strictly enforced.

836 houses were fully inspected, and 2,711 visits paid in connection with the remedying of any sanitary defects which were detected in them. 572 drains were relaid, repaired, cleansed, or otherwise rendered efficient, and 68 waterclosets were fixed in lieu of privies, pail closets or defective w.c.'s.

On behalf of the inspectorial staff, I desire to express our thanks to the owners and occupiers of property generally for their willingness to carry out what alterations have been deemed necessary. In many cases this work has exceeded what could be legally demanded, but when the advantage to be obtained has been pointed out by the chief or one of the assistant inspectors, little difficulty was found in getting it carried out.

In one instance thirteen owners met together in consultation with Inspector Sanderson, and agreed to have some combined drainage work done according to our specifications, provided the work was carried out by us.

PROSECUTIONS IN 1908.

MONTHS.	ACT.	DETAILS OF OFFENCE.	RESULT.
March	Food and Drugs Acts	Selling potted fish as potted lobster	Fined 20s. and costs
March	Do.	Do. Do.	Fined £3 and costs
June	Do.	Milk on analysis contained 3.2 grains boracic acid .	Fined 5s. and costs
June	Manure Bye-Laws	Failure to remove manure	Fined 1s. and costs
July	Bye-Laws as to Tents, Vans, Sheds	Want of proper water supply	Fined 1s. and costs
July	Do.	Want of proper sanitary conveniences	Fined 1s. and costs
July	Common Lodging-House Byelaws .	Overcrowding of premises	Fined 10s. and costs
August	Public Health Act, 1875	Chimney emitting black smoke so as to be a Nuisance	Order for abatement with costs
August	Do.	Do. Do. Do.	Do.
August	Employment of Children Act, 1903	Employing child under 14 years after 9 p.m.	Fined 5s. and costs.
August	Do.	Do. Do.	Do.
August	Do.	Do. Do.	Do. 2 cases
August	Do.	Do. Do.	Do.
August	Do.	Do. Do.	Do.
August	Do.	Do. Do.	Do.

Prosecutions in 1908—(Continued).

MONTHS.	ACT	DETAILS OF OFFENCE.	RESULT.
September	Employment of Children Act, 1903	Employing child under 14 years after 9 p.m.	Fined 2s 6d. and costs
September	Do.	Do.	Do.
September	Do.	Do.	Do.
August	Shop Hours' Act, 1892	Failure to exhibit Shop Hours Act Card.....	Fined 5s. and costs
August	Do.	Do.	Do.
August	Do.	Do.	Do.
August	Do.	Do.	Do.
August	Do.	Do.	Do.
September	Do.	Do.	Fined 2s. 6d. and costs
September	Do.	Do.	Do.
September	Do.	Do.	Do.
September	Public Health Act, 1875	Establishing trade of rag and bone dealer.....	Fined 5s. and costs
September	Do.	Carrying on trade of rag and bone dealer.....	Fined 2s. 6d. and costs
September	Do.	Establishing trade of fellmonger	Case dismissed
September	Do.	Carrying on trade of fellmonger	Case withdrawn
September	Blackpool Improvement Act, 1879	Slaughtering animals on premises other than a slaughter-house	Fined 20s. and costs

SUMMARY.

	1907.	1908.	
Complaints received	362	351	
Visits and Inspections (Total)	16,661	15,819	
Number of Houses fully inspected	761	836	
Number of inspections of work in progress	4,014	2,711	
Visits to houses and other premises	1,910	2,207	
Re-inspections in relation to nuisances under notice	1,480	1,033	
Inspections of Factories and Workshops	464	156	
Inspections of Bakehouses	122	129	
Inspections of Common Lodging-houses	944	952	
Inspections of Manure Heaps	370	978	
Sands Inspections	244	214	
Visits and Enquiries in relation to Infectious Diseases	2,633	3,398	
Enquiries into Deaths	743	801	
Smoke observations (half-hour duration each)	20	10	
Visits under Shop Hours Acts	925	33	
Visits made under Midwives' Act, 1902	10	78	
Visits to Tents, Vans, and Sheds	164	137	
Inspections of Back Passages	38	35	
Visits to Houses where Births have occurred	548	1,602	
Visits under Employment of Children Act	1,271	15	
Inspections of Premises re Trade Refuse	—	494	
Notices Served for the Abatement of Nuisances—			
Councils	126	92	
Preliminary	676	749	
Verbal	164	142	
House Drains Tested—Total Number of Tests made.	1,505	1,398	
New Houses Examined—			
Drains	Fully Satisfactory	13	24
	Passable	269	366
	Unsatisfactory	8	28
W.C.'s	Satisfactory	394	492
	Of defective construction	16	46
Ash Receptacles	Satisfactory	317	290
	Unsatisfactory	41	111
Site of House	Satisfactory	282	401
	Unsatisfactory	6	—

	1907.	1908.
Other Houses } (1st test) { Satisfactory	89	54
Drains } (1st test) { Unsatisfactory	211	239
House Drains re-tested during re-laying	681	542
Houses passed off as satisfactory after drainage defects repaired	234	145
Number of Houses where sanitary defects were found...	926	870
Number of Houses where sanitary defects were remedied	812	1,057
Number of sanitary defects remedied	1,878	2,347

Drains.

Drains laid, re-laid, disconnected, and ventilated ..	271	119
Drains repaired and cleaned out	340	407
Unsuitable gully traps replaced by properly trapped gullies and new gullies fixed	33	46

W.C.'s.

New w.c.'s fixed in lieu of privies, pail closets, and defective w.c.'s	70	68
Water closets repaired	150	143
Water closets unblocked	38	49
Fittings and water provided for w.c.'s.. ..	69	36
W.C. soil pipes repaired and ventilated	45	47
Earth Closets provided	—	2

Refuse Receptacles. (See also Special Report).

Ashpits abolished	9	—
Ashbins provided	8	33
Ash receptacles repaired	13	14
Manure receptacles provided	11	8
Cesspools abolished	—	1
Cesspools provided	—	2
Privies abolished	9	1

Waste Pipes.

Bath, lavatory, slopstone, and rainwater pipes disconnected over gullies	18	2
Do. do. do. wastepipes trapped	15	8
New slopstone wastepipes fixed	42	46
New rainwater pipes fixed	3	3
Rainwater pipes and roof gutters repaired	27	48

Miscellaneous.	1907.	1908.
Houses cleansed and limewashed	12	14
Floors re-laid with flags	41	38
Floors re-laid with concrete	51	67
Back yards repaired	79	80
Back yards flagged or concreted	128	80
Back passages cleansed	14	6
Accumulations removed	171	427
Animals removed from improper situations	19	36
Roofs repaired	17	27
Rooms ventilated	149	297
Chimneys raised to abate smoke nuisance	4	2
Premises closed	—	—
Yards cleansed	16	39
Watercourse cleansed	4	3
Gable end of house cemented	—	—
Overcrowding ceased	2	—
Number of brackets provided for trade refuse bags.	—	148
Number of manholes inspected	48	39
Number of manholes reported to Cleansing Superintendent	8	39
Back Streets requiring forming reported.. .. .	29	16
Erections in Yards, &c., reported	18	6
Letters	2,246	2,491
Infectious Diseases.		
Inquiries into cases of Infectious Disease (see Visits and inspections)	—	—
Houses disinfected after cases of Infectious Diseases	668	1,514
Houses disinfected after cases of consumption.. .. .	48	35
Other premises disinfected	75	88
Isolation notices served upon householders	713	1,734
Isolation notices served upon School Managers.. .. .	514	1,216
Other notices to School Managers with regard to Infectious Disease.. .. .	527	1,350
Other notices to Householders with regard to Infectious Disease	527	1,350
Notices to Free Library with regard to Infectious Disease	657	1,454

Owing to complaints made by visitors, a systematic investigation of the town was commenced in 1902 in regard to the matter of ash receptacles. It was found that many houses were without suitable provision in this respect, and the Health Committee adopted a strong galvanised iron ash-bin with cover as the approved form to be provided in the case of old houses. From the fact of the liability to loss or damage of movable ash-receptacles, it is evident that constant attention by the inspectors will be necessary to prevent the condition of affairs being as bad as before the systematic inspections were started. The following is a summary of the work done in this direction :—

Details of work done in regard to ASH RECEPTACLES from 1st January to 31st December, 1908 :—

Total number of visits made	...	...	...	1,173	
Satisfactory ash receptacles	...	...	...	289	
Unsatisfactory ash receptacles	...	...	...	288	
Re-inspection of houses under notice	...	...	...	596	
			Preliminary.	Council	
Total number of notices served	{	(a) To abolish ashpits	...	—	—
		(b) To repair modified ashpits...	...	17	—
		(c) To provide galvanised ashbins	...	255	46
Total number of modified ashpits repaired	...	...	...	—	19
Total number of ashpits abolished	...	...	...	—	1
Total number of galvanised ashbins provided	...	...	...	—	284
Total number of informations laid	...	...	...	—	187

DISINFECTING DEPARTMENT.

Articles removed from 454 Houses to Sanatorium.

Sheets, quilts, blankets, etc.	..	..	..	3,415
Articles of clothing	..	..	..	14,130
Pillows and bolsters	..	..	..	1,857
Beds	..	..	..	681
Mattresses	..	..	..	445
Carpets	..	..	..	996
Rugs and mats	..	..	..	750
Curtains	..	..	..	2,556
Cushions	..	..	..	564
Table cloths	..	..	..	434
Books	..	..	..	325
Miscellaneous articles	..	..	..	4,858
Articles from Sanatorium	..	..	..	4,701
				<hr style="width: 10%; margin-left: auto; margin-right: 0;"/>
Total	..	..	..	<u>35,712</u>

BLACKPOOL METEOROLOGICAL
OBSERVATORY.



Report

AND

Results of Observations

FOR THE YEAR 1908.

PART IV.

BLACKPOOL METEOROLOGICAL OBSERVATORY.

The new Blackpool Observatory, erected in 1903, is situated in an open field close by a bridge crossing the railway behind the New Road Cemetery. The site is about half-a-mile from the Sanatorium site, and is about 70 feet above mean sea level. The Observatory building is of brick relieved by stone-work, and lighted by windows on the north and south sides. The building is placed four-square to the points of the compass, the doorway looking east. It is twelve feet square, nine feet high, and the floor is about two feet higher than the adjoining ground, requiring three steps at the doorway. The roof is flat and formed of concrete, supported on iron girders, and access to the roof is obtained by a flight of steps in the interior of the building, leading up through a trap door. The roof is protected by a parapet three feet high.

From the centre of the roof projects to a height of 57 feet from the ground a vertical pole of cast-iron tubing, stayed by wire guy-ropes anchored to the ground. This

pole carries the "combined" Anemometer and Anemoscope head and wind vane. The wind vane has a copper mouth-piece and aluminium wings, and measures three feet from end to end. From the head, one-inch tubes pass down alongside the anemometer pole, and through holes in the concrete roof to the Dines' and Baxendell's recording instruments placed on the floor of the Observatory.

On the roof of the Observatory is placed also a wooden stand bearing the Campbell-Stokes Sunshine-recorder. This is placed some 12 feet above the roof, or 25 feet above the ground level. In the Observatory room is placed the Fortin barometer. The Observatory contains also a telephonic installation, so that messages in regard to the weather may be communicated without delay.

The grass enclosure is about 65 feet to the south-east of the Observatory and 67 feet above mean sea-level and is 24 feet square. It contains in the centre a new 5in. rain-gauge, with M.O. pattern rim. To the west of this is fixed one of Halliwell's recording rain-gauges. The Stevenson screen with its instruments occupies the centre of the north side of the enclosure, and on the centre of the south side is fixed the 4-foot earth thermometer. East of this, two solar radiation thermometers are placed four feet above the ground, one a bright bulb *in vacuo* and the other a black bulb *in vacuo*.

Near the south-east corner of the enclosure a minimum recording thermometer with link bulb is supported close to the grass, and gives the lowest temperature during the 24 hours.

INSTRUMENTS.

The equipment of the Department consist of :—

In or on the new Observatory building—

- (i) A Standard Fortin Barometer.
- (ii) A Campbell-Stokes Sunshine Recorder.
- (iii) A Wind Vane and a Patent Pressure Tube Anemometer.
- (iv) A Baxendell's Recording Anemoscope.
- (v) A Recording Barograph.

IN THE GRASS ENCLOSURE —

- (vi) A Stevenson Screen, containing wet and dry bulb and maximum and minimum thermometers.
- (vii) An Earth Thermometer at a depth of four feet.
- (viii) An Earth Thermometer at a depth of one foot.
- (ix) A Rain Gauge, 5in. M.O. pattern rim.
- (x) One solar radiation maximum thermometer, bright bulb
in vacuo.
- (xi) One solar radiation maximum thermometer, black bulb
in vacuo.
- (xii) One terrestrial radiation (or minimum on grass) Thermometer.
- (xiii) One Halliwell's Patent Recording Float Pattern Rain-gauge.

RETURNS AND REPORTS, &c.

The Blackpool Observatory is recognised by the

Meteorological Office and the Royal Meteorological Society as a Second Order Station. Observations are taken at 9 a.m., 6 p.m., and 9 p.m. daily, and readings recorded of all the chief instruments. A cipher telegram is sent at 6 p.m. each day to the Meteorological Office, which gives the thermometer and barometer readings, the amount of sunshine, direction of wind, and the kind of weather during the day. This information is communicated to the press, and appears in the London daily papers next morning. In addition a post card is despatched every night, giving the 9 p.m. readings, and the records are published on page 4 of the "Daily Weather Report" issued the following morning from the Government Office. The "means" for the week are prepared from these postcards by the Meteorological Office, and published in the weekly weather report. A monthly summary is also prepared for the Meteorological Society, but sent direct to the Government Office, whose officials abstract the information required for the "Monthly Weather Report," and afterwards forward the Summary to the Meteorological Society.

As it is impossible for the observer to get down to the Post Office in time after the 9 p.m. reading, I have arranged for the officials at the Conservative Club, in Victoria Street, to receive the message by telephone, and fill up and post the daily post card. I have to acknowledge my indebtedness for this privilege.

During 1908, a great deal was done to supply prompt information as to the Blackpool weather to the papers in different parts of the country. Telegrams recording the

state of the weather were sent each forenoon throughout the year to the Exchange Telegraph Company, London, "Lancashire Daily Post," "Bolton Daily Chronicle," "Bolton Evening News," "Huddersfield Examiner," "Liverpool Echo," "Manchester Evening News," and an evening telegram was also sent to the "Liverpool Daily Post and Mercury," "Liverpool Courier," "Manchester Courier," "Yorkshire Daily Observer," "London Daily Chronicle," and the Weather Bureau, London. During the summer months morning or evening telegrams were sent to 23 daily papers.

There can be no doubt that the increased publicity given to our weather records has been of material advantage to Blackpool.

As in previous years the observations have been taken by Mr. Harry Smith, and I have much pleasure in acknowledging the cheerfulness and faithfulness with which he has carried out this responsible work, which has been more exacting than ever since the commencement of the second order observations, which involve much extra work. Inspector Cookson has been trained to act as deputy-observer when necessary, and has proved a very efficient substitute when Mr. Smith was unable to take the readings. The Chief Clerk, Mr. Berry, has also given important help in the preparation of the reports.

An earth thermometer, at a depth of one foot, has been added to the equipment of the Observatory this year.

The clock of the Halliwell Rain-gauge was cleaned and repaired in February.

The Observatory was officially inspected in July by Mr. William Marriott, Assistant Secretary of the Royal Meteorological Society, and all the instruments were tested by him.

The records of observations of temperature, sunshine, rainfall, &c., taken at the new observatory now being complete for five years, tables of averages have been compiled for these years, viz., 1904-1908. The results for 1908 in the tables appended are compared with these averages.

METEOROLOGICAL REPORT, 1908.

YEAR.—A much brighter year than 1907, generally mild, except during a portion of the vernal and summer seasons, when the temperature was below normal, *i.e.*, March, April, and part of July and August. Genial weather prevailed during May and June, and from the 17th July to the 19th August; the latter period was the longest drought of the year. Excluding October the remaining periods were less settled, and climatic conditions were variable.

BRIGHT SUNSHINE.—Bright sunshine was 6.9 hours below the average for the years 1904-1908. The distribution of sunshine, and the percentage of the possible duration in each month will be seen in the following Table:—

DISTRIBUTION OF BRIGHT SUNSHINE, &C.

MONTHS.	Jan.	Feb.	March	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Hours	59.8	73.3	125.2	172.9	229.5	225.5	204.4	197.0	119.9	120.4	57.4	29.8
Hours. { Difference from aver- age 5 years, 1904 to 1908.....	+ 1.3	-7.9	-15.9	-4.9	+ 50.7	+ 0.8	-21.7	+ 10.3	-32.4	+ 10.8	+ 1.6	-9.6
Hours. { Difference from aver- age 25 years 1881 to 1905.....	+ 22	+ 10	+ 17	+ 19	+ 27	+ 27	+ 16	+ 34	-7	+ 28	+ 10	+ 3
Percentage of possible duration	25%	26%	34%	41%	47%	45%	40%	44%	32%	37%	23%	13%

BRIGHT SUNSHINE IN BLACKPOOL, DURING 20 YEARS.

YEAR	HOURS.	YEAR.	HOURS.	YEAR.	HOURS.	YEAR	HOURS
1889	1,300.1	1894	1,310.2	1899	1,481.7	1904	1,539.1
1890	1,160.8	1895	1,470.3	1900	1,406.1	1905	1,757.9
1891	880.2	1896	1,367.2	1901	1,687.4	1906	1,679.1
1892	1,384.6	1897	1,485.6	1902	1,522.8	1907	1,518.8
1893	1,497.3	1898	1,386.2	1903	1,474.2	1908	1,615.1

There were 293 days (or 80 per cent.) during the year on which bright sunshine was recorded, and 73 sunless days. The sun shone on every day in August. May and July had each two sunless days, whilst April, June, and September had each three sunless days.

The brightest months were May, with 229.5 hours, and June, with 225.5 hours. The average number of hours was exceeded in January, May, June, August, October, and November.

The brightest days of the year were the 23rd March, with 10.7 hours; 17th April, with 12.0 hours; 27th May, with 15.0 hours; 21st and 30th June, each with 15.1 hours; 1st and 19th July, with 14.2 hours; 2nd August, with 12.8 hours.

RAINFALL.—Rain to the amount of one-hundredth of an inch or more fell on 194 days, as against 217 days in 1907. Total rainfall amounted to 34.48 inches, or 2.79 inches above average for the years 1904 to 1908, and 0.7 inch for the 35 years 1871-1905.

The months of greatest rainfall were July, with 4.50 inches ; September, with 3.94 inches ; August, with 3.52 inches. November, April, and May had 3.05, 2.87, and 2.85 inches respectively. The months of least rainfall were February, with 1.93 inches ; January, with 2.14 inches ; and June, with 2.3 inches.

GALES.—Gales occurred on 23 days during the year. On 17 days a velocity of 50 miles an hour or more was reached during the maximum gusts. In gusts the highest velocities were 72 miles, on the 22nd February, and 73 miles, on the 22nd November.

SNOW.—Snow fell on nine days, and hail on ten days. Wintry weather was experienced on the 22nd, 23rd, and 24th April. Hail fell on the 7th July. Considerable quantity of snow fell on the 27th, 28th, and 29th December, which, owing to the high winds, drifted to considerable depth.

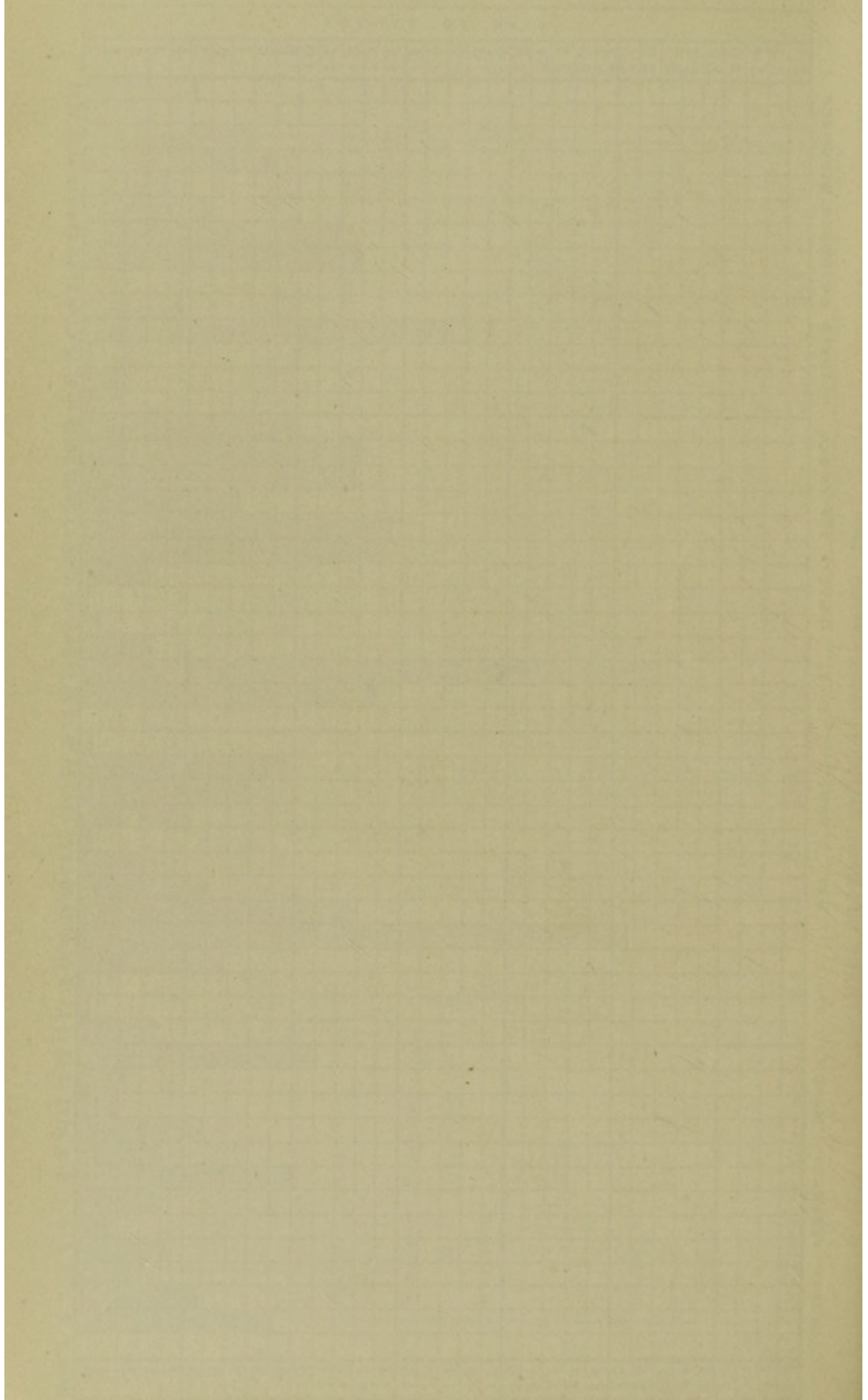
FOG.—We were very free from fog except on four days in December, and one day each in January and November.

THUNDERSTORMS.—Slight thunderstorms occurred on seven days ; lightning was seen, but thunder not heard, on four days.

As regards the winter months, I would draw attention to the comparison figures for three inland stations in Lancashire.

Climatic Conditions in Blackpool during the Winter Months of 1908 as compared with three Inland Stations in Lancashire:—

Meteorological Station.	JANUARY.			FEBRUARY.			MARCH.		
	Mean Shade Temp.	Hours of Bright Sunshine.	Rainfall in inches.	Mean Shade Temp.	Hours of Bright Sunshine.	Rainfall in inches.	Mean Shade Temp.	Hours of Bright Sunshine.	Rainfall in inches.
Blackpool	36.7	59.8	2.14	41.3	73.3	1.93	39.4	125.2	2.36
Bolton	36.0	8.8	3.87	40.7	39.2	4.34	39.0	51.0	3.66
Manchester (Prestwich)	35.8	17	3.38	40.5	51	3.37	39.0	95	3.01
Do. (Whitworth Park)	37.3	14	2.08	41.9	27	2.59	40.3	56	2.21
Stonyhurst	36.0	39	5.52	40.0	47	4.13	38.5	95	3.42
Meteorological Station.	OCTOBER.			NOVEMBER.			DECEMBER.		
	Mean Shade Temp.	Hours of Bright Sunshine.	Rainfall in inches.	Mean Shade Temp.	Hours of Bright Sunshine.	Rainfall in inches.	Mean Shade Temp.	Hours of Bright Sunshine.	Rainfall in inches.
Blackpool	53.7	120.4	2.54	45.4	57.4	3.05	39.9	29.8	2.48
Bolton	54.1	62.8	2.40	44.6	19.6	3.65	38.5	9.0	3.41
Manchester (Prestwich)	54.3	91	1.76	44.3	30	2.78	39.1	14	2.68
Do. (Whitworth Park)	55.5	98	1.44	45.5	29	2.50	40.1	13	2.32
Stonyhurst	53.1	102	2.34	44.2	47	4.96	38.4	23	3.67



EXTREMES FOR THE YEAR 1908.

BAROMETER.—The highest observed reading of the barometer at Blackpool (reduced to 32°F., and mean sea level), was 30.732 inches on the 6th February, at 9 p.m. The lowest reading was 28.715 inches on the 10th December, at 9 p.m. The difference between the barometric maximum and minimum was 2.017 inches. The greatest monthly range, 1.698 inches, occurred in December, and the smallest range, 0.699 inch, in October.

TEMPERATURE.—The highest temperature recorded in the Stevenson Screen by the maximum thermometer was 79.2 degrees, on the 3rd July; the lowest recorded by the minimum thermometer in screen was 17.2 degrees, on the 30th December.

The highest temperature recorded by the black-bulb solar radiation thermometer was 131.1 degrees, on the 22nd July. The lowest temperature recorded by the minimum on grass thermometer was 14.7 degrees on the 4th January.

SUNSHINE.—The greatest duration of sunshine upon one day was 15.1 hours, and this amount was recorded on the 21st and 30th June.

RAINFALL.—The heaviest daily falls of rain were 1.44 inches, on the 13th July, and 1.34 inches on the 20th August.

The greatest intensity of rainfall shown on the automatic record charts occurred on the 14th July, when half-

an-inch of rain fell in fifty minutes. The longest duration of rainfall recorded was from 10 a.m., on the 24th March, to 4 p.m. on the 25th March, *i.e.*, 30 hours continuous rainfall.

An interesting phenomenon was observed above the Northern horizon on several nights in the first week of July, the sky being intensely illuminated for several hours about midnight (See July).

MAIN FEATURES OF THE MONTHS, 1908.

JANUARY.—Weather bright and frosty from the 1st to the 12th, and again from the 18th to the 24th; intervening period dull and unsettled, with high winds during the last week of the month. Mean shade temperature 2.6 degrees below average, 0.7 degree above Stonyhurst. Frost in shade on 14 days, and upon grass on 19 days. Lowest temperature on grass 14.7 degrees, on the 4th. Total sunshine 1.3 hours above average. Rainfall deficient by 0.47 inch. Rain fell on 17 days, but 80 per cent. fell on 7 days. Atmospheric pressure high, and 0.04 inch above average. Gales occurred on the 26th, 27th, and 28th. Light mists experienced in the third week, and a fog on the 24th. Hail fell on the 31st. Prevailing wind South-South-East.

FEBRUARY.—An unusually mild month, fairly dry to the 12th, but from that date the weather was rough and variable. Mean shade temperature 2.6 degrees above average, 1.3 degrees above Stonyhurst. Frost in shade on 2 days, and upon grass on 7 days. Lowest temperature in shade 30.4 degrees, on the 29th, and on grass 27.7 degrees, on the 2nd. Bright sunshine deficient by 7.9 hours. Rain fell on 20 days, and was 0.46 inch below average. Barometric pressure was high in early part of month, but fluctuated considerably during remainder of month. There were two deep depressions, *i.e.*, on the 22nd and 28th; the anemograms on these days showed maximum velocities of 72 and 60 miles an hour respectively. Gales occurred on the 22nd, 23rd, 24th, 27th, 28th, and 29th. Hail fell on the 3rd, 22nd, 23rd, 27th, and 28th. Snow fell on the 28th and 29th. Lightning seen on the 23rd and 27th.

Winds mainly from the Western point of the compass.

MARCH.—Cold and changeable, the mean shade temperature was 1.6 degrees below average. Frost in shade on 8 days, and upon grass on 14 days. Maximum temperature in shade, 51.6 degrees, occurred on the 23rd, and the lowest temperature on grass, 20.1 degrees, on the 20th. Bright sunshine was 55.7 hours less than in March, 1907, and 15.9 hours below average, yet it compared favourably with "Health Resorts" in the south. Rain fell on 17 days, and was slightly below the average. Barometric pressure was low. Gales occurred on the 6th, 8th, 9th, 10th, 22nd, 30th, and 31st. South-Easterly winds prevailed. Snow and sleet fell on the 15th.

APRIL.—Weather during the early part of month cool, fine, and bright, but from the 22nd atmospheric conditions were changeable, and falls of rain frequent. Snow fell during the nights of the 22nd, 23rd, and 24th. Mean shade temperature below average by 1.7 degrees. Frost upon grass on 10 days, and in shade on 6 days. Highest temperature in shade, 57.5 degrees recorded on the 29th, and lowest temperature on grass 20.9 degrees occurred on the 24th. Although there were only three sunless days, bright sunshine was not so plentiful as in previous years, and was 4.9 hours below average. Rainfall was 0.79 inch above average, but the major portion, 2.65 inches, fell on the last nine days of the month. Barometric pressure was 0.06 inch above average. General direction of wind was North-West.

MAY.—The brightest, and one of the most genial months of the year. Mean shade temperature 2.2 degrees above average. No frost was recorded. Bright sunshine amounted to 229.5 hours, surpassing the amount recorded at several places in the "Sunny South." There were only two sunless days. The brightest day was the 27th, with 15 hours' sunshine. Rainfall slightly above average, fell on 18 days, but the greater portion, 2.62 inches, occurred on nine days. Atmospheric pressure a little above average. South-Westerly winds predominated. Slight thunderstorms occurred on the 3rd and 4th. Lightning seen on the night of the 30th.

JUNE.—With the exception of a few unstable days in the early part of the month the weather was dry and very pleasant, and bright

sunshine plentiful. Mean shade temperature was practically the same as the average for the years 1904-1908. Bright sunshine was 0.8 of an hour above average. The brightest days were the 21st and 30th, each with 15.1 hours. There were three sunless days. Rainfall slightly deficient. Rain fell on 12 days, but 86.5 per cent. fell on three days. Barometrical readings were high, except from the 13th to the 19th. Winds chiefly from the North-West. Thunder heard on the 1st, and lightning seen on the 3rd.

JULY.—Weather variable. The first few days were warm and dry, but from the 7th to the 16th climatic conditions were anything but summer-like. A decided change took place on the 17th, and warm bright weather prevailed to the end of the month. Mean shade temperature was 0.7 degree below average. Rainfall very heavy, exceeding average by 2.13 inches. Although rain was registered on 16 days, and amounted to 4.50 inches, 4.02 inches fell on 8 days. The greatest intensity occurred on the 14th, when 0.50 inch fell in 50 minutes. Bright sunshine was not so plentiful as in the previous month, and was 21.7 hours less than average. There were only two sunless days. The brightest days were the 1st and 19th, each with 14.2 hours. This month will be remembered for the brilliant sky glows which occurred on the night of the 1st and succeeding nights, the sky for several hours being a fine study in colour gradation. Atmospheric pressure 0.03 below average. North-Westerly winds again prevailed. Hail fell on the 7th. Slight thunderstorms occurred on the 3rd and 25th.

AUGUST.—The genial climatic conditions which prevailed at the end of July continued until the 19th of this month, but from that date showery weather was experienced. Mean shade temperature was 0.7 degree below average. Bright sunshine was 10.3 hours in excess of average, and amounted to 197 hours. Sunshine was recorded on every day, the brightest day being the 2nd, with 12.8 hours sunshine. Rainfall was 0.16 inch above average, and fell on 18 days, the greatest fall was 1.34 inches on the 20th. Atmospheric pressure was 0.02 inch above normal. North-Westerly winds prevailed. Thunderstorms of short duration occurred on the 21st and 31st.

SEPTEMBER.—Usually looked upon in Blackpool as a pleasant month was this year somewhat unseasonable, especially from the 8th to the 21st ;

the intervening periods were, however, more settled, and a spell of fine weather set in on the 22nd. Mean shade temperature was about the average. Frost recorded upon grass on one day, viz., the 12th. Bright sunshine deficient by 32 hours. There were three sunless days, and the brightest day was the 29th, with 10 hours sunshine. Rainfall, 1.51 inches in excess of average, fell on 15 days. Atmospheric pressure below average. The barometric minima occurred on the 1st and 9th, and gales were experienced on these dates. South-Westerly winds were general. There was a thunderstorm on the 10th, from 6-15 to 6-45 p.m.

OCTOBER.—A bright and pleasant month, remarkable for its mildness, and low rainfall. Mean shade temperature was nearly four degrees above average. No frost was recorded in shade, but on five nights upon the grass. Bright sunshine amounted to 120.4 hours, as against 114 hours at Torquay, and 123 hours at Bournemouth. There were six sunless days, the brightest day was the 1st, with 9.8 hours sunshine. Rainfall amounted to 2.54 inches, and fell on nine days, but the major portion, 2.19 inches, was recorded on four days. Atmospheric pressure was 0.18 inch above average. No gales were experienced. South-Easterly winds chiefly prevailed. Light mists were experienced on several days in the early mornings.

NOVEMBER.—A mild calm month, but changeable, with frequent falls of rain from the 10th to the end of month. Mean shade temperature above average by nearly two degrees. The highest temperature recorded in shade was 57.8 degrees, on the 2nd, and the lowest temperature upon grass was 23.3 degrees on the 10th. Frost in shade on five days, and upon grass on ten days. Bright sunshine 1.6 hours in excess of average. The brightest days were the 8th and 19th, with 8 hours, and 7.4 hours respectively. No rain fell until the 10th. Rainfall amounted to 3.05 inches, and was 0.11 inch below average. Atmospheric pressure above normal. The barometric minimum was reached on the 22nd, at 9 p.m., when a fresh gale was experienced, the anemogram showing a maximum velocity of 73 miles between 7 and 8 p.m. There was a preponderance of South-Easterly winds. Gales occurred on the 22nd, 23rd, and 25th. Light morning mists experienced on five days, and a fog, but of no great density, on the 30th. Hail fell on the 25th.

DECEMBER.—Atmospheric conditions of a variable character. In

the first week fogs and mists were unusually prevalent ; hail showers occurred in the second week, and severe wintry weather was experienced in the last week of the month. Mean shade temperature was the same as average. The highest temperature in shade, 51 degrees, was recorded on the 5th and 22nd, and the minimum in shade, 17.2 degrees, occurred on the 30th. Frost in shade on nine days, and upon grass on eleven days. Rainfall amounted to 2.48 inches, and was the same as average. Rain fell on 22 days. Bright sunshine was deficient by 9.6 hours. Barometric pressure fluctuated considerably, especially from the 9th to the 13th. The lowest reading of the barometer, 28.715 inches, occurred on the 10th at 9 p.m., and a gale was experienced on the 11th. Hail fell on the 9th and 10th, and snow on the 27th, 28th, and 29th. Fogs occurred on the 1st, 2nd, 3rd, and 7th. On the morning of the 29th there was a blinding snowstorm, the drifts in many places being several feet in depth. Winds chiefly from the South-East.

BAROMETRIC PRESSURE* corrected to 32° F.
and mean sea level.

1908.	Mean Pressure.	Difference from Average 5 years 1904-1908.	Highest.	Lowest.	Observed Monthly Range.
January	30.107	+ .040	30.561	29.086	1.475
February	30.038	+ .151	30.732	29.100	1.632
March	29.800	- .113	30.245	29.003	1.242
April	29.981	+ .065	30.484	29.392	1.092
May	29.952	+ .009	30.536	29.253	1.283
June	30.078	+ .075	30.412	29.499	0.913
July	29.983	- .033	30.480	29.264	1.216
August	29.954	+ .021	30.399	29.166	1.233
September	29.886	- .165	30.203	29.125	1.078
October	30.105	+ .184	30.534	29.835	0.699
November.....	29.993	+ .092	30.435	29.197	1.238
December	29.844	- .063	30.413	28.715	1.698
Means	29.977	+ .022	Highest 30.732	Lowest 28.715	1.233

* From observations at 9 a.m. and 9 p.m. daily.

TEMPERATURE—Stevenson Screen Results.

(IN DEGREES FAHRENHEIT).

1908.	Mean Maximum	Mean Minimum	Mean Temp. *	Difference from Average 1904-08.	Mean Daily Range	Absolute extremes.			
						High-est.	Date	Lowest	Date
January	41.1	32.2	36.7	-2.6	8.9	51.1	17th	19.6	5th
February	44.7	37.8	41.3	+2.6	6.9	49.5	22d	30.4	29th
March	44.5	34.3	39.4	-1.6	10.2	51.6	23rd	25.2	20th
April	49.0	36.5	42.8	-1.7	12.5	57.5	29th	26.3	24th
May	58.4	46.7	52.6	+2.2	11.7	71.8	28th	38.4	24th
June	62.9	49.1	56.0	+0.3	13.8	77.3	28th	40.6	21st
July	64.8	52.4	58.6	-0.7	12.4	79.2	3rd	43.9	8th
August	62.9	52.4	57.7	-0.7	10.5	70.0	16th	42.6	17th
September	61.4	49.6	55.5	+0.2	11.8	75.1	30th	33.3	12th
October	60.2	47.2	53.7	+3.8	13.0	75.3	3rd	32.8	25th
November.....	50.5	40.3	45.4	+1.7	10.2	57.8	2nd	28.6	10th
December	43.9	35.9	39.9	0.0	8.0	51.0	{ 5th & 22nd }	17.2	30th
Means	53.7	42.9	48.3	+0.3	10.8	High'st 79.2	July 3rd	Lowest 17.2	Decr. 30th

* Mean of the daily indications (each for the 24 hours ending 9 p.m.) of the maximum and minimum thermometers in the screen.

HUMIDITY.

1908.	9 a.m. Readings			Elastic Force of Aqueous Vapour.	Mean relative humidity.	Differ- ence from Average at 9 a.m. 5 years (1904-1908)
	Dry Bulb.	Wet Bulb.	Dew point.				9 a.m.
January	36.9	36.1	35.0	.210	92.8	+1.1
February	41.9	41.0	40.0	.249	93.0	+2.6
March	40.7	38.9	36.7	.220	86.4	+0.4
April	44.6	42.2	39.4	.245	83.0	+1.8
May	54.6	52.3	50.0	.365	85.0	+2.1
June	58.1	55.1	52.3	.400	81.4	+0.5
July	61.0	57.6	54.7	.439	80.6	-0.9
August	58.7	55.4	52.4	.398	80.5	-2.3
September	57.1	54.6	52.3	.398	84.3	+1.1
October	55.8	53.6	51.6	.392	86.3	-1.3
November.....	46.2	44.9	43.3	.286	89.5	-0.7
December	39.7	39.0	38.0	.237	94.0	+2.1
Means	49.6	47.6	45.5	.320	86.4	+0.6

HUMIDITY.

1908	9 p.m. Readings			Elastic Force of Aqueous Vapour.	Mean relative humidity.	Differ- ence from average 5 years 1904-1908
	Dry Bulb	Wet Bulb	Dew Point				9 p.m.
January	36.4	35.5	33.9	.199	90.5	-1.5
February	40.7	39.6	38.2	.232	90.9	+0.4
March	38.6	37.9	36.9	.222	93.6	+2.3
April	41.2	40.1	38.5	.238	90.3	+2.5
May	51.3	50.0	48.8	.348	91.0	+0.6
June	55.0	53.4	51.8	.392	89.3	+0.2
July	57.7	55.9	54.3	.424	88.8	+0.1
August	56.9	55.0	53.3	.411	88.0	-1.2
September	55.0	53.5	52.1	.393	89.7	-0.8
October	52.0	51.2	50.3	.373	94.2	+2.8
November.....	45.1	44.0	42.7	.279	91.5	-0.9
December	40.0	39.1	37.7	.233	91.4	+0.1
Means	47.5	46.3	44.9	.312	90.8	+0.4

TEMPERATURE EXTREMES, SOLAR AND TERRESTRIAL
RADIATION.

1908.	Black Bulb in vacuo.		Bright Bulb in vacuo.		Minimum on grass.	
	Highest.	Date.	Highest.	Date.	Lowest	Date.
January	77.0	29th	58.4	17th	14.7	4th
February	97.5	19th	64.5	19th	27.7	2nd
March	102.1	31st	66.6	23rd	20.1	20th
April	115.5	21st	74.7	16th	20.9	24th
May	126.5	30th	88.3	30th	32.9	24th
June	124.9	28th	93.3	28th	37.7	21st
July	131.1	22nd	91.8	2nd	38.5	8th
August	125.3	22nd	86.6	6th & 8th	39.1	17th
September	116.5	4th	88.0	30th	28.5	12th
October	112.6	1st	87.6	1st	25.8	25th
November.....	89.8	12th	65.5	12th	23.3	10th
December	75.2	11th	58.1	6th	20.3	30th
Year	131.1	July 22nd	93.3	June 28th	14.7	January 4th

UNDERGROUND TEMPERATURES, AND SOLAR AND
TERRESTRIAL RADIATION.

1908.	Mean Under-ground at 9 a.m. 4 feet.	Difference from Average 5 years. (1904-1908).	Mean Daily Max. Temp. in Sun.		Mean excess of Black Bulb in vacuo over Bright Bulb in vacuo.	Mean Daily Minimum on short Grass.
			Black Bulb in vacuo.	Bright Bulb in vacuo.		
January	43.0	+0.1	58.3	45.9	12.4	29.3
February	42.8	+0.9	75.4	54.8	20.6	35.6
March	42.7	+0.6	80.5	56.0	24.5	31.9
April	44.0	+0.6	98.9	65.2	33.7	33.5
May	47.5	-0.7	111.4	75.7	35.7	43.7
June	51.9	-1.0	112.0	79.2	32.8	46.7
July	55.3	-1.2	116.5	82.4	34.1	49.0
August	56.7	-0.7	114.0	79.7	34.3	49.0
September	55.0	-1.0	102.3	74.8	27.5	46.1
October	54.7	+1.4	90.2	69.8	20.4	43.2
November.....	50.7	+1.5	70.2	55.6	14.6	36.4
December	47.0	+1.3	56.1	46.9	9.2	33.2
Means	49.3	+0.1	90.5	65.5	25.0	39.8

DURATION OF BRIGHT SUNSHINE AND AMOUNT OF CLOUD.

1908.	Campbell-Stokes Recorder.					Cloud.	
	Total Bright Sunshine. Hours.	Difference from Average 5 years (1904-1908).	Most Sunshine in One Day.		Number of Sunless Days.	9 a.m.	9 p.m.
			Amount. Hours.	Date.			
January	59.8	+ 1.3	6.3	20th	12	7.4	6.6
February	73.3	- 7.9	6.7	4th	6	8.7	6.6
March	125.2	-15.9	10.7	23rd	9	6.5	7.6
April	172.9	- 4.9	12.0	17th	3	7.0	6.5
May	229.5	+50.7	15.0	27th	2	6.8	7.4
June	225.5	+ 0.8	15.1	21st 30th	3	6.7	6.4
July	204.4	-21.7	14.2	1st 19th	2	7.3	7.9
August	197.0	+10.3	12.8	2nd	0	8.0	7.6
September	119.9	-32.4	10.0	29th	3	8.5	7.3
October	120.4	+10.8	9.8	1st	6	6.2	6.3
November.....	57.4	+ 1.6	8.0	8th	11	7.7	6.9
December	29.8	- 9.6	6.0	11th	16	8.5	8.3
Totals	1,615.1	- 6.9	Most 15.1	June 21st and 30th	73	Mean 7.4	Mean 7.1

RAINFALL.

1908.	Total Rainfall. *	Difference from Average 5 years (1904-1908).	Number of days with 0.01 in. or more.	Greatest fall in one day. †	
				Amount.	Date.
	Inches.	Inches.		Inches.	
January	2.14	-0.47	17	.34	6th
February	1.93	-0.46	20	.54	16th
March	2.36	-0.13	17	.58	24th
April	2.87	+0.79	14	.76	29th
May	2.85	+0.43	18	.56	2nd
June	2.30	-0.18	12	.91	17th
July	4.50	+2.13	16	1.44	13th
August	3.52	+0.16	18	1.34	20th
September	3.94	+1.51	15	.64	8th
October	2.54	-0.87	9	.80	18th
November.....	3.05	-0.11	16	.59	21st
December	2.48	-0.01	22	.32	5th
Totals	34.48	+2.79	194	1.44	July 13th

* From 9 a.m. on the 1st, including each month the fall during the first nine hours of the succeeding month.

† 24 hours ending 9 a.m. next day.

FORCE AND MOVEMENT OF THE WIND

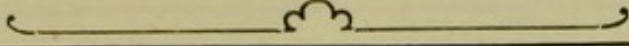
AS RECORDED BY THE DINES' RECORDING PRESSURE TUBE ANEMOMETER.

1908.	Mean Daily Movement.	Absol. Max. for one hour.	Date.	Rate in Max. Gust.	Date.	Gales occurred on these dates.
	Miles.	Miles.		Miles.		
January	298	34	28th	53	28th	26th, 27th, and 28th
February ...	355	45	22nd	72	22nd	22nd, 23rd, 24th, 27th, 28th, and 29th
March	260	34	10th	54	30th	6th, 8th, 9th, 10th, 22nd, 30th, and 31st
April	261	27	3rd, 4th, 5th & 16th	41	3rd	---
May	234	28	17th	44	17th	---
June	238	28	6th	41	6th	---
July	219	25	9th	38	11th	---
August	277	29	31st	43	31st	---
September	246	36	9th	55	9th	1st and 9th
October	174	22	21st	35	21st	---
November...	272	50	22nd	73	22nd	22nd, 23rd, and 25th
December .	257	35	11th and 29th	60	29th	11th and 29th
Means	258	Highest 50	Nov. 22nd	Highest 73	Nov. 22nd	Total 23

DIRECTION OF WIND AT BLACKPOOL DURING 1908.

OBSERVATIONS 4 TIMES DAILY, AT 9-0 A.M., 1-0 P.M., 6-0 P.M., AND 9-0 P.M.

1908	N	N N E	N E	E N E	E	E S E	S E	S S E	S	S S W	S W	W	W N W	N W	N N W	Calm.	No. of Observa- tions.	
January ...	3	7	2	8	5	2	15	20	2	14	12	11	12	4	4	3	127	
February	1	1	...	...	...	1	4	2	1	4	7	18	28	12	11	1	117
March	2	4	11	6	4	4	17	14	3	10	12	7	9	8	1	1	125	
April	7	11	11	9	6	10	9	6	...	2	7	3	7	19	6	2	122	
May	4	1	4	3	9	2	10	2	6	7	25	13	14	11	7	3	127	
June	1	4	3	3	11	7	6	...	...	6	8	11	16	25	7	2	122
July	1	2	1	1	5	7	7	4	1	5	11	13	17	20	8	3	124	
August	4	3	3	2	13	9	...	3	2	3	12	10	18	24	3	...	124	
September	4	3	4	1	6	5	14	10	6	8	21	9	8	9	4	2	120	
October ...	...	4	5	7	14	21	30	18	5	4	4	5	1	1	2	2	124
November	5	1	1	1	15	12	10	20	6	4	7	9	13	9	5	...	120	
December	...	...	...	1	6	12	32	19	16	8	9	4	3	7	1	1	124
Totals	32	41	45	42	94	92	154	118	48	75	135	113	146	107	149	65	20	1,476



APPENDIX TABLES.

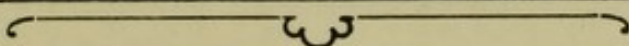


TABLE I.—VITAL STATISTICS (RESIDENTS ONLY).

Year.	Population estim'd to Middle of each year	BIRTHS.		TOTAL DEATHS.			Deaths in Public Institutions in District.	Deaths of Non-Residents registered in District.	Deaths of Residents registered beyond district.	Nett Deaths at all ages belonging to the District.		
		Number.	Rate*	Under 1 year of age		Gross Deaths at all ages.				Number.	Rate*	
				Number.	Rate per 1000 Births registered	Number.						Rate*
1	2	3	4	5	6	7	8	9	10	11	12	13
1898	45,414	1,260	27.74	224	178	772	16.99	29	143	20	629	13.85
1899	48,200	1,318	27.34	243	184	862	17.88	27	150	22	712	14.77
1900	50,166	1,268	25.27	204	161	851	16.96	49	131	26	720	14.35
1901	50,750	1,162	22.90	195	168	847	16.69	47	131	23	716	14.11
1902	52,174	1,250	23.96	154	123	796	15.26	45	117	24	679	13.01
1903	53,015	1,218	22.97	165	135	804	15.17	50	121	30	683	12.88
1904	54,338	1,170	21.53	199	170	802	14.76	33	128	28	674	12.40
1905	55,712	1,131	20.30	153	135	809	14.52	52	129	29	680	12.21
1906	57,115	1,023	17.91	143	140	812	14.22	44	109	33	703	12.31
1907	58,431	1,057	18.09	119	113	788	13.49	54	111	36	677	11.59
Averages for years 1898-1907.	52,532	1,186	22.80	180	151	814	15.59	43	127	27	687	13.15
1908	59,741	1,048	17.54	144	137	881	14.75	60	120	34	761	12.74

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

NOTE.—Column 7 includes the deaths of all Residents occurring either within or without the District, and of all Visitors dying within the District. Column 11 includes deaths of Blackpool Residents in Kirkham Workhouse and elsewhere without the Borough.

TABLE II.

Vital Statistics in Wards (Residents only).

Names of Localities.	1.—CLAREMONT.				2.—TALBOT.				3.—BANK HEY.				4.—BRUNSWICK.				5.—FOXHALL.				6.—WATERLOO.				7.—KIRKHAM WORKHOUSE.			
	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.
Year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under one year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under one year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under one year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under one year.	Population estimated to middle of each year.	Births registered.	Deaths at all ages.	Deaths under one year.	Deaths in Public Institutions outside Blackpool, other than Kirkham Workhouse, not allocated to Wards.	Births registered.	Deaths at all ages.	Deaths under one year.	Deaths in Public Institutions outside Blackpool, other than Kirkham Workhouse, not allocated to Wards.	Births registered.	Deaths at all ages.	Deaths under one year.
1898	7,572	169	93	24	10,527	369	163	58	2,136	37	28	7	6,413	161	101	35	12,489	377	157	60	4	132	67	22	4	15	16	—
1899	8,104	188	89	15	10,996	343	190	69	2,126	24	26	6	6,744	174	107	40	13,432	379	192	66	—	199	88	32	—	11	20	—
1900	8,749	180	87	17	11,317	345	185	47	1,926	24	18	1	6,907	165	112	30	14,052	384	230	73	—	170	88	21	—	—	—	—
1901	8,036	177	107	23	12,349	293	202	51	1,910	23	25	5	7,429	164	99	21	14,337	363	197	57	—	142	86	24	—	—	—	—
1902	8,658	199	85	22	12,320	320	190	47	1,905	25	28	1	7,765	147	95	12	14,695	387	203	53	—	172	78	13	—	—	—	—
1903	8,908	171	107	26	12,445	344	188	53	1,920	22	26	3	7,833	146	84	11	14,859	396	175	50	—	139	103	15	—	—	—	—
1904	9,241	179	100	26	12,458	325	177	56	1,927	26	30	6	8,153	135	90	22	15,270	355	194	54	—	150	83	24	—	—	—	—
1905	9,454	162	107	28	12,538	322	183	36	1,914	23	13	1	8,421	114	86	17	15,854	372	219	54	—	138	72	8	—	—	—	—
1906	9,619	143	108	20	12,667	260	179	39	1,889	18	22	2	8,946	133	107	22	16,300	334	196	40	—	135	91	11	—	—	—	—
1907	9,886	165	99	17	12,723	257	132	21	1,939	23	23	8	9,391	129	119	18	16,694	337	207	38	—	146	97	15	—	—	—	—
Averages for years 1898-1907	8,823	173	98	22	12,034	318	179	48	1,959	25	24	4	7,800	147	100	23	14,798	368	197	55	—	152	85	19	—	3	3	—
1908	10,310	143	110	15	12,869	264	191	41	1,883	16	19	—	9,668	150	116	18	17,039	337	223	40	—	138	102	20	—	—	—	—

TABLE III.

VITAL STATISTICS for Wards.—RESIDENTS ONLY.

WARD.	Population, 1908.	Birth Rate.			Death Rate.			Zymotic Rate.					
		1907	1908	1896 to 1900	1907	1908	1896 to 1900	1907	1908	1896 to 1900	1901 to 1905		
Claremont.....	10,310	16.69	13.87	23.19	20.14	10.67	11.12	10.67	11.46	0.71	0.87	1.55	1.41
Talbot	12,869	20.20	20.51	32.04	25.82	14.84	17.39	15.14	15.14	0.71	1.09	2.87	1.94
Bank Hey	1,883	11.86	8.50	13.69	12.43	10.09	11.18	12.74	12.74	...	0.53	0.64	0.73
Brunswick	9,668	13.74	15.52	24.50	17.95	12.00	15.57	11.51	11.51	0.85	0.93	2.10	1.05
Foxhall	17,039	20.19	19.78	28.16	25.00	13.09	14.43	13.17	13.17	0.48	1.64	2.39	1.29
Waterloo	7,972	18.72	17.30	23.74	21.01	12.79	12.84	11.97	11.97	0.77	0.75	1.94	0.99

TABLE VII. (Being Table V. of the Local Government Board).
INFANTILE MORTALITY during the year 1908. Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	1st Day	2nd Day	3rd Day	4th Day	5th Day	6th Day	7th Day	Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 1 month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under 1 Year.
	All Causes { Certified ... Uncertified... }	15	2	3	3	1	1	1	26	8	5	2	41	22	18	4	9	11	4	7	8	6	4	8	142
COMMON INFECTIOUS DISEASES—																								
Small-pox...																								
Chicken-pox ...																								
Measles ...																								
Scarlet Fever ...																								
Diphtheria (including Membranous Croup)																								
Whooping Cough ...																								
DIARRHEAL DISEASES—																								
Diarrhoea, all forms ...																								
Enteritis, Muco enteritis, Gastro-enteritis																								
Gastritis, Gastro-intestinal Catarrh ...																								
WASTING DISEASES—																								
Premature Birth ...	14	1	3	2	1	1	1	22	2		1	25	5	1		1	1							33
Congenital Defects ...																								
Injury at Birth ...																								
Want of Breast-milk, Starvation ...																								
Atrophy, Debility, Marasmus ...																								
TUBERCULOUS DISEASES—																								
Tuberculous Meningitis ...																								
Tuberculous Peritonitis; Tabes Mesenterica																								
Other Tuberculous Diseases ...																								
Erysipelas ...																								
Syphilis ...																								
Rickets ...																								
Meningitis (not Tuberculous)...																								
Convulsions ...																								
Bronchitis ...																								
Laryngitis ...																								
Pneumonia ...																								
Suffocation, overlying ...																								
Other Causes ...																								
OTHER CAUSES.	16	2	3	3	1	1	1	27	8	5	2	42	22	18	4	9	12	4	7	8	6	4	8	144

Births in the year—Legitimate, 980; Illegitimate, 68=1,048. Deaths from all Causes at all Ages, 865. Population estimated to middle of 1908, 50,741.
 Deaths in the year of—Legitimate Infants, 127; Illegitimate Infants, 17.

TABLE VIII.

Length of Residence of Persons who died in Blackpool during the year 1908.

AGE GROUP.	Deaths.	LENGTH OF RESIDENCE IN BLACKPOOL.													Born in B'pool.			
		7 days and under.	14 to 7 days	1 month to 14 days.	3 months to 1 month.	6 months to 3 months.	9 months to 6 months.	12 months to 9 months.	2 to 1 year.	3 to 2 years.	4 to 3 years.	5 to 4 years.	15 to 5 years.	25 to 15 years.		Over 25 years	Indefinite.	
Under twelve months	144	2	4	3	6	2	..	2	..	..	..	..	..	..	..	..	..	125
1 year and under 5	53	..	1	2	1	3	..	..	..	3	1	..	..	..	..	..	..	42
5 years and under 15	32	1	2	2	1	..	..	2	1	1	2	..	3	6	..	..	..	11
15 years and under 25	34	2	1	1	3	1	..	..	..	2	1	..	1	10	..	..	1	11
25 years and under 65	374	21	12	14	13	8	3	4	24	19	13	19	96	56	44	4	4	24
65 years and over	244	6	3	5	8	4	3	4	10	6	16	10	65	32	66	1	1	5
Totals	881	32	23	27	32	18	8	11	40	29	29	33	177	88	110	6	6	218

TABLE X.

Deaths from Various Causes for 9 Years. (RESIDENTS ONLY).

CAUSES.	1900	1901	1902	1903	1904	1905	1906	1907	1908
Measles	2	4	11	5	10	3	7	1	14
Scarlet Fever.....	7	15	5	8	5	6	2	4	4
Whooping Cough	17	10	3	19	2	3	6	5	10
Diphtheria and Membranous Croup ...	5	31	17	5	13	11	11	10	9
Enteric Fever	19	12	12	8	5	6	6	9	7
Phthisis	33	37	45	39	47	51	39	50	47
Other forms Tuberculosis	10	21	21	12	17	21	27	22	17
Epidemic Influenza	25	2	3	9	1	10	14	11	12
Diarrhoea	49	35	9	23	35	27	32	9	23
Cancer	47	54	47	52	41	54	54	52	51
Premature Birth and Congenital Defects.	31	22	35	33	34	42	35	21	35
Senile Decay	18	20	26	35	27	26	34	36	50
Apoplexy	40	34	35	35	35	42	46	51	70
Convulsions	10	7	9	6	14	8	9	10	8
Other diseases of Nervous System	23	21	29	19	24	26	29	34	22
Valvular and other Diseases of Heart ...	60	65	58	75	55	67	62	56	76
Bronchitis	45	45	47	38	39	33	31	55	47
Pneumonia	79	52	47	50	52	49	51	55	54
Diseases of Digestive System	49	52	47	54	51	50	45	51	50
Nephritis and Bright's Disease	20	15	20	22	12	26	29	26	28
Deaths from Violence	12	20	21	18	32	21	28	17	22
Debility, &c.	38	40	32	27	38	13	14	13	15
	50,166	50,750	52,174	53,015	54,338	55,712	57,115	58,431	59,741

TABLE XI.
VITAL STATISTICS of Whole District during 1908 and previous years (Residents and Visitors).
 (Being Table I. of the Local Government Board).

Year	Population estim'd to Middle of each year	BIRTHS.		TOTAL DEATHS REGISTERED IN DISTRICT.			At all Ages.		Deaths of Non-Residents registered in Public Institutions in District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at all ages belonging to the District.		
		Number.	Rate.*	Under 1 year of age.		Number.	Rate.*	Number.			Rate.*	Number.	Rate.*
				Number.	Rate per 1000 Births registered.								
1	2	3	4	5	6	7	8	9	10	11	12	13	
1898	45,414	1,260	27.74	224	178	752	16.5	29	10	20	762	16.78	
1899	48,200	1,318	27.34	243	184	840	17.4	27	9	22	853	17.70	
1900	50,166	1,268	25.27	204	161	825	16.44	49	9	26	842	16.78	
1901	50,750	1,162	22.90	195	168	824	16.24	47	11	23	836	16.47	
1902	52,174	1,250	23.96	154	123	772	14.80	45	16	23	779	14.93	
1903	53,015	1,218	22.97	165	135	774	14.60	50	13	27	788	14.86	
1904	54,338	1,170	21.53	198	169	774	14.24	33	6	26	794	14.61	
1905	55,712	1,131	20.30	152	134	780	14.00	52	16	29	793	14.23	
1906	57,115	1,023	17.91	142	139	779	13.64	44	16	27	790	13.83	
1907	58,431	1,057	18.09	119	113	† 747	12.78	54	17	33	763	13.06	
Averages for years 1898-1907.	52,532	1,186	22.80	180	150	787	15.06	43	12	26	800	15.33	
1908	59,741	1,048	17.54	144	137	847	14.18	60	14	32	865	14.48	

† This figure excludes 5 deaths from drowning of temporary visitors.

* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population. actually occurred within the District or Division. The deaths included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the District on account of sickness or infirmity, and have died in public institutions elsewhere.

TABLE XII.

Annual Statistics of Separate Localities in 1908 and previous years (Residents and Visitors). (Being Table II. of the Local Government Board).

Year.	1.—CLAREMONT.				2.—TALBOT.				3.—BANK HEY.				4.—BRUNSWICK.				5.—FOXHALL.				6.—WATERLOO.				7.—KIRKHAM WORKHOUSE.			
	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.	a.	b.	c.	d.
898	7,572	169	128	29	10,527	369	183	64	2,136	37	36	7	6,413	161	120	34	12,489	377	191	64	6,277	132	84	25	4	15	16	1
899	8,104	188	114	15	10,996	343	213	76	2,126	24	40	6	6,744	174	130	42	13,432	379	226	70	6,798	199	110	34	—	11	20	—
900	8,749	180	114	19	11,317	345	199	48	1,926	24	24	2	6,907	165	135	34	14,052	384	262	78	7,215	170	108	23	—	—	—	—
901	8,036	177	135	27	12,349	293	226	54	1,910	23	28	5	7,429	164	120	22	14,337	363	223	62	6,689	142	104	25	—	—	—	—
902	8,658	199	110	23	12,320	320	204	50	1,905	25	32	1	7,765	147	100	12	14,695	387	237	54	6,831	172	96	14	—	—	—	—
903	8,908	171	126	26	12,445	344	202	56	1,920	22	34	3	7,833	146	102	13	14,859	396	211	52	7,050	139	113	15	—	—	—	—
904	9,241	179	134	27	12,458	325	198	59	1,927	26	38	8	8,153	135	108	22	15,270	355	217	56	7,289	150	99	26	—	—	—	—
905	9,454	162	131	28	12,538	322	196	36	1,914	23	19	1	8,421	114	104	18	15,854	372	248	58	7,531	138	95	11	—	—	—	—
906	9,619	143	132	20	12,667	260	187	40	1,889	18	28	3	8,946	133	124	25	16,300	334	219	43	7,694	135	100	11	—	—	—	—
907	9,886	165	125	17	12,723	257	144	21	1,939	23	27	8	9,391	129	136	19	16,694	337	224	39	7,798	146	107	15	—	—	—	—
Averages years 18-1907	8,823	173	125	23	12,034	318	195	50	1,959	25	31	4	7,800	147	118	24	14,798	368	226	58	7,117	152	102	20	—	3	3	—
908	10,310	143	142	18	12,869	264	201	42	1,883	16	23	—	9,668	150	136	18	17,039	337	248	42	7,972	138	115	24	—	—	—	—

Deaths of Residents occurring in Public Institutions beyond the District are included in Sub-columns c of this Table, and those of Non-residents registered in Public Institutions in the District excluded. (See Note on Table XI. as to meaning of terms "Resident" and Non-resident.")

Deaths of Residents occurring in Public Institutions, whether within or without the District, are allotted to the respective localities according to the addresses of the deceased.

TABLE XIII.

Cases of Infectious Disease notified during the Year 1908.
(Table III. of the Local Government Board).

NOTIFIABLE DISEASE.	Cases notified in whole district.						Total cases notified in each locality.					No. of cases removed to Hospital from each locality.								
	At all ages	At ages—Years					Claremont.	Talbot—(H).	Bank Hey	Brunswick	Foxhall	Waterloo	Total	Claremont	Talbot—(H).	Bank Hey	Brunswick	Foxhall	Waterloo	Total cases re-moved to Hospital
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.															65 and upwards.
Small-pox																				
Cholera																				
Diphtheria (including Membranous croup)	61	16	32	10	3	16	7	1	12	16	9	61	10	4	1	6	7	5	33	
Erysipelas.....	18		1		15	4	3	2	3	3	3	18								
Scarlet Fever.....	238	56	149	22	11	29	51	1	32	94	31	238	28	49	1	26	87	26	217	
Typhus Fever																				
Enteric Fever	65	5	15	18	26	8	16	3	6	18	14	65	7	11	2	4	15	10	49	
Relapsing Fever																				
Continued Fever																				
Puerperal Fever	3			2	1		1			2		3								
Plague																				
Measles	1268	56	616	576	17	3	173	374	37	140	330	1268	1	1	2	3	7	2	16	
Rotheln																				
Chickenpox (not notifiable).....	104	4	39	59	2	13	53	2	5	22	9	104								
Totals	1757	60	732	832	69	61	3	243	505	46	198	485	280	1757	46	65	39	116	43	315

NOTE.—Mark (H) is the locality in which the Isolation Hospital is situated.

TABLE XIV. (Being Table IV. of Local Government Board). Causes of, and Ages at, Death during Year 1908.

CAUSES OF DEATH.	Deaths at the subjoined ages of "Residents" whether occurring in or beyond the district.					Deaths at all ages of "Residents" belonging to Localities, whether occurring in or beyond the District.					Total.	Total Deaths whether of "Non-Residents" in Public Institutions in the District.			
	All ages	Under 1 year	1 and under 5.	5 and under 15	15 and under 25	25 and under 65	65 and upwards	Claremont Ward.	Talbot Ward.	Bank Hey Ward.			Brunswick Ward.	Foxhall Ward.	Waterloo Ward.
Small-pox...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles ...	15	5	6	4	...	...	...	2	5	1	...	5	2	...	...
Scarlet Fever ...	4	...	3	1	...	...	...	1	1	...	...	1	1	...	4
Whooping-cough ...	12	6	6	...	...	...	...	2	3	4	...	3	2	...	...
Diphtheria (including Membranous Croup)	9	...	4	5	...	...	...	1	1	2	...	4	1	...	4
Croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Typhus...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Enteric ...	7	...	...	1	2	4	...	1	3	1	...	3	...	...	5
{ Other continued .	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic influenza	13	...	...	...	...	8	...	3	3	2	...	3	1	...	...
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea ...	28	21	4	...	...	2	...	5	13	3	...	13	2	...	...
Enteritis ...	9	7	...	...	...	1	...	...	1	1	...	1	3	...	...
Puerperal Fever ...	2	...	...	...	...	2	...	...	1	1	...	2	...	...	...
Erysipelas... ..	3	...	...	...	...	1	...	...	...	...	...	2	...	...	...
Other septic diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Phthisis (Pulmonary Tuberculosis)	55	...	1	1	13	37	...	6	24	5	...	24	3	...	1
Other tuberculous diseases	19	4	11	1	...	3	...	1	6	3	...	6	3	...	2
Cancer, malignant disease	58	...	...	...	...	41	...	9	15	8	...	15	12	...	4
Bronchitis... ..	53	11	...	...	...	22	...	10	18	4	...	18	3	...	1
Pneumonia ...	56	12	10	1	1	26	...	7	20	10	...	20	4	...	...
Pleurisy ...	2	...	...	...	...	1	...	1	1	...	...	1	...	...	...
Other diseases of respiratory organs	4	...	...	...	...	4	...	1	2	...	...	2	...	...	...
Alcoholism, cirrhosis of liver...	14	...	...	...	...	12	...	2	4	3	...	4	2	...	...
Veneral diseases	1	1	...	...	...	...	...	1	...	...	...	...	...	...	...
Premature birth... ..	33	33	...	...	...	...	...	5	9	5	...	9	8	...	2
Diseases and accidents of parturition	3	...	...	...	...	2	...	...	3	...	...	3	...	...	...
Heart diseases...	92	...	1	5	2	49	...	18	15	24	...	15	10	...	2
Accidents ...	15	...	2	1	3	7	...	3	1	2	...	1	4	...	5
Suicides ...	13	...	...	...	1	11	...	4	4	3	...	4	...	...	1
All other causes	345	44	4	10	9	135	143	59	90	55	345	54	...	...	29
All causes ...	865	144	52	30	32	365	242	142	248	136	865	115	...	...	60

TABLE XIX.

Table giving the total number of Births and Deaths (Residents and Visitors) with their corresponding rates in each quarter of the year 1908:—

Quarter ending	Births.	Birth Rate.	Deaths.	Death Rate.	Deaths under one year.	Infant Mortality.	Seven Principal Zymotic Diseases	Zymotic Rate
28th March.....	252	16.93	247	16.59	31	123.02	18	1.21
27th June.....	261	17.53	218	14.65	35	134.10	15	1.01
3rd October	292	18.22	208	12.98	35	119.86	20	1.25
2nd January, 1909.	243	16.33	208	13.97	43	176.95	22	1.48
Year	1,048	17.54	881	14.75	144	137.40	75	1.26

TABLE A.
ANALYSIS OF MORTALITY.
Residents and Visitors.

YEAR	BIRTH RATE.	Annual rate of Mortality from						Proportion of Deaths under 1 year to 1,000 births (Infant Mortality).	Of Infants under 1 year.	Percentage of Total Deaths.					
		All Causes (gross D.R.)	All Causes (Corrected for Visitors).	Seven principal Zymotics.	Pulmonary Consumption.	Other Diseases of Respiratory Organs.*	Diseases of Circulatory System.†			Under 5 years.	65 years and over.	From seven principal Zymotics.	From Pulmonary Consumption.	From other Diseases of Respiratory Organs.	From Diseases of Circulatory System.
1886-90	25.18	17.6	15.4	2.11	1.21	3.19	1.40	150.0	21.5	34.3	20.8	12.3	6.9	18.3	8.1
1891-95	23.91	18.6	15.3	2.06	1.14	3.91	1.51	183.3	23.82	33.8	18.9	10.88	6.24	20.74	8.2
1896-1900	26.46	17.52	14.42	2.50	1.12	3.21	1.50	174.9	26.35	35.4	19.2	14.25	6.39	18.23	8.56
1901-1905	22.33	15.28	12.92	1.53	1.04	2.22	1.55	146.37	21.32	29.81	21.02	9.91	6.86	14.50	10.15
1891	22.36	20.0	18.2	2.03	1.2	5.4	1.60	192.6	21.5	34.1	20.1	10.2	6.3	27.0	8.1
1892	24.01	18.2	15.3	0.89	1.2	3.81	1.49	160.4	20.9	29.3	20.9	4.9	6.7	20.9	8.2
1893	22.47	18.7	14.9	2.68	0.98	4.14	1.51	210.3	25.1	33.2	18.6	14.1	5.2	22.1	8.0
1894	23.93	15.8	11.9	1.38	1.08	2.21	1.48	159.8	24.1	33.2	17.3	8.7	6.8	13.9	9.3
1895	26.77	20.06	16.33	3.31	1.24	3.98	1.43	206.0	27.49	39.3	17.4	16.47	6.19	19.76	7.10
1896	25.66	17.19	13.84	1.99	1.15	3.06	1.44	158.5	23.6	32.9	21.3	11.6	6.6	17.7	8.4
1897	26.25	18.57	15.29	2.78	1.07	3.75	1.62	191.3	27.0	37.8	18.0	15.0	5.8	20.1	8.7
1898	27.74	16.99	13.85	2.99	1.14	3.04	1.41	177.7	29.0	37.3	19.4	17.62	6.73	17.87	8.3
1899	27.34	17.88	14.77	2.75	1.36	3.15	1.39	184.4	28.19	36.5	18.1	15.42	7.65	17.63	7.77
1900	25.27	16.96	14.35	2.23	0.88	3.03	1.63	160.88	23.97	32.55	19.15	13.16	5.17	17.86	9.63
1901	22.90	16.69	14.11	2.38	0.97	2.62	1.62	167.81	23.02	32.59	18.42	14.29	5.79	15.70	9.68
1902	23.96	15.26	13.01	1.23	1.07	2.43	1.51	123.2	19.35	27.76	20.23	8.04	7.04	15.95	9.92
1903	22.97	15.17	12.88	1.47	1.00	2.15	1.83	135.47	20.52	28.48	23.26	9.70	6.59	14.18	12.06
1904	21.53	14.76	12.40	1.40	1.05	2.10	1.21	170.09	24.81	33.79	19.33	9.48	7.11	14.21	8.23
1905	20.30	14.52	12.21	1.17	1.13	1.81	1.58	135.28	18.91	26.45	23.98	8.03	7.79	12.48	10.88
1906	17.91	14.22	12.31	1.23	0.91	1.86	1.28	139.78	17.61	25.37	23.65	8.62	6.40	13.05	8.99
1907	18.09	13.49	11.59	0.70	1.04	2.29	1.39	112.58	15.10	21.70	26.90	5.20	7.74	17.01	10.28
1908	17.54	14.75	12.74	1.26	0.92	1.92	1.69	137.40	16.34	22.36	27.70	8.51	6.24	13.05	11.46

* Up to 1900 only deaths from Pneumonia, Bronchitis, and Pleurisy were included.

† Up to 1900 only Valvular and other diseases of Heart were included.

TABLE B.

Births and Deaths (Residents) in Each Quarter of the Year 1908 :—

Quarter Ending.	Births.	Deaths from all causes.	Seven principal Zymotic Diseases.	Pulmonary Consumption.	Other Diseases of Respiratory System	Diseases of Circulatory System.	Total Deaths under 1.	Under 5 years	65 years and over.
28th March.. ...	252	224	18	10	41	21	31	44	71
27th June.....	261	185	15	14	29	28	35	51	50
3rd October.....	292	160	13	13	15	17	27	33	51
2nd January, 1909	243	192	21	10	21	16	41	55	46
YEAR	1,048	761	67	47	106	82	134	183	218

TABLE C.

Showing the several Death Rates (Residents) for each quarter of the year 1908 :—

Quarter ending.	Death Rate.		Birth Rate.	Infant Mortality.	Per cent. of Total Deaths of Deaths			
	From all causes.	From 7 Zymotics.			From 7 Zymotics.	Of Infants under 1 year.	Of Children under 5 years.	Of Persons 65 years and over.
28th March.....	15.05	1.21	16.93	123.02	8.04	13.84	19.64	31.70
27th June	12.43	1.01	17.53	134.10	8.11	18.91	27.57	27.03
3rd October	9.98	0.81	18.22	92.47	8.13	16.88	20.63	31.88
2nd January, 1909	12.90	1.41	16.33	168.72	10.94	21.35	28.65	23.96

TABLE D (Residents only).

Showing the proportion of deaths of children under one, of children under five, and of persons over 65 years of age, to total deaths.

YEAR.	NUMBER OF DEATHS.						PERCENTAGE OF TOTAL DEATHS OF DEATHS.		
	Total Deaths.	Under one year of age.	Under 5 years of age.	65 years and over.	From 7 Zymotics.	Under one year of age.	Under 5 years of age.	65 years and over.	
1893.....	421	123	158	76	63	29.22	37.53	18.05	
1894.....	361	96	134	68	31	26.59	37.12	18.84	
1895.....	538	169	232	94	93	31.41	43.12	17.47	
1896.....	507	137	182	117	61	27.02	35.90	23.08	
1897.....	614	178	249	115	95	28.99	40.55	18.73	
1898.....	629	206	260	120	113	32.75	41.34	19.08	
1899.....	712	228	289	124	114	32.02	40.59	17.42	
1900.....	720	189	251	144	99	26.25	34.86	20.00	
1901.....	716	181	251	135	107	25.28	35.06	18.85	
1902.....	679	148	208	132	57	21.80	30.63	19.44	
1903.....	683	158	212	159	71	23.13	31.04	23.28	
1904.....	674	188	251	130	70	27.89	37.24	19.29	
1905.....	680	144	197	158	56	21.18	28.97	23.24	
1906.....	703	134	192	171	64	19.06	27.31	24.32	
1907.....	677	117	162	188	38	17.28	23.93	27.77	
1908.....	761	134	183	218	67	17.61	24.05	28.65	

TABLE E.

	Estimated Population.	Rate per 1,000.				Total Births.	Total Deaths.	Total Infant Mortality.
		Births.	Deaths.		Seven Zymotics.			
			Gross.	Corrected for Visitors.				
1879.....	15,000	36.6	17.8	...	3.06	401	268	122
1880.....	15,000	34.0	22.7	...	5.0	510	341	206
1881.....	14,229	30.6	18.6	15.8	1.2	436	265	126
1882.....	16,000	30.0	22.9	21.0	2.8	480	367	221
1883.....	16,000	30.0	19.5	16.6	1.6	480	312	140
1884.....	17,212	29.8	19.0	17.1	2.14	513	328	146
1885.....	18,031	27.4	17.2	15.2	1.71	494	311	174
1886.....	19,550	25.9	18.9	16.5	2.71	508	370	152
1887.....	20,380	25.3	16.0	14.0	2.45	516	327	116
1888.....	20,540	24.5	15.6	13.2	1.65	504	322	137
1889.....	21,661	26.5	18.7	16.5	1.9	575	406	169
1890.....	24,312	23.7	18.5	16.5	1.9	577	451	182
1891.....	25,310	22.3	20.0	18.2	2.03	566	507	193
1892.....	26,740	24.0	18.2	15.2	0.90	642	488	160
1893.....	28,389	22.4	18.7	14.8	2.64	638	532	210
1894.....	30,337	23.9	15.8	11.9	1.38	726	481	160
1895.....	32,943	26.7	20.06	16.33	3.31	882	661	206
1896.....	36,638	25.7	17.19	13.84	1.99	940	630	159
1897.....	40,234	26.25	18.54	15.26	2.78	1,056	746	191
1898.....	45,414	27.74	16.99	13.85	2.99	1,260	772	178
1899.....	48,200	27.34	17.88	14.77	2.75	1,318	862	184
1900.....	50,166	25.27	16.96	14.35	2.23	1,268	851	161
1901.....	50,750	22.90	16.69	14.11	2.38	1,162	847	168
1902.....	52,174	23.96	15.26	13.01	1.23	1,250	796	123
1903.....	53,015	22.97	15.17	12.88	1.47	1,218	804	135
1904.....	54,388	21.53	14.76	12.40	1.40	1,170	802	170
1905.....	55,712	20.30	14.52	12.21	1.17	1,131	809	135
1906.....	57,115	17.91	14.22	12.31	1.23	1,023	812	140
1907.....	58,431	18.09	13.49	11.59	0.70	1,057	788	113
1908.....	59,741	17.54	14.75	12.74	1.26	1,048	881	137