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Contributors

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County Borough of Sunderland.

Annual Report

ON THE

HEALTH & SANITARY CONDITION OF SUNDERLAND

FOR THE YEAR 1897.

HAROLD SCURFIELD,

M.D. AND C.M., (EDIN.), D.P.H., (CAMB.),

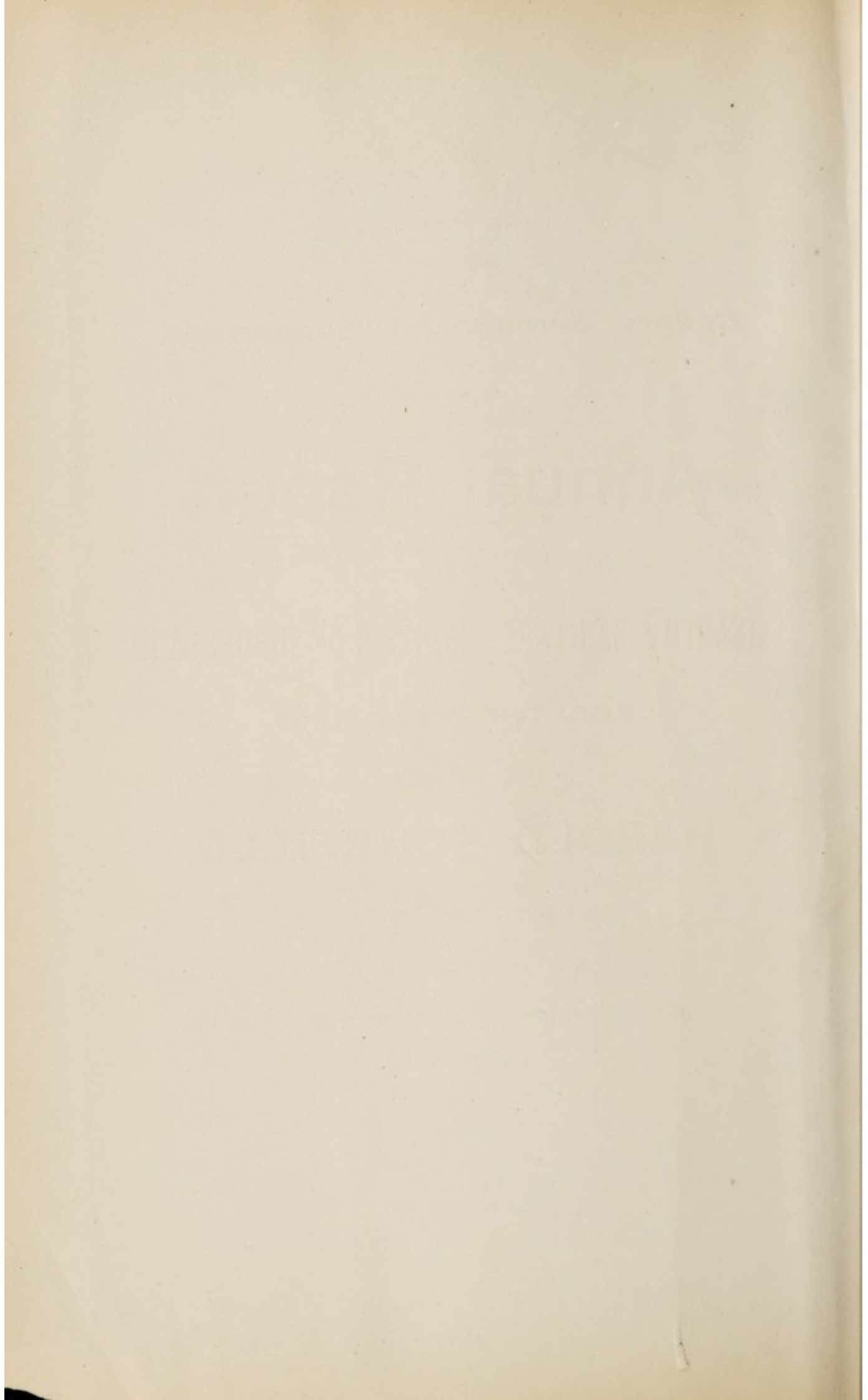
MEDICAL OFFICER OF HEALTH,

MEDICAL SUPERINTENDENT OF THE BOROUGH
SANATORIUM.

Sunderland :

HERALD AND DAILY POST GENERAL PRINTING WORKS, WEST WEAR STREET

1898.



COUNTY BOROUGH OF SUNDERLAND.

HEALTH COMMITTEE.

CHAIRMAN :

ALDERMAN JOHN HARRISON, J.P.

VICE-CHAIRMAN :

COUNCILLOR JOHN TURNBULL.

ALDERMAN BELL, J.P.

” BRUCE, J.P.
” BURNS, J.P.
” COATES.
” FAIRLESS, J.P.
” GIBSON, J.P.
” JOHNSTON.
” RICHARDSON, J.P.
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” WALKER.

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” CALVERT.
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” COWELL.
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COUNCILLOR FOSTER.

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” RITSON.
” ROCHE.
” RUDLAND.
” SANDERSON, W., J.P.
” SHORT, J. Y., J.P.
” SHORT, JOSEPH
” SMITH, J. H.
” THOMPSON, L.
” TURNBULL, H. J., J.P.

Meetings every alternate Thursday, at 7:30 p.m.

Accounts, at 7:15 p.m.

COUNTY BOROUGH OF SUDBURY

HEALTH COMMITTEE



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Meetings every alternate Thursday at 7.30 p.m.
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Officials of the Health Department.

*Medical Officer of Health and Medical Superintendent of the
Borough Sanatorium :*

HAROLD SCURFIELD, M.D. AND C.M. (Edin.), D.P.H. (Camb.)

Deputy Medical Officer of Health :

HENRY RENNEY, M.D., B.S., AND D.P.H. (Durh.)

Inspector of Nuisances :

MR. JOHN PENNOCK.

Assistant Inspectors of Nuisances :

MR. CHAS. E. HORSMAN.

MR. THOMAS H. DOWNES.

MR. JAMES S. WATSON.

MR. GEORGE A. SINCLAIR.

MR. ROGER LEE.

MR. J. G. FORSYTHE.

Superintendent of Cleansing Department :

MR. JOHN WILKINSON.

Horsekeeper :

MR. WILLIAM STOBART.

Clerk :

MR. JOHN SUMMERS.

Assistant Clerks :

MR. HENRY BROUGHTON.

MR. CHARLES BROUGHTON.

Matron to the Borough Sanatorium :

MISS A. F. FYFE.

Engineer to the Borough Sanatorium :

MR. W. S. OATES.

Journal of the Board of Directors

Meeting held on the 15th day of January 1888

Present: Mr. J. H. [Name], Mr. W. [Name], Mr. [Name]

Called to order by the President, Mr. [Name]

Read and approved the minutes of the last meeting

Report of the Treasurer, Mr. [Name]

Resolved that the sum of \$[Amount] be appropriated for [Purpose]

Resolved that the sum of \$[Amount] be paid to [Name]

Resolved that the sum of \$[Amount] be paid to [Name]

Resolved that the sum of \$[Amount] be paid to [Name]

Resolved that the sum of \$[Amount] be paid to [Name]

Resolved that the sum of \$[Amount] be paid to [Name]

Resolved that the sum of \$[Amount] be paid to [Name]

Resolved that the sum of \$[Amount] be paid to [Name]

HEALTH DEPARTMENT,

TOWN HALL,

SUNDERLAND.

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

GENTLEMEN,

I beg to submit for your consideration my
Report on the Health of the Borough and the
work of the Health Department for the year
1897.

I am, Gentlemen,

Your obedient Servant,

HAROLD SCURFIELD,

Medical Officer of Health.

July, 1898.

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 309

TO THE HONORABLE SENATE OF THE

UNIVERSITY OF CHICAGO

X

1955

I beg to submit herewith a report

on the work done by the group during the

year of the fiscal year ending June 30, 1955.

I am, Dear Senate,

Your obedient servant,

FRANK J. WELLS

Director of the Division of Physics

June 1, 1955

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COUNTY BOROUGH OF SUNDERLAND.

HEALTH DEPARTMENT.

ANNUAL REPORT

FOR THE YEAR 1897.

AS the Geology of a district has some important bearings on the health of the inhabitants, some remarks on the principal geological features of the district around Sunderland will not be out of place.

Geological
Features.

Sunderland is situated over the Eastern portion of the Durham Coal-field, but is separated from the Coal Measures, or strata in which the coal seams occur, by various layers of rock, which form a sort of plateau over the eastern part of the County of Durham. The eastern edge of this plateau dips under the sea. The western edge of the plateau is usually formed by high ground, and, cutting through South Shields, passes southwards by Boldon, Down Hill, Claxheugh, Pensher Hill, Herrington Hill, Houghton Bank, Pitlington, &c. This plateau, lying on the Coal Measures, is built up as follows from below upwards:—First, a layer of sand, known as the Yellow Sands, sometimes absent, and, when present, varying from a few feet to 100 feet; secondly, a layer of clayey limestone, known as the Marl Slate, about two feet thick; and, thirdly, a layer of magnesian limestone, usually about 200 feet thick beneath Sunderland, and increasing to a thickness of 400 feet and more further south. Thus the shaft of Monkwearmouth Colliery goes through about 200 feet of limestone, that of Silksworth through about 300 feet, and that of Ryhope through about 170 feet.

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—
Geological
Features.

Wells on the south side of the river opposite Monkwearmouth Colliery, pass through about 190 feet, while a well at Deptford only passes through about 60 feet of limestone.

The sand and lower layers of the limestone are of interest, because they act as reservoirs for the pure hard water with which the town is supplied.

The Boulder
Clay.

Over the magnesian limestone lies a layer of clay, varying from a few feet to 100 feet,—the Boulder Clay, which is supposed to represent the *debris* of rocks from the north and west, which have been crushed, ground down, and borne here by glaciers in the past. One sometimes hears it said: "Sunderland ought to be healthy. It stands high, and is built on the limestone," limestone being generally looked upon as forming a dry, healthy site. Such a remark, however, overlooks the fact that, in the case of Sunderland, the more or less pervious limestone is almost entirely covered by an impervious bed of clay. On some of the higher ground in the neighbourhood, such as the tops of Tunstall Hill, Humbledon Hill, and Down Hill, little or no clay is found. North of the High Street, between the Gill Cemetery and William Street, the clay becomes thin in places or disappears. The same thing occurs over limited tracts in various localities, for example, in the Mowbray Park, near Fulwell Village, on the site of the Borough Sanatorium, in fields just west of Ford Hall, on the High Barnes Estate, in the neighbourhood of Grangetown, &c. ; but the regularity and thickness of the clay covering may be inferred from the fact that very few of the sewers are laid deeper than the clay.

Here and there pockets of sand occur in the clay. Such a pocket was found recently between Otto Terrace and Riversdale Terrace, and the recently relaid sewer behind Douro Terrace was laid partly in one of these sand pockets.

The thickness of the clay is, as a rule, sufficient to render it quite impervious to rain water. In dry weather the superficial clay gives off water, dries and cracks, and, during wet weather, it soaks up the rain and becomes

stiff and solid again, and the cracks disappear. At a few feet from the surface, however, the clay remains stiff, solid, and impervious even in dry weather. The clay foundation to the town has its advantages and its disadvantages.

Advantages :—

It forms a good foundation for houses and for sewers and drains. If a sewer or drain is defective, it limits the mischief to the neighbourhood of the sewer, and prevents the percolation of the sewage into the surrounding ground.

It forms an impervious protective covering to the magnesian limestone, and thus shields the underground water supply from contamination. Owing to the fissures in the limestone, surface impurities might otherwise travel a long distance through that rock without being exposed to any real filtering action.

Disadvantages :—

As the clay can only absorb a small quantity of the rainfall at the surface, and then throws off the remainder, the arrangements for removing the surface water require to be particularly good.

As the surface water taken up by the superficial clay is not able to drain away through the deeper impervious clay, but can only be got rid of by evaporation, the effect of this continual evaporation is to cause our climate to be colder and moister than it would be from our proximity to the sea alone. On the other hand, seaside places with porous subsoils often have dry climates.

In a similar manner the clay subsoil by water-logging the surface soil tends to make houses damp, unless the sites are sealed by an impervious covering of cement.

Again, the clay subsoil has the effect of keeping the macadamised roads in a very bad state during wet weather.

As a rule, the clay is simply covered by a layer of clayey soil, but in certain parts of the district, over limited areas, beds of sand or gravel are found lying on the clay, which, probably, represent deposits left by the sea, when

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Geological
Features.

Natural
Deposits more
recent than
the Boulder
Clay.

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—
Geological
Features.

the clay-covered land sank below the sea level, during the geological period in which the sea beaches found round Cleadon and Fulwell Hills, and along the top of the cliffs south of Sunderland, were formed.

One of the largest of these sand beds is in Monkwearmouth, and extends from the railway and the colliery eastwards to about Church Street and Portobello Lane, and from Dundas Street northwards over Roker Avenue beyond the Church of the Venerable Bede.

Another of these sandy areas is found in the district situated between High Street and Borough Road on the north and south respectively, and between Norfolk Street and Sans Street on the east and west.

Beds of sand and gravel are also found near Bellevue, on the Tunstall Road. A gravel bed is found in the neighbourhood of the Burnfields Parks, Western Hill, and The Royalty, and another in the district about Alice Street and Tunstall Terrace East.

These pervious beds of sand and gravel may form dry or damp sites, according as the surface water which soaks into them is able to drain off easily or not on the surface of the clay below. In the case of cellars and drainage work, &c., such surface water may cause trouble by giving rise to springs.

Naturally, then, the subsoil of Sunderland may be said to consist of an impervious layer of clay, with here and there limited tracts of sand and gravel lying on the clay.

This arrangement has, however, been considerably altered in various parts of the town by the deposit of various materials on the top of the natural soil.

Thus, in Monkwearmouth, over an area bounded by Roker Avenue on the north, Church Street on the west, and the river on the south and east, the clay has been covered by a considerable layer, often 15 feet deep, of sand and gravel (ships' ballast). The surface water which sinks through this runs off towards the river.

Artificial
Deposits,
"Made
Ground," &c.

In other parts of the town there are areas where natural hollows, clay pits, and, in a few cases, quarries have been filled up with various kinds of "made ground."

In Bishopwearmouth South, the only area of "made ground" of any size is the filled-in part of the Valleys of Love, bounded by the railway on the west, Noble's Bank on the east, Robinson Street on the north, and Villette Road and Tower Street on the south.

In Bishopwearmouth North, the greater part of the town situated between Hylton Road and the N. E. Railway on the south and the river on the north, including most of Deptford, where large quantities of ballast have been tipped, is built on "made ground."

Other tracts of "made ground" in Bishopwearmouth North are found between Hylton Road and King's Terrace, between Well Street and St. Luke's Road, between Kayll Road and Brookland Road, and between the Hetton Railway on the east and Leamington Street and Cleveland Road on the west.

In my next Report I think it will be useful to show on the map the nature of the subsoil in the various parts of the town.

The "made ground," like the natural beds of sand and gravel, being more or less loose and pervious, will form dry or damp sites according as the surface water which soaks into it can drain off easily or not on the surface of the subjacent clay. A site on a clay pit filled up with rubbish, of which there are many in the town, is not likely to be either a dry or a wholesome one.

Defective drains and sewers laid in sand, gravel, or made ground have a much greater power for mischief, owing to the more wide-spread percolation of their contents, than defective sewers or drains laid in clay.

The material used for forming "made ground" nearly always contains a considerable proportion of objectionable rubbish and decaying vegetable matter. Apart from the question of consolidation, it is usually reckoned that about three years should be allowed to elapse, in order

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1897.

—
Geological
Features.

that such matter may become innocuous and incorporated with the soil, before ground like this is built upon.

Briefly, it may be said that the whole of Sunderland is built either on impervious clay or on pervious beds, such as sand, gravel, ballast, or "made ground" resting on clay. In the former case, it will be in most cases advisable, for the prevention of damp, to have the basements of the houses securely cemented, and in the latter case, often for the prevention of damp and always on account of the greater danger of emanations from a polluted site rising into the houses, it will be necessary to have the basements of the houses securely cemented and the drains laid on good concrete foundations. This cementing of the site is, of course, more necessary for one-storied cottages, with all the bedrooms on the ground floor, than for the larger houses, in which the ground floor rooms are only used in the day time.

POPULATION.

Population.

The population of the Borough of Sunderland, estimated in the usual way, at the middle of 1897, amounted to 142,107 persons. The distribution of this population among the four Registration Sub-Districts is shown in the following Table :—

	Population.	Area in Acres.	Density of Population per Acre.
Sunderland	14,043	211	66·5
Bishopwearmouth North..	45,324	1,092	41·5
" South..	51,544	1,362	37·8
Monkwearmouth.....	31,196	727	42·9
Borough	142,107	3,397	41·8

In estimating the population of the Borough, it is assumed that the rate of increase which obtained during the last inter-censal period (1881-1891) still holds good; and, similarly, it is assumed that the population of the Sunderland Sub-District is decreasing, and that the

populations of the other Sub-Districts are increasing at the same rate as they did between the census of 1881 and the census of 1891.

REPORT,
1897.
—
Population.

In consequence of the recent extension of the Borough, the data used in making the calculations were the census populations in 1881 and 1891 of the Borough and its Sub-Districts as now constituted.

MARRIAGES.

Last year 1,517 Marriages took place, 748 in churches and 769 before the Registrar. In 1896 there were 1,497 Marriages contracted. The following gives the particulars in quarters for 1897 :—

Marriages.

TABLE A.

	In Churches.	By Registrar.	Totals. 1897.	1896.
1st Quarter ...	145	180	325	301
2nd „ ...	205	199	404	391
3rd „ ...	220	188	408	409
4th „ ...	178	202	380	396
	748	769	1,517	1,497

The following Table shows the Marriages and rates per 1,000 of the population since 1878 :—

TABLE B.

Years.	Marriages.	Annual Rate of Persons Married per 1000 of Population.	Years.	Marriages.	Annual Rate of Persons Married per 1000 of Population.
1878	1,125	20·2	1888	1,343	21·1
1879	966	17·0	1889	1,447	22·6
1880	1,133	19·6	1890	1,442	22·3
1881	1,370	23·5	1891	1,318	20·0
1882	1,547	26·2	1892	1,221	18·3
1883	1,522	25·5	1893	1,203	17·8
1884	1,230	20·2	1894	1,266	18·6
1885	1,168	19·2	1895	1,361	19·8
1886	1,082	17·4	1896	1,497	21·3
1887	1,186	19·1	1897	1,517	21·3

A study of these figures will show that the Marriage rates during the past two years have been higher than in any year since 1890. The rate usually varies with the state of trade and prosperity.

Marriages
increasing.

BIRTHS.

REPORT,
1897.
—
Births.

The Births and Birth rates in each of the registration districts were as follows:—

TABLE C.

	Males.	Females.	Total.	Birth-rate.
Sunderland.....	291	270	561	39·95
Bishopwearmouth, North.....	879	852	1,731	38·19
Bishopwearmouth, South.....	774	713	1,487	28·93
Monkwearmouth .	585	541	1,126	36·09
Borough.....	2,519	2,386	4,905	34·52

The Birth rate in the 33 large towns of England and Wales was 30·7. per 1,000 of the population.

The Birth rates in the Borough during the 1st, 2nd, 3rd, and 4th quarters were 33·69, 33·49, 36·87, and 34·0 respectively.

TABLE D.

Showing the number of Births of Males and Females, together with the Birth rates, for the 20 years, 1878 to 1897.

Year.	Births.			Birth Rate.	Year.	Births.			Birth Rate.
	M.	F.	Total.			M.	F.	Total.	
1878	2383	2258	4641	41·3	1888	2297	2262	4559	34·5
1879	2244	2242	4486	40·0	1889	2463	2355	4818	36·0
1880	2223	2194	4372	37·4	1890	2474	2458	4932	35·5
1881	2325	2262	4587	39·5	1891	2457	2488	4945	37·6
1882	2448	2441	4889	41·2	1892	2466	2443	4909	36·9
1883	2543	2511	5054	41·7	1893	2377	2393	4770	35·5
1884	2690	2527	5217	42·3	1894	2419	2341	4760	35·0
1885	2456	2269	4725	37·7	1895	2468	2351	4819	32·1
1886	2396	2225	4621	36·2	1896	2496	2377	4873	34·0
1887	2337	2134	4471	34·5	1897	2519	2386	4905	34·5

DEATHS.

The Deaths registered during the year, excluding the deaths occurring within the district of persons not belonging thereto, but including the deaths in the Borough Asylum, numbered 2,777, as compared with 2,816 for the year 1896. The year 1896, for statistical purposes, included 53 weeks, and the year 1897 only includes 52 weeks; the Death-rate for 1897 is, therefore, slightly lower than that for 1896, namely 19·54 per 1,000, compared with 19·68.

REPORT,
1897.
—
Death-rate

1897, like 1896, was a year of low Death-rates, owing to the absence of severe weather in the winter quarters; so that Sunderland still occupies a very bad position as regards its Death-rate among the 33 large towns, being 24th. In 1896 we were 25th, so that we have gained one place.

Position of
Sunderland
among
Great Towns.

Table F. shows that Sunderland is 27th (having the same rate as Liverpool) among the 33 towns for "Fever," 17th for Diarrhœa, and 10th for Infantile Mortality. In 1896 we were 31st for Fever, 23rd for Diarrhœa, and 9th for Infantile Mortality. We have, therefore, considerably improved our position as regards Fever and Diarrhœa, and still occupy a good position as regards Infantile Mortality. Our relatively good position as regards Infantile Mortality is, I should think, largely due to the comparatively small amount of female factory labour employed in Sunderland, and the consequent absence of one of the causes of infantile neglect.

A reference to Table G. shows that the chief difference between 1897 and 1896 is, that an excessive Death-rate from Measles in 1896 has been replaced by an excessive Death-rate from Diarrhœa and Enteritis in 1897.

Excessive
Death-rate
from
Diarrhœa.

There has been an important diminution in the number of deaths from Enteric or Typhoid Fever, although the number of deaths from this cause is still greatly in excess of what it should be.

Diminution in
Deaths from
Typhoid
Fever.

REPORT,
1897.
—
Death-rate,
1840 to 1897.

There is a tradition that Sunderland was once a very healthy place, and was known as "Healthy Sunderland." The Registrar-General's Returns show that the average annual Death-rate for the decades from 1840 to 1880 was as follows.—

DECADE.	DEATH-RATE
1841-50	24·0 per 1,000.
1851-60	25·0 „
1861-70	24·0 „
1871-80	24·7 „

Thus the average Death-rate for the 40 years, 1841-80, was 24·4 per 1,000.

The Death-rate for the decade 1881-90 was 22·7, and for the 7 years, 1891-7, it was 21·5, so that if we had kept up the Death-rate which was in vogue in "Healthy Sunderland," there would have been 4,863 additional deaths during the last 17 years. The probable explanation of this tradition is that Sunderland was healthy by comparison with the large towns which were at that time very unhealthy.

Reduction in
Death-rate

A glance at Table E shows the enormous reduction that has taken place in the Death-rates of most of the large towns during the last 20 years, while the reduction in the Sunderland Death-rate in the same period has been comparatively small. The result is that Sunderland, although absolutely more healthy during the last 17 years than it has ever been before, usually occupies a worse relative position among the large towns than it formerly did. On page 14 it is shown that Sunderland has only occupied a fair position among the Great Towns three times since 1881.

The following table shows the Death-rates in the Great Towns and in Sunderland during the last six quinquennia :—

REPORT,
1897.
—

Quinquennial Periods.	Average Annual Death-rates of the Registrar General's "Great Towns," collectively.	Average Annual Death-rates for Sunderland.
1867—71.....	26·1	26·3
1872—76.....	26·0	23·2
1877—81.....	22·9	25·4
1882—86.....	21·4	23·5
1887—91.....	20·6	21·6
1892—96.....	20·0	21·1

A perusal of the Report of a Government Enquiry, held as to the state of Sunderland in 1843, at a time when it is stated that the people of the town considered the general condition of the Borough healthy, produces a feeling of surprise that the average annual Death-rate was only 26·0 per 1,000 for the three years, 1840-41-42. The population at this period was about 50,000.

The Death-rates in the quarters during 1897 were as follows :—

Deaths in
Quarters
during 1897.

1st quarter—Deaths, 704...Rate, 19·81 per 1,000.
2nd " " 654... " 18·40 "
3rd " " 775... " 21·81 "
4th " " 644... " 18·12 "

The third quarter shows the highest Death-rate, owing to the very excessive mortality from Diarrhœa and Enteritis. This excessive mortality from these causes was fairly general throughout the country.

REPORT,
1897.

Health of the
Great Towns
compared
with
Sunderland,
1873-1897.

Taken from
the Annual
Summary
of the
Registrar
General.

TABLE F.

TOWNS.	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	
London	22.5	22.5	23.7	22.3	21.5	23.0	22.7	21.6	21.2	21.4	20.4	20.3	19.8	19.9	19.6	18.5	17.4	20.3	21.4	20.6	21.3	17.8	19.8	18.6	18.2	
West Ham	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Croydon
Brighton	21.9	19.6	18.8	21.3	19.1	19.8	19.0	21.7	19.2	18.0	17.1	17.1	16.9	16.1	15.1	17.8	18.2	19.2	18.4	16.4	18.9	16.1	15.1	15.1
Portsmouth	18.4	20.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Plymouth	.....	.....	19.6	22.1	18.0	19.9	17.6	19.8	19.7	21.5	18.6	19.4	19.7	23.8	19.5	18.8	18.1	19.6	19.0	18.5	18.2	15.2	17.8	16.6	16.2
Bristol	.....	.....	20.7	22.1	22.0	25.8	22.9	25.1	19.9	21.2	20.9	21.0	22.3	23.5	22.7	22.3	25.2	22.4	22.5	18.8	21.2	18.3	20.1	19.6	19.0
Bristol	23.1	22.7	26.9	22.6	22.5	22.2	21.9	21.0	19.6	19.2	17.9	18.4	19.7	19.3	20.4	16.9	17.6	19.2	20.9	19.5	18.9	17.3	18.1	16.9	17.2	
Cardiff	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.0	20.2	24.4	25.7	22.6	21.9	20.5	19.5	20.8	22.1	18.8	19.7	16.2	18.2	16.8	14.9
Swansea	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wolverhampton	25.1	23.9	24.8	23.8	24.4	23.5	23.0	21.3	21.2	22.4	21.3	22.4	20.2	22.2	21.7	20.7	20.6	21.8	24.2	21.5	23.3	20.7	24.4	20.0	22.0	
Birmingham	24.9	26.8	26.6	22.7	24.1	25.5	22.1	20.7	20.0	20.9	21.3	21.4	19.3	19.9	19.7	17.8	18.7	20.7	22.2	20.4	22.0	18.6	20.3	20.8	21.6	
Norwich	21.5	23.5	24.5	21.9	20.7	24.3	21.7	24.3	19.5	20.6	19.6	21.2	20.3	23.3	20.4	20.2	18.4	21.1	19.3	20.9	19.3	18.7	19.3	17.4	18.8	
Leicester	24.4	24.1	26.7	23.1	22.6	22.1	23.2	25.0	21.8	20.1	19.4	22.1	19.8	20.3	19.5	18.3	16.9	17.9	21.7	18.2	20.0	14.7	17.2	16.7	17.7	
Nottingham	23.2	24.8	26.4	22.0	21.1	20.1	21.6	23.8	22.4	23.6	21.3	22.9	19.9	20.4	18.7	17.3	17.0	16.5	19.9	18.7	18.5	17.2	19.0	17.5	18.8	
Derby	.....	.....	.....	.....	.....	.....	.....	.....	.....	18.7	18.1	18.4	18.1	18.2	17.1	16.3	16.4	18.5	19.1	18.3	18.2	15.0	16.7	15.7	16.0
Birkenhead	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liverpool	25.9	32.0	27.5	27.6	26.3	29.2	26.9	27.1	26.7	26.5	26.7	25.2	23.8	23.8	23.7	20.3	21.6	23.6	27.0	24.7	27.3	23.8	28.8	22.7	24.4	
Bolton	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.0	21.7	24.1	20.8	23.1	21.3	21.6	22.0	25.8	21.9	22.8	24.1	18.8	24.0	20.7	22.0
Manchester	20.1	30.4	30.0	29.2	28.5	29.2	28.3	26.9	25.5	26.7	27.6	26.4	26.5	26.3	28.7	26.1	26.7	20.6	26.5	23.8	24.9	20.4	25.2	22.6	23.1	
Salford	29.3	29.6	28.7	28.3	26.4	27.1	26.7	28.0	22.6	23.2	22.4	22.3	21.1	22.1	22.2	21.1	20.5	22.4	26.0	24.6	24.1	21.0	25.6	22.6	23.9	
Oldham	25.8	29.7	27.0	26.0	25.1	27.0	22.8	24.7	22.8	24.6	22.0	24.5	22.0	22.8	23.8	20.3	20.4	21.2	25.7	22.0	21.0	18.6	22.0	20.3	19.2	
Burnley	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blackburn	.....	.....	.....	.....	.....	.....	.....	.....	.....	25.1	24.5	24.1	21.8	25.5	25.5	23.9	25.5	23.5	25.8	21.7	23.3	17.9	24.3	17.9	19.6
Preston	.....	.....	.....	.....	.....	.....	.....	.....	.....	27.6	25.5	27.3	27.1	28.9	27.9	23.9	30.0	27.4	27.3	24.1	26.4	20.8	23.9	20.8	24.4
Huddersfield	.....	.....	.....	.....	.....	.....	.....	.....	.....	22.3	21.3	19.6	20.1	19.6	23.0	18.5	18.8	19.0	23.0	18.1	17.2	15.8	16.9	16.5	16.4
Halifax	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.4	20.0	23.4	19.7	22.8	21.0	19.4	21.6	22.5	22.8	19.5	17.4	16.5	19.3	17.3	16.5
Bradford	24.7	28.0	27.2	23.9	23.3	24.1	22.0	23.9	19.7	21.2	18.3	20.1	17.7	19.2	19.9	17.1	19.2	20.4	22.2	18.0	21.0	17.0	19.9	16.5	17.4	
Leeds	27.6	27.7	26.5	25.1	23.9	24.7	23.5	22.9	21.6	23.2	23.3	24.2	19.9	21.9	21.1	20.6	22.1	22.6	22.9	19.8	22.3	17.9	20.5	18.8	19.9	
Sheffield	25.8	26.9	24.9	24.3	23.1	26.6	22.9	23.9	21.1	21.7	22.9	22.4	20.7	19.8	21.6	20.5	20.9	24.9	23.9	20.8	22.3	17.8	20.5	19.3	21.2	
Hull	23.9	25.5	27.5	22.9	21.5	24.1	22.0	23.4	23.8	23.2	22.8	21.1	17.2	18.8	19.2	16.4	20.3	19.2	21.0	19.6	21.8	17.4	20.8	18.9	18.6	
SUNDERLAND	22.8	23.4	22.5	21.0	22.9	25.9	22.3	25.0	20.9	26.5	24.5	23.1	23.8	19.5	19.7	18.0	22.8	22.5	25.0	20.9	22.4	20.6	21.7	19.8	19.7	
Gateshead	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newcastle	30.1	29.2	26.1	22.8	23.0	24.5	24.4	22.8	21.8	23.1	25.5	23.1	26.1	22.2	25.3	20.6	25.2	25.9	23.8	19.7	21.0	18.3	20.5	18.5	19.1	
Large Towns collectively	24.4	25.4	26.4	23.7	22.7	24.2	23.2	22.7	21.7	22.3	21.6	21.6	20.6	20.9	20.8	19.2	19.3	21.3	22.5	20.7	21.6	18.1	20.7	18.9	19.1	

TABLE F.

Showing Fever Death-rate, Diarrhœa Death-rate, and
Infantile Mortality in Sunderland and in the 33
great Towns in 1897.

REPORT,
1897.

NAME OF TOWN.	Fever.	Diarrhœa.	Infantile Mortality, <i>i.e.</i> , Number of Deaths under 1 year to 1000 Births
33 TOWNS	0·18	1·24	177
London	0·13	0·92	159
West Ham	0·18	1·08	172
Croydon	0·07	0·79	135
Brighton	0·18	0·91	144
Portsmouth	0·24	1·54	168
Plymouth..	0·08	0·87	185
Bristol	0·20	0·65	149
Cardiff	0·12	0·80	151
Swansea	0·07	0·21	140
Wolverhampton	0·28	2·11	217
Birmingham.....	0·18	2·00	214
Norwich	0·29	1·27	194
Leicester	0·19	1·76	205
Nottingham.....	0·21	1·66	206
Derby	0·25	1·10	168
Birkenhead	0·24	0·98	164
Liverpool	0·27	1·93	200
Bolton	0·21	1·45	186
Manchester	0·19	1·56	195
Salford	0·31	2·00	219
Oldham.....	0·14	1·05	183
Burnley	0·18	1·25	220
Blackburn	0·29	1·31	206
Preston.....	0·30	2·23	262
Huddersfield	0·15	0·35	131
Halifax.....	0·17	0·32	140
Bradford	0·13	1·44	179
Leeds	0·20	1·57	190
Sheffield	0·31	1·83	198
Hull	0·25	2·23	181
Sunderland	0·27	1·20	165
Gateshead	0·20	1·07	172
Newcastle.....	0·16	1·00	178

Taken from
the Annual
Summary of
the Registrar
General.

REPORT,
1897.
—

The figures given below show the relative position of Sunderland compared with the large towns of England and Wales :—

1867— 8th	with a Death-rate of 23·9	(among 17 towns).
1868—10th	”	27·2
1869— 3rd	”	22·9
1870— 1st	”	20·9
1871—18th	”	36·5 (among 18 towns).
1872—13th	”	26·5
1873— 4th	”	22·8
1874— 4th	”	23·4
1875— 4th	”	22·5 (among 20 towns).
1876— 2nd	”	21·0
1877—10th	”	22·9
1878—15th	”	25·9
1879— 8th	”	22·3
1880—14th (and equal to Leicester)	”	25·0
1881— 8th	”	20·9
1882—25th (and equal to Liverpool)	”	26·5 (among 28 towns).
1883—23rd (and equal to Blackburn)	”	24·5
1884—16th (and equal to Newcastle)	”	23·1
1885—23rd (and equal to Liverpool)	”	23·8
1886— 7th	”	19·5
1887— 8th (and equal to Birmingham)	”	19·7
1888— 9th	”	18·0
1889—23rd	”	22·8
1890—18th (and equal to Halifax)	”	22·5
1891—22nd	”	25·0
1892—26th	”	20·9 (among 33 towns).
1893—26th	”	22·4
1894—30th	”	20·6
1895—24th	”	21·7
1896—25th	”	19·8
1897—24th	”	19·7

TABLE G.—Showing the Death-Rates per 1,000,000 from various Diseases, and Infantile Mortality, in Sunderland and in England.

YEAR.	DEATH-RATE PER 1,000,000.																																Infantile Mortality, i.e., Number of Deaths under 1 year per 1,000 births.		
	All Causes.		Measles.		Scarlet Fever.		Diphtheria.		Whooping Cough.		Enteric Fever.		Diarrhoea.		Diseases of the Stomach and Enteritis.		Rheumatic Fever, Rheumatism of the Heart, and Rheumatism.		Diseases of the Circulatory System.		Cancer.		Phthisis.		Other Tubercular Diseases.		Diseases of the Respiratory System.		Bronchitis.		Pneumonia.			Infantile Mortality.	
	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.	Sunderland.	England.		Sunderland.	England.
1887	20347	19073	1341	692	136	282	55	160	471	404	239	185	886	727	215	254	64	130	1460	1695	575	615	1620	1615	622	698	3767	3769	1875	2117	1564	1113	152	145	
1888	18736	18111	32	347	150	229	126	171	363	436	158	172	466	455	189	246	80	129	1655	1695	608	621	1507	1598	663	653	4055	3931	1956	2041	1743	1693	135	138	
1889	23882	18221	983	518	296	235	148	289	530	430	218	176	1318	648	242	282	55	111	1669	1694	686	656	1833	1572	1279	685	4922	3433	2379	1957	2254	1022	182	144	
1890	23740	19547	144	439	544	243	83	179	393	478	265	179	998	695	234	316	76	117	1799	1757	507	676	1807	1682	1187	694	5957	4229	3024	2333	2698	1404	175	151	
1891	24927	20216	1126	436	198	171	60	172	304	468	282	168	966	469	304	315	76	125	1735	1826	753	692	1650	1599	1271	701	5586	4565	3036	2593	2229	1472	178	149	
1892	20882	18982	910	469	150	190	60	222	744	455	361	137	602	563	301	329	105	121	1444	1684	587	690	1594	1468	1136	698	4144	3960	2000	2267	1902	1251	180	148	
1893	22473	19170	126	374	193	235	37	318	171	342	802	229	1917	854	483	446	67	134	1687	1630	550	711	1508	1468	1285	677	4309	3997	1931	1906	2065	1286	189	159	
1894	20583	16596	872	391	183	167	44	292	477	411	543	159	829	350	308	248	59	116	1710	1556	675	713	1732	1385	976	538	4162	3078	1754	1642	2069	1684	168	137	
1895	21713	18727	58	378	80	149	58	260	450	316	937	175	1873	874	718	512	29	103	1612	1688	595	755	1692	1398	1031	695	3811	3527	2003	1972	1481	1172	191	161	
1896	19456	17101	965	572	196	178	41	262	503	421	377	166	825	646	459	474	119	115	1363	1570	685	794	1447	1307	671	585	3628	3044	1656	1539	1607	1149	161	148	
Average 1887-1896	21684	18374	656	452	213	268	71	226	441	417	418	175	1068	612	348	352	73	120	1614	1674	622	689	1640	1596	1012	658	4434	3682	2161	2637	1961	1265	169	158	
1897	19542	17434	436	401	77	145	35	249	635	351	253	*167	1281	665	752	—	84	—	1661	—	746	—	1534	—	605	—	3603	—	1569	—	1879	—	168	156	

* This figure includes Typhus and Continued Fever.

Date	Description	Debit	Credit	Balance
1891				
Jan 1	Balance			
Jan 15	...			
Jan 30	...			
Feb 15	...			
Feb 30	...			
Mar 15	...			
Mar 30	...			
Apr 15	...			
Apr 30	...			
May 15	...			
May 30	...			
Jun 15	...			
Jun 30	...			
Jul 15	...			
Jul 30	...			
Aug 15	...			
Aug 30	...			
Sep 15	...			
Sep 30	...			
Oct 15	...			
Oct 30	...			
Nov 15	...			
Nov 30	...			
Dec 15	...			
Dec 30	...			
Total				

TABLE J.

Deaths in the four quarters of 1897, compared with those in the four quarters of 1896, from divers causes.

REPORT,
1897.

DISEASE.	1897.				1896.				1897	1896
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter. (14 Weeks.)	Total. (52 Weeks.)	Total. (53 Weeks.)
Smallpox .....	...	...	...	...	...	...	...	...	...	...
Measles	7	10	14	31	30	89	16	3	62	138
Scarlet Fever .....	...	7	2	2	8	7	6	7	11	28
Diphtheria	1	2	1	1	2	2	...	2	5	6
Whooping Cough..	22	26	17	11	25	28	13	6	76	72
Typhus Fever	1	...	...	...	...	...	...	...	1	...
Enteric Fever.....	9	3	11	13	8	3	23	20	36	54
Continued Fever...	1	...	1	...	...	...	...	...	2	...
Diarrhoea	9	6	148	19	5	4	95	14	182	118
Syphilis	2	2	3	4	4	6	5	2	11	17
Puerperal Fever...	...	...	...	...	...	1	...	...	...	1
Chronic Alcoholism	1	2	2	4	...	1	...	2	9	3
Rheumatism and Rheumatic Fever	2	2	..	2	2	6	7	2	6	17
Cancer	23	25	30	28	19	25	27	27	106	98
Tabes Mesenterica	5	6	12	...	4	7	14	6	23	31
Tubercular										
Meningitis	10	10	7	4	5	8	5	10	31	28
Phthisis	64	63	46	45	56	54	50	47	218	207
Other Tubercular Diseases	4	3	11	14	4	9	14	10	32	37
Premature Birth..	15	26	30	18	14	29	22	34	89	99
Old Age	44	32	35	38	28	43	26	45	149	142
Diseases of the Nervous System	86	67	76	81	88	82	81	101	310	352
Diseases of the Heart	56	57	40	61	41	50	33	50	214	174
Bronchitis	82	49	32	60	73	65	35	64	223	237
Pneumonia	51	43	20	34	66	66	40	58	148	230
Diseases of the Digestive System	40	53	78	38	38	39	56	46	209	179
Inflammation of the Kidneys and Bright's Disease	13	14	11	12	9	20	14	10	50	53
Accident	16	14	15	13	19	17	12	12	58	60
Homicide.....	1	...	1	...	...	...	...	1	2	1
Suicide	3	5	3	...	2	2	...	1	11	5

REPORT,
1897.

CONSIDERATION OF VARIOUS DISEASES.

The Zymotic
Diseases.

The Death-rate from the "principal Zymotic Diseases" was 2·6 per 1,000, as compared with 2·87 for the 33 great towns in 1897, and 3·0 for Sunderland in 1896.

The following tables show the cases notified, and the deaths for several years past.

TABLE K.

Cases of Infectious Diseases notified since 1887, (Compulsory Notification began in Sunderland in September, 1885).

Year.	Smallpox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Typhus Fever.	Continued Fever.
1887	...	270	48	149	13	39
1888	10	506	46	152	74	36
1889	6	751	44	170	51	37
1890	...	921	54	311	8	102
1891	...	445	24	271	35	85
1892	2	409	38	284	56	104
1893	36	967	18	801	43	117
1894	8	706	23	588	10	80
1895	1	470	26	840	2	99
1896	1	605	26	260	...	46
1897	3	394	32	203	1	29
Total...	67	6444	679	4029	293	774

TABLE L.

The annexed Return shows the deaths from infectious diseases for 23 years (1875 to 1897) :—

REPORT,
1897.

Deaths from
Infectious
Diseases,
1875-97.

Years.	Smallpox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Enteric Fever.	Typhus Fever.	Continued Fever.	Dia:rrhea.
1875	...	5	61	8	133	21	21	3	141
1876	...	42	133	9	53	34	19	11	146
1877	...	1	138	15	63	35	26	6	82
1878	1	93	186	14	175	30	23	6	204
1879	...	1	243	10	44	23	4	6	73
1880	...	99	312	3	73	27	15	10	209
1881	...	3	145	8	40	22	5	5	90
1882	1	191	168	18	106	42	34	11	129
1883	52	16	38	18	22	33	41	4	85
1884	84	7	46	13	95	13	11	4	150
1885	17	385	106	12	32	16	16	4	82
1886	...	4	27	5	51	13	7	6	194
1887	...	168	17	7	59	30	7	6	111
1888	1	4	19	16	46	20	7	6	59
1889	...	126	38	19	68	28	8	1	170
1890	...	19	72	11	52	35	6	4	132
1891	...	148	26	8	40	37	6	12	128
1892	...	121	20	8	99	48	7	5	81
1893	5	17	26	5	23	108	18	9	258
1894	...	119	25	6	65	74	5	4	113
1895	...	8	11	8	62	129	2	3	258
1896	...	138	28	6	72	54	...	...	118
1897	...	62	11	5	76	36	1	2	182

Three cases of Smallpox were notified in the Borough during the year and one in the Port. On February 16th a seaman, who had come from Bilbao to Middlesbrough, was removed to the Sanatorium suffering from Smallpox. On March 3rd, his sister-in-law, who had visited him before the nature of his illness was recognised, was reported to be suffering from Smallpox, and also removed to the Sanatorium. Both cases made good recoveries, and no further cases arose from them. On December 12th, a seaman from a ship which had come to this port from Seville *via* Dundee and the Tyne, was removed to the Sanatorium suffering from Smallpox, and on December 21st the Chief Engineer of a ship which had come into the Tyne from Bilbao was notified as suffering from Smallpox, and also removed to the Sanatorium. Both cases recovered, and no further cases of the disease arose from them.

REPORT,
1897.
—
Smallpox.

Since the end of the year an epidemic has occurred at Middlesbrough, and a Vaccination Bill has been introduced into Parliament. The epidemic at Middlesbrough has, like all other epidemics of Smallpox, shown the value of vaccination as a preventive of Smallpox. It has also shown (what has now for a long time been recognised) that the protection conferred by vaccination gradually becomes less and less, and that re-vaccination is necessary.

Vaccination
as a
Preventive
of
Smallpox.

Up to the end of March there had been 1,200 cases in Middlesbrough.

Among unvaccinated children under 15 years of age there were 71 cases with 27 deaths, or a case fatality of 38 per cent. Among vaccinated children under 15 years of age there were 140 cases with 3 deaths, or a case fatality of about 2 per cent.

REPORT,
1897.

—
Vaccination
as a
Preventive
of
Smallpox.

Among unvaccinated persons, over 15 years of age, there were 101 cases with 52 deaths, or a case fatality of 51 per cent. Among vaccinated persons over 15 there were 888 cases with 84 deaths, or a case fatality of $9\frac{1}{2}$ per cent.

In other words, in Middlesbrough an unvaccinated child under 15 attacked by Smallpox was 19 times more likely to die than a vaccinated child, and an unvaccinated person over 15 was more than 5 times more likely to die than a vaccinated person.

If vaccination were no protection, and we consider the loathsome nature of the disease, and that it proves fatal to about half the unvaccinated persons attacked by it, it would become a heroic action on the part of a nurse to attend a case of Smallpox, and there would be the greatest difficulty in getting a sufficient staff for Isolation Hospitals during Smallpox epidemics.

On the contrary, I have no hesitation in saying that a well-vaccinated nurse who attends a case of Smallpox runs less personal risk than a nurse who attends a case of Typhoid Fever, Scarlet Fever, or Measles.

Probably, however, few people doubt the efficacy of vaccination, and the chief objection to it is founded on the fear of some other disease being conveyed by it. The danger of the latter occurrence has been enormously exaggerated, and will be abolished altogether by the use of calf lymph as proposed in the Bill now before Parliament. The reasons for this security by the use of calf lymph are as follows:—As Tuberculosis is, practically, the only disease which cattle and men are subject to in common, Tuberculosis is the only disease which can possibly be transmitted from calf to man by calf lymph. In preparing the lymph, a healthy calf of two or three months old is selected and vaccinated. The lymph is collected with all precautions as to cleanliness, and the

calf is then slaughtered and all the organs thoroughly examined, and if any trace of disease is found the lymph is not used.

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1897.
—

Even if this *post-mortem* examination were not carried out, the risk would be infinitesimal, because Tuberculosis is exceedingly rare among calves up to six months old, and the disease would have to be in an advanced stage before the infection could possibly be conveyed by vaccine lymph.

It will thus be seen that it is quite easy to absolutely guard against the only disease which could, theoretically, be conveyed from calf to man by calf vaccine lymph. The risk from vaccination is thus reduced to the same thing as the risk of getting dirt into a scratch.

Measles was most prevalent in the Bishopwearmouth North and Monkwearmouth districts.

Measles.

There is no doubt that many of the 62 deaths assigned to this cause during the year would not have occurred if it were not for the fact that Measles is regarded as a slight ailment, and therefore neglected. By the courtesy of the Clerk to the School Board, an arrangement has now been made by which the School Attendance Officers report to me all cases of Measles which they meet with in the course of their work. Leaflets are left at the house warning those in charge of the patient of the dangerous nature of the ailment, and the room is disinfected at the close of the illness. It is hoped by these means that a wholesome fear of Measles will gradually be aroused, which will result in a smaller sacrifice of life from this cause. Appended are the instructions issued in the case of Measles :—

PRECAUTIONS AGAINST MEASLES.

1. Measles is a very dangerous disease, and has killed three times as many children in Sunderland as Scarlet Fever during the last ten years. For this reason it is advisable to obtain medical advice in all cases.

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1897.
—

2. Measles is dangerous, chiefly because it is considered a slight ailment, and proper care is not taken of the patients. The result is that many children, suffering from Measles, get Bronchitis and Inflammation of the Lungs, and die.

3. Children are not bound to have Measles, and the older they are when they get it the less likely they are to die from it. It is, therefore, well worth trying to keep them from getting it.

4. Measles is very infectious, and the first symptoms are coughing, sneezing, and redness of the eyes.

5. If a child gets Measles, it should be put in a room away from the other children, and kept away from them for a month. When the child is recovering, it should have plenty of baths. The bed clothes, body linen, and handkerchiefs used in the sick room must be thoroughly washed, and application should be made to the Health Department, at the Town Hall, for the room to be disinfected at the end of the month. Afterwards the room should be thoroughly cleaned.

6. All the children in a house where there is Measles must be kept away from school till the sick room has been cleaned and disinfected. No neighbours' children must be allowed to come to the house whilst there is Measles in it.

CAUTION.—Every person suffering from Measles is forbidden to enter a cab or any public conveyance, or go to any public meeting place, under a heavy penalty.

Scarlet Fever was prevalent all through the year, but was, as a rule, of a mild type. There were 394 cases notified, with 11 deaths, or a case fatality of less than 3 per cent. During the last five years (1893-7), the average case fatality of Scarlet Fever has been 3·2 per cent., while during the six years (1886-92), the case fatality was 6·0 per cent.

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1897.
—
Scarlet Fever.

The Sanatorium no doubt largely helps to keep the case fatality low, as out of 317 cases treated there during the last two years there have been only 5 deaths, giving a case-fatality of $1\frac{1}{2}$ per cent. This is only what one would expect, when it is remembered that in serious cases of Scarlet Fever, with severe throat, nose, ear, &c., symptoms, the skill of the nurse is the all important thing.

Only 5 deaths were returned as being due to Diphtheria, as compared with 6 for 1896, so that the death-rate from this cause remains satisfactorily low, being about one-sixth of the English death-rate from this cause.

Diphtheria.

Whooping Cough was as usual responsible for a large number of deaths, and, as in the case of Measles, one is compelled to assume that most of the deaths assigned to this cause are due to ignorance and negligence. A similar arrangement has been made for Whooping Cough with the School Board Authorities to that which has been made for Measles, and, it is hoped, that this will gradually bear fruit in the way of a lessened mortality from the disease.

Whooping
Cough.

Appended are the instructions issued in the case of Whooping Cough.

PRECAUTIONS AGAINST WHOOPING COUGH.

1. Whooping Cough is a very dangerous disease, and causes twice as many deaths as Scarlet Fever.

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2. It is often dangerous because sufficient care is not taken of the patients, with the result that they get Bronchitis and Inflammation of the Lungs.

3. Whooping Cough is very infectious, and children suffering from it must be kept away from other children until a fortnight after the whoop has gone away.

4. When there is Whooping Cough in a house, the other children in the house must be kept away from school, and no neighbours' children must be allowed to come to the house.

5. After the whoop has gone, the room occupied by the patient should be thoroughly cleaned, and will be disinfected free of charge on application to the Health Office, the Town Hall. All bed-clothes and body-clothes used in the sick room should be thoroughly washed. The handkerchiefs used by the patient should be kept in boiling water for an extra long time.

CAUTION.

Every person suffering from Whooping Cough is forbidden to enter a cab or any public conveyance, or to go to any public meeting place, under a heavy penalty.

Enteric or
Typhoid, and
Continued
Fever.

As Continued Fever nearly always means ill-defined Enteric Fever, these two illnesses are conveniently considered together. Typhus Fever being now very rare, the Registrar General's term "Fever" for purposes of comparison, may be taken as being equivalent to Enteric Fever.

Tables K. and L. shew that there has been a satisfactory decrease, both in the number of cases of Enteric and Continued Fever notified, and in the number of deaths.

Thus there have been 232 cases notified in 1897, as against 306 in 1896, a decrease of 74; and 38 deaths have occurred in 1897, as against 54 in 1896, a decrease of 16.

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1897.
—
Enteric or
Typhoid, and
Continued
Fever.

The decrease in the prevalence of Typhoid Fever, which has taken place in the last two years, is, I think, due to several causes, viz. :—

1. The disinfection and removal of the excreta of home-treated patients in properly constructed pails.
2. The abolition of a considerable number of exceptionally badly situated privy-middens.
3. The treatment of a larger proportion of the patients in the Sanatorium, thus lessening the risk of the occurrence of secondary cases.
4. A more thorough attempt to disinfect the privy-middens belonging to houses where cases of fever have been notified.

In spite of this satisfactory decrease, Typhoid Fever is still abnormally prevalent, and I do not think this abnormal prevalence is likely to disappear until the 11,000 open privy middens, with all their opportunities for polluting the air, the soil, and the streets, are abolished.

The following is a list of streets where conversions of privy-middens to water-closets have been chiefly carried out, and appended to it is the number of cases of fever notified in each of the last five years :—

CASES OF FEVER IN

	1893	1894	1895	1896	1897
Gerald Street.....	2	2	—	—	2
Hanover Place	4	2	3	—	—
John Street West	4	3	1	—	—
Ayre's Quay Road.....	2	—	—	—	—
Hopper Street	11	—	2	—	—
Back Hopper Street.....	5	1	—	—	—
Farrington Row.....	2	5	6	2	2

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—
Enteric Fever.

CASES OF FEVER IN (CONTD.)

	1893.	1894.	1895.	1896.	1897.
Back Farrington Row	2	—	2	—	1
Cross Farrington Row	1	—	1	—	—
Hope Street	7	3	2	1	—
Silksworth Row.....	—	2	—	—	—
South Johnson Street	11	5	2	—	—
Clyde Street	2	—	2	—	—
Dunning Street.....	2	1	1	—	—
Green Street	—	—	1	1	—
Johnson Street	4	1	—	—	—
Hendon Street	5	2	12	2	1
Hendon Road.....	14	3	6	—	1
Tweed Street	2	—	3	1	—
Lawrence Street.....	4	4	14	—	1
Tyne Street	2	2	1	—	—
Tees Street.....	1	5	3	3	—
Woodbine Street	10	6	7	3	1
Zion Street.....	3	1	1	—	1
Nile Street.....	4	—	1	1	—
Wellington Lane	2	2	3	1	—
South Durham Street	8	4	4	1	2
Totals	114	54	78	16	12

This list shows that the reduction in the amount of Fever has been greater in those streets where conversions of privy middens into water-closets have chiefly taken place than in the rest of the town.

In the Report for 1896 I expressed the opinion, as the result of my observation of the way in which Enteric Fever seemed to cling to the neighbourhood of certain houses and certain groups of houses, that the infective matter of Enteric Fever was probably capable of living from one year to another in the saturated soil surrounding a privy midden. This opinion has been lately confirmed by experiments conducted by Dr. Robertson, now Medical Officer of Health for Sheffield, and also by experiments carried out for the Local Government Board by Dr. Sidney Martin, at the instigation of the Principal Medical Officer of the Board, Sir Richard Thorne.

Dr. Robertson found that growths of the Typhoid bacillus planted outside in soil which contained a good

deal of decaying animal or vegetable matter were able not only to live through the winter, but to grow and multiply in the soil on the return of warmer weather.

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1897.
—
Enteric Fever.

Dr. Martin found that when growths of the Typhoid bacillus were planted in two kinds of virgin soil, one being a crumbling peaty soil and the other a red sandy soil, no signs of the vitality of the growths could be found after a few weeks; but that the growths of the same bacillus, if planted in soil containing decaying animal and vegetable matter, were able to multiply and retain their vitality for periods of at any rate 214 and 268 days. His investigations are still being continued. Sir R. Thorne, in an inaugural address to the Midland Medical Society, describes these experiments made by Dr. Martin, and then proceeding to discuss what measures can be taken to prevent the soil around dwellings becoming a suitable growing ground for the Typhoid bacillus, says:—

To this end I would, in the first place, advocate the paving of open spaces about dwellings where these open spaces are of small area and are liable to become contaminated with excreta. In this way fouling of, as well as penetration by, a pathogenic micro-organism into the underlying soil is practically prevented. Indeed, it is well known not only that the paving of yards about small cottage and tenemented property in towns has in its results been shown to be a public health measure of first importance, but also that the value of such a measure has depended largely on the use of a form of pavement which really ensures impermeability. In the next place, it will be clear that organic and decaying refuse should be so dealt with as to prevent its contaminating the soil in the neighbourhood either of dwellings or of sources of water supply. I need hardly point out here in detail what are the points to aim at in securing this end; but I may perhaps usefully approach the matter from the other point of view, and say that the privy-midden which still prevails in so many of our large Midland and Northern towns presents every feature that should be studiously avoided. Generally sunk below the surface of the ground, often open to rainfall, always storing up decomposing excreta and refuse in close proximity to dwellings, it provides almost every condition favourable to the production of nuisance, to the saturation of the soil with filth, and to the setting up and maintenance of those very

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1897.
Enteric Fever.

conditions which seem to be essential to the vitality and multiplication of the Typhoid bacillus. The fact that, with our present knowledge, such a structure as the common midden-privy should not only still exist in our midst, but be clung to with a perverted tenacity is, in my opinion, the greatest blot which attaches to English sanitary administration at the close of the nineteenth century. Apart from its sanitary aspect, it is a system as degrading and ignoble as it is foul, and I trust the day is not far distant when we shall look back to it as a barbarism of the past. First, then, let our aim be to maintain such a condition of cleanliness about our houses that the soil shall approach as far as practicable to the condition of those virgin soils which are inimical to the growth of the pathogenic organism under consideration.

In a case which came before the Quarter Sessions at Eccles in January last, Professor Delépine, the well-known Bacteriologist, showed that he had been able to find the Typhoid bacillus in the filth-saturated soil of the floor of a privy midden 13 months after the occurrence of a case of Typhoid Fever in the house to which the privy midden was attached, in spite of the fact that the midden was emptied and disinfected on the notification of the case, and a pail, similar to those in use in Sunderland, was used for the removal of the excreta of the patient during the period of the illness subsequent to the notification of the case.

Tables N. and O. show that, as usual, the Death-rates from all causes, from Fever and from Diarrhœa, were far higher in the privy-midden towns than in the water-closet towns in England and Wales.

The milk supply of the households infected with Typhoid Fever was as follows:—

One	dairy	supplied	16	households.
“	“	“	7	“
Two	dairies	“	6	“ each.
Four	dairies	“	5	“
“	“	“	3	“
Thirteen	“	“	2	“
Forty-four	“	“	1	“

TABLE N.

List of Privy-Midden towns, *i.e.*, towns in which the number of privy-middens approximates or exceeds 5 per cent. of the population :—

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1897.

TOWNS.	POPULATION, 1897.	DEATH-RATES PER 1000 IN 1897 FROM		
		ALL CAUSES.	"FEVER."	DIARRHŒA.
Aston Manor	79,887	17·5	0·15	2·28
Ashton-under-Lyne	42,761	22·1	0·40	1·61
Barnsley	39,498	20·9	0·25	2·58
Bolton	121,433	22·0	0·21	1·45
Bradford	231,260	17·4	0·13	1·44
Burnley	106,122	19·5	0·18	1·25
Bury	58,829	19·0	0·29	1·21
Darlington	40,033	15·0	0·10	0·37
Derby	103,291	16·0	0·25	1·10
Dudley ..	45,409	20·7	0·18	1·43
Gateshead	101,070	18·3	0·20	1·07
Great Yarmouth.....	51,009	18·7	0·35	1·84
Hull	225,045	18·6	0·25	2·23
Ipswich	62,219	16·9	0·08	0·88
Leeds	409,472	19·9	0·20	1·57
Middlesbro'	91,131	18·5	0·33	0·74
Norwich	110,154	18·8	0·29	1·27
Preston	115,103	24·4	0·30	2·23
Rotherham	47,365	21·2	0·38	1·48
St. Helens	83,242	21·0	0·37	1·68
Salford	213,190	23·9	0·31	2·00
Sheffield	351,848	21·2	0·31	1·83
Smethwick	45,467	17·4	0·13	1·28
South Shields	95,798	16·3	0·15	0·76
Sunderland ...	142,107	19·7	0·27	1·20
Stockport	77,914	22·2	0·23	2·22
Stockton	55,510	14·6	0·13	0·65
Walsall	80,811	20·4	0·16	2·24
West Bromwich	61,551	20·6	0·13	1·51
West Hartlepool.....	53,883	15·3	0·20	0·76
York	71,459	19·2	0·27	1·93
Average	19·26	0·23	1·48

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TABLE O.

List of Water-Closet Towns.

TOWNS.	POPULATION, 1897.	DEATH-RATES PER 1000 IN 1897 FROM		
		ALL CAUSES.	"FEVER."	DIARRHŒA.
Brighton	121,401	15·1	·18	·91
Bristol	232,242	17·2	·20	·65
Cardiff	170,063	14·9	·12	·80
Carlisle	40,888	19·5	·07	·24
Chester	37,301	19·9	·13	·59
Coventry	58,348	17·6	·07	1·53
Croydon	121,171	13·1	·07	·79
Exeter	37,404	19·7	·45	·70
Hornsey	59,928	9·3	·00	·63
Leyton	79,619	13·0	·18	1·03
Liverpool	633,078	24·4	·27	1·93
London	4,463,169	18·2	·13	·92
Merthyr Tydvil ...	65,714	24·5	·23	·82
Newport	68,175	15·9	·18	·43
Oxford	49,076	14·6	·12	·29
Plymouth	97,658	19·0	·08	·87
Portsmouth	182,585	16·2	·24	1·54
Reading	68,094	14·1	·09	1·19
Rhondda	117,968	17·3	·23	·77
Southampton	100,886	16·6	·07	·79
Tottenham	85,185	14·6	·11	1·07
Walthamstow	74,438	11·2	·17	1·14
West Ham	273,682	15·7	·18	1·08
Willesden	100,815	12·2	·12	·99
Worcester	44,586	19·9	·07	·90
Averages ... ..	.....	16·5	·15	·90

In 26 households the milk supply was obtained from "man at the door" or "anywhere," and 40 households used condensed milk. In no case was there reason to blame the milk supply for the occurrence of Fever.

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—
Enteric Fever.

Table H. shows that the Sunderland Sub-district has had the highest Death rate from Typhoid and Continued Fever, Monkwearmouth the next highest, Bishopwearmouth North the next, and Bishopwearmouth South the lowest.

The spot map shows the distribution of "Fever" cases during the last two years.

The street lists in the appendix show the decrease in cases in streets where "Fever" has been very prevalent in previous years.

Diarrhœa and Diseases of the Stomach and Enteritis caused many more deaths than in the previous year. This increase was general throughout the country, and Sunderland occupies a better position among the large towns as regards the death-rate from diarrhœa in 1897 than it did in 1896. The increase in the mortality due to this class of diseases was, no doubt, owing to the hot weather in August. The following table shows the influence of a hot or cold August on the death-rate from these diseases :—

Diarrhœa and
Diseases of
the Digestive
System.

MEAN TEMPERATURE IN AUGUST AND ANNUAL DEATH-RATES
FROM DIARRHŒA, ETC., FOR THE PAST TWELVE YEARS.

Year.	Mean Temperature In August.	Annual Death rate per 1,000,000 from Diarrhœa, Diseases of Stomach, and Enteritis.	Position among 12 years for	
			Temperature.	Diarrhœa, Diseases of Stomach, and Enteritis.
1886	58·8	1776	4th	4th
1887	54·3	1101	11th	10th
1888	55·9	655	8-9th	12th
1889	57·8	1560	5th	5th
1890	56·0	1232	7th	8th
1891	55·9	1270	8-9th	7th
1892	55·0	903	10th	11th
1893	61·3	2400	1st	2nd
1894	56·5	1137	6th	9th
1895	59·6	2591	3rd	1st
1896	56·6	1314	6th	6th
1897	60·1	2034	2nd	3rd

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Monkwearmouth showed the highest Death-rate from Diarrhœa and Diseases of the Stomach and Enteritis taken together ; Sunderland Sub-district came next, Bishopwearmouth North next, and Bishopwearmouth South last.

During the summer months the back streets were sprayed with a disinfectant solution after the emptying of the middens, with a view to lessening the nuisance and stench resulting from the cleansing operations. I think this operation had a beneficial effect, and that but for that we would have had to record a larger number of deaths from Diarrhœa, and have occupied a worse position for that disease among the large towns.

Rheumatic
Diseases and
Diseases of the
Circulatory
System.

The deaths from Rheumatic Diseases and Diseases of the Circulatory System were about equal in number to the average for the last ten years.

Cancer.

The Death-rate from Cancer was considerably higher than the average for the last ten years.

Tuberculosis.

Consumption of the Lungs, as in last year, caused fewer deaths than usual, probably owing to the absence of severe weather in the winter months. A person suffering from Consumption, who would have been killed by a severe winter, will often live through mild winters such as those of 1896-7 and 1897-8.

There was also a decrease in the deaths from other Tubercular diseases.

The rooms occupied by consumptives have been regularly disinfected by the Health Department after death, and, in some cases, rooms which had been occupied by consumptives have been disinfected by request where there had been no death.

The danger of Consumption, or Tuberculosis, being caused in man by consuming the milk or meat of animals affected with that disease, was referred to in my last report. The Royal Commission appointed to consider

the best means of avoiding the danger has just issued its Report. The Report lays stress on the fact that the danger from the milk altogether outweighs the danger from the meat. The Report points out the unsatisfactory nature of the systems of meat inspection in this country, and the total want of uniformity in the practice of different Authorities, as to the amount of Tubercular disease which is considered to justify the condemnation of a carcass. As regards Tuberculosis and the milk supply the Commission say that inspection is even more unsatisfactory still, "and, indeed, may be said not to exist," and that practically nothing is being done by farmers to get rid of what is now known to be an Infectious Disease.

The Commission in their Report made some important recommendations under five headings, which are, briefly, as follows :—

A—SLAUGHTER-HOUSES.—That power be conferred on all Urban Authorities to insist (1) on slaughtering in their district being done only in public slaughter-houses ; (2) on the inspection of meat immediately after slaughter, and the stamping of such meat if passed as sound ; (3) on the inspection of all dead meat imported into their district, a reasonable charge to be made to cover the expenses attendant on such inspection.

B—QUALIFICATIONS OF MEAT INSPECTORS.—That no Meat Inspector be permitted to act as such until he has proved himself properly qualified to the Local Government Board (or Board of Agriculture).

C—TUBERCULOSIS IN ANIMALS INTENDED FOR FOOD.—That uniform rules be adopted as to the condemnation of carcasses of animals affected by tubercular disease ; in the case of localized disease, the affected part only to be destroyed.

D—DISEASES IN THE UDDERS OF COWS.—That the notification of every disease of the udder be made compulsory, and that additional power be given to Local Authorities to require information as to the source of milk sold in their district, and to exclude from their district the milk of cows exhibiting symptoms of Tuberculosis.

E—COWSHEDS, BYRES, &c.—That Local Authorities be compelled to adopt Regulations as to Dairies, Cowsheds, and Milkshops, and that such Regulations be made more stringent than at present, and that additional control be given to Local Authorities over milk imported into their district.

F—ELIMINATION OF BOVINE TUBERCULOSIS.—That the Board of Agriculture supply the services of a Veterinary Surgeon to perform the tuberculin test gratuitously, on condition that the animals which pass the test are isolated from those which do not pass the test, and that the stock are kept under satisfactory sanitary conditions.

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1897.

Diseases of
the
Respiratory
System.

Besides these recommendations, three of the seven Commissioners recommended that compensation be paid to the owner of a carcass condemned by order of a magistrate on account of tuberculosis, if the magistrate shall satisfy himself that the animal before slaughter had a good appearance, was well nourished, and exhibited no visible sign of tuberculosis.

Bronchitis, as in 1896, gave rise to a lower mortality than usual, doubtless owing to the absence of severe weather. 223 deaths from this cause were recorded, as against 237 in 1896.

The different forms of Pneumonia accounted for 267 deaths, or 37 more than in last year.

TABLE P.

Showing the deaths from Pneumonia and Bronchitis in each quarter from 1887 to 1897.

Year.	BRONCHITIS.					PNEUMONIA.				
	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
1887	72	51	35	77	235	34	41	34	87	196
1888	76	59	36	77	248	57	57	31	76	221
1889	69	89	87	60	305	37	105	82	65	289
1890	119	88	70	123	400	104	107	50	96	357
1891	108	100	55	136	399	84	76	56	77	293
1892	75	77	37	77	266	74	68	60	61	253
1893	65	70	81	44	260	67	93	45	73	278
1894	58	55	31	95	239	76	65	57	84	282
1895	107	69	43	57	276	77	36	45	46	204
1896	73	65	35	64	237	66	66	40	58	230
1897	82	49	32	60	223	85	67	49	66	267

During the year there were 822 deaths among children under 12 months old. Of these 11 were returned as being due to Measles, 38 to Whooping Cough, 7 to Syphilis, 127 to Diarrhœa, 11 to Tabes Mesenterica, 78 to Inflammation of the Brain and Convulsions, 81 to Bronchitis and Pneumonia, 13 to Dentition, 50 to Enteritis, 190 to Debility, Marasmus, &c., and 89 to Premature Birth.

REPORT,
1897.

—
Infantile
Mortality.

The third quarter of the year being that in which most of the Diarrhœa deaths occurred, shows the heaviest Infantile Mortality.

As compared with last year, there is a slight decrease in Measles, Bronchitis, and Pneumonia, and a large increase in Diarrhœa and Enteritis.

Table F. shows that Sunderland, according to the Registrar General, comes tenth among the 33 towns in 1897, with a rate of 165, as compared with an average of 177 for the 33 towns.

Table H. shows that Sunderland Sub-district has had an average Infantile Mortality of 216 during 1892-97, Monkwearmouth being next highest with 182, Bishopwearmouth North third with 167, and Bishopwearmouth South the lowest with 155.

Infantile
Mortality
in the
Sub-districts.

Table G. shows that Sunderland had an average Infantile Mortality of 169 during the past decade, as compared with 158 for the whole of England.

REPORT, THE BOROUGH SANATORIUM FOR
1897.
—
INFECTIOUS DISEASES.

Infectious
Diseases.

During the year 228 cases of Infectious Disease were admitted to the Sanatorium. The following table shows the admissions during the last eleven years :—

TABLE Q.

	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897
Smallpox ...	...	10	6	...	..	2	36	8	1	...	4
Measles	6	2	1	...	5	1	...	4	1	...	...
Scarlet Fever	29	50	60	92	57	77	228	187	130	213	104
Diphtheria ...	...	...	...	1	...	3	1	...	1	1	3
Typhus Fever	7	42	45	2	27	48	31	8	1	...	...
Enteric & Con- tinued Fever.	32	24	25	50	94	89	314	271	343	123	117
Totals...	74	128	137	145	183	220	610	478	477	337	228

The following table shows that 35 per cent. of the notified cases were treated in the Sanatorium, being the same percentage as in 1896.

TABLE R.

Showing the percentage of notified cases, which were treated in the Hospital during 1896 and 1897.

DISEASE.	1896.			1897.		
	Cases Notified.	Admitted to Hospital.		Cases Notified.	Admitted to Hospital.	
		Number.	Percentage of Total Cases Notified.		Number.	Percentage of Total Cases Notified.
Smallpox	1	...	...	3	3	100
Enteric Fever	260	103	39·6	203	106	52·2
Typhus Fever .....	...	...	...	1	...	...
Continued Fever	46	16	34·8	29	11	41·4
Scarlet Fever	605	125	35·2	394	104	26·4
Diphtheria	26	1	...	32	3	9·4
TOTAL	938	333	35	662	227	35

Of the 104 cases of Scarlet Fever treated at the Sanatorium, it is very satisfactory to have to record that none died. Of the 290 cases of Scarlet Fever treated at home, 10 died, being 3·4 per cent. of the cases. Of the 117 cases of Enteric and Continued Fever treated at the Sanatorium during the year 17 died, being 14·4 per cent. of the cases treated; while of the 115 cases treated at home 19 died, being 16·6 per cent. of the cases. It will thus be seen that the fatality of both diseases has been less for patients treated in the Sanatorium than for those treated at home.

Comparison of
Sanatorium
and Home
Treatment.

REPORT,
1897.

The following figures show the death-rate in the Sanatorium for the past seven years :—

1891—	Patients admitted,	155,	of whom	13	died,	or	8·3	per cent.
1892—	“	“	194,	“	18	“	“	9·2
1893—	“	“	513,	“	48	“	“	9·3
1894—	“	“	420,	“	28	“	“	6·6
1895—	“	“	446,	“	49	“	“	11·2
1896—	“	“	337,	“	24	“	“	7·1
1897—	“	“	228,	“	18	“	“	7·9

Union Fever
Hospital.

Twelve cases of Infectious Disease were treated in the Union Fever Hospital during the year, namely, six cases of Enteric and Continued Fever, with one death, four cases of Scarlet Fever, with no deaths, and one case of Typhus Fever, with one death.

CLEANSING DEPARTMENT.REPORT,
1897.—
Cleansing
Department.

At the end of the year there was in the Borough about 2,450 houses supplied by water-closets only, about 850 furnished with water-closets and privies and ashpits, and about 350 with water-closets and ash-closets. There were about 11,400 supplied by privies and ashpits, about 4,300 by ash-closets, about 800 by pan-closets, and about 190 houses had no conveniences at all.

Table S. shows a considerable increase in the work done in this department. There is an increase in the number of inhabited houses, namely, 298, and an increase of $1\frac{1}{2}$ horses employed daily in cleansing ashpits.

In addition to there being more ashpits to cleanse, the cleansing has been done more frequently. Thus 195,892 ashpits were cleansed in 1897, as against 162,908 in 1896, an increase of 32,894. The result of this policy has been a falling off in the number of applications at the office. This is more clearly shown in Table T., in which the years are compared month by month.

The greatest importance is attached to the regular cleansing of the ashpits. The open high hatched ashpits must not be emptied too frequently, on account of the inevitable fouling of the streets which occurs.

During the summer months an attempt was made to lessen the nuisance caused by the pitching-out of the contents of the privy-middens on to the streets, by having the wall and ground adjacent to the hatch of the midden sprayed with a disinfectant and deodorant solution immediately after the emptying of the midden. The adoption of this system effected a distinct improvement, but after wet weather the state of the back streets is rendered so filthy by the emptying of the middens which are open to the rainfall, that a thorough flushing with a hose pipe is the only remedy likely to be of much avail.

REPORT Return showing the number of Ash-pits Cleansed ;
 1897. also Inhabited Houses, Population, &c., for Eleven
 — Cleansing Years (1887-97).
 Department.

TABLE S.

Year.	No. of Inhabited Houses.	Estimated Population.	No. of Ash-pits Cleansed.	No. of Loads of Refuse Removed from			Average No. of Horses Employed Daily.	Applications received at Office to empty Ash-pits.
				Ash-pits and Ash-closets.	Pan-Closets	Ash-pans and Scuttles, &c.		
1887		125,276	120,296	54,663	6,456	6,851	30½	3,166
1888	17,790	126,757	101,012	55,075	7,338	6,720	30½	3,924
1889		128,254	88,544	53,556	7,677	6,785	30½	4,813
1890		129,769	100,987	*56,376	7,463	6,650	30½	4,945
1891	18,590	131,302	119,156	59,361	6,655	6,503	30½	4,912
1892	19,098	132,839	132,575	61,957	6,372	6,580	30½	4,569
1893	19,476	134,515	149,717	57,032	7,675	6,528	30½	4,584
1894	19,540	136,101	148,884	57,198	8,351	6,764	31½	4,716
1895	19,953	137,705	146,864	59,419	8,442	6,022	34¼	4,719
1896	20,684	140,386	162,908	*58,215	9,128	7,786	36	3,159
1897	20,982	142,107	195,892	56,074	8,644	9,835	37½	1,841

* 53 weeks in these years.

29,247 loads of Road Sweepings also were removed during the year, making a total of 103,800 loads dealt with by the Health Department.

The number of Barrels and Tanks of Water used for Street Watering purposes was 11,487.

During the twelve months 43,100 loads of Refuse were sent to sea by Hopper.

The column "No. of Ash-pits Cleansed" only includes Ash-pits and Ash-closets. From these, 56,074 loads were removed during the year, or about 3½ Ash-pits and Ash-closets to a load, on the average. The Pan-closets (some of which are emptied every day, and others every other day) are not included in this column.

In addition to the loads of refuse referred to in the table, 16,765 Bags of Paper have been collected and burnt. Previous to the separate collection of paper, this would have been put into the ash-pits. This fact, and the collection of more refuse during the day-time from ash-pans and scuttles, accounts for the reduction in the loads removed from ash-pits and ash-closets.

TABLE T.

REPORT,
1897.

Showing the number of Ashpits reported full by the Inspectors, and applications made at the Office to have Ashpits emptied, each month during 1896 and 1897.

Month.	1896			1897		
	Reported by Inspector.	Applications at Office.	Total.	Reported by Inspector.	Applications at Office.	Total.
January	130	420	550	79	273	352
February ..	85	379	464	108	260	368
March.....	85	279	364	114	198	312
April.....	96	242	338	82	159	241
May.....	56	330	386	96	192	288
June.....	68	310	378	99	159	258
July.....	51	278	329	61	180	241
August.....	89	236	325	48	74	122
September.....	46	186	232	67	90	157
October.....	31	119	150	62	71	133
November.....	54	157	211	52	72	124
December.....	111	223	334	59	113	172
Totals.....	902	3,159	4,061	927	1,841	2,768

During 1896, 918 applications were received to have ashpits cleansed, which, either owing to their being locked up, or containing horse manure, the Corporation men were not in the habit of cleansing regularly. During 1896, 534 ashpits were specially cleansed in order that they might be repaired or altered.

During 1897, 597 applications were received to have ashpits cleansed, which, either owing to their being locked up, or containing horse manure, the Corporation men were not in the habit of cleansing regularly. During 1897, 604 ashpits were specially cleansed in order that they might be repaired or altered.

REPORT,
1897.

—
Day
Collection
of House
Refuse.

During the year the system of collecting the house refuse twice a week during the day-time from houses supplied by water-closets only has been continued. For the adoption of this system it is necessary that a dust-box should be substituted for the old-fashioned large ash-receptacle, and many house owners have made this alteration during the year. It is much to be desired that the remainder should follow suit, as the contents of these ash-receptacles, comprising, as they generally do, a quantity of decaying vegetable matter, are often as offensive as those of privy-middens, and occupants of water-closeted houses cannot be said to have got the full benefit of the water-carriage system until they have adopted this more wholesome method of getting rid of their domestic refuse, not to mention the gain of yard space and the freedom from the annoyance caused by the visits of the night carts.

At the close of the year upwards of 1,300 of these dust-boxes were in use, and the number of them is increasing.

SANITARY WORK.

During the year 43 houses were reported, under the Housing of the Working Classes Act, as being "unfit for human habitation." Of this number 23 were put into a habitable state of repair ; of the remainder, one was closed by a Magistrates' order, in 5 cases the work of repairing was in progress at the end of the year, and 13 were voluntarily closed by the owners.

REPORT,
1897.

—
Housing of
the Working
Classes Act,
1890.

In one case proceedings were pending at the close of the year.

In addition to these 43 houses, 4 closing orders were made in respect of properties for which notices were served in 1896.

In August, 1897, the Council decided to adopt certain sections of the Infectious Diseases (Prevention) Act, 1890, which confer powers not contained in the Borough of Sunderland Act, 1885. The most important of these is Section 4, which gives the Local Authority power to prohibit milk being brought into their district from a dairy situated outside their district, if they have reason to suppose that such milk is causing infectious disease.

Infectious
Diseases
(Prevention)
Act, 1890.

Mr. John Pattinson, of Newcastle-upon-Tyne, was appointed Public Analyst in July, 1897. Since then, the Sale of Food and Drugs Acts have been efficiently carried out, and a considerable number of prosecutions have been successfully undertaken.

Sale of Food
and
Drugs Acts.

Milk is such an important article of food, and so easily adulterated, that it is usual to take more samples of it than of any other article. Of the 41 samples of milk taken, 5 were found to be adulterated, or 12 per cent. It is hard lines on the public to be sold water (perhaps dirty water) at the price of milk, and hard lines on respectable dairymen to sell pure milk in competition with men who sell milk and water.

In addition to the 6 samples of milk returned as adulterated, 4 samples were returned as "doubtful," and 3 samples as "poor milk." These "doubtful" and "poor" samples were probably also adulterated. The explanation of this statement is that the analytical authorities at Somerset House, who act as the Court of Appeal, adopt a very low standard for genuine milk, and a very great deal of milk adulteration is therefore allowed to go on unchecked.

It is practically impossible for the mixed milk of several cows to be as poor in quality as the Somerset House standard, unless the cows are improperly fed or are unfit for dairy purposes, and it is much to be hoped that the standard for genuine milk will ere long be raised. As far as the consumer is concerned it matters little whether the milk is made watery by feeding the cow poorly, say, with an excess of brewers' grains, or by actually adding water to the milk.

To avoid the risk of injustice being done by the adoption of a higher standard for milk, it might be made permissible, in doubtful cases, for the dairy farmer to state from what cows the dubious samples came, and for a second sample to be taken, the cows being milked in the presence of the Inspector. Then, if the two samples corresponded, this would be considered a valid defence against the charge of adulteration. The proceedings alone would be sufficient punishment for the poor feeding.

SCHOOL HYGIENE.

As schools afford a ready means of spreading infectious disease, the sanitary condition of the schools in the district is a matter of the greatest importance.

The worse the ventilation, the more readily will diseases such as Measles, Whooping Cough, Scarlet Fever, &c., be spread by schools, quite apart from the bad effect on a child of spending a good part of the day in an ill-ventilated room.

At the beginning of the year an inspection of the Public Elementary Schools was made. The old schools provide about 100 cubic feet of air-space per scholar, and the new schools about 140 cubic feet per scholar. With such a small allowance of cubic space, it is quite impossible to keep the air of a school in really good condition except by a perfectly carried out system of mechanical ventilation, and even then the rooms must be rigorously emptied during the morning and afternoon breaks.

The outside atmosphere contains about four parts of carbonic acid per 10,000 parts of air, and when, by human occupation, the carbonic acid has increased to 8 parts per 10,000 parts of air, the limit of good ventilation has been reached. At the time of the inspection of the schools, tests were made as to the state of the air in the class rooms. The results given below show that the carbonic acid present usually far exceeds that permissible in well-ventilated rooms.

The class rooms with cross ventilation were always in a better state than those with windows in adjacent walls. The results obtained in Board Schools and Denominational Schools are separated, because the average cubic space allowance is greater in the Board Schools, and results obtained before and after break are also separated.

OBSERVATIONS BEFORE BREAK.					
	Number of Observations.	Average number present during test.	Average number for whom accommodation is provided.	Average time of continuous occupation before test.	Average amount of Carbonic Acid in the air, expressed as parts per 10,000.
Board Schools	114	66.2	81.4	1 hour 36 minutes	10.36
Denominational Schools	50	84.5	99.3	1 hour 36 minutes	13.6
OBSERVATIONS AFTER BREAK.					
	Number of Observations.	Average number present during test.	Average number for whom accommodation is provided.	Average time of occupation, not including the break, from the beginning of morning or afternoon school.	Average amount of Carbonic Acid in the air, expressed as parts per 10,000.
Board Schools	75	74.9	76.0	1 hour 43 mins., or about 23 mins. after the break.	8.9
Denominational Schools	29	79.6	93.1	2 hours 9 mins., or about 49 mins. after the break.	9.32

During occupation the fresh air is usually admitted by fanlight windows, which open inwards on bottom hinges. As these windows are not provided with side pieces, so as to form a Sherringham inlet, they allow the air to be blown down directly on the heads of the scholars and teachers, and are therefore not likely to be much used in cold or windy weather. The enquiry further

showed that the class rooms are not always emptied and aired during the breaks in morning and afternoon school. With such a small cubic space allowance it ought to be absolutely imperative for all the class rooms to be emptied during these breaks, and for the windows to be opened wide, so that the rooms may be thoroughly flushed with fresh air before the children come in again. Enough covered playground should be provided to admit of this being done in bad weather. Most of the schools are supplied with properly constructed trough water-closets and efficient urinals, but in a few of the older schools there are obsolete conveniences in existence, which will require to be re-modelled.

REPORT,
1897.

Amongst the latter are St. Paul's, Hendon; Pallion Church (Girls); St. Mary's, Green Street (Infants); the Donnison School, and the Gray National School.

Most of the public conveniences are in a very bad state, and it has now been decided to remodel the whole of them in batches, beginning with those that are most used or in the worst condition. When these places have all been reconstructed with white glazed bricks and white glazed earthenware stalls, a great sanitary improvement will have been effected.

Public.
Conveniences.

The crying needs of Sunderland are the clearing away of the insanitary property in the Sunderland Sub-district, and the abolition of the open privy-middens.

Crying needs
of
Sunderland.

As regards the former question, Table H. shows that in proportion to population there have been three deaths in Sunderland Sub-district during the last six years to two deaths in the rest of the town.

Insanitary
Property in
the East End.

The prizes in the competition, for plans of buildings to be erected on the Hat Case Area, were awarded in January, 1897, and since that date 18 months have been spent in endeavours to make the plans conform to the ideas of the Local Government Board.

REPORT,
1897.

—
Insanitary
Property in
the East End.

The Board took the following objections to the plans :—

- (1) The buildings did not provide accommodation for a sufficient number of persons.
- (2) The plans did not provide sufficient open space.
- (3) The plans provided one-roomed tenements.

As regards objections 1 and 2, the Health Committee found themselves unable to provide on the same area both accommodation for more persons and more open space, and they therefore had the plans amended so as to provide accommodation for fewer persons and more open space.

As regards objection 3, the Health Committee felt that there was a demand for well-equipped one-roomed tenements, but as the choice lay between giving up the scheme and giving up the one-roomed tenements, they were reluctantly compelled to give up the one-roomed tenements. It is certainly an anomaly that private property owners may cut up houses into one-roomed tenements, with very indifferent accommodation, while the Corporation may not build good one-roomed tenements, with excellent scullery and water-closet accommodation.

The result of these amendments has been a considerable reduction in the estimated rentals from the property.

As the Hat Case scheme only touches the fringe of the question of insanitary districts in the East end, the outlook so far is not very encouraging, and I am very much afraid that until Part I. of the Housing of the Working Classes Act, 1890, is amended so as to enable the Local Authority to erect buildings without the necessity of obtaining the Local Government Board's

approval of the plans, that this part of the Act will become in Sunderland, as in Newcastle and elsewhere, a dead letter.

REPORT,
1897.
—
Insanitary
Property in
the East End.

Unfortunately, Part II. of the Act cannot be put into operation to any extent in Sunderland Sub-district, because the insanitary houses are so arranged that they can only be dealt with as "unhealthy areas."

As regards the second crying need of Sunderland, I am beginning to feel like the Roman Senator, who finished up every speech with "*Delenda est Carthago*," until he got his wish.

The Open
Privy-
Middens.

I trust, however, that when the new bye-laws have been adopted, that some scheme will be brought forward for the abolition of the open privy-middens. Sir R. Thorne's opinion of these structures is quoted elsewhere in this Report.

I do not see how we can expect to obtain any great improvement in the general cleanliness of the town until the open privy-middens are done away with. As long as the filth from upwards of 11,000 open privy-middens is pitched out on to and smeared over the streets every few weeks, it is not likely that the average inhabitant of the town will have much respect for the cleanliness of the street surfaces, and it will be difficult to convince householders that there is any particular harm in throwing slops and house refuse on the streets, or shop-keepers and others that it is an objectionable practice to litter the streets with shop-sweepings, straw, paper, &c.

A considerable number of privy-middens, which were specially offensive from their confined position, or because their contents had to be wheeled or carried through houses, have been abolished during the year and water-closets and ash tubs substituted for them.

REPORT,
1897.
—
The Open
Privy-
Middens.

A collateral advantage of these conversions is that a more complete knowledge is being gained of the condition of the old sewers. A large number of very defective sewers have been and are being discovered in this way and re-laid. As the old sewers were not laid with a view to subsequent inspection, their condition is largely a matter of guess work.

SALE OF FOOD AND DRUGS ACT, 1875.

Report of the Public Analyst appointed for the County Borough of Sunderland upon the Articles analysed by him under the above Act during the Half-Year ending 31st December, 1897.

Article submitted for Analysis.	State whether the sample was submitted to the Analyst by an Officer acting under direction of a Local Authority, under Section 13 of Act, and if so, the name of such Authority.	Result of Analysis : Showing whether the sample was Genuine or Adulterated, and, if Adulterated, what were the nature and extent of the Adulteration.	Observations.
Milk	By an Officer acting under direction of the Town Council.	Genuine	Of poor quality.
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Do.	Of poor quality.
Do.		Adulterated with 22·35 per cent of water.	
Do.		Genuine.	
Do.		Do.	
Do.		Do.	
Do.		Of doubtful genuineness.	
Do.		Genuine.	Of poor quality.
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Adulterated with 10·24 per cent of water.	
Do.		Adulterated with 4·94 per cent. of water.	
Do.		Genuine.	
Do.		Do.	
Do.		Adulterated with 43·76 per cent. of water.	
Do.		Genuine.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.	Do.		
Do.	Do.		
Do.	Adulterated with 6·94 per cent. of added water.		
Do.	Genuine.		
Do.	Do.		
Do.	Of doubtful genuineness.		
Do.	Do.		
Do.	Genuine.		
Do.	Do.		
Do.	Do.		

SALE OF FOOD AND DRUGS ACT, 1875 — CONTINUED.

Article submitted for Analysis.	State whether the sample was submitted to the Analyst by an Officer acting under direction of a Local Authority, under Section 13 of Act, and if so, the name of such Authority.	Result of Analysis : Showing whether the sample was Genuine or Adulterated, and, if Adulterated, what were the nature and extent of the Adulteration.	Observations.
Butter	By an Officer acting under direction of the Town Council.	Genuine.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Found to be Margarine.	
Do.		Genuine.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Coffee		Do.	
Do.		Do.	
Do.		Contains 72.8 % chicory.	
Do.		Do. 56.5 % do.	
Do.		Contains at least 40 % chicory	
Do.		Do. do. 60 % do.	
Do.		Do. do. 60 % do.	
Do.		Do. do. 45 % do.	
Do.		Genuine.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Do.		Do.	
Butter		Do.	
Do.		Do.	
Do.	Do.		
Do.	Do.		
Do.	Do.		
Do.	Do.		
Milk	Do.		
Do.	Do.		
Do.	Do.		
Do.	Do.		
Do.	Do.		
Do.	Of doubtful genuineness.		
Do.	17.1 % deficient in fat.		

Genuine Samples	57
Doubtful do.	4
Adulterated do.	13

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Annual Report of the Chief Sanitary Inspector.

HEALTH OFFICE,

TOWN HALL, SUNDERLAND,

JULY, 1898.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE.

GENTLEMEN,

I have the honour to submit to you my Annual Report of the work done by your Inspectors during the year ending December 31st, 1897.

It will be seen that 62,579 inspections and 123 special reports have been made, 1,478 tests have been applied to drains, 12,903 notices served, 850 letters and 492 circular letters have been written and delivered, drawing the attention of owners of property to the non-compliance with notices served.

41 houses have been dealt with under the Housing of the Working Classes Act, 1890, details of which are given in the Medical Officer's Report.

The following amongst other work has been done, viz. :—

605 privy middens have been abolished and 643 water-closets substituted, viz., 627 ordinary and 16 slop or waste water-closets.

29 ash-closets or covered privy middens have been erected, and 192 ashpits repaired.

85 water-closets, which were structurally defective, have been repaired, 86 have been provided with an efficient supply of water, and 40 soil pipe ventilators have been repaired, or new ones fixed.

880 drains, which were untrapped or otherwise defective, have been repaired.

219 yards have been cemented, 33 paved with bricks, and 199 repaired.

Table showing the INSPECTIONS made during 1897.

Slaughter Houses	234
Butchers' Shops	1,337
Fish and Fruit Shops	735
Milk Shops	1,055
Cow Byres	460
Bake Houses	48
Common Lodging Houses	506
Offensive Trades	173
Factories and Workshops	466
Inspections made to ascertain if works ordered were in progress.....	4,467
Inspections for the Supervision of Work	1,786
Dwelling Houses	47,861
Inspections of Dwelling Houses after Infectious Disease	414
Sundry Inspections	3,037
Total Inspections	62,579

SUMMARY OF NOTICES for the Abatement of Nuisances served during 1897.

Nature of Notice.	Preliminary.		Statutory.		Totals
	Owner.	Occupier	Owner.	Occupier	
To Cleanse Premises after Infectious Disease .....	...	504	...	...	504
To Cleanse Dwelling Houses, Yards, &c....	9	705	6	139	859
To Abate Nuisances respecting Foul and Defective Drains	608	161	170	13	952
To Abate Nuisances respecting Ashpits and Privies	613	315	252	62	1242
To Abate Nuisances respecting Water-closets.....	184	296	74	52	606
Insufficient W.C. Accommodation or Water Supply to W.C.....	91	...	240	...	331
To Repair Yards.....	463	...	203	...	666
To Repair Dilapidations in Houses	372	...	152	...	524
To Abate Overcrowding	25	10	12	5	52
To Repair Spouts and Downcomers	774	...	222	...	996
To Repair Fittings to Ashpits, Pan-closets, &c.	147	1	29	...	177
To Cleanse and Limewash Bake Houses, Workshops, and Factories	10	...	...	...	10
To Provide Water Supply to Dwelling Houses	94	...	11	...	105
To Abate other Nuisances	186	147	83	74	490
Totals.....	3576	2139	1454	345	7514

DRAINS TESTED.

The following Table shows the number of Drains Tested, Nature of Tests, &c. :—

	Nature of Test.			Result.		Total.
	Water	Chemical.	Smoke	Defective.	Good.	
Drains Tested on Complaint.....	16	77	42	104	31	135
Drains Tested on Suspicion of Nuisance	14	306	14	201	133	334
Drains Tested after Infectious Disease	9	190	3	68	134	202
Drains Tested to ascertain if work in progress was satisfactory..	418	57	31	172	334	506
Drains Re-tested.....	273	17	11	122	179	301
Totals	730	647	101	667	811	1478

Seventy-eight written applications were received at the office for the testing of drains, and 57 verbal applications made to the Inspectors in their districts, making a total of 135. Of this number no less than 104 drains were found to be defective. In addition to this, the Inspectors, while on their rounds, had reason to suspect that nuisances existed with regard to 334 drains. Of these 201 proved to be defective. There were also 202 drains tested in houses where cases of Enteric Fever and Diphtheria had been notified, and 68 were found to be defective.

About the middle of April, 1897, an arrangement was made by the Chairman and Vice-Chairman of the Health Committee, the Medical Officer of Health, the Borough Surveyor, and myself, whereby each Inspector was to have charge of, and be responsible for, the drainage work carried out as the result of notices served from this department, in each particular district. Hitherto it had been the practice that the Health Department examined and tested drains, and served notices specifying certain works to be done to abate nuisances, but the supervision of the work (in the case of drains, w.c.'s, &c.) was done by an official under the Borough Surveyor. This was found to be most unsatisfactory, as the latter did not know the nature of the defects complained of, nor what work had been ordered to be done. As a result, in many instances, the work done was quite unsatisfactory. To remedy

this it was considered advisable that the Inspector who tested the drain in the first case, and who was responsible for the service of the notice, was the proper person to supervise the carrying out of the work. This applied to inhabited houses only, and not to new buildings.

This arrangement gave additional work to the Inspectors, as each man has to see that the drains in his district are properly laid and tested, either by water or smoke, as the case may require.

In some instances it has been found necessary to apply the test as often as seven times ere the work could be passed.

I have thought it advisable to add the following Table, giving details of notices served on *occupiers* :—

Table showing the Number of Notices served on Occupiers.

Districts.	Privies Foul.	Water in Ashpits.	W.C.'s to Cleanse.	Drains Choked.	Houses in dirty condition.	Dirty Yards.	Overcrowding in houses.	Fowls and Animals so kept as to be a Nuisance.	Accumulations injurious to health.	To Disinfect after Infectious Diseases.	To Linewash.	Totals.
1	88	48	79	88	85	84	4	6	54	82	1289	1907
2	79	..	89	89	153	65	2	6	3	117	478	1081
3	38	9	73	16	29	57	1	5	26	70	118	442
4	13	12	83	..	90	67	5	8	26	72	1192	1568
5	..	..	8	16	19	19	7	21	..	100	1252	1442
6	24	22	48	90	22	62	3	15	..	123	1060	1469
	242	91	380	299	398	354	22	61	109	564	5389	7909

The 5,389 notices served for the whitewashing of tenemented houses are not included in the summary of notices served. In order to encourage the tenants to comply with notices, the Corporation supplies lime at the rate of one penny per pail. Brushes are lent to persons who cannot afford to buy them, on application to the District Inspector. Nine dozen brushes were used for this purpose during the year.

The magisterial proceedings against tenants were as follows :—

(a.) Dirty and foul w.c.'s, 31 cases. 21 were fined 2s. 6d. each, 5 were fined 1s. each, 4 cases were withdrawn on abatement of nuisance, and 1 case was dismissed.

(b.) Dirty privies, 27 cases. 21 were fined 2s. 6d. each, 4 were fined 1s. each, and 2 cases were dismissed.

(c.) Dirty room, 1 case. Abatement order made.

DISINFECTING WORK during the year 1897.

Return of Houses, Beds, Bedding, Wearing Apparel, &c., Disinfected after Cases of Infectious Diseases.

Articles.	Disinfected.	Burned.	Houses.	No.
Beds	588	9	Houses Fumigated and Disinfected.....	750
Mattresses	121	8		
Blankets	440	1		
Pillows	1228	5		
Quilts.....	495	2		
Bolsters	501	1		
Sheets	502	...		
Carpets	45	...		
Shawls	94	...		
Sundries	1133	7		
Totals	5,147	33			Total.....	750

54 books belonging to the different libraries in the town were disinfected after having been in infected houses.

TABLE

Showing the cases in which it was found necessary to adopt MAGISTERIAL PROCEEDINGS.

Particulars of Complaints.	No.	How disposed of.	Penalties imposed.		
			£	s.	d.
Privies and Ash-pits in such a state as to be a nuisance.	4	1 abatement order, 3 withdrawn on payment of costs and abatement of nuisance.	0	13	6
Water-closets so defective as to be a nuisance.	2	1 abatement order, 1 withdrawn (work done, paid costs).	0	12	6
Drains so defective as to be a nuisance.	10	2 abatement orders, 8 withdrawn on payment of costs	2	1	0
Dilapidations in houses (including Roofs and Back Spouts being so defective as to cause the premises to be damp and injurious to health).	2	2 withdrawn on payment of costs and abatement of nuisance.	0	8	0
Room being so dirty as to be a nuisance.	1	Abatement order made.	0	9	6
Foul condition of conveniences, &c.	57	41 fined 2/6, 9 fined 1/-, 4 withdrawn, 3 dismissed.	5	11	6
Yards not paved, or paving so defective as to be a nuisance.	9	5 abatement orders, 2 withdrawn, 1 dismissed.	2	15	6
Houses unfit for human habitation. (See Medical Officer of Health's Report).	7	5 closing orders, 1 withdrawn 1 dismissed for want of proof of ownership.	4	1	6
Violation of Common Lodging House Regulations.	2	1 fined 10/- and costs, 1 fined 5/- and costs.	1	3	0
Exposing unsound meat for sale.	1	Fined £5 and costs.	5	4	0
Violation of Slaughter House Bye-Laws.	1	Fined 40s. and costs.	2	4	0
Violation of Dairies, Cowsheds, and Milkshops Order.	5	1 fined £5 and costs, 4 fined costs only.	7	0	0
Adulterated Milk.	5	2 fined £5 and costs, 1 fined £3 and costs, 1 fined £2 and costs, and 1 fined £1 and costs.	17	0	0
„ Butter.	1	Fined £10 and costs.	10	4	0
Selling Margarine without having same labelled.	3	Fined 2/6 and costs each.	0	19	6
Sending a child to school from an infected house.	1	Fined 10/- and costs.	1	17	6
Total	111		£ 62	5	0

Complaints received at the Health Office, and attended to during the year 1897.

NATURE OF COMPLAINT.	Number of District.						Totals.
	1	2	3	4	5	6	
Smoke Nuisances.....	...	4-2*	1-1*	...	1	1	7-3*
Overcrowding	4-3*	...	3-2*	7-2*	1	2-1*	17-8*
Damp and Dilapidated Houses	4-1*	8-1*	2-1*	2	3	2-1*	21-4*
Defective Roofs and Spouts	5	3	12	...	1	2	23
Dirty Yards, Rooms, &c.....	5-4*	7-2*	11	5	1	5-2*	34-8*
Defective Yards	4	3	1	2-1*	...	1-1*	11-2*
Foul and Defective Water-Closets	11	4-1*	14-2*	1-1*	2	2	34-4*
Defective Privy Middens	8-1*	11-2*	21-5*	11-2*	3	4	58-10*
Defective Drains	9-3*	22-2*	17-1*	5-1*	5	6-1*	64-8*
Animals kept in such a state as to be a Nuisance	2-1*	1-1*	1-1*	2-1*	...	3-2*	9-6*
Offensive Smells from Sewer Ventilators and Street Grates	6-3*	2	17-7*	4-2*	1	4-1*	34-13*
Insufficient Water-Closet Accommodation for Factories and Workshops .....	...	...	...	2	...	...	2
Insufficient Ventilation for Factories and Workshops .....	...	...	...	...	1	...	1
Water in Ashpits	7	1	14	5	...	...	27
Accumulation of Stable Refuse	1-1*	2-1*	11-1*	2	...	...	16-3*
House without Water	1	...	...	...	...	...	1
Night Soil Deposited on Street Grates.....	3	...	2	...	...	...	5
Other Nuisances	24-3*	19-10*	37-3*	20-5*	8	16-5*	124-26*
	94-20*	87-22*	164-24*	68-15*	27	48-14*	488-95*

* Indicates Unfounded Complaints. Including 135 applications to have drains tested—this gives a total of 624 against 712 last year.

DAIRIES AND MILK SHOPS.

District.	No. on Register 1897.	Notices Served.	CASES OF SICKNESS.				No. Removed to Hospital.	Treated at Home.
			Small-pox.	Scarlet Fever.	Typhoid Fever.	Diphtheria.		
No. 1 ...	49	13	...	3	...	...	3	...
" 2 ...	52	16	...	...	...	...	...	...
" 3 ...	73	4	...	2	2	...	4	...
" 4 ...	74	14	...	...	...	...	...	...
" 5 ...	48	...	...	...	...	...	...	...
" 6 ...	65	2	...	...	...	...	...	...
Total...	361	49	...	5	2	...	7	...

These Dairies and Milk Shops have been inspected systematically, 1,055 visits being made.

Proceedings were taken against a Purveyor of Milk for (1) Carrying on the trade of Purveyor of Milk without being registered; (2) Allowing his wife to retail milk while attending a case of Scarlet Fever; and (3) Carrying on the trade of Purveyor of Milk when he had recently been in contact with a person suffering from Scarlet Fever. He was fined the costs of the court on the first two counts, and £5 and costs on the third.

NUMBER OF COW SHEDS IN THE BOROUGH.

DISTRICT.	No. of Byres.	Accommodation.
No. 1 District	1	4
No. 2 "	4	27
No. 3 "	23	143
No. 4 "	8	25
No. 5 "	13	67
No. 6 "	10	58
Total ...	58	324

These Byres have been regularly inspected, 460 visits having been paid.

It was found necessary to serve only four Notices on Keepers of Cow-sheds during the last year, viz. :—Two for dirty byres, and two for overcrowding.

Proceedings were taken against a Cowkeeper for (1) Occupying a Cow-shed without giving notice of his intention, and (2) Carrying on the trade of a Cowkeeper without being registered. He was fined the costs of the court in each case.

BAKEHOUSES.

There are 16 Bakehouses in the Borough, but, with the exception of three, they are on a very small scale. Several of these bakehouses are situated in basements, and are known as cellar bakehouses. These are chiefly used in connection with confectioners' shops, and are, generally, in a very clean condition. The large machine bakehouses are well managed, clean, and in suitable buildings. There have been 48 visits paid to bakehouses during the year. It was not found necessary to serve any notices.

REGISTERED COMMON LODGING HOUSES. INSPECTIONS.

Day Inspections	266
Night Inspections	123
Average Number of Lodgers, per Inspection	525
Highest Number of Lodgers, per Inspection	545
Lowest Number of Lodgers, per Inspection.....	479

NOTICES.

Lime-washing of Houses, and Washing of Bed-clothes required	35
Defective Drains, W.C.'s, &c.....	3
To Disinfect after Infectious Disease	1

APPLICATIONS FOR TRANSFER OF LICENSES.

4 and 5, Bedford Street	Granted.
41, 42, and 43, Spring Garden Lane	Granted.
123, Low Street.....	Refused.

(Unsuitability of house.)

No. 53, Mill Street, which was on the Register last year, has been pulled down.

Only one case was taken before the Magistrates, viz., refusing to admit the Inspector. The offender was fined 10s. and costs.

REGISTERED COMMON LODGING HOUSES.

LOCALITY OF HOUSE.	No. of Rooms.	No. of Lodgers.	No. of Single Beds.	No. of Double Beds.	No. of Beds under the Registered Accommodation.
5, Cumberland Street	12	43	34	7	2
3 and 4, Charles Street	9	28	28	—	—
7, Sunderland Street	9	18	14	3	3
33, Number's Garth.....	4	14	5	4	1
11, Number's Garth.....	4	16	14	1	1
10, Number's Garth.....	6	15	2	5	3
42, Covent Garden Street	5	15	5	5	—
2, Spring Garden Lane	7	25	21	2	—
44, Spring Garden Lane.....	6	19	13	3	—
41, 42, and 43, Spring Garden Lane	11	41	19	10	2
38, Spring Garden Lane.....	7	21	3	9	—
2, Lombard Street	5	18	3	5	5
35, Lombard Street.....	8	17	8	4	1
5 and 6, Queen Street East	7	48	11	18	1
2, Arras's Lane.....	6	43	19	12	—
10, Church Street.....	5	24	7	12	7
3, Mill Street	8	24	2	10	2
13, Havelock Street	7	20	6	7	—
36, Outram Street	4	13	2	6	4
39, Outram Street	5	17	1	8	—
2, Queen Street	6	39	13	13	—
6, Maud's Lane	9	34	10	12	—
1, Horn's Lane.....	8	36	36	—	—
4 and 5, Bedford Street	11	68	57	4	3
Total	165	656	333	160	35

SLAUGHTER HOUSES.

In the Borough there are only 12 slaughter houses used exclusively for this purpose, but nearly all the butchers' shops are used for slaughtering.

During the year 234 inspections were made, and, with few exceptions, the slaughter houses were found to be in a fairly clean condition. Proceedings were taken against the keeper of a slaughter house for allowing refuse to remain longer than the specified time. He was fined 40/- and costs.

SEIZURES OF UNSOUND FOOD.

During the year 1897, the Meat Inspector made 54 seizures of Unsound Meat, the amount being 5,623 lbs. Ten of the seizures were carcasses of animals affected by Tuberculosis.

One person was proceeded against for exposing for sale meat which was unfit for the food of man. He was fined £5 and costs.

 UNSOUND FOOD, 1897.

NATURE OF FOOD SEIZED.	QUANTITY.
------------------------	-----------

MEAT.

Beef	5460 lbs.
Mutton.....	95 lbs.
Pork	168 lbs.

GAME.

Guinea Fowl	1 $\frac{3}{4}$ lbs.
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FISH

Bloaters	150 in number.
Cockles.....	1 bushel.
Eggs	4 baskets (7 stones).

FRUIT.

Apples	1 lb.
Bilberries.....	31 stones.
Blackberries.....	24 lbs.
Cherries	4 lbs.
Cucumbers	4 lbs.
Lemons	7 lbs.
Pears	11 cwts. 2 qrs. 2 lbs.
Plums	58 lbs.
Tomatoes	39 lbs.

OFFENSIVE TRADES.

The Offensive Trades carried on in the town are as follows:—

Slaughter Houses	12
Gut Scraping Houses.....	1
Tallow Melting Works	1
Marine Store Dealers... ..	11
Fish Curing Houses	2
Chemical Works	2
Tripe Preparers	8
Skin Warehouses	2
Oil and Grease Works	2
Paint Works	2
	—
Total... ..	43
	—

There are 43 of these places in the Borough, all of which have been visited regularly during the year. It was found necessary to serve Notices for the abatement of various nuisances and for cleansing, which were at once complied with. These establishments are generally conducted satisfactorily, and few complaints are received about them. The Legislature provides for the registration of offensive trades, and model bye-laws have been prepared, but neither the registration nor the bye-laws have been put in force in Sunderland.

 FACTORIES AND WORKSHOPS.

Sixteen Notices were served on the occupiers of Factories and Workshops, 14 to provide sanitary conveniences (13 complied with, one still under consideration), and two to cleanse the premises (both complied with).

Table showing the number of REGISTERED FACTORIES
in the Borough :—

FACTORIES.	No. of Factories.	FACTORIES.	No. of Factories.
Bookbinder	1	Iron Founders	9
Bottle Maker	1	Laundries	4
Brassfounders	8	Miller	1
Brewer	1	Mineral Water Manu- facturers.....	5
Brick Maker	1	Potter.....	1
Brush Makers	2	Printers	5
Cement Makers.....	5	Rivet Maker	1
Chain Maker	1	Rope Makers.....	2
Contractors	2	Ship Builders.....	5
Electrical Engineer	1	Timber Sawyers	3
Engineers ..	8	Tobacco Manufacturer ...	1
File Maker	1	Whiting Manufacturer ...	1
Gas Maker.....	1		

Total number of Factories :—70.

Table showing the number of REGISTERED WORKSHOPS
in the Borough :—

WORKSHOPS.	No. of Workshops	WORKSHOPS.	No. of Workshops
Ale Bottler.....	1	Oil Refiner.....	1
Anchor Smiths	2	Oil-Skin Maker.....	1
Bakers	11	Painters	3
Bicycle Makers	2	Paper Bag Makers	2
Blacksmiths	11	Picture Frame Maker.....	1
Block and Mast Makers ...	2	Pipe Maker	1
Boat Builders	5	Plumbers	4
Boot and Shoe Makers ...	4	Sail Makers	3
Cabinetmaker	1	Saw Maker	1
Cartwrights	2	Sculptor	1
Coach Builders	2	Slater	1
Compass Maker.....	1	Slipper Makers	2
Confectioners.....	2	Tailors	23
Cooper.....	1	Tinsmiths	6
Dyer	1	Watchmaker	1
Fish Curer	1	Weighing Machine Repairer	1
Grease and Varnish Maker	1	Whitesmith	1
Harness Maker.....	1	Window Blind Maker	1
Joiners	28		
Milliners and Dressmakers	24		

Total number of Workshops :—158.

Since the appointment of the Public Analyst in September, 77 samples of Food have been submitted for analysis. The following Table shews the number of samples of each Article taken, extent of adulteration, and magisterial proceedings :—

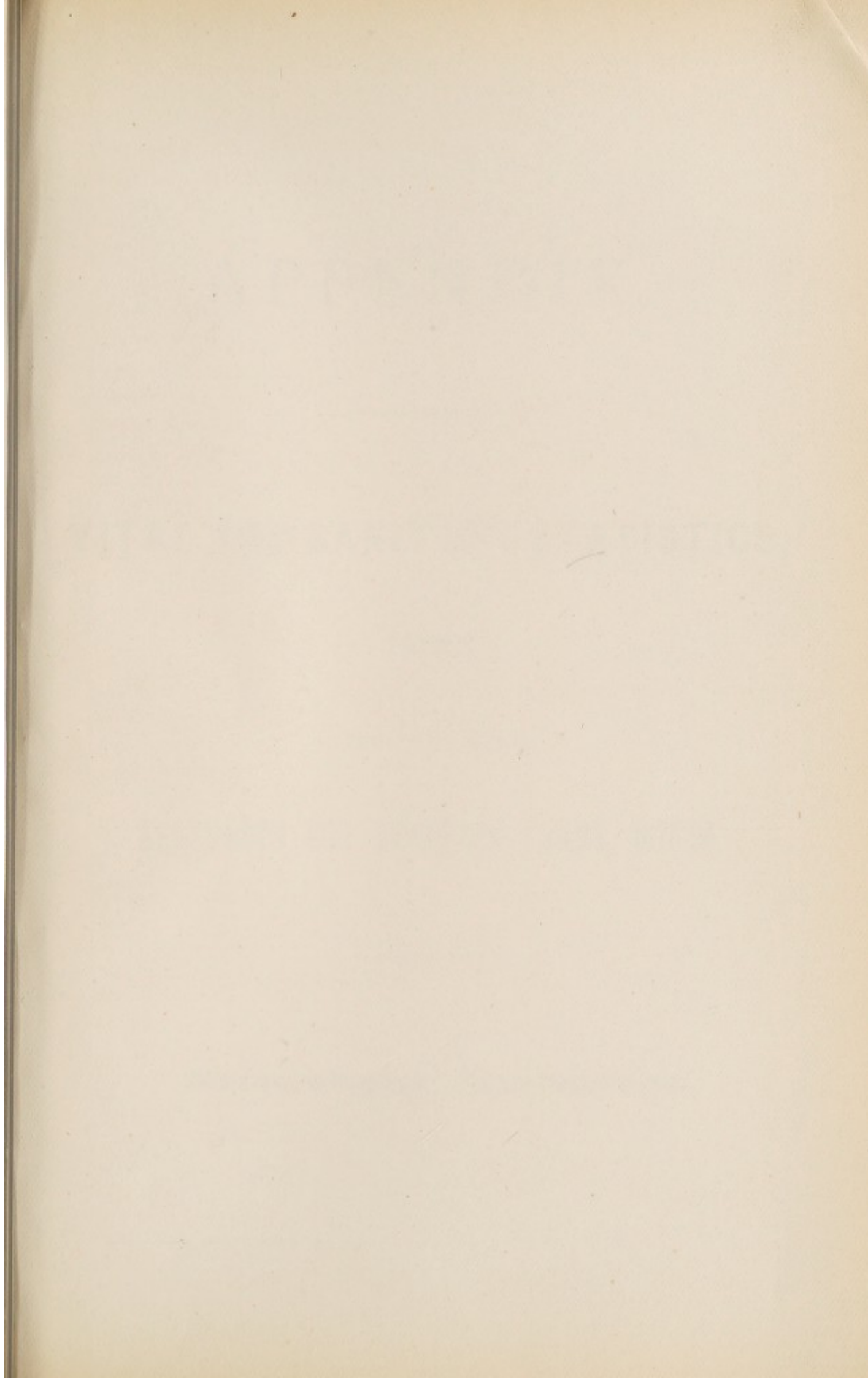
Articles.	No. of Samples.	No. Genuine.	No. Doubtful.	No. Adulterated.	Extent of Adulteration.	Remarks.
Milk	41	28	7	6	22 per cent. added water..... 10·24 per cent. added water..... 4·94 per cent. added water..... 43·7 per cent. added water..... 6·94 per cent. added water..... 17·1 per cent. fat abstracted	Fined £5 and costs. Fined £3 and costs. Fined 20s. and costs. Fined £5 and costs. Fined £2 and costs. Magistrates dismissed case.
Butter	24	20	..	4	1—70 per cent. foreign fat	Fined £10 and costs.
					NOTE.—3 samples were not submitted for analysis, but proceedings taken under the Margarine Acts	Fined 2s. 6d. and costs each.
Coffee	12	6	..	6	1·70 per cent. chicory 2·60 " " 1·55 " " 1·40 " " 1·45 " "	Fined 10s. and costs. No proceedings. No proceedings. No proceedings. Fined costs of court.
Totals..	77	54	7	16		

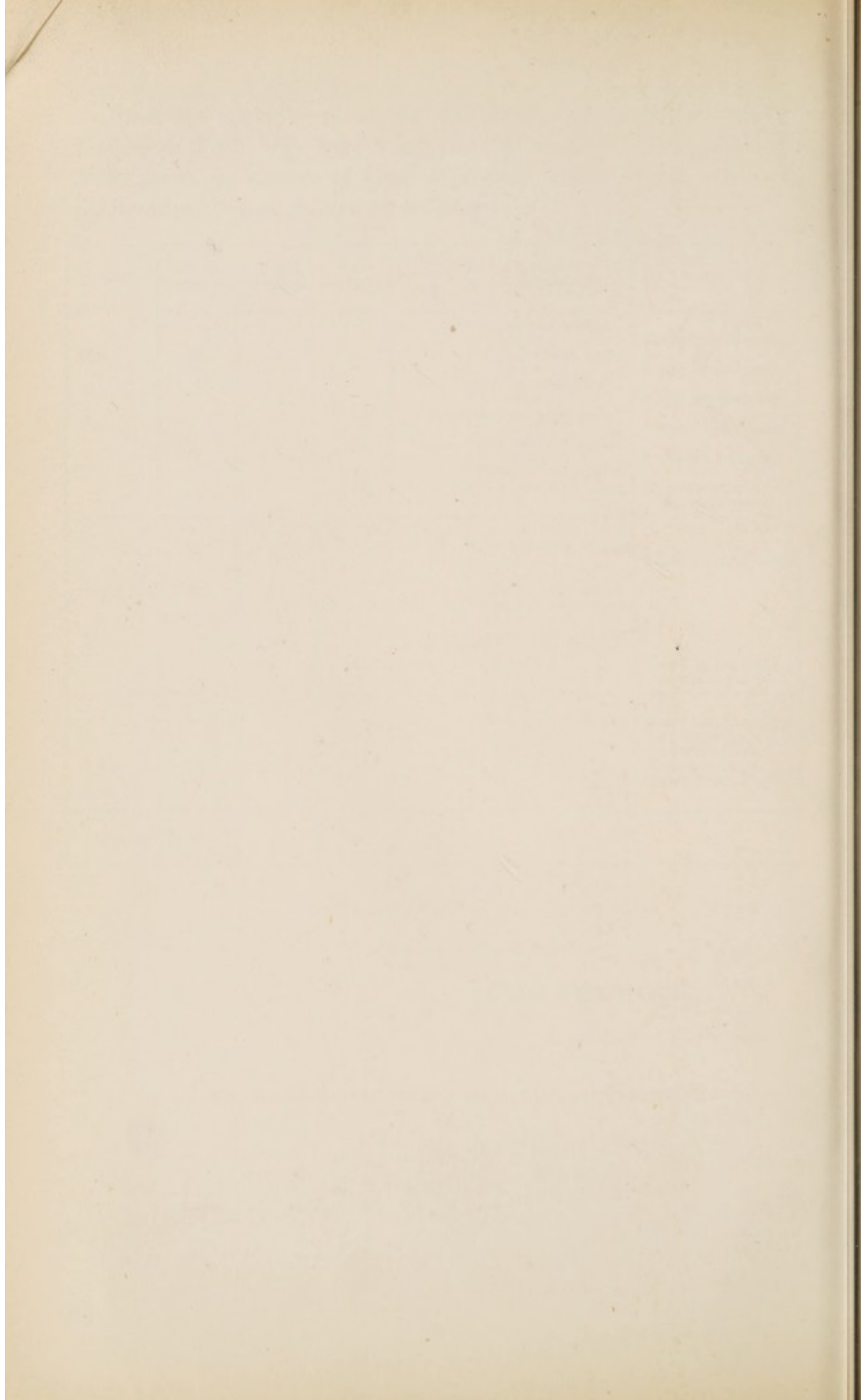
I am, Gentlemen,

Your obedient Servant,

JOHN PENNOCK,

Inspector of Nuisances.





APPENDIX.



VITAL AND SANITARY STATISTICS,

1897,

TOGETHER WITH

ABSTRACTS FOR NINETEEN YEARS, 1878-96.



Meteorological Observations.

TABLE I.

Showing the Population, Inhabited Houses, Marriages, Births, and Deaths for the year **1897**, and 19 years preceding.

GROSS NUMBERS.

The Year.	Estimated Population.	No. of Inhabited Houses.	Marriages.	Registered Births.	Registered Deaths.	Deaths in Public Institutions.
1897†	142,107	20,982	1,517	4,903	2,777	313
1878	111,049	14,994	1,125	4,641	2,861	207
1879‡	112,918	15,313	966	4,486	2,507	210
1880	114,819	15,632	1,133	4,372	2,901	227
1881	116,753	15,956	1,370	4,587	2,436	218
1882	118,132	16,270	1,547	4,889	3,146	202
1883	119,527	16,728	1,522	5,054	2,961	206
1884‡	120,940	17,208	1,230	5,338	2,888	247
1885	122,369	17,444	1,168	4,725	2,977	236
1886	123,814	17,189	1,082	4,621	2,479	241
1887	125,276	17,810	1,186	4,474	2,549	229
1888	126,757	17,790	1,343	4,559	2,375	214
1889	128,254	18,607	1,447	4,818	3,063	234
1890‡	129,769	18,590	1,442	4,932	3,140	292
1891	131,302	18,590	1,318	4,945	3,273	285
1892	132,839	19,098	1,221	4,909	2,774	257
1893	134,515	19,476	1,203	4,770	3,023	310
1894	136,101	19,854	1,266	4,760	2,815	272
1895	137,705	19,953	1,361	4,819	2,990	356
1896‡	140,386	20,684	1,497	4,873	2,784	322
Average of 19 Years, 1878-96.	125,433	17,747	1,285	4,767	2,839	251

NOTES.

- 1.—Population of Census, 1891 = 131,686.
- 2.—Average Number of Persons in each House at Census, 1891 = 7.04.
- 3.—Area of Borough in Acres—3,396, exclusive of tidal water and foreshore, but including the docks.
- 4.—Average Number of Persons living on each acre at Census, 1891 = 38.77.

* For Statistical purposes the Registrar General estimates the Population to the middle of the year, on the basis of rate of increase ruling between the two preceding census periods. The estimate of population may be checked to a certain extent by the known number of inhabited houses, and by the average number of inmates per house, as ascertained at the preceding census.

† In these years there were 53 weeks, therefore, in calculating annual rates from the figures given for the population, care should be taken to add a fifty-second part to them to get the true ratios; hence the respective populations for these years would be 115,089, 123,265, 132,264, and 143,086.

‡ In the year 1897 the deaths occurring in the Borough Asylum are included amongst the total deaths for the first time.

TABLE II.

Showing the ANNUAL BIRTH and DEATH-RATES, DEATH-RATES OF CHILDREN, proportion of DEATHS IN PUBLIC INSTITUTIONS in 1000 Deaths for the year 1897 and 13 years preceding.

In Year. 1	Birth Rates per 1000 of the Population. 2	Death Rates per 1000 of the Population. 3	Deaths of Children under 1 Year per 1000 of Registered Births. 4	Deaths of Children under 1 Year per 1000 of Total Deaths. 5	Deaths of Children under 5 Years per 1000 of Total Deaths. 6	Deaths in Public Institutions per 1000 of Total Deaths. 7
1897	34.52	19.54	168	296	442	113
1884†	43.30	23.43	167	308	481	187
1885	38.62	24.32	156	245	505	82
1886	37.37	20.02	152	248	449	97
1887	35.60	20.34	152	267	458	89
1888	35.95	18.73	135	260	399	90
1889	37.56	23.88	182	286	473	76
1890†	37.29	23.74	175	275	420	92
1891	37.65	24.93	178	269	449	95
1892	36.95	20.88	159	281	469	92
1893	35.46	22.47	189	299	437	102
1894	34.97	20.68	168	285	469	96
1895	32.08	21.71	191	312	452	119
1896†	34.04	19.45	161	282	463	115
Average of 13 Years, 1884-1896	36.68	21.89	166	278	455	102

† There were 53 weeks in these years, and the rates have therefore been corrected for the extra week.

TABLE III.

SHOWING DEATHS FROM ALL CAUSES DURING THE YEAR 1897.

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards	Totals
I.—Specific, Febrile, &c.	188	136	18	14	15	10	11	6	3	4	2	....	407
II.—Parasitic Diseases . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.—Dietic Diseases . . . . .	.....	.....	.....	.....	.....	6	1	.....	2	1	.....	.....	10
IV.—Constitutional Diseases	31	49	30	69	56	62	55	50	32	3	1	.....	438
V.—Developmental Diseases	109	.....	.....	.....	.....	.....	.....	9	41	81	17	1	258
VI.—Local Diseases	292	202	56	34	58	118	144	199	187	68	4	.....	1362
VII.—Deaths from Violence	10	9	11	2	6	10	6	9	3	3	2	.....	71
VIII.—Deaths from Ill-defined Causes	192	10	2	2	3	3	5	8	6	.....	.....	.....	231
TOTALS	822	406	117	121	144	204	221	283	273	159	26	1	2777
I.—Specific or Febrile Causes.													
<i>1.—Miasmatic Diseases.</i>													
Smallpox { Vaccinated . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
{ Unvaccinated . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
{ Unknown . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Measles	11	47	3	1	.....	.....	.....	.....	.....	.....	.....	.....	62
Scarlet Fever (Scarlatina)	1	5	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
Diphtheria	2	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
Whooping Cough	38	38	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	76
Typhus Fever . . . . .	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Enteric or Typhoid Fever . . . . .	.....	.....	9	10	9	5	3	.....	.....	.....	.....	.....	36
Simple Continued and Ill-defined Fever . . . . .	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	2
Other Miasmatic Diseases, Influenza . . . . .	.....	.....	.....	2	3	1	2	3	.....	1	1	.....	13
<i>2.—Diarrhœal Diseases.</i>													
Simple Cholera . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diarrhœa, Dysentery	127	41	.....	1	.....	2	3	1	3	3	1	.....	182
<i>3.—Malarial Diseases.</i>													
Remittent Fever . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ague . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>4.—Zoogenous Diseases.</i>													
Cowpox, Effects of Vaccination . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hydrophobia . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glanders . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Splenic Fever . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>5.—Venereal Diseases.</i>													
Syphilis	7	2	.....	.....	1	.....	1	.....	.....	.....	.....	.....	11
Gonorrhœa, Stricture of Urethra . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>6.—Septic Diseases.</i>													
Erysipelas	2	.....	.....	.....	.....	1	1	1	.....	.....	.....	.....	5
Pyæmia, Septicæmia . . . . .	.....	.....	.....	.....	.....	1	1	1	.....	.....	.....	.....	3
Puerperal Fever . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
II.—Parasitic Diseases.													
Thrush . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hydatids . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Animal Parasitical Diseases . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.—Dietic Diseases.													
Starvation, want of Breast Milk . . . . .	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Scurvy . . . . .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chronic Alcoholism, Delirium Tremens . . . . .	.....	.....	.....	.....	5	1	.....	2	1	.....	.....	.....	9

TABLE III.—CONTINUED.

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards	Totals
IV.—Constitutional Diseases.													
Rheumatic Fever and Rheumatism of the Heart			1		1	1		2	1				6
Rheumatism			1		2		1		2				6
Gout													
Rickets	2	4											6
Cancer, Malignant Disease	1	2		1	3	15	28	26	26	3	1		106
Tabes Mesenterica	11	9	1	2									23
Tubercular Meningitis, Hydrocephalus	9	14	8										31
Phthisis	1	9	13	60	46	44	24	18	3				218
Other Tubercular and Scrofulous Diseases	7	11	5	5		1	2	1					32
Purpura, Hæmorrhagic Diathesis													
Anæmia, Chlorosis, Leucocythæmia				1	2	1		2					6
Glycosuria, Diabetes Mellitus			1		2			1					4
Other Constitutional Diseases													
V.—Developmental Diseases.													
Premature Birth	89												89
Atelectasis	11												11
Congenital Malformations	9												9
Old Age								9	41	81	17	1	149
VI.—Local Diseases.													
<i>1.—Diseases of Nervous System.</i>													
Inflammation of Brain or Membranes	24	21	14	2	1	1	2		1	1			67
Apoplexy	1	1			1	3	14	30	32	9	1		92
Softening of Brain						1	1	1	2				5
Hemiplegia				1	1	4		4	7	1			18
Brain Paralysis							2						2
Insanity, General Paralysis of the Insane				1		3	3	3	1				11
Epilepsy			2	2	1		3						8
Convulsions	54	13	1		1								69
Laryngismus Stridulus													
Paralysis Agitans													
Paraplegia						1	4	7	5	2			19
Diseases of Spinal Cord	2		1			1	1			1			6
Other Diseases of Nervous System		1			1	1	3	3	2	2			13
<i>2.—Diseases of Organs of Special Sense.</i>													
Ear, Diseases of	1		1	2		1							5
Eyes,													
Nose,	1												1
<i>3.—Diseases of Circulatory System.</i>													
Endocarditis			1										1
Valvular Diseases of Heart			1		3	5	4	5		1			19
Pericarditis						1	1	1					3
Other Diseases of Heart	3	1	5	5	16	32	26	45	40	16	2		191
Aneurism					1	2	6	1	1	1			12
Embolism, Thrombosis						3							3
Other Diseases of Blood Vessels							2	2	1	2			7
<i>4.—Diseases of Respiratory System.</i>													
Croup	1	2											3
Laryngitis	2	2			1	1	1						7
Bronchitis	62	37	1	1	1	8	15	36	47	15			223
Pneumonia	19	22	5	3	6	24	24	19	18	8			148
Broncho-Pneumonia	40	50	3			2	4	4	3	2			108
Pleuro-Pneumonia	1	3			1	1	1	2					11
Pleurisy					1		2						3
Emphysema						1			1				2
Asthma				1				3	1				5
Other Diseases of Respiratory System		1				1							2
<i>5.—Diseases of Digestive System</i>													
Dentition	13	9											22
Sore Throat, Quinsey		1											1
Diseases of Stomach	3	4	3	1	1	1	2	1	3				19
Enteritis	50	24	2	3			1	6	2				88

TABLE III.—CONTINUED.

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards	Totals.
VI.—Local Diseases—contd.													
Peritonitis	2	.....	4	5	2	1	1	.....	.....	1	.....	.....	16
Obstructive Diseases of Intestines	1	.....	3	1	.....	2	1	4	1	1	1	.....	15
Ascites .. .. .	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Cirrhosis of Liver .. .. .	.....	.....	.....	.....	6	.....	7	3	4	.....	.....	.....	20
Jaundice and other Diseases of Liver	5	.....	.....	.....	.....	.....	3	4	.....	.....	.....	.....	12
Other Diseases of Digestive System	5	2	2	.....	1	2	.....	2	1	.....	.....	.....	15
<i>6.—Diseases of Lymphatic System.</i>													
Lymphatics and of Spleen .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>7.—Diseases of Glandlike Organs of Uncertain Use.</i>													
Bronchocele .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Addison's Disease .. .. .	.....	.....	.....	1	.....	.....	.....	1	1	.....	.....	.....	3
<i>8.—Diseases of Urinary System.</i>													
Nephritis .. .. .	.....	5	4	.....	2	3	5	2	1	.....	.....	.....	22
Bright's Disease, Albuminuria	1	2	1	1	2	8	2	6	4	1	.....	.....	28
Disease of Bladder .. .. .	.....	.....	.....	.....	.....	1	1	.....	1	.....	.....	.....	3
„ Prostate .. .. .	.....	.....	.....	.....	.....	.....	.....	2	1	1	.....	.....	4
Other Diseases of the Urinary System	1	1	.....	.....	.....	.....	.....	1	1	1	.....	.....	5
<i>9.—Diseases of Re-productive System.</i>													
<i>A—Of Organs of Reproduction.</i>													
Male Organs of Generation .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Female Organs „ .. .. .	.....	.....	.....	1	1	1	1	.....	.....	.....	.....	.....	4
<i>B—Of Parturition.</i>													
Abortion, Miscarriage .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Puerperal Convulsions .. .. .	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	2
Placenta Prævia, Flooding .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Accidents of Child Birth .. .. .	.....	.....	.....	1	4	.....	.....	.....	.....	.....	.....	.....	5
<i>10.—Diseases of Bones and Joints.</i>													
Caries, Necrosis .. .. .	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2
Arthritis, Ostitis, Periostitis .. .. .	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	.....	2
Other Diseases of Bones and Joints .. .. .	.....	.....	2	.....	.....	.....	.....	1	.....	1	.....	.....	4
<i>11.—Diseases of Integumentary System.</i>													
Carbuncle .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Phlegmon .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cellulitis .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	2
Other Diseases of Integumentary System .. .. .	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	2
VII.—Violence.													
<i>1.—Accident or Negligence.</i>													
Fracture and Contusion .. .. .	.....	.....	3	1	2	3	.....	5	1	2	1	.....	18
Gunshot Wound .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cut, Stab .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Burn and Scald	3	7	3	.....	.....	1	.....	.....	.....	.....	1	.....	15
Poison .. .. .	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Drowning .. .. .	.....	.....	1	1	1	1	.....	.....	1	1	.....	.....	6
Suffocation	7	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	8
Otherwise .. .. .	.....	2	1	.....	1	.....	1	4	.....	.....	.....	.....	9
<i>2.—Homicide</i> { Manslaughter													
„ { Murder .. .. .	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	2
<i>3.—Suicide</i>													
.....	.....	.....	.....	2	4	5	.....	.....	.....	.....	.....	.....	11
VIII.—Deaths from Ill-defined Causes.													
Dropsy .. .. .	.....	.....	.....	.....	.....	1	.....	2	.....	.....	.....	.....	3
Debility, Marasmus, Atrophy, & Inanition	190	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	199
Mortification .. .. .	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	2
Tumour .. .. .	.....	.....	1	1	1	2	2	2	4	.....	.....	.....	13
Abscess	2	1	1	1	.....	.....	1	1	.....	.....	.....	.....	7
Hæmorrhage .. .. .	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....	2
Sudden Death .. .. .	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	2
Other Causes not Specified or Ill-defined .. .. .	.....	.....	.....	.....	.....	.....	1	1	1	.....	.....	.....	3
TOTALS	822	406	117	121	144	204	221	283	273	159	26	1	2777

SUMMARY OF TABLE III.

TOGETHER WITH SUMMARY OF SIMILAR TABLES FOR THE PRECEDING SIXTEEN YEARS.

		NUMBER OF DEATHS.																
		1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897
I.—SPECIFIC, FEBRILE, OR ZYMOTIC DISEASES:—																		
1.—Miasmatic Diseases		228	571	224	275	589	113	294	119	288	205	307	396	225	301	252	304	206
2.—Diarrhoeal Diseases		90	129	85	150	82	194	111	59	170	132	128	81	258	114	258	118	182
3.—Malarial Diseases		6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
4.—Zoogenous Diseases		..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5.—Venereal Diseases		14	22	25	11	17	20	15	5	19	12	9	20	21	14	10	17	11
6.—Septic Diseases		22	28	20	14	30	14	14	16	17	24	16	9	12	16	4	6	8
II.—PARASITIC DISEASES		2	1	1	1	1	1	..	2	..	..	..	..	..	..	..	..	..
III.—DIETIC DISEASES		11	10	6	6	4	6	6	5	7	20	13	7	9	5	6	3	10
IV.—CONSTITUTIONAL DISEASES		326	454	410	425	302	395	373	380	514	481	517	482	479	500	473	445	438
V.—DEVELOPMENTAL DISEASES		187	174	228	237	201	188	182	205	218	269	281	236	237	224	264	252	258
VI.—LOCAL DISEASES:—																		
1.—Diseases of Nervous System		418	444	408	439	403	347	310	320	346	293	330	276	265	236	348	352	310
2.—Diseases of Organs of Special Sense		1	2	..	2	1	2	3	..	2	2	2	3	1	5	1	..	6
3.—Diseases of Circulatory System		132	161	216	164	170	160	133	211	214	238	228	192	227	233	222	195	236
4.—Diseases of Respiratory System		486	534	528	532	572	513	472	514	631	788	734	551	580	567	525	519	512
5.—Diseases of Digestive System		135	156	179	159	131	133	155	120	142	151	149	135	179	180	203	179	209
6.—Diseases of Lymphatic System		1	..	..	2	..	1	..	..	..	..	1	..	..	..	1	..	..
7.—Diseases of Gland-like Organs of uncertain use		1	1	2	1	..	1	2	2	..	1	..	..	..	..	2	2	3
8.—Diseases of Urinary System		42	52	43	47	41	47	54	60	34	50	68	54	55	59	38	61	62
9.—Diseases of Reproductive System:—																		
(a) Diseases of Organs of Generation		4	13	8	7	6	8	1	3	5	3	3	5	1	1	1	1	4
(b) Diseases of Parturition		11	13	19	11	11	18	20	14	9	29	15	13	18	21	6	14	7
10.—Diseases of Bones and Joints		..	11	17	15	11	7	9	11	9	10	11	12	16	10	18	9	8
11.—Diseases of Integumentary System.		6	2	13	12	10	6	2	5	2	5	5	5	3	6	1	6	5
VII.—VIOLENCE:—																		
1.—Accident or Negligence		63	83	273	82	65	61	68	85	102	86	68	85	79	71	78	61	58
2.—Homicide		3	2	1	2	3	..	..	3	6	2	3	1	..	1	1	..	2
3.—Suicide		6	5	6	9	6	11	8	3	8	7	8	15	7	9	9	5	11
VIII.—ILL-DEFINED AND NOT SPECIFIED CAUSES		241	267	249	285	231	233	267	233	320	331	373	277	351	243	260	234	231
TOTALS		2436	3146	2961	2888	2977	2479	2549	2375	3063	3140	3273	2774	3023	2815	2900	2784	2777

TABLE IIIA.
SHOWING THE DEATHS FROM ALL CAUSES REGISTERED IN
EACH DISTRICT DURING THE YEAR 1897,
AT THREE PERIODS OF LIFE.

CAUSES OF DEATH.	Sunderland.			Bishopwth North.			Bishopwth South.			Monkwear-mouth.			Totals.
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
I.—Specific, Febrile, &c.	24	16	9	79	54	29	56	33	27	29	33	18	407
II.—Parasitic Diseases .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.—Dietic Diseases. .. ..	.....	.....	2	.....	.....	1	.....	.....	3	.....	.....	4	10
IV.—Constitutional Diseases	4	6	55	7	20	112	13	12	120	7	11	71	438
V.—Developmental Diseases	21	.....	24	42	.....	42	21	.....	49	25	.....	34	258
VI.—Local Diseases	34	33	145	78	72	279	79	40	260	101	57	184	1362
VII.—Deaths from Violence	2	2	7	5	3	22	3	3	16	.....	1	7	71
VIII.—Deaths from Ill-defined Causes ..	25	3	6	74	2	9	59	3	9	34	2	5	231
TOTALS	110	60	248	285	151	494	231	91	484	196	104	323	2777
1.—Specific or Febrile Causes.													
<i>1.—Miasmatic Diseases.</i>													
Smallpox { Vaccinated .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
{ Unvaccinated .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
{ Unknown .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Measles	3	.....	7	21	2	2	7	1	2	16	1	62	
Scarlet Fever (Scarlatina)	1	1	4	1	1	1	1	1	1	2	2	11	
Diphtheria .. ..	.....	.....	1	1	.....	1	1	.....	1	1	.....	5	
Whooping Cough	4	5	17	15	.....	10	10	.....	7	8	.....	76	
Typhus Fever .. ..	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	
Enteric or Typhoid Fever .. ..	.....	.....	5	.....	.....	7	.....	14	.....	.....	10	36	
Simple Continued and Ill-defined Fever ..	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2	
Other Miasmatic Diseases .. ..	.....	.....	.....	.....	.....	8	.....	3	.....	.....	2	13	
<i>2.—Diarrhœal Diseases.</i>													
Simple Cholera .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diarrhœa, Dysentery	18	7	49	13	6	40	15	7	20	6	1	182	
<i>3.—Malarial Diseases.</i>													
Remittent Fever .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ague .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>4.—Zogenous Diseases.</i>													
Cowpox, Effects of Vaccination .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hydrophobia .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glanders .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Splenic Fever .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>5.—Venereal Diseases.</i>													
Syphilis	2	.....	4	1	1	1	.....	.....	.....	2	1	11	
Gonorrhœa, Stricture of Urethra ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>6.—Septic Diseases.</i>													
Erysipelas .. ..	.....	.....	1	1	2	1	.....	.....	.....	.....	.....	5	
Pyæmia, Septicæmia .. ..	.....	.....	1	.....	.....	.....	.....	1	.....	.....	1	3	
Puerperal Fever .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
II.—Parasitic Diseases.													
Thrush .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hydatids .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Animal Parasitical Diseases ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.—Dietic Diseases.													
Starvation, want of Breast Milk .. ..	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Scurvy .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chronic Alcoholism, Delirium Tremens ..	.....	.....	1	.....	1	.....	.....	3	.....	.....	4	9	

TABLE IIIA.—CONTINUED.

CAUSES OF DEATH.	Sunderland.			Bishopwth. North.			Bishopwth. South.			Monkwearmouth.			Totals.
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
IV.—Constitutional Diseases.													
Rheumatic Fever and Rheumatism of the Heart						2			1			3	6
Rheumatism			1			3			2				6
Gout													
Rickets				1	1		1	2			1		6
Cancer, Malignant Disease			19		2	24			40			20	106
Tabes Mesenterica	1	1		3	4	2	3	1	1	4	3		23
Tubercular Meningitis, Hydrocephalus ..	2	3	1	1	4	1	5	5	4	1	2	2	31
Phthisis	1		31		7	73		1	62		1	42	218
Other Tubercular & Scrofulous Diseases ..		2	1	2	2	3	3	3	7	2	4	3	32
Purpura, Hæmorrhagic Diathesis													
Anæmia, Chlorosis, Leucocythæmia			1			2			3				6
Glycosuria, Diabetes Mellitus			1			2						1	4
Other Constitutional Diseases													
V.—Developmental Diseases.													
Premature Birth	14			37			17			21			89
Atelectasis	5			2			2			2			11
Congenital Malformations	2			3			2			2			9
Old Age			24			42			49			34	149
VI.—Local Diseases.													
<i>1.—Diseases of Nervous System.</i>													
Inflammation of Brain or Membranes ..	2	2	2	7	10	10	8	2	6	7	7	4	67
Apoplexy			14		1	30			30	1		16	92
Softening of Brain			1						1			3	5
Hemiplegia			5			3			4			6	18
Brain Paralysis						1						1	2
Insanity, General Paralysis of the Insane ..						6			4			1	11
Epilepsy						2			4			2	8
Convulsions	12	2		15	4	1	15	2	1	12	5		69
Laryngismus Stridulus													
Paralysis Agitans													
Paraplegia			4			1			6			8	19
Diseases of Spinal Cord			1			1			1	1		2	6
Other Diseases of Nervous System			2			3		1	4			3	13
<i>2.—Diseases of Organs of Special Sense.</i>													
Ear, Diseases of							1		2			2	5
Eyes,													
Nose,							1						1
<i>3.—Diseases of Circulatory System.</i>													
Endocarditis			1										1
Valvular Diseases of Heart			1			4			7			7	19
Pericarditis						2			1				3
Other Diseases of Heart			40			67	1		42	2	1	38	191
Aneurism			2			5			2			3	12
Embolism, Thrombosis												3	3
Other Diseases of Blood Vessels						2			5				7
<i>4.—Diseases of Respiratory System.</i>													
Croup		1						1		1			3
Laryngitis		1	1	2	1	1		1					7
Bronchitis	5	6	29	20	11	44	14	13	32	23	7	19	223
Pneumonia	3	3	17	5	9	39	5	2	25	6	8	26	148
Broncho-Pneumonia	6	10	3	12	22	1	13	11	10	9	7	4	108
Pleuro-Pneumonia	1	3	3									4	11
Pleurisy						2			1				3
Emphysema									2				2
Asthma						1			1			3	5
Other Diseases of Respiratory System ..									1		1		2
<i>5.—Diseases of Digestive System.</i>													
Dentition		1		4	3		3	1		6	4		22
Sore Throat, Quinsey					1								1
Diseases of Stomach		1	3		1	5	2	1	2	1	1	2	19
Enteritis	2	2	2	9	6	4	10	4	4	29	12	4	88

TABLE IIIA.—CONTINUED.

CAUSES OF DEATH.	Sunderland.			Bishopwth North.			Bishopwth South.			Monkwear-mouth.			Totals.
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
VI.—Local Diseases—contd.													
Peritonitis	2		3			6			4			1	16
Obstructive Diseases of Intestines				1		4			8			2	15
Ascites												1	1
Cirrhosis of Liver						11			7			2	20
Jaundice and other Diseases of Liver				1		2	2		5	2			12
Other Diseases of Digestive System	1		3		1	1	4		3		1	1	15
<i>6.—Diseases of Lymphatic System.</i>													
Lymphatics and of Spleen													
<i>7.—Diseases of Glandlike Organs of Uncertain Use.</i>													
Bronchocele													
Addison's Disease									2			1	3
<i>8.—Diseases of Urinary System.</i>													
Nephritis		1	3		2	5		1	6		1	3	22
Bright's Disease, Albuminuria			2			6		1	9	1	1	8	28
Disease of Bladder			1			1			1				3
" Prostate						1			2			1	4
Other Diseases of the Urinary System			1	1		1					1	1	5
<i>9.—Diseases of Re-productive System.</i>													
<i>A—Of Organs of Generation.</i>													
Male Organs of Generation													
Female Organs						1			3				4
<i>B—Of Parturition.</i>													
Abortion, Miscarriage													
Puerperal Convulsions									2				2
Placenta Prævia, Flooding													
Other Accidents of Child Birth			1			4							5
<i>10.—Diseases of Bones and Joints.</i>													
Caries, Necrosis									2				2
Arthritis, Ostitis, Periostitis									1			1	2
Other Diseases of Bones and Joints									3			1	4
<i>11.—Diseases of Integumentary System.</i>													
Carbuncle						1							1
Phlegmon													
Cellulitis									2				2
Other Diseases of Integumentary System			1						1				2
VII.—Violence.													
<i>1.—Accident or Negligence.</i>													
Fracture and Contusion			2			8			5			3	18
Gunshot Wound													
Cut, Stab													
Burn and Scald	1	2	1	1	3	2	1	2	1			1	15
Poison						2							2
Drowning			1			2			1			2	6
Suffocation	1			4			2		1				8
Otherwise			2			2		1	3		1		9
<i>2.—Homicide (Manslaughter)</i>													
<i>(Murder)</i>													
<i>3.—Suicide</i>													
VIII.—Deaths from Ill-defined Causes.													
Dropsy			1						1			1	3
Debility, Marasmus, Atrophy, and In- anition	25	2		73	2		58	3		34	2		199
Mortification									2				2
Tumour			2			4			4			3	13
Abscess		1		1		3	1		1				7
Hæmorrhage						2							2
Sudden Death			1						1				2
Other causes not specified or Ill-defined			2									1	3
TOTALS	110	60	248	285	151	494	231	91	484	196	104	323	2777

TABLE IIIb.

SHOWING THE DEATHS FROM ALL CAUSES REGISTERED IN
EACH QUARTER.

CAUSES OF DEATH.	1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.			Totals
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
I.—Specific, Febrile, &c.	20	21	13	22	25	22	117	57	26	28	33	22	406
II.—Parasitic Diseases													
III.—Dietic Diseases			1			2			3			4	10
IV.—Constitutional Diseases	5	13	94	6	12	98	16	13	82	4	11	84	438
V.—Developmental Diseases	23		44	30		32	34		35	22		38	258
VI.—Local Diseases	72	55	262	64	40	227	79	56	168	77	51	211	1362
VII.—Deaths from Violence	3	3	14	4		15	1	2	16	2	4	7	71
VIII.—Deaths from Ill-defined Causes	50		11	45	2	7	61	2	7	36	6	4	231
TOTALS	173	92	439	172	79	403	308	130	337	169	105	370	2777
I.—Specific or Febrile Causes.													
<i>1.—Miasmatic Diseases.</i>													
Smallpox { Vaccinated													
{ Unvaccinated													
{ Unknown													
Measles		6	1	2	8		2	11	1	7	22	2	62
Scarlet Fever (Scarlatina)					3	4	1	1			1	1	11
Diphtheria		1		1	1		1	1			1		5
Whooping Cough	9	13		14	12		9	8		6	5		76
Typhus Fever			1										1
Enteric or Typhoid Fever			9			3			11			13	36
Simple Continued and Ill-defined Fever			1						1				2
Other Miasmatic Diseases, Influenza			1			12							13
<i>2.—Diarrhoeal Diseases.</i>													
Simple Cholera													
Diarrhoea, Dysentery	8	1		5	1		102	36	10	12	3	4	182
<i>3.—Malarial Diseases.</i>													
Remittent Fever													
Ague													
<i>4.—Zooenous Diseases.</i>													
Cowpox, Effects of Vaccination													
Hydrophobia													
Glanders													
Splenic Fever													
<i>5.—Venereal Diseases.</i>													
Syphilis	2			1		1	2	1		2	1	1	11
Gonorrhoea, Stricture of Urethra													
<i>6.—Septic Diseases.</i>													
Erysipelas	1					2			1	1			5
Pyæmia, Septicæmia									2			1	3
Puerperal Fever													
II.—Parasitic Diseases.													
Thrush													
Hydatids													
Other Animal Parasitical Diseases													
III.—Dietic Diseases.													
Starvation, want of Breast Milk									1				1
Scurvy													
Chronic Alcoholism, Delirium Tremens			1			2			2			4	9

TABLE IIIb.—CONTINUED.

CAUSES OF DEATH.	1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.			Totals.
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
IV.—Constitutional Diseases.													
Rheumatic Fever and Rheumatism of the Heart..			2			2						2	6
Rheumatism ..						1			3			2	6
Gout ..													
Rickets ..		3					1			1	1		6
Cancer, Malignant Disease..			23		2	23	1		29			28	106
Tabes Mesenterica ..	3	2		3	2	1	5	5	2				23
Tubercular Meningitis, Hydrocephalus	2	4	4	2	5	3	4	3		1	2	1	31
Phthisis ..		4	60		3	60	1		45		2	43	218
Other Tubercular & Scrofulous Diseases			4	1		2	4	5	2	2	6	6	32
Purpura, Hemorrhagic Diathesis													
Anæmia, Chlorosis, Leucocythæmia						5							6
Glycosuria, Diabetes Mellitus ..			1			1			1			1	4
Other Constitutional Diseases													
V.—Developmental Diseases.													
Premature Birth ..	15			26			30			18			89
Atelectasis ..	5			4			2						11
Congenital Malformations ..	3						2			4			9
Old Age ..			44			32			35			38	149
VI.—Local Diseases.													
<i>1.—Diseases of Nervous System.</i>													
Inflammation of Brain or Membranes ..	8	6	5	4	3	2	6	6	5	6	6	10	67
Apoplexy ..			27	1		22		1	28			13	92
Softening of the Brain ..						1			1			3	5
Hemiplegia ..			7			7			2			2	18
Brain Paralysis ..									1			1	2
Insanity, General Paralysis of the Insane			3			2			3			3	11
Epilepsy ..						3			2			3	8
Convulsions ..	11	7	1	13			11	2	1	19	4		69
Laryngismus Stridulus ..													
Paralysis Agitans ..													
Paraplegia ..			7			6			2			4	19
Diseases of Spinal Cord ..	2					1			1			2	6
Other Diseases of Nervous System			2			2			4		1	4	13
<i>2.—Diseases of Organs of Special Sense.</i>													
Ear, Diseases of ..			2						1	1		1	5
Eyes, ..													
Nose, ..										1			1
<i>3.—Diseases of Circulatory System.</i>													
Endocarditis ..													1
Valvular Diseases of Heart..			3			4			2			10	19
Pericarditis ..						2						1	3
Other Diseases of Heart ..	1	1	51	2		49			38			49	191
Aneurism ..			1			3			5			3	12
Embolism, Thrombosis ..						2						1	3
Other Diseases of Blood Vessels ..			1			3			2			1	7
<i>4.—Diseases of Respiratory System.</i>													
Croup ..	1							2					3
Laryngitis ..	1		1		1	1				1	1	1	7
Bronchitis ..	19	11	52	16	7	26	10	6	16	17	13	30	223
Pneumonia ..	7	10	34	5	4	34	3	4	13	4	4	26	148
Broncho-Pneumonia ..	15	10	6	6	15	3	7	11	4	12	14	5	108
Pleuro-Pneumonia ..			3				1	3	3			1	11
Pleurisy ..			1			2							3
Emphysema ..			1			1							2
Asthma ..			3			2							5
Other Diseases of Respiratory System		1							1				2
<i>5.—Diseases of Digestive System.</i>													
Dentition ..	2	3		4	4		2			5	2		22
Sore Throat, Quinsey ..					1								1
Diseases of Stomach ..	1	4	2	1		4	1		4				2
Enteritis ..	1		2	7		5	36	21	5	6	3	2	88

TABLE IIIB.—CONTINUED.

CAUSES OF DEATH.	1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.			Totals.
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
VI.—Local Diseases—contd.													
Peritonitis	1		6			2			3	1		3	16
Obstructive Diseases of Intestines			4			5	1		1			4	15
Ascites						1							1
Cirrhosis of Liver			10			4			3			3	20
Jaundice and other Diseases of Liver	1		1	1		5	1			2		1	12
Other Diseases of Digestive System			2	4	2	3				1		3	15
<i>6.—Diseases of Lymphatic System.</i>													
Lymphatics and of Spleen													
<i>7.—Diseases of Glandlike Organs of Uncertain Use.</i>													
Bronchocele													
Addison's Disease			2						1				3
<i>8.—Diseases of Urinary System.</i>													
Nephritis		2	3		1	4			4		2	6	22
Bright's Disease, Albuminuria	1		7		2	7			7			4	28
Disease of Bladder			1									2	3
„ Prostate			3			1							4
Other Diseases of the Urinary System						1				1	1	2	5
<i>9.—Diseases of Re-productive System.</i>													
<i>A—Of Organs of Generation.</i>													
Male Organs of Generation													
Female Organs „			2			1						1	4
<i>B—Of Parturition.</i>													
Abortion, Miscarriage													
Puerperal Convulsions			1			1							2
Placenta Prævia, Flooding													
Other Accidents of Child Birth						1			2			2	5
<i>10.—Diseases of Bones and Joints.</i>													
Caries, Necrosis						2							2
Arthritis, Ostitis, Periostitis			1			1							2
Other Diseases of Bones and Joints			2			1			1				4
<i>11.—Diseases of Integumentary System.</i>													
Carbuncle			1										1
Phlegmon													
Cellulitis									1			1	2
Other Diseases of Integumentary System			1						1				2
VII.—Violence.													
<i>1.—Accident or Negligence.</i>													
Fracture and Contusion			2			3			7			6	18
Gunshot Wound													
Cut, Stab													
Burn and Scald		2	4				1	1		2	4	1	15
Poison						2							2
Drowning			1			3			2				6
Suffocation		3	1	4									8
Otherwise		1	2			2		1	3				9
<i>2.—Homicide</i> (Manslaughter													
„ (Murder			1						1				2
<i>3.—Suicide</i>													
			3			5			3				11
VIII.—Deaths from Ill-defined Causes.													
Dropsy						2			1				3
Debility, Marasmus, Atrophy, and In-													
anition	50			43	1		61	2		36	6		199
Mortification			1						1				2
Tumour			5			3			3			2	13
Abscess			2	2	1	1			1				7
Hæmorrhage			1			1							2
Sudden Death			2										2
Other Causes not specified or Ill-defined									1			2	3
TOTALS	173	92	439	172	79	403	308	130	337	169	105	370	2777

TABLE IIIc.

SHOWING THE DEATHS FROM ALL CAUSES FOR FIFTEEN YEARS, 1883-97.

CAUSES OF DEATH.	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897
I.—Specific or Febrile Causes.															
<i>1.—Miasmatic Diseases.</i>															
Smallpox { Vaccinated	13	23	2	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
{ Unvaccinated	13	30	5	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
{ Unknown	26	31	10	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....
Measles	16	7	385	4	168	4	126	19	148	121	17	119	8	138	6
Scarlet Fever (Scarlatina)	38	46	106	27	17	19	38	72	26	20	26	25	11	28	1
Diphtheria	18	13	12	5	7	16	19	11	8	8	5	6	8	6	.....
Whooping Cough	22	95	32	51	59	46	68	52	40	99	23	65	62	72	7
Typhus Fever	41	11	16	7	7	7	8	6	6	7	18	5	2	.....	.....
Enteric or Typhoid Fever	33	13	16	13	30	20	28	35	37	48	108	74	129	54	3
Simple Continued and Ill-defined Fever	4	4	4	6	6	6	1	4	12	5	9	4	3	.....	.....
Other Miasmatic Diseases, Influenza .. .. .	.....	.....	1	.....	.....	.....	.....	6	30	7	14	3	29	6	1
<i>2.—Diarrhæal Diseases.</i>															
Simple Cholera	2	.....	1	.....	.....	.....	1	1	1	1	.....	1	.....	.....	.....
Diarrhœa, Dysentery	83	150	81	194	111	59	169	132	127	80	258	113	258	118	18
<i>3.—Malarial Diseases.</i>															
Remittent Fever .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Ague .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>4.—Zoogenous Diseases.</i>															
Cowpox, Effects of Vaccination .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hydrophobia .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glanders .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Splenic Fever .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>5.—Venereal Diseases.</i>															
Syphilis	22	11	17	20	14	5	16	12	9	18	17	14	10	17	.....
Gonorrhœa, Stricture of Urethra	3	.....	.....	.....	1	.....	3	.....	.....	2	4	.....	.....	.....	.....
<i>6.—Septic Diseases.</i>															
Erysipelas	15	9	13	8	7	6	6	14	7	2	10	7	3	2	.....
Pyæmia, Septicæmia	3	2	7	2	4	4	6	5	5	1	.....	4	.....	3	.....
Puerperal Fever	2	3	10	4	3	6	5	5	4	6	2	5	1	1	.....
II.—Parasitic Diseases.															
Thrush .. .. .	.....	1	1	1	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hydatids .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Animal Parasitical Diseases	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.—Dietic Diseases.															
Starvation, Want of Breast Milk	2	3	1	3	1	2	1	3	5	5	4	.....	.....	.....	.....
Scurvy .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Chronic Alcoholism, Delirium Tremens	4	3	3	3	5	3	6	17	7	2	5	5	6	3	.....
IV.—Constitutional Diseases.															
Rheumatic Fever and Rheumatism of the Heart	6	5	4	2	4	2	3	2	8	4	3	1	2	3	.....
Rheumatism	6	4	6	4	4	8	4	8	2	10	6	7	2	14	.....
Gout	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....	.....
Rickets	1	3	.....	2	.....	1	4	1	.....	7	8	9	5	9	.....
Cancer, Malignant Disease	55	51	51	54	72	77	88	67	99	78	74	92	82	98	.....
Tabes Mesenterica	22	40	23	19	27	19	34	32	21	19	32	28	62	31	.....
Tubercular Meningitis, Hydrocephalus	37	38	43	34	25	37	91	91	99	104	84	87	48	28	.....
Phthisis	236	227	212	237	203	191	235	239	218	212	203	236	233	207	.....
Other Tubercular and Scrofulous Diseases	34	48	38	26	26	28	39	34	47	28	57	18	32	37	.....

TABLE IIIc.—CONTINUED.

CAUSES OF DEATH.	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897
IV.—Constitutional Diseases.															
<i>(continued)</i>															
Purpura, Hæmorrhagic Diathesis	1	1	1	1	1	.....	3	1	4	2	1	2	.....	.....	.....
Anæmia, Chlorosis, Leucocythæmia	3	3	7	9	6	9	6	2	9	7	6	3	3	6	6
Glycosuria, Diabetes Mellitus	8	5	7	7	4	8	7	4	8	11	4	5	3	9	4
Other Constitutional Diseases .. .. .	.....	.....	.....	.....	1	.....	.....	.....	2	.....	1	9	1	3	.....
V.—Developmental Diseases.															
Premature Birth	88	75	60	60	51	66	66	92	91	83	73	103	98	99	89
Atelectasis	7	3	6	.....	1	2	1	3	.....	6	3	2	1	9	11
Congenital Malformations	5	6	6	3	7	5	6	5	1	11	5	1	2	2	9
Old Age	128	153	129	125	123	132	145	169	189	136	156	118	163	142	149
VI.—Local Diseases.															
<i>1.—Diseases of Nervous System.</i>															
Inflammation of Brain and Membranes	87	90	90	90	92	96	86	48	43	29	49	7	86	73	67
Apoplexy	61	62	53	50	41	42	54	35	74	64	54	54	88	104	92
Softening of Brain	24	8	6	7	11	3	14	9	7	8	7	3	13	9	5
Hemiplegia	6	10	16	16	11	14	10	10	20	12	13	19	12	26	18
Brain Paralysis	2	.....	1	.....	1	.....	1	1	.....	.....	.....	.....	2	1	2
Insanity, General Paralysis of the Insane .. .. .	.....	.....	1	.....	.....	.....	.....	.....	1	1	.....	.....	10	1	11
Epilepsy	10	10	15	5	8	6	7	10	15	20	9	9	8	5	8
Convulsions	121	167	138	102	95	95	103	110	103	95	85	75	94	90	69
Laryngismus Stridulus	2	2	.....	1	1	1	2	2	2	.....	.....	1	1	2	.....
Paralysis Agitans .. .. .	.....	.....	.....	.....	1	.....	1	.....	1	1	.....	12	1	1	.....
Paraplegia	55	48	46	59	34	44	62	65	57	38	41	16	25	19	19
Diseases of Spinal Cord	2	3	7	.....	1	2	3	2	1	2	1	10	1	14	6
Other Diseases of Nervous System	38	39	30	17	14	17	6	1	6	6	6	30	7	7	13
<i>2.—Diseases of Organs of Special Sense.</i>															
Ear, Diseases of .. .. .	.....	2	1	2	2	.....	2	2	2	3	1	5	1	.....	5
Eyes, .. .. .	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nose, .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
<i>3.—Diseases of Circulatory System.</i>															
Endocarditis .. .. .	.....	.....	1	1	2	2	2	2	1	.....	4	3	2	2	1
Valvular Disease of Heart	15	31	18	12	12	3	14	16	21	25	22	14	10	17	19
Pericarditis	14	9	5	7	3	7	5	3	.....	4	1	1	2	.....	3
Other Diseases of the Heart	174	111	135	135	159	187	182	200	193	153	184	205	190	157	191
Aneurism	4	6	3	2	3	7	6	7	3	6	10	6	10	7	12
Embolism, Thrombosis	2	2	3	2	2	1	2	3	6	3	2	2	2	4	3
Other Diseases of Blood Vessels	7	5	5	1	2	4	3	7	4	1	4	2	6	8	7
<i>4.—Diseases of Respiratory System.</i>															
Croup	34	37	23	21	19	24	19	9	14	12	15	10	10	13	3
Laryngitis	12	11	10	7	15	9	7	13	7	8	10	10	13	11	7
Bronchitis	285	282	324	314	235	248	305	400	399	266	260	239	276	237	223
Pneumonia	156	172	185	138	142	193	230	305	224	178	222	198	151	137	148
Broncho-Pneumonia .. .. .	.....	12	16	18	50	26	53	45	64	68	55	80	51	87	108
Pleuro-Pneumonia .. .. .	.....	3	.....	.....	4	2	6	7	5	7	1	4	2	6	11
Pleurisy	11	3	5	3	1	4	5	4	8	5	8	4	8	8	3
Emphysema	6	2	1	1	1	2	1	.....	2	1	2	3	2	5	2
Asthma	6	2	2	8	2	2	4	4	6	4	4	5	5	10	5
Other Diseases of Respiratory System	18	8	6	3	3	4	1	1	5	2	3	14	7	5	2
<i>5.—Diseases of Digestive System.</i>															
Dentition	33	27	32	23	18	19	31	28	30	24	26	31	28	27	22
Sore Throat, Quinsey	2	1	2	1	3	1	1	1	.....	.....	2	1	.....	1	1
Diseases of Stomach	17	5	13	18	15	16	15	24	10	20	20	17	34	28	19
Enteritis	17	16	10	8	12	8	16	7	30	20	45	25	65	42	88
Peritonitis	24	28	16	15	32	28	23	21	22	19	30	38	23	31	16
Obstructive Diseases of Intestines	13	11	13	16	10	8	9	18	12	9	7	10	13	13	15
Ascites	1	1	1	1	2	.....	1	1	.....	.....	1	1	.....	1	1
Cirrhosis of Liver	23	19	11	24	18	14	14	17	11	10	13	12	15	15	20
Jaundice and other Diseases of Liver	35	24	24	17	30	19	25	18	13	18	20	22	13	20	12
Other Diseases of Digestive System	14	27	9	10	15	7	7	16	21	15	15	23	12	1	15

TABLE IIIc—CONTINUED.

CAUSES OF DEATH.	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897
VI.—Local Diseases—contd.															
<i>6.—Disease of Lymphatic System.</i>															
Lymphatics and of Spleen		2		1					1				1		
<i>7.—Diseases of Glandlike Organs of Uncertain Use.</i>															
Bronchocele	2	1													
Addison's Disease				1	2	2		1					2	2	
<i>8.—Diseases of Urinary System.</i>															
Nephritis	14	20	8	18	26	22	15	18	28	22	31	21	13	21	
Bright's Disease, Albuminuria	14	10	20	14	13	28	15	16	18	20	20	24	19	32	
Disease of Bladder	4	2	6	6	10	2	3	7	11	5	2	2	3		
" Prostate	2	3	1	4	1	2	1	2	2	2	1	6			
Other Diseases of the Urinary System	9	12	6	5	4	6		7	9	5	1	6	3	8	
<i>9.—Diseases of Re-productive System.</i>															
<i>A—Of Organs of Generation.</i>															
Male Organs of Generation		1							2			1			
Female Organs	8	6	6	8	1	3	5	2	1	5	1		1	1	
<i>B—Of Parturition.</i>															
Abortion, Miscarriage	1	1			1			1		1				1	
Puerperal Convulsions	1	4	2	4	2	2	1	1	2		2	4	2	4	
Placenta Prævia, Flooding	1	1		1	3	2	1	1		2	1	1	1	2	
Other Accidents of Child Birth	16	5	9	13	14	10	7	27	13	10	15	16	3	7	
<i>10.—Diseases of Bones and Joints.</i>															
Caries, Necrosis	3	7	4	2	2	2	3	1	4	3	4	5	8	5	
Arthritis, Ostitis, Periostitis	1		1		1			1	5	1	1	1	1	2	
Other Diseases of Bones and Joints	13	6	6	5	6	9	6	8	2	8	11	4	9	2	
<i>11.—Diseases of Integumentary System.</i>															
Carbuncle	1	1		2	1	1	1		3	1		1		3	
Phlegmon															
Cellulitis	2	1	3	1		2		5	1	2	2	3	1	3	
Other Diseases of Integumentary System	8	7	5	3	1	2	1		1	2	1	2			
VII.—Violence.															
<i>1.—Accident or Negligence.</i>															
Fracture and Contusion	38	42	34	28	39	33	53	46	29	29	36	11	29	18	
Gunshot Wound					1			1							
Cut, Stab	2	1					1		1		2	1			
Burn and Scald	11	11	14	9	13	14	15	8	14	25	13	15	15	17	
Poison		2				1	7	3	3	3	4	1	7	1	
Drowning	20	14	7	14	10	17	10	19	11	15	9	14	9	10	
Suffocation	*192	12	8	5	4	15	14	8	8	12	10	17	17	7	
Otherwise	10		2	5	1	5	2	2	6	1	5	12	1	7	
<i>2.—Homicide</i>															
{ Manslaughter			2			1	1		3					1	
{ Murder	1	2	1			2	5	2		1			1		
<i>3.—Suicide</i>															
.. .. .	6	9	6	11	8	3	8	7	8	15	7	9	9	5	
VIII.—Deaths from ill-defined Causes.															
Dropsy	7	2	6	2	2	2	4	4	7		2	3	2	5	
Debility, Marasmus, Atrophy, & Inanition	217	259	196	193	218	193	287	279	314	239	282	210	215	200	
Mortification								1		1				1	
Tumour	1	2	1	5	6	5	3	5	5	6	8	11	13	8	
Abscess	2	3	1	7	7	12	2	13	9	6	10	7	5	6	
Hæmorrhage	2	1	2	4	7	2	7	11	11	9	22	5	14	5	
Sudden Death	1	2	3	4	5	5			2	3	5	5	1	1	
Other Causes not specified or Ill-defined	21	24	24	18	22	14	17	18	25	13	22	2	19	8	
TOTALS	2961	2888	2977	2479	2549	2375	3063	3140	3273	2774	3023	2815	2990	2784	

* 183 Caused by Victoria Hall Disaster.

TABLE IV.

OCCUPATION OF PERSONS, 20 Years of Age and upwards, who died from
undermentioned Diseases during 1897.

(Given as accurately as the Mortality Returns allowed.)

Occupations.	Smallpox.	Enteric Fever.	Typhus Fever.	Heart Disease.	Phthisis.	Pneumonia.	Apoplexy.	Paralysis.	Cancer.	Totals.
Accountant.....	1	...	1
Actor	1	...	...	...	...	1
Anchor Smith	1	...	...	1
Angle Iron Smith	1	1
Army Pensioners	2	...	...	...	...	...	2
Assistant Station Master.....	1	...	...	...	...	1
Baker	1	...	...	...	...	...	...	...	1
Barmen	3	...	...	...	...	3
Bird Dealer	1	...	...	...	...	1
Blacksmiths	1	4	2	...	3	1	11
Blacksmith's Striker..	1	...	...	...	...	...	1
Block and Mast Maker	1	...	...	1
Boatbuilder	1	...	...	1
Boiler Smiths	2	1	...	...	...	...	3
Bookstall Manager	1	...	...	...	...	...	...	...	1
Bottle Maker	1	...	...	...	...	1
Brass Finisher	1	...	...	...	1
Bricklayers	1	...	1	...	...	2	...	...	4
Builder	2	...	...	...	...	...	2
Butcher	1	...	...	...	...	...	...	...	1
Cabinet Makers	1	3	...	...	...	1	5
Cabmen	1	...	1	...	...	...	2
Cab Proprietor	1	...	...	...	...	...	1
Caretaker	1	...	...	2	...	...	3
Cartmen	2	...	1	2	4	...	...	2	11
Cartwright	1	...	...	...	...	...	1
Cashier	1	...	...	...	...	1
Caulkers	1	...	...	2	1	4
Cement Moulder	1	...	...	...	...	...	1
Chair Maker	1	...	...	...	1
Chemist	1	1
Chimney Sweep	1	...	...	...	1
Clerk to Guardians	1	...	...	...	1
Clerks	6	1	...	...	...	7
Coal Merchant	1	...	...	...	...	1
Commission Agent.....	1	...	...	1
Confectioners	1	1	...	...	...	1	3
Contractor	1	1
Cork Fender Maker	1	...	...	...	...	...	1
Drillers	1	...	1	...	...	...	2
Druggist	1	...	...	...	...	...	1
Engine Drivers	1	...	1	2
Engineers	4	1	2	...	2	...	9
Farm Labourer	1	...	...	...	...	...	1
Firemen	1	...	1	...	...	1	3
Fisherman	1	...	...	...	...	...	1
Fitters	3	5	1	3	2	...	14

TABLE IV.—CONTINUED.

Occupations.	Smallpox.	Enteric Fever.	Typhus Fever.	Heart Disease.	Phthisis.	Pneumonia.	Apoplexy.	Paralysis.	Cancer.	Totals.
Fruiterer.....	1	...	...	...	1
Furniture Dealer	1	...	...	...	...	...	1
Gardener	1	...	...	...	1
General Dealer	1	...	...	...	...	...	...	...	1
Gentleman	1	...	...	1
Glass Cutter	1	...	...	1	...	2
Glass Makers	1	2	...	...	...	...	3
Grocers	2	2
Hawkers	1	...	3	...	...	...	...	1	5
Horse Keeper.....	1	1
Joiners.....	...	1	...	4	5	1	...	...	...	11
Labourers	1	26	16	16	8	2	6	75
Ladder Maker	1	...	...	...	...	...	1
Lamp Lighter	1	...	...	...	...	1
Lead Glazier	1	...	...	...	...	1
Machinists	1	1	...	...	...	...	2
Marine Engineer	1	...	...	...	...	...	...	...	1
Masons	1	2	4	...	1	...	8
Millers.....	1	...	1	...	...	2
Miners	2	...	2	3	...	1	8
Moulders.....	...	1	...	1	...	...	...	...	...	2
Musicians	1	...	...	...	1	2
Naval Pensioner	1	1
No Occupation	1	1
Oil Merchant	1	...	...	...	...	1
Oilskin Maker	1	...	1
Painters	2	1	1	1	1	6
Paper Hanger	1	...	...	...	...	1
Paper Maker	1	1
Picture Frame Maker	1	...	...	...	...	...	1
Plater	1	...	...	1
Plumbers.....	1	1	...	...	...	2
Police Inspector	1	...	1
Porters	2	...	1	3
Printer	1	...	...	...	...	1
Publicans	1	...	1	3	1	...	1	1	8
Puddlers	2	...	...	...	...	2
Rolleyman	1	...	...	...	1
Rope Makers	2	...	...	2
Rivettters.....	2	5	2	...	...	...	9
Saddler	1	...	...	1
Sail Makers	1	...	...	...	...	1	2
Sawyer.....	1	...	...	...	...	...	1
School Board Attendance Officer...	1	1
School Masters	1	...	...	1	...	...	...	...	2
Seamen	16	5	5	4	2	5	37
Shipbuilder	1	...	...	...	...	...	1
Shipowners	1	1	...	...	2
Ship Stewards	1	...	...	1	...	2
Shipwrights	1	...	7	3	5	2	...	1	19
Shoemakers	1	1	...	...	...	1	3
Skin Dresser	1	...	...	...	1

TABLE IV.—CONTINUED.

Occupations.	Smallpox.	Enteric Fever.	Typhus Fever.	Heart Disease.	Phthisis.	Pneumonia.	Apoplexy.	Paralysis.	Cancer.	Totals.
Slater	1	..	..	..	..	1
Solicitor	1	..	..	..	..	1
Staithsman	1	1
Strikers	1	..	..	3	..	..	..	..	4
Tailors	1	1	..	..	1	..	3
Timber Measurer	1	..	1
Tinsmiths	1	1	1	..	..	3
Tobacconist	1	..	..	..	..	1
Travellers	2	..	..	..	..	1	3
Trimmers	1	..	..	..	1	1	..	1	4
Tugboatmen	1	1	2
Upholsterer...	1	..	..	..	..	..	1
Veterinary Surgeon	1	..	..	..	..	..	1
Warehousemen	2	..	..	..	2
Watch Maker	1	..	..	..	..	..	1
Watchmen	1	..	1	1	..	..	3
Waterman	1	..	..	..	..	1

TABLE V.

STREETS in which ZYMOTIC DISEASES were known to have occurred in the
Year 1897.

SUNDERLAND (SUB-DISTRICT).

Street.	CASES NOTIFIED							DEATHS FROM		
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Sanatorium.	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Burleigh street	1	1
Chapel street	1	...	...	1	...	1	...	...	...
Church street	1	...	...	2	...	3	...	1	2
Coast Guard station	1
Covent Garden street	2
Cross place	1	...
Ettrick place	2
Flag lane	1	1	...	1	1	1	...
Fitter's row	3	...	2	1	...	...
George street	3	2	...	2	1	...	...
Golden alley	1
Hat case	1
High street East	1	...	...	...	...	1	...	1	2
Lombard street	1	...	...	...	...	...	...	...	...
Low quay	1	...	...	...	...	1
Lucknow street	3	...	...	...	...	...
Maling's rigg	1	2
Moorgate street	1	...	...	...	...	...	...	...	1
Nesham place	1	...
Nesham square	1	...	...	1	...	1	2	...	1
New Grey street	2	...	2	...	...	...
Orphan Asylum	5	...	5	...	...	...
Prospect row	1	...	...	...	...	1	...	...	...
Sans street	1	...	...	...	1	1
Silver street	1	...	...	...	...	1	1	...	3
Spring Garden lane	1	...	...	...	...	1	...	...	...
Stone yard	1
Trinity place	1	...	...	1	...	...	...
Vine street	1	...	...	...	1	1	1	1
Vine street open	1
Walton place	2	...	2	...	...	1
Warren street	1	...	...	1	...	...	1

TABLE V.—CONTINUED.

Street.	CASES NOTIFIED						DEATHS FROM				
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Sanatorium.	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Crescent row	1	...	...	1	...	1	1	...	...	...
Croft avenue	1	...	...	...	...	...	1
Cromwell street.....	4	...	4	...	...	...	...
Cross Alfred street	1
Cross Farrington row	1
Cross Queen street	1
Cumberland street	1	...	1	1	2	...	...
Dene street	1	...	...	...	1	1	...
Deptford Green.....	1
Diamond hall.....	1
Duncan street	1	...	...	...	...	...
Dun Cow street.....	1	...	...	...
Dunning street	1	...	...	1	...	1	...	...
East Cross street	1	...	...	1	...	...	1
East Moor road.....	2	2	...	...	...	...	...	...
Eden street West	1	...	...	...	...	...
Eden terrace	1	...	...	...	...	...	...
Eldon street	2	...	...	...	...	...	...
Elgin street	1	...	...	...	...	1	...	...	1	...
Enderby road	1	...	...	...	...	1	...	...	...	...
Erith terrace.....	1	...	...	...	...	1	...
Exeter street.....	1	1	...	...	1	...	...	...
Exhibition terrace	5	...	...	...	...	...	...
Farrington row.....	...	2	...	...	...	...	...	...	...	...	1
Franklin street.....	2	...	2	...	...	...	...
Garden place.....	2	...	1	...	1	...	...
General Graham street	1	...
Gerald street.....	...	2	...	...	1	...	2	...	...	...	1
Gibson terrace	1
Gill Bridge avenue	1	...	...	...	...	1	1	...	...	1
Gilsland street	1	...	...	...	...	...	...	...	...	...
Glass street	2	...	...	...	...	...	...
Glebe Cleft villas	3	...	...	...	...	...	...
Glebe street	1	...	...	...	...	1	...	...	...	...
Gourley street	1	...	...	...	...	...	...	...	...	...
Granville street.....	...	1	...	...	...	...	...	...	...	...	...
Green street	1
Greta terrace.....	1	...	...	...	...	...
Harrison street.....	1	...
Hawthorn street	1	...	1	...	...	...	1
Hedley street	2	...	...	3	...	1	1	...	...	3
Hetton street	1	...	...	...	...	1	...
High street West	1	...	1	...	1	...	...
Holly terrace.....	...	1	...	...	...	...	...	...	...	...	1
Hope street	1	...
Hopper street	1	...	1	...	1	1	...

TABLE V.—CONTINUED.

Street.	CASES NOTIFIED						DEATHS FROM				
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Sanatorium.	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Hort street.....	...	1	...	...	...	...	...	...	...	...	...
Houghton street	1	...	...	1	...	...	1	1
Howarth street.....	2	...
Howarth street South	1	...	...	...	...	...
Hume street	1	...	...	...	...	1	...	...	...	...
Hutton street	3	...	3	...	...	...	...
Hylton road	1	...
Hylton road West	2	...	...	...	...	1	...	...	...	...
Jackson street	1	...	...	...	...	...
James street	1	...	...	...	...	1	...	...	...	1
Johnson street	1	...	...	...	...	3
King's place	1	...	...	...	...	1	...	...	...	...
Lambton street.....	2	...	...	2	...	...	...
Lime street	1	...	...	1	...	...	...	...	...	...
Lisburne terrace	1	...	...	...	...	...	...
Livingstone road	1	...	...	...
Low row.....	1	...
Maple street	1	...	...	...	...	...	1
Marlborough street	1
Matlock street	1
Milburn street	2
Mill houses	1
Mill street	1	...	...	...	...	1	...	...	...	...
Mortimer street	2	...	...	...	...	...	...
Mount pleasant	3	...	...	...	...	2	1	...	1	...
Napier street.....	1	...	1	...	...	...	...
Naylor street.....	1	...	...
Neville street.....	...	2	...	...	...	...	2	...	...	...	...
North Hedley street.....	...	1	...	...	...	...	...	...	...	...	...
North Milburn street	1	...	...	...	...	...	...	...
North Rutland street	2	...	...	...	...	...	...	...	...	...
Number's garth.....	3	...	1	...	1	...	1
Ogden street	1	...	1
Paley street	1
Palmer street	1	...	...	...	1	...
Pann lane	1	...	...	...	...	...	...
Panns Ferry road.....	...	1	...	...	...	...	...	...	...	...	...
Paxton terrace	1	...	...
Peacock street West	1	...	...	1	...	1	...	...	...	2
Pensher street	2	1	1	...	1	...	1
Percival street	1
Pickard street	2	...	...
Potts street	1	...	...	3	3	...	...	...	...	...
Queen street West	1
Rainton street	1	...
Ravensworth street	2	1	1	...	...	...	...

TABLE V.—CONTINUED.

Street.	CASES NOTIFIED						DEATHS FROM				
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Sanatorium.	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Reginald street.....	3	...	...	...	...	...	...
Robert street.....	1
Rokeby street	1	...	...	...	...	...	...
Ropery road	1	...	1	...	2	...	1
Rosedale street.....	1
Rosslyn street	1	...	...	...	...	1	...	...	...	...
Rutland terrace	1	...	...	...	...	...	...	...	...	...
St. Cuthbert's terrace	1	...
St. Luke's road	1	...	...	...	...	...	...
St. Luke's terrace.....	1	...	...	...
St. Mark's buildings.....	1	...	...	...	...	...	...
St. Mark's cottages	1	...	...	...	1	...	...	...
Sheridan street.....	...	1	...	...	...	...	...	...	...	...	...
Simpson street	1	...	...	...	2	...	...
Sorley street	1	...	...	...	...	...	1
South Johnson street	2
Stewart street	1	...	...	...	...	...	...
Stratfield street.....	1
Summerhill, East	4	...	...	...	...	1	...	...	...	...
Sunderland street.....	2
Swan's court	1
Swinbank street	1	...	...
Teb street	1	...	...	2
Tintern street	1	...	...	1	...	...	...
Trehwitt's crescent	1	...	...
Trimdon street	7	...	...	3	...	6	1	2	...	2
Trimdon street West	2	1	1	...	...	...	2
Vicarage terrace	1	...	1	...	...	...	...
Washington street	2	...	...	...	...	...	...
Water street	1
Waterworks road	1	...	...	...	...	...	1	...	...	1	1
Watson's lane	1	...	...	...	...	...	...	...	...	...
Wellington lane	2	...	1
Wellington road	2	...	...	...	...	...	...
Wells street	2	...	...	1	...	1	...
Westbury street	1	...	...	...	...	1	...	...	...	...
Wharncliffe street.....	3	...	2	...	...	...	1
William street	1	...	...	1	...	1	...	...	...	...
Williams street	1	...	1	2	...	3	...	...	...	...
Willow Pond terrace	1	...	...	...
Woodbine terrace.....	1	...	...	...	1	...	...	...

TABLE V.—CONTINUED.

BISHOPWEARMOUTH SOUTH DISTRICT.

Street.	CASES NOTIFIED.							DEATHS FROM			
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Sanatorium.	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Addison street	2	...	...	...	...	...	...
Alice street	1	...	...	...	...	...	...	...	...	...
Amberley street	1	...	...	1	...	...	...	...	...	...
Amberley street South	1	...	...	...	...	1	...	...	...	...
Ann street	2	...	...	...	...	...	...
Ashbrooke mount.....	3	...	1	...	...	...	...
Askbrooke terrace	4	...	...	...	...	...	...
Ashmore terrace	1	...	...	...	...	...	...
Athol road.....	1	...	...
Aubrey terrace	1	...	...	...	...	...	...
Avon street	1	...	...	...	...	1	...	...	...	1
Back Henry street	1	...	1	...	...	...	...
Back Henry street East	1
Back Nile street	1	...	...	...	...	1	...	...	...	1
Back Sans street	1	...	...	...	...	1	...	...	...	...
Back Villiers street	1	...	...	...	...	1	...	...	...	...
Bambro' street	3	...	...	...	...	...	...
Belle Vue	1	...	...	...	...	...	...
Bishopton street	1	...	...	...	...	...	...	...	...	...
Blandford street	1	...	...	...	...	...	1
Borough road.....	..	3	...	...	...	...	2	...	...	...	...
Briery Vale road	1	...	...	...	...	...	...
Brookside terrace	1	...	...	...	...	...	1	...	...	...
Brougham street	1	...	...	...	...	...	...	1	1	...
Buddle terrace	1	...	...	...	...	...	...
Burlington road	1	...	...	...	...	1	...	...	...	...
Cairo street	1	...	...	...	...	...	...
Canon Cockin street.....	2	...	...	...	...	...	...
Carlyon street	2	...	...	...	...	...	1	...	...	...
Carter street	1
Clark terrace.....	..	1	...	...	3	...	3	1	...	...	...
Clementina street.....	5	1	...	...	2	...	...
Cliffe terrace	1	...	...	2	...	2	1	...	...	1
Clyde street	1	...	1	...	...	...	...
Commercial road	2	...	...	...	...	...	...
Cousin street.....	..	3	...	...	2	...	1	1	...	...	...
Cresswell terrace	1	...	...	...	...	1	1	...	...	...
Cumberland terrace East.....	1	...	...	...	...	...	...
D'Arcy street.....	..	2	...	...	2	...	3	1	...	...	...
Derwent street	1	...	...	...	...	...	1
Douro terrace	1	...	...	...	...	1	...	...	...	...
East street.....	..	2	...	...	2	1	1	...	...	...	1
Egerton street	1
Elwin terrace.....	..	1	...	...	...	...	...	1	...	...	...
Esplanade West	1	...	1	...	...	...	...
Ford street.....	1	...	...	...	...	...	...

TABLE V.—CONTINUED.

Street.	CASES NOTIFIED.						DEATHS FROM				
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Sanatorium.	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Fowler terrace											1
Foyle street		1					1				
Frederick street					1	2	3				
Green terrace					1						
Grey terrace										1	
Grove, The.....					1						
Guildford street					2						
Harold street.....		2			1			1			
Harrogate street		1			1						
Havelock terrace		1									
Hedworth street		2					2			1	3
Hedworth terrace.....											1
Hendon Burn avenue		1				1	1				
Hendon road		1			1		1				2
Hendon street		1					1				2
Hendon Valley road.. ..							2				
Henry street		2			7		6		1	1	1
Henry street East											2
Herrington street.....		1		1	1					1	
Holmlands park		1									
Holmside		1									
Hudson's buildings					1						
Hudson road									1		1
Infirmery, The		1									
Kensington terrace South ...						1					
King street					2		2				
Lawrence street					2		1		2		
Lilburn street						1		1			
Littlegate											2
Lodge terrace					1		1				1
Mainsforth terrace					3		1	1		1	
Meaburn street.....						1					
Moor street					3		3				
Mordey street					1		1				
Mowbray road					1						1
Murton street		1									
Nicholson street		2			1		2				
Noble street					1						
Norman street					1		1				
Norfolk street											3
Northcote avenue.....					1						
Northumberland street		1			1		2		1	2	1
Otto terrace					1						
Page street					1		1				1
Park place East						1					
Parade		2			1		2	1			1

TABLE V.—CONTINUED.

Street.	CASES NOTIFIED.						DEATHS FROM				
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Sanatorium.	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Peel street.....	...	1	...	...	1	...	...	...	...	...	...
Percy terrace.....	4	...	...	...	...	...	...
Railway street.....	1	...	1	...	...	...	...
Regent terrace.....	2	...	...	...	...	...	...
Ridley terrace.....	1	...	1	...	...	...	...
Riversdale terrace.....	1	1
Robinson street.....	4	...	...	...	...	...	...
Robinson terrace.....	2	...	2	...	...	...	...
Rock terrace.....	1
Rosalie terrace.....	1
St. George's square.....	1	...	...	...	...	...	...
St. Leonard street.....	1
Salem hill South.....	1	...	...	...	...	...
Salem street South.....	...	2	...	...	...	...	2	1	...	...	1
Salisbury street.....	1	...	...	...	...	...	...
Sans street.....	2	...	...	...	...	...	...
Shakespeare terrace.....	1	...	...	...	2	...	...	...	...	...	...
Short street.....	1
South Durham street.....	...	2	...	...	2	...	2	1	1	1	2
South Moor street.....	3	...	...	...	...	...	...
South street.....	1
Suffolk street.....	...	1	...	...	1	1	1	1	...	...	...
Tatham street.....	...	1	...	...	...	...	...	...	...	1	2
Teesdale street.....	...	1	...	...	...	...	...	1	...	...	...
Tees street.....	1	...	...	1	...	...	1
Thompson street.....	3
Thornhill crescent.....	1	...	...	...	...	...	...
Thornhill gardens.....	1
Tower street West.....	3	...	...	...	...	...	...
Tunstall vale.....	1	...	1	...	...	...	...
Tyne street.....	2
Vane terrace.....	1
Villette road.....	2	...	...	...	...	...	...
Villiers street.....	3	2	2	...	...	...	1
Vine place.....	1	...	1	...	...	...	...
Walworth street.....	...	1	...	...	...	...	1	1	...	...	1
Ward street.....	...	1	...	...	3	...	3	...	...	...	2
West street.....	4
West street.....	1	...	...	...	...	...	...
Whitehouse crescent.....	1	...
Whitehouse road.....	3	...	1	...	...	...	...
Winchester terrace.....	1	...	...	...	...	...	...
Windsor terrace.....	1
Woodbine street.....	1	1	...	...	2	...	1	...	...	...	3
Zion street.....	...	1	...	...	3	...	1	...	...	...	...

TABLE V.—CONTINUED.

MONKWEARMOUTH SUB-DISTRICT.

Street.	CASES NOTIFIED.							DEATHS FROM			
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Sanatorium.	Deaths.	Measles.	Whooping Cough.	Diarrhœa.
Albany street.....	...	1	...	...	...	...	...	...	...	...	...
Back Barclay street.....	1	...	...
Back Brooke street	2	...	1	1	...	2	...	...	1	...
Back Stables.....	3	...	1	...	...	1	...
Back Warwick street	1	...	...	...	...	...	...
Barclay street	4	...	3	...	...	...	...
Barrington street	2	...	...	...	1	...	...
Bond street	2	...	...	1	...	1	...	...	...	...
Bonner's field.....	...	1	...	...	...	...	1	...	...	4	...
Brandling street	1	...	...	1	...	...
Bright street	1	...	...	4	...	1	...	...	2	...
Brooke street.....	...	1	...	...	...	...	1	...	...	...	...
Burns' yard	4	...	...	...	...	...	...
Byron street	2	...	...	3	...	1	1	...	1	...
Cage hill.....	2	...	2	...	...	...	...
Chilton street	1	1	...	2	...	...	...	...
Church street North.....	...	3	...	...	...	...	1	...	...	...	...
Dame Dorothy street	1	...	...	2	...	1	...	...	...	...
Devonshire street	1	...	...	4	...	...	...	...	2	...
Dock street	2	5	...	1	...	2	...	...
Dock street East	1	...	...	...	1	1	...
Duke street	1	...	...	5	...	3	1	...	...	...
Dundas street	1	...	...	...	...	...	...	...	...	...
Easington street	4	...	1	...	...	...	...
Eglinton street	2	...	...	1	1	...	1	...	...	...
Eilerslie terrace.....	1	...	...	...	...	...	...
Finsbury street.....	...	2	...	1	1	...	2	1	...	1	...
Forster street	1	...	1	1	...	...	...	1	1	...
Frances street	1	...	...	2	...	1	...	...	...	...
Fulwell road	1	...	...	...	1	...	...
Gladstone street	1	...	...	2	...	1	...	...	...	...
Gosforth street	2	...	1	1	1	1	...
Hamilton street	2	1	...
Hardwicke street	3	...	1	...	...	1	...
Hedworth street	1	...	...	1	...	...	1	1	...	...
Hodgson's buildings.....	...	1	...	...	...	...	...	...	...	...	...
Hood street	2	...	...	1	...	1	...	1	...	...
Horatio street	3	...	...	...	...	...	...
Howard street	1	...
Howick place.....	2	...
Howick street	1	...	...
Huddleston street.....	4	...	...	...	...	...	...
Joannah street	1	...	...	...	...	...	...
Langholme.....	1	...	...	...	...	...	...
Lawson's court	1	...	...
Liddell street.....	...	1	...	...	...	...	...	...	...	...	...
Long row	1	...	...	5	...	...	...	...	...	...
Look-out hill.....	1	...	1	...	...	...	...

TABLE V.—CONTINUED.

Street.	CASES NOTIFIED.							DEATHS FROM		
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Sanatorium.	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Mill row.....	2
Millum terrace	1	...	3	1	4	..	...	1	1
Monk street	1	1	...	...	1	...	...
Mulgrave street	5	...	...	2	4	1	...	...	2
New Brandling street	1	...	1	...	...	...
Newcastle road.....	1	...	...	...	...	...
Normanby street	1	...	...	...	1
North Bridge street.....	2	...	...	...	...	1
North Eglinton street.....	...	1	...	...	...	...	...	...	...	...
Osborne street	1	...	...	2	...	...	1	...	...
Pilgrim street	1	...	...	3	...	1	1	...	...
Portobello lane	1	...	1	...	...	...
Rendlesham street	2	...	...	...	...	...
Richmond street	1	...	...	...	...	1	...	...	...
Ripon street	1	...	...	...	...	1	...	...	...
Roker avenue	2	...	...	8	...	...	1	...	1
Ross street.....	...	1	...	...	1	...	...	1	...	...
Rothsay street	1	...	...	4	...	1	...	...	1
Sheepfolds	1	...	...	...	...	...
Society lane	2	..	1
Stobart street	1	...	...	4	...	...	...	...	...
Thomas street North	1	...	...	1	...	1	...	...	...
Victoria cottages	2	...	...	...	...	...	...
Victoria terrace.....	1	...	...
Victor street	5	...	..	6	...	5	2	1	3
Wallace street	2	...	...	...	...	...
Warwick street	1	...	...	1	...	...	1	...	...
Wayman street.....	2	...	...	...	...	..
Wearmouth street	1	...	...	...	...	...	...	...	...
Whickham street	2	...	...	...	1	...	...
Whitburn street	1	...	...	4
Williamson street.....	2	...	...	...	...	...
Williamson terrace	2	...	...	...	...	...
Wilson street	2	3	...	...	...	...
Woodger terrace	1	...
Zetland street	1	...	...	...	1	...

TABLE VI.

STREET LIST, showing where cases of Enteric and Continued Fever occurred during the last five years.

SUNDERLAND (SUB-DISTRICT).

Street.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Barrack street.....	...	...	...	...	2	...	...	...	...	...
Blue Anchor yard .....	...	...	1	...	...	...	...	...	...	...
Bull open	1	...	...	...	1	...	...	...	...	...
Burdon lane.....	1	...	...	...	...	...	...	...	...	...
Burleigh street	8	...	5	2	7	...	3	...	...	...
Carr's yard	1	2	...	...	...	...	...	...	...	...
Chapel street .....	..	...	...	...	5	...	1	...	1	...
Church street .....	...	...	2	...	2	...	1	...	1	...
Church walk	3	...	...	...	...	...	...	...	...	...
Commissioners' quay .....	...	...	...	...	1	...	...	...	...	...
Covent Garden street.....	4	1	4	...	2	...	...	...	...	...
Drury lane .....	...	...	5	...	1	...	...	...	...	...
Dunn's passage	1	1	...	...	...	...	...	...	...	...
Ferry landing .....	...	...	...	...	1	...	...	...	...	...
Fitter's row	1	...	...	...	...	...	...	...	...	...
Flag lane	2	...	2	...	1	...	1	...	...	1
George street	4	...	3	1	3	...	1	1	1	...
Golden alley.....	...	...	2	1	1	...	...	...	...	...
Grey street .....	...	...	...	...	...	2	...	...	1	...
Hartley street	3	...	...	...	...	...	2	...	...	...
Hat case .....	..	...	1	...	1	...	...	...	...	...
Havelock gallery.....	...	...	1	...	...	...	...	...	...	...
Havelock street	2	...	...	...	1	...	1	...	...	...
High street East.....	13	2	3	...	2	2	5	...	...	...
Hodgskin street .....	...	...	1	...	...	...	...	...	...	...
James Williams street	1	1	...	...	...	...	1	...	...	...
Lombard street	1	...	...	1	1	...	...	...	1	...
Long bank .....	...	...	...	...	...	...	...	...	...	...
Low quay.....	...	...	3	...	...	...	1	...	...	...
Low street	2	...	1	..	...	...	1	...	...	...
Lower Dean's yard.....	...	...	...	...	...	...	1	...	...	...
Lucknow street	1	...	...	...	...	...	...	...	...	...
Maling's rigg	1	...	...	...	4	...	...	1	...	...
Moorgate street	3	...	3	...	1	...	1	...	1	...
Nesham square	1	...	1	...	1	...	2	...	1	...
New Grey street.....	3	...	5	...	13	...	...	...	...	...
North Moor street .....	...	...	2	1	4	...	3	...	...	...
Northumberland place	2	...	...	...	...	...	...	...	...	...
Outram street	1	...	...	...	2	...	...	...	...	...
Palin's passage	1	...	1	...	...	...	...	...	...	...
Pottery bank .....	...	...	2	1	1	...	...	...	...	...
Prospect row .....	...	...	3	...	...	...	...	...	1	...
Queen street East.)	3	...	...	...	2	...	...	...	...	...
Silver street.....	4	...	1	1	15	3	...	...	1	1
Spring Garden lane	3	...	...	1	...	...	...	...	1	...
Stamp's lane .....	...	...	...	...	...	...	1	...	...	...
Stone yard .....	...	...	1	...	...	...	...	...	...	...
Thomas street.....	1	1	5	3	...	...	...	...	...	...

TABLE VI.—Continued.

Streets.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Thornhill gallery	2	...	...	...	...	...	...	...	...	...
Trafalgar square .....	...	...	...	...	...	...	1	...	...	...
Trinity place	3	...	...	...	...	...	...	...	...	1
Union lane .....	...	...	...	...	1	...	...	...	...	...
Vine street	4	1	9	1	4	...	3	...	...	...
Walton place .....	...	...	...	...	4	...	...	...	...	...
Walton lane	2	...	...	...	1	...	...	...	...	...
Warren street	3	...	1	...	2	...	...	...	...	1
Youll's passage .....	...	...	...	...	...	...	1	...	...	...

BISHOPWEARMOUTH NORTH DISTRICT.

Streets.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Adamson street .....	...	...	...	...	...	...	1	...	...	...
Ailsbury street	1	1	...	...	...	...	...	...	...	...
Aiskell street	1	...	...	...	1	...	1	...	...	...
Albert street .....	...	...	...	...	1	...	...	...	...	...
Alderson street .....	...	1	5	...	1	...	...	...	...	...
Alexandra terrace .....	...	1	1	...	...	...	1	...	...	...
Alfred street	1	...	1	...	1	...	...	...	...	...
Alliance street	1	...	...	...	...	...	...	...	...	...
Ancona street .....	...	...	...	1	...	...	...	...	1	...
Anne street	1	...	1	...	...	...	...	...	1	...
Armitage street .....	...	1	3	...	...	...	...	...	...	...
Australia street .....	...	1	...	1	1	...	...	...	...	...
Aylmer street .....	...	...	2	...	...	...	...	...	...	...
Ayre's Quay road .....	...	1	...	1	1	...	...	...	...	...
Ayre's Quay street	2	1	2	2	...	1	1	...	1	...
Back Crescent row .....	...	...	1	...	1	...	...	...	...	...
Back East Cross street .....	...	...	...	...	...	...	...	...	1	...
Back Farrington row .....	...	2	...	...	2	...	...	...	1	...
Back Harrison street .....	...	1	...	...	1	...	1	...	...	...
Back Hedley street .....	...	...	1	...	...	...	...	...	...	...
Back Hopper street	5	1	2	...	...	...	...	...	...	...
Back Sydenham place .....	...	...	...	...	1	...	...	...	...	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Hylton road.....	2	...	2	...	1	...	...	...	2	...
Hylton street .....	...	1	...	...	...	...	...	...	...	...
Infirmary row .....	...	...	1	...	...	...	...	...	...	...
James street .....	...	...	2	...	...	...	...	...	1	...
Jobling street.....	1	...	1	1	...	...	1	...	...	...
John Candlish road .....	...	...	2	...	1	...	...	...	...	...
John street West	3	1	2	1	1	...	...	...	...	...
Johnson street.....	4	...	1	...	...	...	...	...	...	...
Kendal street	1	...	...	...	...	...	...	...	...	...
Kings-ley street .....	...	...	...	...	1	...	...	...	...	...
King's road .....	...	...	...	...	1	...	...	...	...	...
King's place.....	...	...	...	...	...	...	...	...	1	...
Lambton street	1	...	4	...	...	...	...	...	...	...
Landsale buildings .....	...	...	1	...	...	...	3	...	...	...
Lime street .....	...	...	...	1	...	...	...	...	1	...
Lincoln street .....	...	1	...	...	1	1	...	...	...	...
Lisborn terrace .....	...	1	...	1	...	1	1	...	...	...
Lister street.....	...	...	...	1	...	...	2	...	...	...
Low row	2	1	...	...	...	...	...	...	...	...
Low row, Hat and Feather yard .....	...	...	...	...	...	...	1	...	...	...
Lumley street	1	1	...	...	...	...	...	...	...	...
Maple street .....	...	...	...	1	2	...	1	...	...	...
Margaret street .....	...	...	1	...	...	...	...	...	...	...
Marlborough street	3	...	...	...	...	...	...	1	...	...
Martin terrace .....	...	...	1	...	...	...	...	...	...	...
Matamba terrace	2	...	2	...	...	...	...	...	...	...
Merle terrace .....	...	...	...	...	...	1	...	...	...	...
Milburn street.....	...	...	2	1	5	...	1	7	...	...
Miller street .....	...	...	1	...	...	...	...	...	...	...
Mill street .....	...	...	...	...	...	...	1	...	1	...
Moor street	1	1	3	...	3	...	...	...	...	...
Mortimer street .....	...	...	5	...	1	...	...	...	1	...
Mount Pleasant .....	...	...	2	...	2	...	...	...	3	...
Napier street .....	...	...	...	...	...	...	...	...	1	...
Naylor street .....	...	1	...	...	...	...	...	...	...	...
Neville street	2	...	...	...	1	...	...	...	2	...
North Hedley street .....	...	...	...	...	...	...	...	...	1	...
North Milburn street.....	1	...	4	...	...	...	...	...	...	1
North Rutland street.....	...	...	1	...	...	...	...	...	2	...
Number's garth	1	1	...	...	2	...	...	...	...	...
Oates street.....	...	...	2	1	...	...	...	...	...	...
Offerton street.....	...	...	1	1	...	...	...	...	...	...
Ogden street .....	...	...	1	...	...	...	...	...	...	...
Pallion road.....	...	...	...	...	...	1	...	...	...	...
Palmer street	1	...	4	...	...	...	...	...	...	...
Peacock street.....	1	...	3	2	2	...	...	...	...	...
Peacock street West .....	...	...	...	1	2	...	2	...	1	...
Pensher street.....	2	...	...	...	...	...	1	...	...	...
Percival street.....	...	...	1	...	1	...	...	...	...	...
Pickard street.....	2	...	...	...	1	...	...	...	...	...
Picton street	1	...	2	1	...	1	...	...	...	...
Potts street.....	...	...	3	...	5	...	3	...	1	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Priestly crescent.....	..	...	1	...	...	...	...	...	...	...
Queen street West	2	1	2	...	3	...	...	...	...	...
Raby street	2	...	...	1	...	...	...	...	...	...
Rainton street.....	...	...	...	1	...	...	...	...	...	...
Ravensworth street	1	...	1	..	1	1	...	1	...	...
Reginald street .....	...	1	...	...	...	...	...	...	...	...
Retreat, The .....	...	...	...	...	...	...	...	1	...	...
Ropery road .....	...	1	...	...	1	2	...	..	...	...
Ropery yard.....	...	...	1	...	...	...	...	...	...	...
Rosanna street .....	...	...	2	...	...	...	1	...	...	...
Rosedale street	2	1	2	...	1	...	...	...	...	...
Rosslyn street.....	...	...	...	...	1	...	...	...	1	...
Rosslyn terrace .....	...	...	2	...	...	...	...	...	...	...
Royalty, The ..	...	...	1	...	1	1	...	...	...	...
Rutland street.....	...	1	1	...	1	...	1	1	...	...
Rutland terrace .....	...	...	...	...	2	...	...	...	1	...
St. Cuthbert's terrace .....	...	...	...	1	1	...	...	...	...	...
St. Luke's road .....	...	...	2	...	4	...	1	..	...	...
St. Luke's terrace	4	...	1	..	1	...	...	...	...	...
St. Mark's buildings	1	...	...	...	...	...	...	...	...	...
St. Mark's cottages .....	...	...	...	...	...	...	...	...	1	1
St. Mark's road	1	...	1	...	1	...	...	1	...	...
St. Mark's terrace .....	...	...	...	1	...	...	...	...	...	...
St. Michael's place .....	...	...	1	..	1	...	...	...	...	...
Sheridan street .....	...	...	...	1	1	...	...	..	1	...
Silksworth row .....	...	...	2	...	...	...	...	...	...	...
Simpson street.....	2	1	1	1	..	...	1	...	...	...
Slater street.....	...	...	...	...	...	...	1	...	...	...
Sorley street .....	...	...	1	...	3	...	...	...	...	...
South Johnson street.....	10	1	5	...	2	...	..	...	...	...
Spark terrace .....	...	1	1	...	...	...	...	...	...	...
Stanhope street .....	...	...	...	...	...	...	...	1	...	...
Stanley street	2	1	...	...	2	...	...	...	...	...
Stratfield street .....	...	..	1	...	...	2	...	...	...	...
Summerhill East.....	...	...	...	...	...	...	...	...	4	...
Sunderland street	3	...	2	1	1	...	...	...	1	...
Swan's court	1	...	..	...	...	...	...	...	...	...
Swinbank street .....	...	...	4	...	...	...	...	...	...	...
Sydenham place	1	...	...	...	...	...	...	..	...	...
Teb street .....	...	...	1	...	...	...	..	1	...	...
Thornton place	1	...	...	...	...	...	...	...	...	...
Trewhitt's crescent.....	...	...	2	...	...	...	...	...	...	...
Trimdon street	1	...	4	1	4	4	...	...	7	...
Trimdon street West.....	1	...	...	..	4	1	1	...	..	...
Ventnor terrace	1	...	...	...	...	...	...	...	...	...
Vicarage terrace.....	...	...	1	...	...	...	..	...	...	...
Victoria buildings .....	...	...	1	...	1	...	...	...	...	...
Walker street .....	...	...	1	...	1	...	...	...	...	...
Washington street .....	...	...	2	...	..	...	1	1	...	...
Waterworks road	2	...	1	...	...	...	...	...	...	...
Water street	1	...	1	...	...	...	1	1	...	...
Watson's lane	1	...	1	...	1	1	...	...	1	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Watson street .....	...	...	...	...	1	...	...	...	...	...
Wellington lane .....	...	2	2	...	1	2	1	...	...	...
Well street .....	...	...	...	...	1	1	..	...	...	...
Westbourne road	2	...	...	...	1	...	1	...	...	...
West Moor road	1	...	...	...	...	...	...	...	...	...
Westbury street	1	...	..	...	2	...	...	...	1	...
West Wear street .....	...	...	...	...	...	...	1	...	...	...
Wharncliffe street .....	...	...	1	...	...	...	...	...	...	...
White house, Pallion .....	...	...	...	..	1	...	...	...	...	...
William street	3	...	1	...	1	1	1	...	1	1
Williams street	2	...	1	...	2	...	4	...	1	...
Wilfred street .....	...	...	...	..	...	...	1	...	...	...
Willow Pond terrace .....	...	...	...	...	1	...	...	...	...	...
Wilson street West .....	...	1	1	...	...	1	...	...	...	...
Wolsely terrace .....	..	...	...	...	...	...	1	...	...	...
Woodbine terrace, Pallion.....	...	...	1	...	...	...	1	1	...	1

BISHOPWEARMOUTH SOUTH DISTRICT.

Street.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Addison street.....	4	...	1	...	20	...	...	1	...	...
Addison street East	1	...	..	...	15	...	1	...	...	...
Albany terrace .....	...	...	...	...	5	...	...	...	...	...
Alice street .....	...	...	...	...	...	...	...	...	1	...
Amberley street .....	...	...	...	...	4	...	1	...	1	...
Amberley street South .....	...	...	1	...	..	...	...	...	1	...
Ann street	1	...	...	...	...	...	1	...	1	...
Argyle square	1	...	...	...	...	...	...	...	...	...
Ashbrooke mount .....	...	...	...	...	...	...	1	...	...	...
Ashmore street .....	..	...	...	...	1	...	...	...	...	...
Athol road	6	...	1	...	5	1	...	...	...	...

TABLE VI.—Continued

Street.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Avenue, The .....	...	...	...	...	...	...	1	...	...	...
Avon street .....	...	...	...	...	1	...	...	...	1	...
Azalea avenue.....	...	...	...	...	...	...	1	...	...	...
Bambro' street.....	...	...	1	...	...	...	...	...	...	...
Beechwood street .....	...	...	1	...	...	...	...	...	...	...
Belle Vue park .....	...	...	...	...	1	...	1	...	...	...
Bishopton street	1	...	...	...	...	...	...	...	1	...
Blandford street .....	...	...	1	...	...	...	...	...	...	...
Borough road	1	...	1	...	2	...	1	...	...	1
Bramwell street	8	...	...	...	20	...	1	...	...	...
Briery Vale road.....	...	...	...	...	1	...	...	...	...	...
Brookside terrace .....	...	...	...	...	...	...	...	...	1	...
Brougham street.....	7	...	5	...	4	...	4	...	1	...
Burlington road	2	...	...	...	...	...	1	...	1	...
Burn terrace .....	...	...	...	...	2	...	...	...	...	...
Cairo street	1	...	2	...	...	...	...	...	...	...
Canon Cockin street .....	...	...	...	...	1	...	...	...	...	...
Carlyon street .....	...	...	...	...	1	1	...	...	1	1
Churchill street .....	...	...	...	...	...	...	2	...	...	...
Christopher street .....	...	...	...	...	2	...	...	...	...	...
Clark terrace	1	...	...	...	7	...	...	...	1	...
Clementina street	1	...	...	...	6	...	...	...	...	...
Cliffe terrace	3	...	...	1	...	...	...	...	1	...
Clyde street.....	1	1	...	...	2	...	...	...	...	...
Coronation street	9	...	...	...	2	...	1	...	...	...
Coronation street (Back) .....	...	...	...	...	1	...	1	...	...	...
Cousin street	1	...	...	...	1	...	1	...	3	...
Coxon street	1	...	...	...	1	...	...	...	...	...
Cresswell terrace.....	...	...	...	...	...	...	...	...	1	...
Crow street .....	...	1	...	...	1	...	...	...	...	...
Crowtree road	1	...	...	...	1	...	...	...	...	...
Cumberland terrace	3	...	...	...	6	...	1	...	...	...
D'Arcy street .....	...	1	2	...	2	...	2	...	2	...
D'Arcy terrace	1	...	...	...	5	...	3	...	...	...
Derby street	2	...	...	...	...	...	...	...	...	...
Derwent street .....	...	...	1	...	...	...	...	...	...	...
Douro terrace .....	...	...	...	...	...	...	...	...	1	...
Durham road	1	...	...	...	1	...	...	1	...	...
East Hendon road .....	...	...	...	...	1	...	...	...	...	...
East Hendon terrace .....	...	...	...	...	1	...	...	...	...	...
East Parade.....	...	...	1	...	...	...	...	...	...	...
East street	2	...	4	...	3	...	...	...	2	...
Eden street ..	...	...	...	...	1	...	...	...	...	...
Elms, The .....	...	...	...	...	1	...	...	...	...	...
Emma street	1	...	...	...	1	...	...	...	...	...
Esplanade West .....	...	...	...	...	...	...	...	1	...	...
Ethel street .....	...	...	...	...	1	...	...	...	...	...
Fenwick street .....	...	...	1	...	...	...	...	...	...	...
Ferguson street .....	...	...	...	...	3	1	1	...	...	...
Finchale terrace	1	...	...	...	7	...	...	...	...	...
Ford street	1	1	...	...	5	...	2	...	...	...
Fore street .....	...	...	1	...	...	...	...	...	...	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Fowler place .....	...	...	1	...	...	...	...	...	...	...
Fowler terrace.....	1	...	...	...	3	...	2	...	...	...
Foyle street.....	...	...	...	...	...	...	...	...	1	...
Frederick street .....	...	...	1	...	...	...	...	...	...	...
Gray terrace.....	...	...	...	...	1	1	...	...	...	...
Green, The .....	...	...	...	...	1	...	1	...	...	...
Green place .....	...	...	1	...	...	...	...	...	...	...
Green terrace	2	1	...	...	...	...	...	...	...	...
Guildford street	1	...	2	...	3	1	...	...	...	...
Harold street .....	...	...	...	...	...	...	...	...	2	...
Harrogate street.....	1	...	...	...	2	...	2	...	1	...
Hastings street	2	...	2	...	...	...	...	...	...	...
Havelock terrace.....	...	...	...	...	...	...	...	...	1	...
Hedworth street.....	1	...	2	...	2	...	1	...	2	...
Hedworth terrace	1	...	...	...	...	...	...	...	...	...
Hendon Burn avenue .....	...	...	1	...	9	...	...	...	1	...
Hendon road	13	1	3	...	5	1	...	...	1	...
Hendon street.....	4	1	2	...	10	2	2	...	1	...
Hendon Valley road .....	...	...	...	...	4	...	1	...	...	...
Henry street	6	...	3	...	29	4	2	2	...	...
Henry street East	3	...	...	...	16	...	3	...	...	...
Henry street East (Back) .....	...	...	...	...	5	...	1	...	...	...
High street West .....	...	...	2	...	2	...	...	...	...	...
Hill street	1	...	...	...	1	...	...	...	...	...
Holmside .....	...	...	...	...	...	...	...	...	1	...
Howick street	3	...	2	...	1	...	...	...	...	...
Hudson's buildings.....	...	...	...	...	1	...	...	...	...	...
Hudson road .....	...	...	...	...	...	...	1	...	...	...
Holmlands Park.....	...	...	...	...	...	...	...	...	1	...
Humbledon view.....	...	...	...	...	...	...	1	...	...	...
John street	1	...	...	...	...	...	...	...	...	...
King street	1	...	...	...	2	...	...	...	...	...
Lawrence street	4	...	4	...	13	1	...	...	1	...
Lilburn street .....	...	...	...	...	...	...	1	...	...	...
Laura street.....	...	...	1	...	...	...	...	...	...	...
Lawton street.....	...	...	2	...	1	...	...	...	...	...
Linden terrace .....	...	...	1	...	...	...	...	...	...	...
Little Villiers street .....	...	...	3	...	...	...	...	...	...	...
Littlegate.....	...	1	...	...	1	...	...	...	...	...
Lodge terrace.....	...	...	1	...	1	...	1	...	...	...
Lorne terrace .....	...	...	...	...	...	...	1	...	...	...
Mainsforth terrace.....	2	...	6	...	2	...	2	...	...	...
Mainsforth terrace West .....	...	...	...	...	1	...	1	...	...	...
Marion street	1	...	...	...	1	...	...	...	...	...
Marshall street .....	...	...	1	...	3	...	1	...	...	...
Mary street .....	...	...	1	...	...	...	...	...	...	...
Middle street	2	...	2	...	...	...	...	...	...	...
Montpellier terrace.....	1	...	...	...	...	...	...	...	...	...
Mordey street	1	...	1	...	7	...	1	...	...	...
Mowbray road.....	...	...	...	...	3	...	...	...	...	...
Mowbray villa.....	...	...	...	...	...	...	1	...	...	...
Murton street .....	...	...	...	...	1	...	...	...	1	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Mulgrave street .....	...	...	5	...	...	...	1	...	5	...
Nelson street .....	...	...	3	...	1	...	...	...	...	...
Nicholson street	1	...	...	...	1	...	...	...	2	...
Nile street	3	1	...	...	1	...	1	...	...	...
Nile street (Back)	2	...	...	...	...	...	...	...	1	...
Noble street.....	2	...	1	...	1	...	...	...	...	...
Norfolk street .....	...	...	...	...	...	...	1	...	...	...
Northcote avenue .....	...	...	...	...	...	...	1	...	...	...
North Durham street.....	4	...	3	...	1	...	...	...	...	...
Norman street.....	4	1	2	...	...	...	1	1	...	...
Northumberland street	2	...	5	1	4	...	...	...	1	...
Nursing Institute, The .....	...	...	...	...	...	...	...	...	2	...
Oaks West, The .....	...	...	1	...	...	...	...	...	...	...
Ocean road	1	...	...	...	...	...	...	...	...	...
Old Mill road	2	...	...	...	...	...	...	...	...	...
Page street.....	2	...	...	...	...	...	1	...	...	...
Parade, The.....	2	...	...	...	2	...	1	...	2	...
Parade, The (Back) .....	...	...	...	...	3	...	...	...	...	...
Park Place West.....	1	...	...	...	...	...	...	...	...	...
Park road.....	...	...	1	...	...	...	...	...	...	...
Peel street	2	...	...	...	1	...	...	...	1	...
Pemberton street	7	...	3	...	...	...	...	...	...	...
Percy terrace .....	...	...	...	...	1	...	...	...	...	...
Phoenix Glass Works.....	...	...	1	...	...	...	...	...	...	...
Princess street.....	...	...	...	...	1	...	...	...	...	...
Railway row .....	...	...	...	...	1	...	...	...	...	...
Railway street.....	...	...	1	...	...	...	1	...	...	...
Randolph street	1	...	...	1	...	...	...	...	...	...
Rectory terrace	1	...	1	...	...	...	...	...	...	...
Reynoldson street	1	...	...	...	1	...	...	...	...	...
Ridley terrace	1	...	2	...	1	...	...	...	...	...
Robinson street	2	...	...	...	5	...	...	...	...	...
Robinson terrace.....	17	...	...	...	2	...	1	...	...	...
Robinson terrace (Back) .....	...	...	...	...	...	...	1	...	...	...
Rosalie terrace .....	...	...	...	...	4	...	...	...	...	...
St. Leonard's street	1	...	1	...	...	...	...	...	...	...
St. George's square.....	...	...	...	...	...	...	...	1	...	...
Salem hill South.....	...	...	...	...	1	...	...	...	...	...
Salem road .....	...	...	...	...	1	...	...	...	...	...
Salem street.....	...	...	...	...	1	...	...	...	...	...
Salem street South.....	...	...	...	...	...	...	...	...	2	...
Sans close.....	1	...	...	...	...	...	...	...	...	...
Sans street	4	...	...	...	...	...	...	...	...	...
Sans street (Back) .....	...	...	1	...	...	...	...	...	1	...
Sans street South	1	...	1	...	...	...	...	...	...	...
Salisbury street .....	...	...	...	...	1	...	...	...	...	...
Shakespeare terrace .....	...	...	...	...	...	...	1	...	...	...
Short street	1	...	...	...	...	...	...	...	...	...
Southgate.....	1	...	1	...	...	...	...	...	...	...
South Durham street.....	8	...	4	...	4	...	1	...	2	...
South Moor street .....	...	...	...	...	2	...	...	...	...	...
South street.....	...	...	2	...	1	...	...	...	...	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Stockton road	2	...	...	...	...	...	...	...	...	...
Suffolk street .....	...	...	...	...	6	...	...	...	1	...
Sussex street	7	...	2	...	3	...	...	...	...	...
Tatham street .....	...	...	...	1	...	1	...	2	1	...
Tees street	1	...	5	...	3	...	3	...	...	...
Teesdale street .....	...	...	...	...	...	...	...	...	1	...
Thompson street	3	1	2	...	4	...	5	1	...	...
Thornhill cottage .....	...	...	...	...	1	...	...	...	...	...
Thornhill crescent .....	...	...	1	...	...	...	...	...	...	...
Thornhill terrace	1	...	...	...	...	1	...	...	...	...
Tower street	1	...	...	...	...	...	1	...	...	...
Tower street East .....	...	...	...	...	2	...	...	...	...	...
Tower street West	1	...	...	...	...	...	...	...	...	...
Tunstall road	1	...	...	...	...	...	...	...	...	...
Tunstall terrace	1	...	...	...	...	...	...	...	...	...
Tunstall vale	2	...	...	...	1	...	...	...	...	...
Tweed street	2	...	...	...	1	2	2	...	...	...
Tyne street	2	...	2	...	1	...	...	...	...	...
Upper Sans street	1	...	2	...	...	...	...	...	...	...
Vane terrace	3	...	1	...	...	...	...	...	...	...
Vane terrace West	1	...	...	...	...	...	...	...	...	...
Villette Brook street .....	...	...	...	...	1	...	...	...	...	...
Villette road .....	...	...	1	...	1	...	...	...	...	...
Villiers street	2	...	...	...	1	...	1	...	1	...
Wall street	3	1	4	...	1	...	...	...	...	...
Walworth street	1	...	1	...	5	...	2	...	1	...
Ward street .....	...	...	1	...	2	...	...	...	1	...
Wear street	15	1	3	1	8	1	2	...	...	...
West street	2	...	...	...	1	...	...	...	...	...
West Sunnyside .....	...	...	...	...	1	...	...	...	...	...
Whitehouse crescent .....	...	...	...	...	2	...	...	...	...	...
Whitehouse road .....	...	...	1	...	6	...	1	...	...	...
Willows, The .....	...	...	...	...	...	...	2	...	...	...
Winchester terrace .....	...	...	...	...	4	...	1	...	...	...
Woodbine street	10	...	6	...	7	...	3	...	1	...
Yorke street	3	1	1	...	1	...	...	...	...	...
Zion street	3	...	1	...	21	...	...	...	1	...

MONKWEARMOUTH DISTRICT.

Street.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric.	Continued.
Albany street	1	...	1	...	1	...	...	...	1	...
Barclay street ...	3	...	1	...	...	...	1	...	4	...
Barclay street (Back).....	...	...	1	...	...	...	...	...	...	...
Barrington street	3	...	4	1	2	1	2	...	...	...
Beatrice street.....	6	...	...	...	1	...	...	...	...	...
Bond street .....	...	...	1	...	6	...	2	...	3	...
Bonner's field .....	...	...	4	...	1	1	...	...	1	...
Bloomfield street.....	1	..	1	1	1	...	...	...	...	...
Brandling street	2	...	1	...	3	..	...	...	...	...
Brewery bank	1	...	2	2	1	...	...	...	...	...
Bright street	5	...	3	2	7	..	2	...	1	...
Brooke street	2	...	1	...	1	...	2	...	1	...
Brooke street (Back)	2	...	...	...	1	...	...	...	2	1
Byron street.....	1	...	3	...	2	..	1	...	2	...
Cage hill	1	1	..	..	..	..	..	..	..	..
Causeway, The.....	...	..	..	2	...	..	1	...	..	..
Charles street	3	..	...	...	1	...	...	...	...	...
Chilton street	2	...	...	...	1	...	...	...	...	1
Church street	4	2	2	1	8	...	..	...	3	...
Cooper street .....	...	...	...	...	...	...	...	1	...	...
Colliery square	5	...	...	...	...	...	...	...	...	...
Crozier street	1	..	...	1	...	...	...	...	...	...
Dame Dorothy street.. ..	2	...	9	...	6	3	1	...	1	...
Devonshire street ...	1	...	1	...	...	...	4	...	1	...
Devonshire street (Back)	2	...	1	..	...	..	...	...	..	...
Dixon square	4	...	1	...	1	...	1	...	...	...
Dock street	2	1	3	...	6	..	2	1	...	2
Dock street East	3	...	6	...	2	...	2	...	...	...
Duke street.....	2	...	1	1	2	1	1	1	1	...
Dundas street	2	...	1	2	3	4	1	1	1	...
Dundas street (Back).....	...	...	...	1	...	2	...	...	...	...
Eglinton street	3	...	...	...	1	..	2	...	2	...
Eglinton street North .....	...	...	...	...	...	...	...	...	1	..
Ellerslie terrace .....	...	..	1	...	...	...	...	...	...	...
Featherstone street .....	...	...	...	...	...	...	2	...	...	...
Finsbury street .....	...	...	2	...	...	..	1	...	2	2
Folley end .. .	..	...	1	...	...	...	...	...	...	...
Forster street	1	...	...	...	1	1	..	...	1	1
Francis street.....	...	...	...	...	...	...	...	1	1	...
Fulwell road	6	...	2	...	5	...	3	...	...	...
Garden court .....	...	...	1	...	1	..	...	...	..	..
George street .....	...	...	...	...	3	...	...	...	...	...
Gladstone street	4	...	4	...	4	..	2	...	1	..
Gosforth street	2	1	3	1	3	..	1	...	...	..
Hallgarth square	2	...	...	...	2	...	1	...	...	..
Hamilton street	1	...	2	...	2	...	1	1	...	..
Hamilton street (Back).....	...	...	1	...	...	...	...	...	...	..
Hardwicke street	1	1	3	1	3	...	1	...	1	..
Hardwicke street (Back)	1	...	...	...	...	...	...	...	...	..
Hartington street	2	...	...	...	...	...	...	...	...	..
Hay street .....	...	...	2	...	...	...	...	...	...	..

TABLE VI. - Continued.

Street.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric.	Continued.
Hedworth street.....	3	1	3	...	2	...	...	...	...	...
Hedworth place .....	...	...	1	...	..	1	...	...	...	...
Hodgson's buildings .....	..	..	2	...	..	...	...	...	1	...
Hood street	4	..	6	...	2	1	1	...	2	...
Howick place .....	...	...	..	...	1	...	1	...	...	...
Howick square	1	...	..	...	..	...	...	...	...	...
Howick square (Back)	1	...	..	...	..	...	...	...	...	...
Howick street	1	1	..	..	..	1	...	...	...	...
Howick street (Back).....	...	1	..	...	..	...	...	...	...	...
Horatio street .....	...	..	..	...	..	...	..	1	...	...
Huddleston street	2	1	2	1	1	1	..	1	...	...
Liddell street .....	...	..	..	...	..	...	..	...	1	...
Liddell terrace.....	2	..	1	...	..	..	..	1	...	...
Lochmaben terrace.....	1	...	..	...	..	..	..	..	..	..
Long row	1	..	1	...	5	..	3	...	1	...
Mill row .....	...	...	..	...	7	1	1	...	...	...
Millum place .....	...	..	1	..	1	...	..	..	..	..
Millum terrace	4	1	2	...	..	...	..	..	1	2
Millum terrace (Back)	2	..	..	...	..	...	..	..	..	..
Monk street	1	...	..	...	..	..	..	..	..	..
Mulgrave street .....	...	..	5	...	..	..	1	...	5	..
New Brandling street.....	4	..	1	...	5	1	...	..	..	..
Newcastle road .....	...	..	..	...	1	...	..	..	..	..
Normanby street.....	2	..	1	1	..	..	2	...	..	..
North Bridge street .....	...	..	2	...	..	...	..	..	..	..
North quay .....	...	..	1	...	1	...	..	..	..	..
Osborne street.....	2	1	3	...	1	..	..	..	..	..
Palmer's hill	1	...	..	...	..	..	..	..	..	..
Pilgrim street	1	..	1	...	1	...	..	..	1	...
Portobello lane	1	...	..	...	..	..	..	..	..	..
Rendlesham street .....	...	..	1	...	2	...	..	..	..	..
Richmond street.....	5	..	2	...	1	..	2	...	1	...
Richmond street (Back).....	...	..	1	...	..	..	..	..	..	..
Ripon street.....	2	1	...	1	...	..	2	...	1	...
Roker avenue	4	..	1	...	4	2	2	...	2	...
Ross street	4	...	6	...	3	...	2	...	1	...
Rothsay street.....	1	..	7	1	1	...	..	1	2	...
Sea View house	1	...	..	...	..	..	..	..	..	..
Sheepfolds	1	1	..	...	2	...	..	..	..	..
Society lane.....	...	..	1	...	..	..	1	...	..	..
Stobart street	2	...	6	...	1	..	..	..	1	...
Strand street	1	...	..	...	..	..	..	..	..	..
Thomas street North	1	..	1	1	2	..	..	..	1	...
Union place.....	1	...	..	...	..	..	..	..	..	..
Victoria cottages.....	...	..	1	...	..	..	..	..	..	2
Victoria terrace .....	...	..	1	...	..	..	..	..	..	1
Victor street.....	6	2	9	...	17	5	6	4	5	...
Wallace street.....	...	..	1	...	..	..	..	..	..	..
Warwick street .....	...	..	..	...	1	1	...	..	1	...
Waterloo place.....	1	..	1	...	..	..	..	..	..	..
Wayman street	1	..	3	...	3	...	..	..	..	..

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.		1897.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric.	Continued.
Whickham street	3	...	1	...	...	...	1	...	...	2
Whitburn street	15	1	1	1	1	...	2	...	...	...
Williamson street	2	...	...	...	1	...	...	...	...	...
Williamson terrace .....	...	...	...	...	1	...	...	...	...	...
Williamson terrace (Back).....	2	...	...	...	...	...	...	...	...	...
Wilson street	3	...	3	...	2	2	...	...	...	...
Wilson street (Back) .....	...	2	...	...	...	...	...	...	...	...
Workman's hall .....	...	...	...	...	1	...	...	...	...	...
Wreath quay road	3	...	2	...	1	...	...	...	...	...
Yorke street.....	...	...	...	...	1	...	...	...	...	...
Zetland street	3	...	6	...	4	1	1	...	...	...

TABLE VII.

Showing the STATE of VACCINATION in the entire Districts of the Sunderland Union for the Year ending December, 1897. and for the Ten preceding Years

(AS FURNISHED BY MR. A. S. FOX, VACCINATION OFFICER.)

Year.	Births Registered.	Total Vaccinated.		Postponed by Medical Authority.	Died previous to Vaccination.	Removal into other Unions.
		Succ.	Unsuc.			
1887	5475	4730	9	64	506	150
1888	5588	4821	5	56	480	220
1889	5895	4790	4	89	653	274
1890	6011	4989	12	100	645	247
1891	6118	5011	10	135	667	270
1892	6078	5052	11	134	598	258
1893	5910	4610	14	198	733	341
1894	5926	4483	11	146	651	455
1895	6099	4300	25	115	729	720
1896	6091	4500	23	180	762	602
Average for } 10 Years, } 1887-96. }	5919	4729	12	121	642	354
1897	6040	4302	20	210	728	707

TABLE VIII.

Showing the Deaths in each Week from 1882 to 1897.

WEEKS.	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897
1st	52	61	53	53	47	39	52	60	57	73	64	57	55	56	41	46
2nd	44	65	49	56	42	48	36	58	69	58	65	59	58	52	35	53
3rd	50	66	55	63	61	56	51	54	53	60	60	56	70	81	39	64
4th	62	71	45	66	49	55	51	52	48	56	47	50	43	34	44	54
5th	54	82	61	64	60	48	51	50	75	52	53	49	43	54	44	50
6th	55	62	46	78	54	42	44	46	66	47	53	55	56	45	65	58
7th	53	49	61	91	75	55	36	55	72	62	40	49	52	54	50	51
8th	51	69	47	71	54	40	60	57	68	71	50	50	56	58	48	58
9th	52	58	56	101	51	38	34	49	69	75	49	49	39	45	50	51
10th	57	67	61	116	73	66	44	55	64	56	66	41	56	73	47	41
11th	52	60	56	106	55	67	56	36	69	54	66	60	45	72	65	58
12th	57	67	47	97	48	82	49	74	47	54	50	44	60	80	50	59
13th	47	72	45	96	38	55	60	49	57	59	58	54	52	61	60	61
14th	54	48	52	69	49	63	38	47	64	64	52	51	49	68	49	50
15th	58	59	54	79	36	45	45	59	51	70	66	65	47	50	74	47
16th	53	51	51	75	41	66	41	44	54	61	61	44	51	64	59	58
17th	51	48	52	57	43	49	46	36	59	59	62	55	47	52	62	51
18th	66	59	58	52	51	51	40	51	70	62	72	51	45	41	59	51
19th	56	46	50	60	39	38	43	45	56	62	58	46	42	36	62	60
20th	54	49	39	58	41	37	43	51	75	67	54	51	35	42	62	40
21st	52	58	49	50	47	39	47	54	70	62	70	50	49	44	66	46
22nd	34	36	52	45	40	37	40	48	50	55	49	36	53	49	65	50
23rd	42	53	48	33	46	49	46	55	45	57	46	60	49	39	38	47
24th	55	61	53	42	29	29	49	54	51	45	49	49	41	30	56	52
25th	54	48	48	44	39	37	41	47	53	49	45	64	54	45	59	54
26th	30	47	55	45	36	32	34	65	45	51	57	47	47	56	51	48
27th	44	38	56	52	32	32	46	55	47	50	59	52	46	45	57	38
28th	51	225	43	44	41	43	48	78	52	44	45	58	55	48	60	66
29th	57	47	56	51	38	39	36	69	47	67	50	78	55	53	57	44
30th	66	43	57	46	49	36	40	72	52	50	58	65	56	59	57	53
31st	57	49	52	57	48	60	34	70	52	54	61	72	45	42	84	44
32nd	72	49	42	61	40	50	33	73	46	61	35	66	58	63	57	69
33rd	70	61	58	48	58	61	34	76	59	67	49	80	80	58	53	66
34th	63	37	64	55	45	44	33	60	64	67	42	72	68	70	65	85
35th	70	45	67	56	50	55	52	58	58	51	46	67	56	82	47	74
36th	69	65	66	40	66	48	39	53	65	65	55	78	52	107	46	61
37th	87	62	61	41	65	55	36	66	57	70	54	77	64	99	48	71
38th	65	54	61	48	68	56	55	65	72	83	52	69	40	87	33	57
39th	70	58	43	39	49	48	41	71	65	58	53	80	54	78	40	47
40th	73	53	71	46	54	56	43	66	67	65	54	61	51	76	55	58
41st	66	41	73	45	47	46	63	72	60	57	43	52	58	68	58	47
42nd	78	42	55	41	52	63	74	61	66	59	54	65	59	52	48	46
43rd	75	52	39	34	33	45	56	59	72	63	34	41	70	73	47	41
44th	65	43	49	36	38	51	53	59	46	72	48	56	62	59	44	41
45th	74	52	49	45	37	36	49	64	49	83	48	72	63	54	56	48
46th	77	47	55	45	47	44	54	69	57	80	41	52	60	53	54	58
47th	109	45	61	52	38	43	47	67	63	81	49	72	65	40	49	44
48th	59	56	60	44	54	43	44	78	43	98	45	63	59	48	44	48
49th	81	50	73	42	50	44	33	56	69	79	61	62	71	36	43	45
50th	63	48	52	45	45	57	41	74	61	77	69	49	59	39	41	69
51st	65	49	55	50	49	58	67	56	51	68	48	57	54	53	41	47
52nd	86	45	67	47	45	53	57	62	85	63	59	65	60	47	38	52
53rd .....	...	...	52	...	...	...	...	...	58	...	...	...	...	...	63	..

TABLE VIIIa.

Showing the Death-Rates in each Week from 1882 to 1897.

WEEKS.	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897
1st	23.5	27.0	22.7	22.5	19.7	16.3	21.2	24.3	22.9	28.6	25.1	22.1	21.1	21.2	15.5	16.8
2nd	19.9	28.2	21.0	23.8	17.7	19.9	14.8	23.6	27.7	23.0	25.5	22.8	22.2	19.7	13.0	19.4
3rd	22.6	28.6	23.6	26.7	25.4	23.1	20.8	22.0	21.5	23.7	23.6	21.7	26.8	30.7	14.5	23.5
4th	27.2	30.8	19.3	27.9	20.5	22.7	20.8	21.2	19.5	22.4	18.5	19.4	16.5	20.4	16.3	19.2
5th	23.7	35.5	26.1	27.1	25.1	19.9	20.8	20.4	29.9	20.7	20.8	19.0	16.5	20.4	16.3	18.3
6th	24.2	26.9	19.8	32.9	22.6	17.5	18.1	18.9	26.0	19.8	20.8	21.4	21.7	17.0	24.1	21.3
7th	23.5	21.3	26.1	37.9	31.2	22.7	14.9	22.3	28.7	24.7	15.7	19.0	20.2	20.4	18.5	18.7
8th	22.4	29.9	19.7	25.8	22.6	16.7	24.4	23.1	27.2	27.1	19.6	19.4	21.7	21.9	17.8	21.3
9th	22.9	25.2	24.0	42.5	21.4	15.9	14.1	20.0	27.6	29.6	19.2	19.0	15.1	17.0	18.5	18.7
10th	25.0	26.5	28.6	48.7	30.4	27.1	18.0	22.4	25.7	22.4	25.9	15.9	21.7	27.6	17.5	15.0
11th	22.9	25.6	25.2	44.3	23.0	27.5	22.8	15.0	27.6	21.7	25.9	23.3	17.5	27.2	24.2	21.3
12th	25.1	29.1	20.2	40.8	20.2	33.5	20.1	29.8	18.8	21.7	19.6	17.0	23.0	30.2	18.6	21.8
13th	20.7	31.2	19.3	40.4	16.1	22.7	24.4	20.1	23.0	23.6	22.8	21.0	19.9	23.0	22.3	22.4
14th	23.7	20.9	22.3	29.2	20.3	25.9	15.7	19.3	25.7	25.4	20.4	19.8	18.8	25.7	18.2	18.3
15th	25.5	25.6	23.1	33.3	15.2	18.7	18.4	23.9	20.3	27.7	25.9	25.2	18.0	18.9	27.5	17.2
16th	23.5	22.2	21.9	31.7	17.3	27.1	16.9	18.1	21.4	24.3	24.0	17.1	19.5	24.2	21.9	21.3
17th	22.4	20.9	22.3	34.2	18.1	20.4	18.9	15.0	23.7	23.6	24.4	21.4	18.0	19.6	23.0	18.7
18th	29.0	25.7	24.7	22.1	21.4	21.2	16.5	20.8	27.5	24.7	28.3	19.8	17.2	15.5	21.9	18.7
19th	24.6	19.3	21.5	25.5	16.5	16.0	17.7	18.5	22.6	24.7	22.8	17.9	16.1	13.6	23.0	22.0
20th	23.7	21.4	16.8	24.6	17.3	14.8	17.7	20.8	29.8	26.6	21.2	19.8	13.4	15.9	23.0	14.7
21st	22.9	25.2	21.0	21.1	19.8	16.4	19.3	22.0	27.9	23.3	27.5	19.4	18.8	16.6	24.5	16.8
22nd	15.0	15.8	22.3	19.2	16.9	15.6	16.5	19.7	20.3	21.8	19.2	14.0	20.3	18.5	24.2	18.3
23rd	18.5	23.1	20.6	14.2	19.4	20.4	18.9	22.4	18.4	22.6	18.0	23.3	18.8	14.7	14.1	17.2
24th	24.2	26.5	22.7	18.0	12.4	20.4	16.1	22.0	20.7	17.9	19.2	19.0	15.7	11.3	20.8	19.1
25th	23.7	20.9	20.6	18.8	16.5	15.6	16.9	19.3	21.5	19.4	17.7	24.8	20.6	17.0	21.9	19.8
26th	13.3	20.5	23.6	19.2	15.3	13.5	14.1	26.3	18.4	20.2	22.4	18.2	18.0	21.1	19.0	17.6
27th	19.8	16.9	24.0	22.1	13.6	13.5	18.9	22.4	19.2	19.8	23.2	20.2	17.6	17.0	21.2	13.9
28th	22.3	20.5	18.5	18.8	17.3	18.0	19.7	31.5	21.1	17.5	17.7	22.5	21.1	18.1	22.3	24.2
29th	24.6	20.5	24.1	21.7	16.1	16.4	14.9	27.8	19.2	22.6	19.6	30.3	21.1	20.0	21.5	16.1
30th	29.0	18.8	24.0	19.6	20.6	15.1	16.5	28.2	21.0	19.8	22.8	25.2	21.4	22.3	21.7	19.4
31st	25.0	17.6	22.3	24.2	20.2	24.8	14.1	29.8	21.1	21.4	23.9	27.9	17.6	15.8	31.2	16.1
32nd	31.6	21.3	18.1	25.9	16.5	20.8	13.7	29.3	18.5	24.2	13.7	25.7	22.2	23.8	21.2	25.3
33rd	30.8	26.6	24.8	20.5	24.3	25.2	14.1	30.5	23.7	26.6	19.2	31.0	30.6	21.9	19.7	24.2
34th	27.7	16.2	27.4	23.2	19.0	18.3	13.8	24.3	25.6	26.6	16.5	27.9	26.0	26.5	24.1	31.2
35th	30.8	19.6	28.6	23.8	21.0	22.8	21.0	23.5	23.4	20.2	18.0	26.0	21.4	31.0	17.5	27.2
36th	30.3	28.3	28.2	17.2	27.5	19.9	16.1	21.6	25.6	25.8	21.6	30.3	19.9	40.5	17.1	22.4
37th	40.1	27.0	26.1	17.6	27.1	22.8	14.9	26.7	23.0	27.8	21.2	29.9	24.5	37.4	17.8	26.1
38th	28.5	23.5	26.1	20.5	28.0	23.2	22.3	26.3	28.7	33.0	20.4	28.8	15.3	33.5	12.3	20.9
39th	30.7	25.2	18.5	16.7	20.6	19.9	16.9	28.6	25.6	23.0	20.8	31.0	20.6	29.1	14.8	17.3
40th	32.0	23.1	30.3	19.6	22.6	23.2	17.7	26.7	26.3	25.8	21.2	23.7	19.5	28.7	20.4	21.3
41st	28.9	17.9	31.2	19.2	19.8	19.1	25.6	29.0	24.1	22.6	16.9	20.2	22.2	25.7	21.5	17.3
42nd	34.2	18.4	23.6	17.6	21.4	26.0	29.9	24.7	26.0	23.4	21.2	25.2	22.6	19.7	17.8	16.9
43rd	32.9	22.7	16.8	14.7	14.0	18.9	22.9	23.9	28.7	25.0	13.4	15.9	26.8	27.6	17.4	15.1
44th	28.5	18.8	21.0	15.5	16.1	21.2	21.7	23.9	18.8	28.6	18.9	21.7	23.7	22.3	16.3	15.1
45th	32.5	22.7	21.0	19.2	15.7	15.2	20.1	25.9	19.9	33.0	18.8	27.9	24.1	20.4	20.7	17.6
46th	30.8	20.5	23.6	19.2	19.8	18.3	22.0	27.8	23.0	31.8	16.1	20.2	22.9	20.0	20.1	21.3
47th	47.9	19.6	26.1	22.1	16.1	18.9	19.3	27.4	25.2	32.2	19.2	27.9	24.9	15.1	18.2	16.2
48th	26.0	24.3	25.8	18.8	22.6	17.9	18.1	31.3	17.6	39.0	17.7	24.4	22.6	18.1	16.3	17.6
49th	35.6	21.8	31.2	18.0	21.0	19.3	27.1	22.8	27.6	31.4	24.0	24.0	27.2	13.9	15.9	16.5
50th	27.7	20.9	22.3	19.2	19.0	23.6	16.9	29.8	25.5	30.6	27.1	19.0	22.6	14.7	15.2	25.3
51st	28.6	21.3	23.6	21.3	20.6	24.0	27.2	22.8	20.3	27.0	18.8	22.1	20.6	20.0	15.2	17.3
52nd	37.7	19.6	28.6	20.1	19.0	22.0	23.2	25.1	33.1	25.0	23.2	25.2	22.9	17.6	14.1	19.1
53rd .....	...	...	22.3	...	...	...	...	...	23.4	...	...	...	...	...	23.0	...

N.B.--The rates from 1882 to 1890 have been corrected on populations based on the 1891 Census.

TABLE XX.

Meteorological Observations from January to March, 1897.

JANUARY.						FEBRUARY.						MARCH.					
Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.
		Highest	Lowest					Highest	Lowest					Highest	Lowest		
1	30.206	44.0	35.0	SW	.00	1	29.266	39.0	29.0	SSW	.00	1	29.151	47.0	36.0	SW	.60
2	30.365	39.0	30.0	SW	.00	2	29.266	40.0	36.0	SE	.02	2	29.483	43.0	33.0	SW	.20
3	30.108	40.0	30.0	SW	.00	3	29.676	39.0	32.0	ESE	.17	3	28.513	42.0	35.0	NW	.00
4	29.951	40.0	37.0	W	.08	4	29.780	38.0	35.0	ESE	.26	4	29.180	44.0	31.0	SSE	.15
5	29.715	42.0	33.0	SW	.04	5	29.584	39.0	34.0	SE	.37	5	28.935	42.0	33.0	SW	.02
6	29.732	44.0	39.0	E	.00	6	29.460	38.0	34.0	ENE	.10	6	29.622	42.0	34.0	W	.04
7	29.680	41.0	41.0	SW	.39	7	29.898	38.0	34.0	N	.00	7	30.025	43.0	37.0	ESE	.00
8	29.877	39.0	39.0	ESE	.03	8	30.134	43.0	28.0	SW	.15	8	30.046	44.0	28.0	E	.04
9	29.863	38.0	36.0	E	.10	9	29.642	50.0	38.0	SW	.00	9	29.917	44.0	34.0	S	.01
10	29.546	41.0	32.0	SE	.04	10	30.008	44.0	36.0	W	.00	10	29.725	48.0	37.0	SW	.00
11	29.677	41.0	37.0	SE	.00	11	30.035	39.0	36.0	N	.00	11	29.928	44.0	35.0	SW	.09
12	29.663	42.0	39.0	W	.06	12	30.123	42.0	38.0	NNW	.00	12	29.434	48.0	37.0	SE	.03
13	29.889	41.0	40.0	N	.05	13	29.858	47.0	43.0	SW	.04	13	29.429	42.0	35.0	SSE	.45
14	30.361	39.0	33.0	NW	.16	14	29.823	45.0	40.0	WNW	.13	14	29.486	42.0	37.0	ESE	.23
15	30.157	39.0	34.0	N	.10	15	29.273	44.0	39.0	N	.00	15	29.217	44.0	36.0	SE	.30
16	30.005	35.0	32.0	NW	.10	16	30.408	40.0	40.0	SW	.00	16	29.261	50.0	36.0	SE	.10
17	30.064	39.0	35.0	W	.05	17	30.332	39.0	36.0	W	.00	17	29.173	54.0	38.0	SW	.06
18	29.978	41.0	28.0	NW	.02	18	30.027	51.0	35.0	SSE	.00	18	29.160	61.0	41.0	W	.07
19	30.023	42.0	41.0	NE	.06	19	29.954	58.0	39.0	SW	.00	19	29.432	62.0	40.0	W	.00
20	30.248	41.0	32.0	NE	.08	20	29.954	45.0	45.0	W	.08	20	30.002	60.0	39.0	NW	.04
21	30.019	38.0	33.0	NW	.10	21	30.059	51.0	37.0	W	.00	21	29.955	58.0	41.0	W	.04
22	29.511	36.0	32.0	NNE	.03	22	30.330	59.0	43.0	WSW	.00	22	29.695	62.0	50.0	SSW	.15
23	29.938	37.0	22.0	NE	.00	23	30.429	58.0	40.0	SW	.00	23	29.625	62.0	45.0	W	.00
24	29.806	38.0	25.0	W	.02	24	30.382	58.0	38.0	S	.00	24	29.301	62.0	46.0	SW	.00
25	29.531	32.0	30.0	NW	.00	25	29.655	55.0	46.0	SW	.00	25	29.689	62.0	44.0	WSW	.02
26	29.384	36.0	28.0	WNW	.00	26	29.745	58.0	50.0	SW	.00	26	29.504	60.0	44.0	SSE	.13
27	29.779	38.0	32.0	NW	.00	27	30.180	52.0	35.0	WSW	.00	27	29.230	52.0	46.0	W	.27
28	29.960	37.0	32.0	NW	.00	28	29.883	47.0	30.0	S	.00	28	29.031	52.0	40.0	WNW	.20
29	29.886	37.0	—	WNW	.07							29	29.214	42.0	36.0	NW	.00
30	29.488	37.0	29.0	SW	.04							30	29.520	41.0	27.0	NW	.11
31	29.279	40.0	32.0	SSW	.00							31	29.224	40.0	33.0	NNE	.00

<p>Mean Height of Barometer in Month, 29.861. Adopted Mean Temperature, 35.6. Rainfall, 1.62 in.</p>	<p>Mean Height of Barometer in Month, 30.256. Adopted Mean Temperature, 41.8. Rainfall, 1.32 in.</p>	<p>Mean Height of Barometer in Month, 29.458. Adopted Mean Temperature, 43.5. Rainfall, 2.75 in.</p>
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Meteorological Observations from April to June, 1897.

APRIL.						MAY.						JUNE.					
Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.
		Highest	Lowest					Highest	Lowest					Highest	Lowest		
1	29.130	42.0	28.0	NW	.12	1	29.803	58.0	38.0	W	.00	1	29.978	56.0	46.0	NNE	.10
2	29.603	40.0	31.0	NW	.09	2	29.955	58.0	45.0	SW	.00	2	29.968	57.0	50.0	NE	.01
3	29.591	41.0	30.0	SE	.00	3	29.684	52.0	40.0	W	.00	3	30.149	51.0	47.0	NNE	.00
4	29.582	42.0	35.0	SE	.12	4	29.991	55.0	36.0	SW	.00	4	30.098	56.0	45.0	NNW	.00
5	30.001	44.0	32.0	E	.00	5	29.650	56.0	43.0	SW	.06	5	30.074	60.0	50.0	N	.00
6	29.697	44.0	41.0	SE	.07	6	29.856	52.0	38.0	NW	.00	6	30.027	56.0	50.0	E	.00
7	29.692	44.0	37.0	ESE	.00	7	29.946	56.0	47.0	NE	.02	7	30.125	56.0	45.0	N	.00
8	30.043	45.0	34.0	ENE	.00	8	29.967	60.0	44.0	SW	.00	8	30.054	51.0	45.0	SE	.00
9	29.865	51.0	33.0	S	.09	9	29.949	57.0	40.0	NW	.00	9	29.830	57.0	47.0	E	.00
10	30.065	49.0	35.0	NNW	.00	10	29.838	56.0	39.0	WNW	.05	10	30.063	67.0	48.0	E	.00
11	29.954	52.0	35.0	SSE	.04	11	29.742	48.0	38.0	NNW	.00	11	30.104	72.0	51.0	SW	.00
12	29.644	45.0	40.0	SSE	.03	12	30.041	46.0	35.0	NNW	.00	12	30.135	78.0	60.0	SW	.00
13	29.203	51.0	41.0	SE	.13	13	30.178	49.0	38.0	NW	.07	13	30.104	74.0	67.0	SSW	.00
14	29.322	50.0	43.0	W	.00	14	30.058	54.0	40.0	SW	.00	14	29.763	71.0	54.0	WSW	.03
15	29.886	53.0	35.0	WNW	.04	15	30.037	57.0	47.0	W	.00	15	30.053	62.0	49.0	W	.15
16	29.721	49.0	41.0	WSW	.24	16	30.467	55.0	40.0	SE	.00	16	29.217	56.0	50.0	SW	.06
17	29.684	49.0	36.0	SW	.12	17	30.503	54.0	39.0	N	.00	17	29.593	60.0	43.0	WNW	.10
18	29.801	52.0	39.0	NW	.00	18	30.314	47.0	43.0	NNE	.00	18	29.315	52.0	45.0	ESE	.81
19	29.777	51.0	39.0	W	.07	19	30.340	47.0	42.0	NNE	.00	19	29.898	54.0	42.0	NW	.52
20	29.490	47.0	40.0	NW	.00	20	30.029	51.0	42.0	NNE	.00	20	29.680	64.0	40.0	NNE	.14
21	29.774	47.0	41.0	ENE	.00	21	30.082	53.0	41.0	NNE	.00	21	29.804	71.0	47.0	WSW	.00
22	30.147	47.0	45.0	ENE	.00	22	29.947	48.0	39.0	NE	.00	22	30.056	72.0	55.0	SW	.00
23	30.164	45.0	36.0	NE	.00	23	29.877	50.0	42.0	N	.00	23	29.971	80.0	56.0	SE	.35
24	30.051	48.0	44.0	NE	.00	24	29.946	47.0	46.0	N	.06	24	29.919	53.0	50.0	N	.03
25	29.911	48.0	41.0	ENE	.00	25	29.537	51.0	40.0	SSE	.11	25	30.050	60.0	48.0	NE	.00
26	29.902	47.0	41.0	ENE	.00	26	29.421	57.0	44.0	SSE	.00	26	30.004	67.0	50.0	SSW	.00
27	29.932	52.0	43.0	NNW	.12	27	29.416	52.0	47.0	NW	.00	27	30.035	58.0	49.0	S	.06
28	29.934	59.0	43.0	S	.00	28	29.344	57.0	45.0	NNE	.17	28	29.939	60.0	52.0	ENE	.00
29	29.872	62.0	43.0	SSW	.18	29	29.336	62.0	45.0	SW	.51	29	29.900	58.0	52.0	NW	.15
30	29.611	55.0	45.0	SW	.00	30	29.612	65.0	47.0	S	.17	30	29.960	63.0	54.0	SE	.00
						31	29.841	63.0	47.0	SSW	.00						

Mean Height of Barometer in
Month, 29.768.
Adopted Mean Temperature, 43.3.
Rainfall, 1.46 in.

Mean Height of Barometer in
Month, 29.700.
Adopted Mean Temperature, 47.9.
Rainfall, 1.22 in.

Mean Height of Barometer in
Month, 29.929.
Adopted Mean Temperature, 55.6.
Rainfall, 2.51 in.

TABLE XX.—CONTINUED.

Meteorological Observations from July to September, 1897.

JULY.						AUGUST.						SEPTEMBER.					
Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.
		Highest	Lowest					Highest	Lowest					Highest	Lowest		
1	30·029	64·0	52·0	NNW	·00	1	30·110	64·0	47·0	E	·00	1	29·442	62·0	52·0	SW	·58
2	30·076	74·0	54·0	SW	·00	2	30·048	66·0	47·0	E	·00	2	29·130	55·0	54·0	WNW	·35
3	29·779	62·0	55·0	WNW	·00	3	30·169	71·0	52·0	SW	·00	3	29·602	54·0	46·0	WNW	·26
4	29·783	64·0	50·0	WNW	·14	4	30·070	69·0	57·0	SE	·00	4	29·604	56·0	40·0	WNW	·49
5	29·679	65·0	51·0	SW	·00	5	29·783	72·0	57·0	SE	·33	5	29·584	60·0	43·0	SSE	·07
6	29·445	62·0	52·0	WSW	·00	6	29·605	75·0	58·0	SSW	·00	6	29·488	61·0	45·0	WNW	·08
7	29·525	60·0	46·0	WSW	·09	7	29·684	71·0	59·0	W	·22	7	29·983	54·0	42·0	NW	·00
8	29·769	63·0	44·0	WSW	·00	8	29·632	65·0	54·0	SE	·00	8	29·877	55·0	43·0	NE	·00
9	29·687	67·0	51·0	WNW	·00	9	29·657	65·0	54·0	NW	·00	9	30·059	54·0	39·0	N	·00
10	30·121	60·0	48·0	NW	·00	10	29·849	69·0	53·0	WNW	·27	10	30·579	54·0	39·0	S	·00
11	30·498	61·0	47·0	SE	·00	11	29·704	74·0	58·0	SSW	·13	11	30·467	55·0	40·0	NW	·00
12	30·250	59·0	50·0	SE	·00	12	29·817	66·0	54·0	W	·03	12	30·376	65·0	40·0	W	·03
13	29·258	60·0	50·0	NE	·00	13	29·866	69·0	53·0	SSE	·21	13	20·441	62·0	54·0	NNW	·00
14	30·062	58·0	49·0	NE	·00	14	29·737	68·0	51·0	S	·05	14	30·453	66·0	54·0	NNE	·06
15	29·944	65·0	49·0	NNW	·00	15	29·721	68·0	53·0	W	·21	15	30·329	62·0	54·0	NW	·00
16	30·060	59·0	52·0	NW	·00	16	29·721	69·0	52·0	WSW	·12	16	30·025	60·0	47·0	NW	·03
17	30·874	58·0	51·0	N	·00	17	29·426	69·0	53·0	SW	·00	17	29·560	57·0	47·0	NW	·00
18	29·997	62·0	56·0	NNE	·00	18	29·519	65·0	52·0	WSW	·00	18	29·583	53·0	41·0	N	·09
19	29·769	62·0	49·0	NNW	·00	19	29·596	66·0	50·0	W		19	29·743	53·0	43·0	NW	·01
20	29·539	57·0	53·0	N	·75	20	29·381	68·0	52·0	SSW	·88	20	29·850	59·0	43·5	NW	·01
21	29·575	59·0	53·0	NW	·04	21	29·276	64·0	54·0	SW		21	29·471	61·0	49·0	NW	·00
22	29·836	65·0	54·0	NW	·00	22	29·365	66·0	49·0	W		22	29·702	61·0	48·0	W	·00
23	29·951	73·0	53·0	WNW	·00	23	29·517	64·0	54·0	WSW		23	29·543	64·0	47·0	SW	·00
24	30·066	72·0	59·0	SW	·00	24	29·584	60·0	50·0	SE	·66	24	29·507	64·0	47·0	SW	·03
25	29·683	71·0	57·0	W	·18	25	29·672	63·0	55·0	ENE	·00	25	29·958	62·0	45·0	WSW	·00
26	29·562	69·0	53·0	W	·00	26	29·698	62·0	53·0	ESE	·29	26	29·793	64·0	44·0	SW	·00
27	29·701	69·0	53·0	W	·00	27	29·674	69·0	52·0	WSW	·00	27	30·1·6	62·0	44·0	WSW	·00
28	29·879	69·0	52·0	NW	·05	28	29·760	69·0	52·0	SW	·00	28	29·968	59·0	49·0	SW	·10
29	30·070	74·0	57·0	WNW	·00	29	29·672	65·0	49·0	SSW	·06	29	29·836	60·0	54·0	SSE	·26
30	30·224	75·0	56·0	NW	·00	30	29·431	65·0	55·0	SW	·14	30	29·672	57·0	42·0	WNW	·00
31	30·212	62·0	57·0	NNE	·00	31	29·407	64·0	53·0	WSW	·00						

Mean Height of Barometer in
Month, 29·874.
Adopted Mean Temperature, 58·2.
Rainfall, 1·25 in.

Mean Height of Barometer in
Month, 29·134.
Adopted Mean Temperature, 59·6.
Rainfall, 3·60 in.
(4 days not recorded.)

Mean Height of Barometer in
Month, 29·322.
Adopted Mean Temperature, 52·4.
Rainfall, 2·45 in.

TABLE XX.—CONTINUED.

Meteorological Observations from October to December, 1897.

OCTOBER.						NOVEMBER.						DECEMBER.					
Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.
		Highest	Lowest					Highest	Lowest					Highest	Lowest		
1	29.944	57.0	45.0	NNW	.00	1	30.370	50.0	45.0	SE	.00	1	29.329	42.0	33.0	NW	.09
2	30.082	56.0	49.0	NE	.27	2	30.392	50.0	44.0	SE	.00	2	30.135	44.0	35.0	NE	.13
3	30.116	59.0	46.0	WNW	.02	3	30.312	49.0	46.0	SE	.00	3	30.242	40.0	33.0	NW	.09
4	30.400	53.0	44.0	NNW	.01	4	30.248	49.0	46.5	SE	.00	4	29.988	39.0	35.0	SW	.00
5	30.385	52.0	44.0	SW	.00	5	30.240	48.0	46.0	NNE	.03	5	30.007	41.0		S	.10
6	30.355	52.0	44.0	S	.05	6	30.352	49.5	44.0	NE	.00	6	29.726	42.0	35.0	S	.00
7	30.244	53.0	47.0	SW	.00	7	30.250	50.0	46.0	SE	.05	7	29.710	54.0	38.0	SW	.05
8	29.998	54.0	47.0	SW	.01	8	30.118	52.0	48.0	SE	.04	8	29.021	44.0	36.0	SW	.05
9	30.000	57.0	42.0	NW	.02	9	30.283	52.0	49.0	SE	.00	9	29.870	45.0	35.0	W	.00
10	29.758	57.0	47.0	SW	.00	10	30.231	52.0	43.0	SSE	.00	10	29.332	41.0	36.0	W	.33
11	30.185	56.0	46.0	NW	.00	11	30.095	53.0	38.0	S	.00	11	29.088	44.0	35.0	WNW	.00
12	29.802	47.0	36.0	W	.00	12	29.528	58.0	42.0	S	.00	12	29.604	40.0	34.0	WSW	.00
13	29.758	47.0	32.0	NW	.00	13	29.442	58.0	48.0	S	.15	13	29.474	51.0	31.5	SE	.17
14	29.710	51.0	30.0	SW	.54	14	29.5 2	54.0	48.0	SW	.71	14	29.253	46.5	35.0	SW	.00
15	29.429	58.0	37.0	SE	.29	15	30.005	38.0	31.8	NW	.02	15	29.203	50.0	39.0	SSE	.12
16	29.323	61.0	50.0	WSW	.00	16	30.322	54.0	28.0	SW	.03	16	29.504	56.0	39.0	SW	.01
17	29.703	65.0	51.0	SSW	.00	17	29.792	56.5	36.0	SW	.06	17	29.872	52.0	49.0	SW	.00
18	29.787	62.0	53.5	SW	.00	18	29.896	51.0	48.5	W	.00	18	30.205	49.0	48.0	WNW	.00
19	30.124	61.0	50.0	SW	.00	19	30.203	53.0	48.0	W	.00	19	30.461	46.0	31.0	NW	.00
20	30.417	62.0	48.0	NW	.00	20	30.484	55.0	50.0	W	.00	20	30.433	44.0	32.0	ESE	.00
21	30.497	63.5	44.0	SW	.00	21	30.521	53.0	41.0	SW	.00	21	30.554	43.0	34.0	SE	.00
22	30.532	53.0	42.0	SW	.00	22	30.536	53.0	42.0	WSW	.00	22	30.616	36.0	31.0	WSW	.00
23	30.334	52.5	45.0	E	.00	23	30.403	51.0	43.0	W	.02	23	30.455	37.0	28.0	W	.00
24	30.269	52.0	49.0	SE	.00	24	30.486	44.0	42.0	SE	.18	24	30.349	54.0	29.0	SSW	.00
25	30.294	52.0	49.0	SE	.00	25	30.290	44.0	41.0	SE	.05	25	30.170	42.0	26.0	W	.00
26	30.135	62.0	37.0	SW	.00	26	30.214	50.0	37.0	SSW	.07	26	30.148	54.0	34.0	SW	.00
27	30.286	50.0	42.0	S	.00	27	29.801	50.0	42.0	SW	.00	27	29.548	54.0	33.5	SW	.00
28	30.171	63.0	45.0	SSW	.00	28	29.199	46.0	39.0	W	.46	28	29.562	47.0	42.0	S	.07
29	30.033	59.0	41.0	SSW	.00	29	29.357	46.0	33.0	NNW	.02	29	29.125	54.0	38.0	SW	.05
30	29.992	64.0	45.0	SE	.00	30	29.223	47.0	32.0	W	.00	30	28.815	48.0	47.0	SW	.01
31	30.447	54.0	46.0	NNW	.00							31	28.861	48.0	40.0	SW	.00

Mean Height of Barometer in
Month, 30.081.
Adopted Mean Temperature, 50.2.
Rainfall, 1.21 in.

Mean Height of Barometer in
Month, 30.071.
Adopted Mean Temperature, 46.8.
Rainfall, 1.89 in.

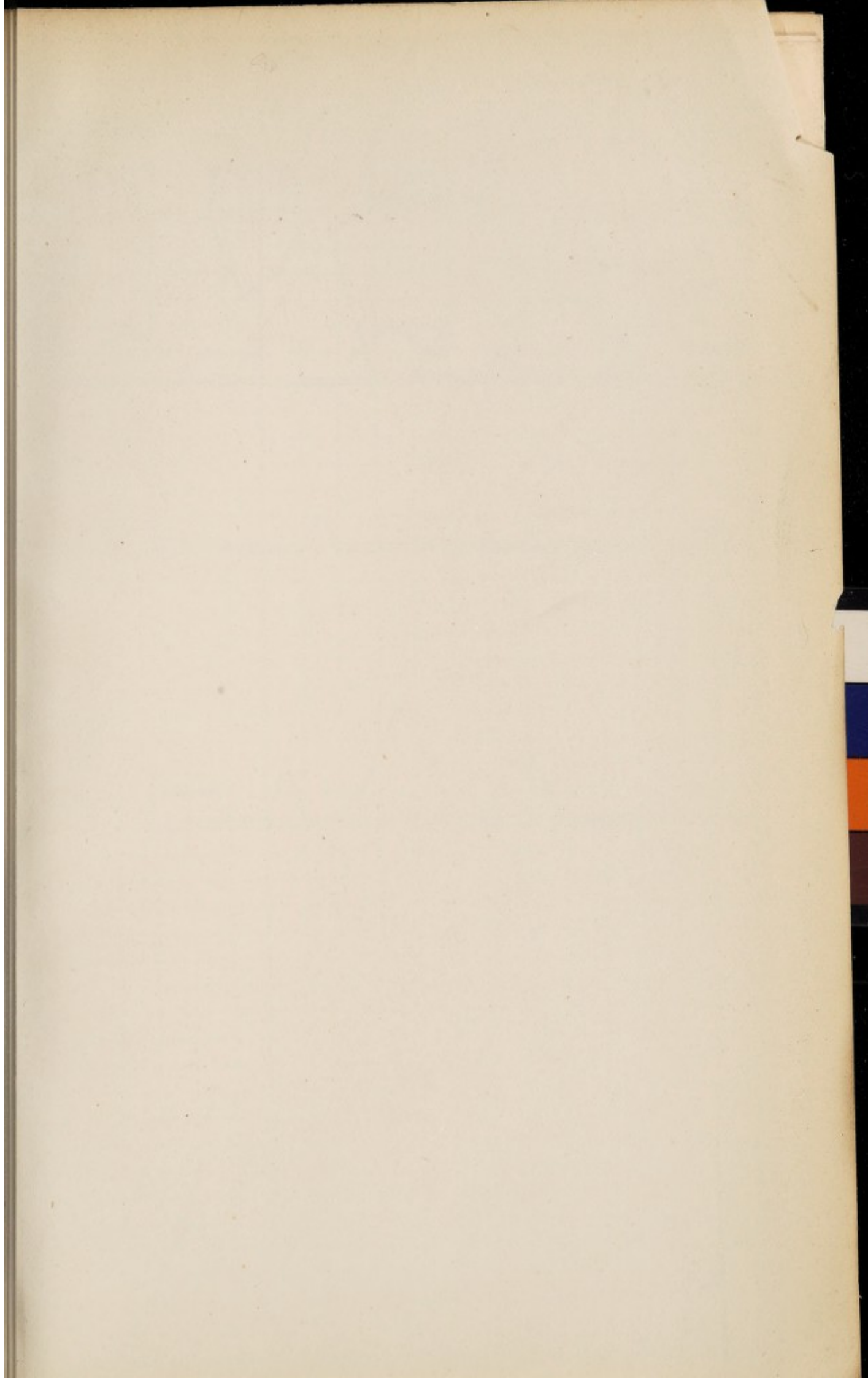
Mean Height of Barometer in
Month, 29.763.
Adopted Mean Temperature, 40.3.
Rainfall, 1.27 in.

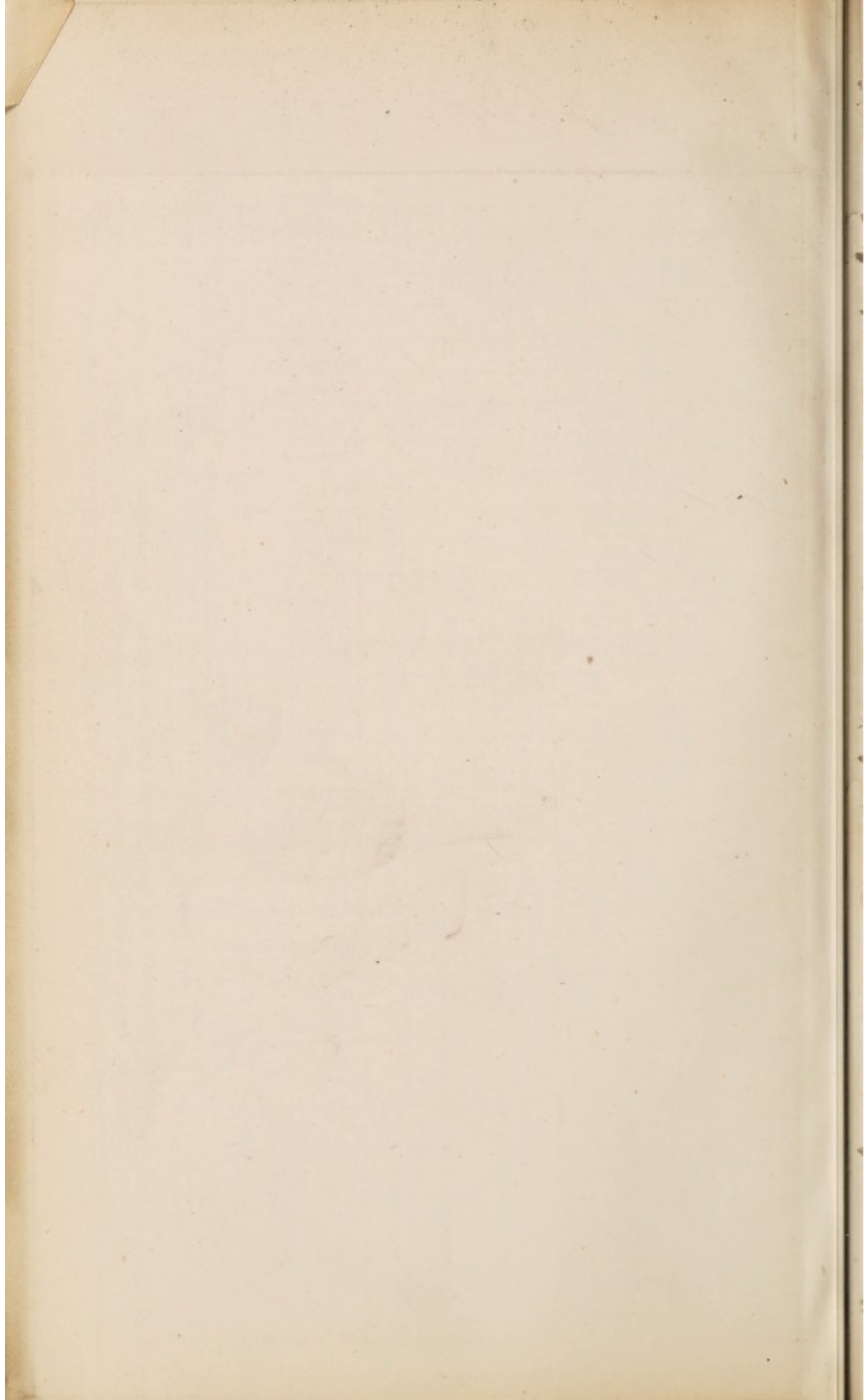
Rainfall for the year = 22.55. (4 days not recorded.)

(A) TABLE OF DEATHS DURING THE YEAR 1897, IN THE URBAN SANITARY DISTRICT OF SUNDERLAND, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

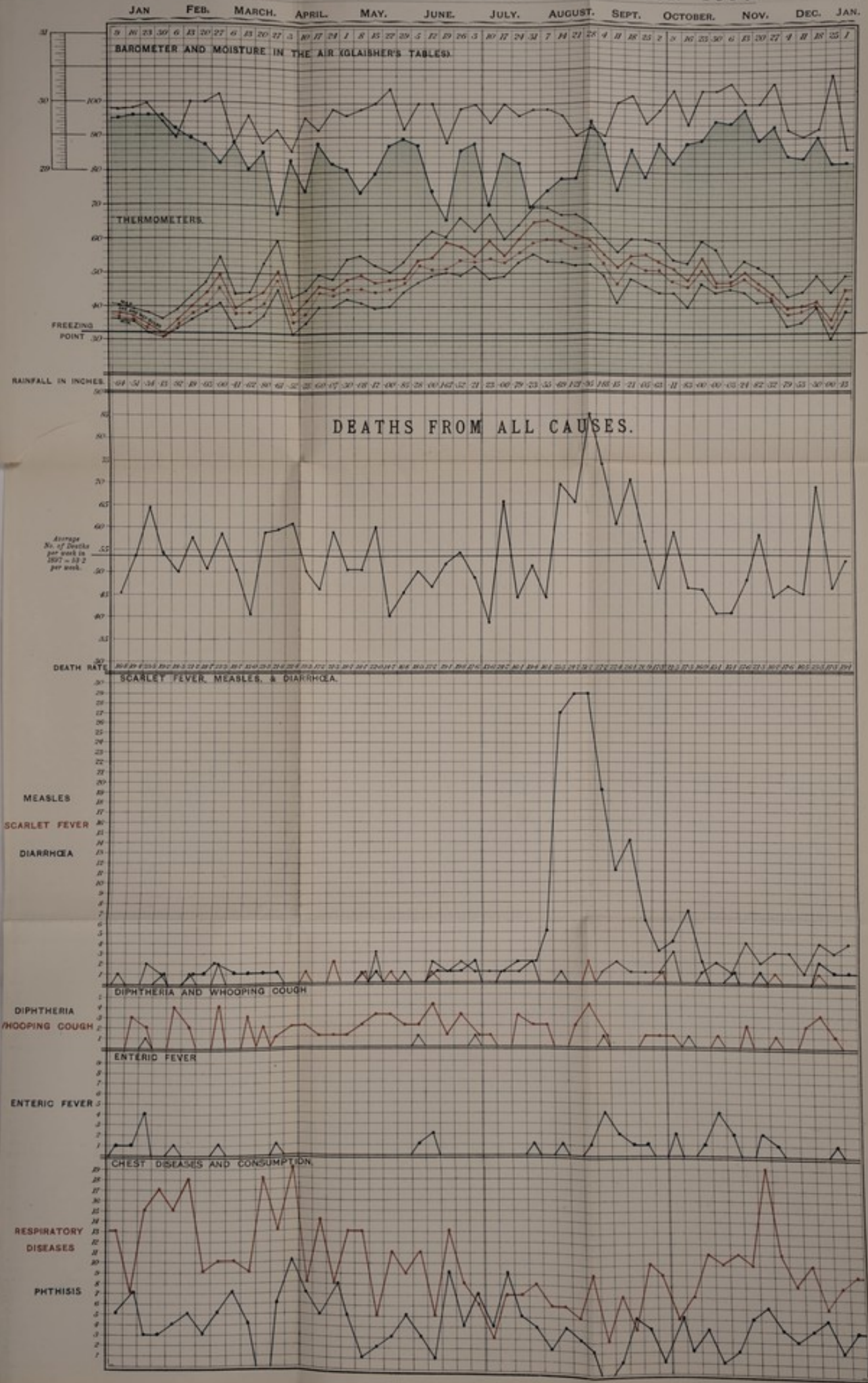
NAMES OF LOCALITIES adopted for the purpose of these Statistics, public institutions being shown as separate localities.	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES.						(g)	(h)	MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.													Totals										
	(b)	(c)	(d)	(e)	(f)	(g)			(h)	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	17	18	19	20	21	22
Sunderland	418	110	60	17	14	149	68	Under 5 5 upwds	1	1	1	1	1	1	1	1	1	1	3	9	25	..	..	1	37	..	9	4	876	170
Bishopwearmouth N.	930	285	151	37	49	269	139	Under 5 5 upwds	4	2	..	..	..	..	..	..	..	..	..	32	62	..	..	7	79	..	16	8	130	436
Bishopwearmouth S.	806	231	91	33	32	266	153	Under 5 5 upwds	1	2	..	..	..	..	..	..	..	..	..	10	55	..	..	1	58	1	20	6	158	322
Monkwearmouth	623	196	104	30	26	169	98	Under 5 5 upwds	2	1	..	..	..	..	..	..	..	..	..	15	26	1	3	60	3	16	16	1	159	300
Boro' Sanatorium	18	..	1	3	6	8	..	Under 5 5 upwds	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1
The Infirmary	80	7	13	4	38	5	5	Under 5 5 upwds	1	1	1	17	
Eye Infirmary	1	1	Under 5 5 upwds	1
Monkwearmouth and Southwick Dispensary	20	1	1	2	2	10	4	Under 5 5 upwds	2
Workhouse Hospitals	197	13	3	2	7	88	84	Under 5 5 upwds	5	5	18
Boro' Asylum, Ryhope	31	25	6	Under 5 5 upwds	1	1	16
Totals	2777	822	406	117	121	852	459	Under 5 5 upwds	6	5	..	..	..	..	..	..	..	..	..	58	66	168	..	10	234	4	61	19	595	1228
Deaths occurring outside the district among persons belonging thereto.	2	2	Under 5 5 upwds	2
Deaths occurring within the district among persons not belonging thereto.	15	..	1	3	10	1	1	Under 5 5 upwds	..	..	..	..	..	..	..	..	..	..	..	4	10	14	6	208	259	25	11	52	714	1549

N. B.—The Deaths in the Public Institutions have been distributed to the districts to which they belong.





COUNTY BOROUGH OF SUNDERLAND. METEOROLOGICAL AND DISEASE CHART FOR 1897.



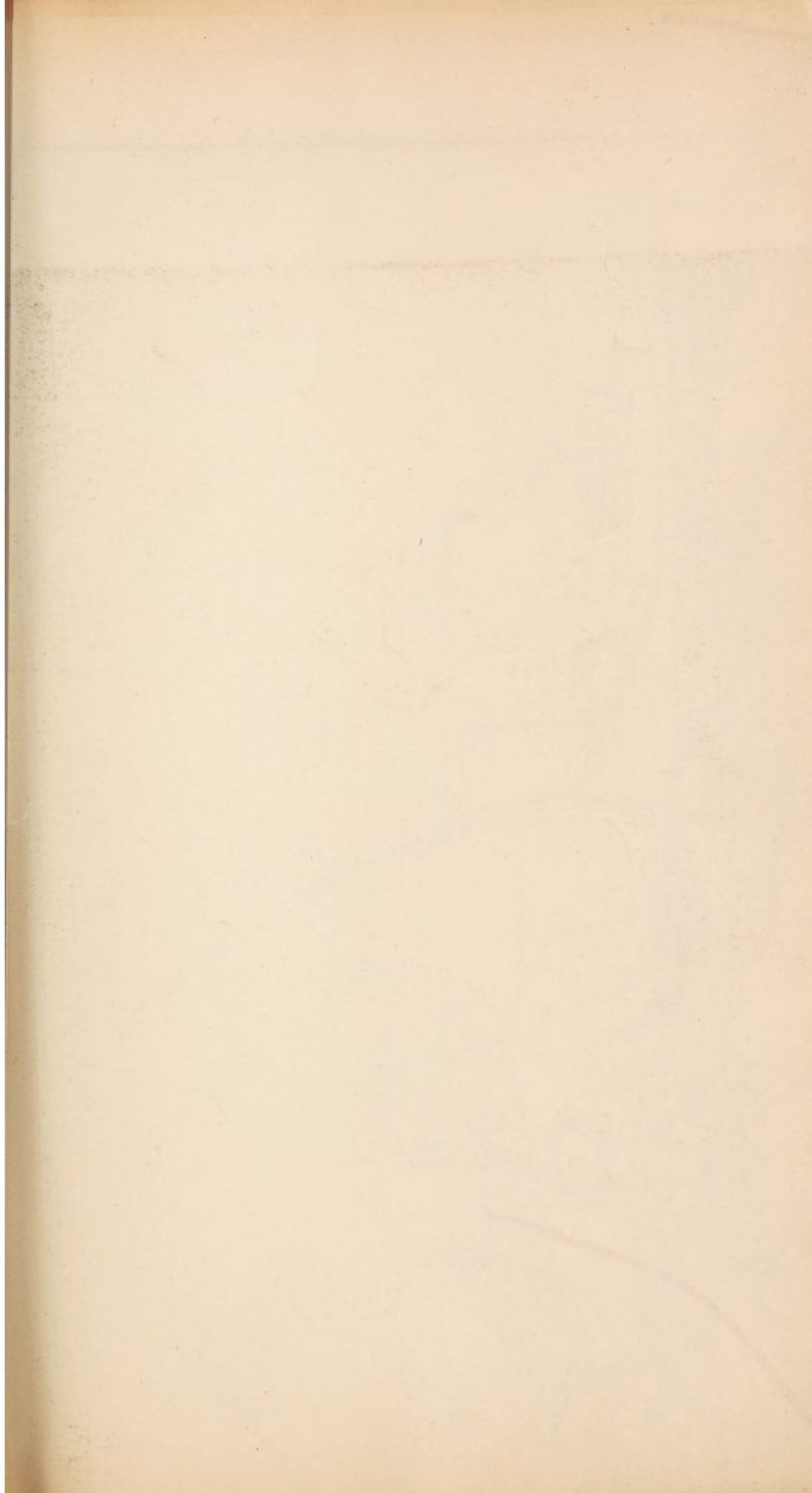
METEOROLOGY

JAN FEB MAR

STATION: ...
PERIOD: ...



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PLAN OF THE BOROUGH OF SUNDERLAND

Shewing the deaths from Diarrhoea and Consumption, and cases of Enteric and Continued Fevers notified during the years 1896 and 1897.

	ESTIMATED POPULATION.
Sunderland Sub-district	14,043
Bishopwearmouth, North District	45,324
Do. South District	51,544
Monkwearmouth District	31,196
Whole Borough	142,107

Cases of Enteric and Continued Fevers in RED.
Deaths from Diarrhoea in GREEN.
Deaths from Consumption in YELLOW.

