

[Report 1898] / Medical Officer of Health, Leeds Borough.

Contributors

Leeds (England). City Council.

Publication/Creation

1898

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ROYAL SANITARY INSTITUTE
23 OCT. 99

ANNUAL REPORT

MADE TO THE

URBAN SANITARY AUTHORITY

OF THE

BOROUGH OF LEEDS,

FOR THE YEAR

1898,

AND PARTLY FOR 1899.

BY

J. SPOTTISWOODE CAMERON,

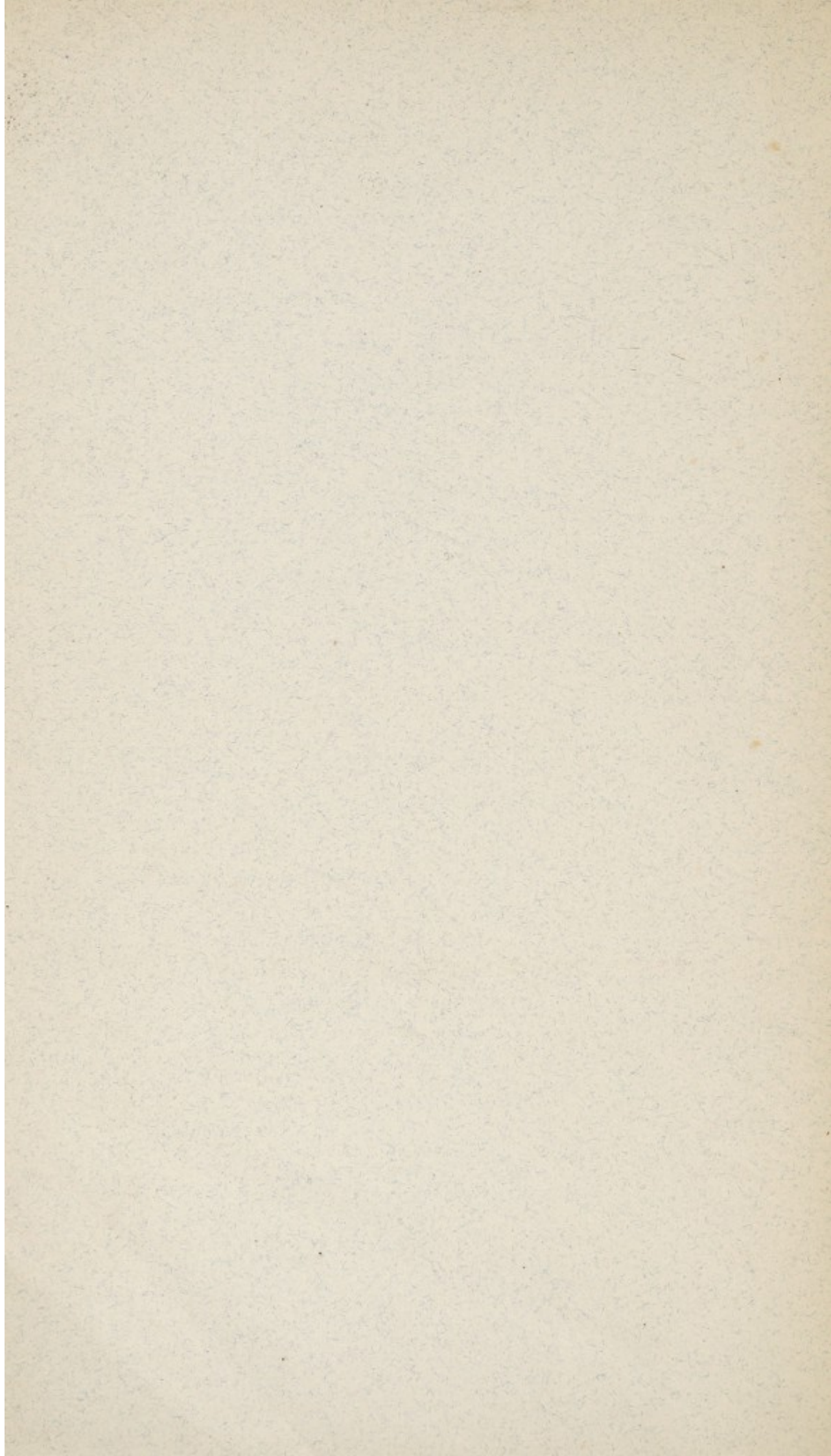
M.D., B.Sc., &c.,

Medical Officer of Health to the Borough.

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1899.

SANITARY COMMITTEE,

1897-8.

<i>Lord Mayor</i>	-	-	CHARLES FRANCIS TETLEY.
<i>Chairman</i>	-	-	COUNCILLOR WOMERSLEY.
<i>Deputy-Chairman</i>	-	-	ALDERMAN WALKER.
Alderman HARDING.			Councillor HEALD.
„ LOE.			„ KNOWLES.
„ LUPTON.			„ LEUTY.
„ WARD.			„ RATCLIFFE.
Councillor AMBLER.			„ SCHOLEFIELD.
„ BETTISON.			„ J. SIMPSON.
„ CLARKE.			„ SMITH.
„ GORDON.			„ VICKERS.
„ HANNAM.			„ WORMALD.
„ HAWKYARD.			

1898-9.

<i>Lord Mayor</i>	-	-	THOMAS WALTER HARDING.
<i>Chairman</i>	-	-	COUNCILLOR WOMERSLEY.
<i>Deputy-Chairman</i>	-	-	COUNCILLOR J. SIMPSON.
Alderman KNOWLES.			Councillor HEALD.
„ LOE.			„ LAWSON.
„ LUPTON.			„ LEUTY.
„ WALKER.			„ PEATE.
„ WURTZBURG.			„ F. J. PICKERSGILL.
Councillor AMBLER.			„ RATCLIFFE.
„ BETTISON.			„ SMITH.
„ CLARKE.			„ VICKERS.
„ FLOCKTON.			„ WORMALD.
„ HAWKYARD.			

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ANNUAL REPORT, 1898.

MUNICIPAL BUILDINGS,

LEEDS, FEB. 7TH, 1899.

To the Chairman of the Sanitary Committee.

SIR,

PART I.—GENERAL.

Two new buildings specially mark the sanitary progress in Leeds during the year 1898:—The new Sanitary Dépôt, erected on the south side of the river, and the new Scarlet Fever Pavilions erected as the first portion of our new permanent fever hospital at Manston Hall. Less noticeable, perhaps, in a town where new buildings are rising so rapidly, are the houses erected for the working classes at the Ivy House Estate in connection with the York Street improvement scheme, and the houses at Derwent Avenue, in connection with that of Camp Field.

While these buildings tell a tale to the eye, there has been much other, though less conspicuous, work done in the matter of the unhealthy areas of the City, which will tell its own tale in the health of the town hereafter.

The Sanitary Dépôt.—The Council on the 1st of July, 1896, authorised the purchase of a large plot of ground on the river side, nearly opposite the old Crown Point Dépôt, but slightly further up-stream, and adjacent to the wharfage of the Aire and Calder Canal Company. The ground, which covers a little more than two acres, has had stabling erected upon it for 169 horses, with ample granary and fodder storage, separate stalls for sick horses, accommodation for the ambulances and disinfecting vans, a caretaker's house, smith's forge, offices for Superintendent and his clerical staff, for the foremen and

timekeeper, and a waiting room for the workmen, all conveniently planned, and yet leaving ample space for carts, water barrels, brushes, and the other contents of a sanitary yard.

Manston Hospital.—The hospital extension is only a part of the intended scheme, but affords accommodation for 66 adult patients suffering from ordinary infectious diseases, and for 30 cases of small-pox, in addition to the existing accommodation in the wooden building for 28 small-pox patients at Manston and the old general Fever Hospital at Beckett Street, which has been for years back overcrowded. The laundry, disinfection, and kitchen apparatus have been planned for a larger hospital, and, since the opening of the new wards, the Council has resolved to extend the buildings at Manston Hall so as to furnish accommodation for 400 adult patients and the necessary staff. As this could only be done at all satisfactorily on the Manston estate by the removal of the small-pox hospital, the Council has determined to purchase 144 acres of the adjacent Killingbeck estate for the purpose of erecting a small-pox hospital at such a distance from the fever wards at Manston Hall as to satisfy the requirements of the Local Government Board, and they have consulted Mr. E. T. Hall as to the best way of laying out the two estates.

Unhealthy Areas.—During the year the Unhealthy Areas Sub-Committee has been actively pushing forward the purchase of the property in the York Street Area, a great part of which has already come into the hands of the Corporation, and agreements as to the whole of which it is expected will be concluded before the end of the financial year. After an enquiry (March 24th, 1897), the Council obtained the sanction of the Local Government Board to their providing a part of the accommodation for the population to be displaced from the Eastern portion of the area (which is

to be dealt with first), upon land in the neighbourhood of the East End Park. This land, purchased by the Sanitary Committee from the Corporate Property Committee for the purpose, has been sold to builders on condition that they erect workmen's dwellings upon plans approved by the Sanitary Authority and the Local Government Board. Several of the dwellings already completed are occupied, and others are now in course of erection.

In Camp Field the property required for the improvement was purchased by agreement, with the exception of four lots, the price for which was settled by the Arbitrator under the second part of the Act. The ten cottages which it was necessary to build to satisfy the conditions imposed by the Local Government Board are being erected on the site approved by that Board, off Bath Street, Holbeck. They are through cottages, and as they are being built by the Corporation themselves, the experiment of adopting Dr. Quine's ashbin has been tried.

Just before the close of the year a commencement of the improvement was made in the southern portion of the Camp Field area, and this work is progressing steadily. It is not intended to deal with the northern portion until Spring.

The Holbeck area, between Sweet Street, Meadow Road, Jack Lane, and Marshall Street, Holbeck, has been for some years receiving attention from the Sanitary Committee. Along with Mr. Carter, of the Engineer's Department, I was requested to suggest a scheme of dealing with this area. The mortality in this area was not so high as in either York Street or Camp Field, and our recommendations took the form rather of occasional demolitions than of any very drastic measure. The scheme itself will be more conveniently referred to in another part of the report. The general scheme, however, is now in the hands of the Insanitary Area Sub-Committee, who have

appointed a "section" specially to deal with this area. Already the Council have sanctioned a purchase of certain buildings as obstructive, the removal of which will let in a certain amount of light and air. The section are in treaty with certain other owners, the removal of whose property will let light and air into some of the dark places of the ward.

Disease prevalences.—At the beginning of the year 1898, Diphtheria was still somewhat prevalent in the western part of the Leeds Township and in the adjacent portion of Headingley, but after the closing of the schools and the advent of the cooler weather the outbreak became less marked. The prevalence of measles also lessened at the beginning of the year, and the cases notified as infectious, which had been 1,407 in the fourth quarter of 1897, fell to 918 in the first quarter of 1898.

As the year advanced, however, the last-named disease again asserted itself in the death returns, although on the whole the mortality from all causes tended again to the average. Midsummer was on the whole a healthy period in Leeds, the death-rate for the last four weeks of June and the first four of July keeping below the average. About the end of this period, however, summer diarrhoea became somewhat common, and the dry autumn, with the high temperature accompanying the drought, especially in the latter part of the third quarter, was attended by a heavy mortality from this cause, and was followed, towards the end of the third and during the earlier part of the fourth quarter, by a somewhat larger amount of "fever" than we are accustomed to, or at all like.

Throughout the whole year scarlet fever, though never present in an epidemic form, had been so far prevalent that our available beds at Beckett Street were continually occupied, and as typhoid asserted itself before scarlet fever had to any great degree abated, we were during the whole of the time

exceedingly pressed for accommodation. The opening of the new wards at Manston Hall, in October, along with a diminution in the number of reported cases of these two diseases, enabled us to cope in a more nearly adequate manner with these diseases, but, unfortunately, the number of cases of diphtheria reported increased in a rapid ratio. It was therefore deemed advisable towards the end of the year to make temporary provision for a few cases of this disease.

Statistical.—The death-rate in Leeds, during the fifty-two weeks ended December 31st, 1898, was at the rate, for the calendar year, of 19·3 deaths for each thousand of the estimated population.

This death-rate of 19·3 corresponds to the average rate of the four preceding years, 1894-7. During the six years preceding them the death-rate averaged 21·7, the ten years 1888-97, having had an average death-rate of 20·8.

The 12,971 births registered during the same fifty-two weeks correspond to a rate of 31·2 births registered per annum per 1,000 persons living.

The birth-rate during 1897 had been 31·6, during 1896 30·8, and, during 1895, 31·7 per 1,000 of the estimated population.

The rate had been 32·3 and 32·4 in 1894 and 1893, 33·5 and 34·1 in 1892 and 1891, and 33·4 in 1890. The average for the five years, 1890-94, was 33·1, and for the three years, 1895-6-7, 31·4.

It may be well, however, to treat of the health conditions obtaining in different parts of the year rather more in detail, and for this purpose to say a few words about the several quarters.

QUARTERS OF 1898.

First quarter of 1898.—During the first quarter the DEATH-RATE in Leeds, which had been during the third and fourth quarters of 1897, 22·0 and 21·0 respectively, fell to a rate of 19·4 per 1,000 per annum. The death-rate from the seven common zymotic diseases, which had been 6·6 in the third, and 2·7 in the fourth quarter of 1897, was 2·3.

The BIRTH-RATE, which had been 31·0 and 30·7 in the two preceding quarters, was 30·5.

The death-rate in the THIRTY-THREE GREAT TOWNS was 20·6 from all causes, and 2·38 from the seven diseases. The birth-rate was 31·3.

MEASLES, which had been somewhat prevalent, especially in the North and West, and to a lesser extent in the South-east and Kirkstall Registration districts, and which had caused a death-rate of 0·81 in the fourth quarter of 1897, still continued to figure in our mortality returns, causing a rate during the first quarter of 1898 of 0·56—deaths having occurred in the North, West, and South-East districts, also in Hunslet, Holbeck, and Wortley, though none were recorded in Kirkstall.

SCARLATINA caused the same death-rate, 0·34, as in the preceding quarter, though 580 cases of this disease were reported in the 13 weeks, as against 612 in the fourth quarter of 1897. Of the 580 patients, 109 were removed to hospital.*

One hundred and fourteen cases of DIPHTHERIA and 12 of membranous croup were reported during the quarter, against 62 and 15 in that which preceded it. The deaths from these two diseases combined were 40, as against 32, the corresponding rates per 1,000, calculated upon the population for the middle of the respective years, being 0·31 in the 1897, 0·39 in the 1898 quarter. Forty-seven of the 126 cases had been

* In addition to 4 heard of at the end of 1897, hospitalized in the first quarter of 1898.

reported in the West Registration district, 17 in that of Kirkstall—the adjacent parts of the West and Headingley Wards having suffered most severely, in the former less, in the latter more so than in the preceding quarter.

Of TYPHOID fever, 81 cases were reported, as against 211 in the fourth quarter of 1897, and the deaths were 17, as against 41—being 0·16 and 0·40 per 1,000 of the population per annum respectively. One death was due to SMALL-POX, ten to DIARRHŒA.

Compared with the corresponding (*i.e.*, the first) quarter of 1897, the BAROMETER stood rather higher. The mean TEMPERATURE of the air was higher, and the MOISTURE in the air was also, but only slightly, greater. The mean, both of the highest and of the lowest readings, was higher in the first quarter of 1898 than in that of 1897, notwithstanding which the mean DIURNAL RANGE was about half a degree greater. The RAIN which fell during the 13 weeks measured 2·83 inches, as against 7·67 in the first quarter of 1897.

As compared, therefore, with the corresponding quarter of the previous year, the first quarter of 1898 was a little warmer, the air a little clearer, and the rainfall much less. The death-rate in these two quarters did not differ very greatly. It had been 20·1 in the first quarter of 1897, and was 19·4 in the first quarter of 1898. The births registered, however, had been proportionately more numerous in the earlier year.

Comparing these quarters as to diseases, there were 58 deaths from measles in the first quarter of 1898, as against 34 in the first quarter of 1897; 35 from scarlet fever, as against 31; 40 from diphtheria and membranous croup, as against 19; 77 from whooping cough, as against 18; 18 from fever, as against 13; and 10 from diarrhœa, as against 5,—the rate from the seven diseases had been 2·3 in the 1898, as against 1·2 in the first quarter of 1897.

Second quarter of 1898.—During the second quarter of 1898 the mortality still further fell to 18·9 per 1,000, of which 2·0 was due to the seven zymotic diseases. The death-rate in the thirty-three large towns during the same period was 17·1. Our birth-rate was 31·8, that of the large towns 30·0.

The deaths from MEASLES rose from 58 in the first to 77 in the second quarter. This figure corresponds to a death-rate of 0·74 per 1,000 per annum. In each of the three Leeds Registration districts the deaths from this cause were less numerous than in the previous quarter. The deaths, however, in Hunslet, Holbeck, and still more so in Wortley had increased, and deaths occurred in Kirkstall, Bramley, and Chapeltown.

From SCARLET FEVER the deaths were 34, against 35 in the preceding quarter, the death-rate being 0·33 per 1,000 per annum. There were 521 cases of this disease reported to us during the quarter, against 580 in the earlier quarter of the year. Of the 521, 143 were taken to hospital, and two others heard of in the first quarter.

The West and the Kirkstall divisions of the town furnished a considerable number of cases of DIPHTHERIA and MEMBRANOUS CROUP. This disease group was fatal in 26 cases, as against 40 in the previous quarter. Of these 26, 1 death occurred in the North, 11 in the West, 1 in the South-East Registration district, 1 in Hunslet, 2 in Holbeck, 8 in Wortley, 1 in Bramley, and 1 in the Infirmary, brought there from Hunslet. The West and the Wortley districts had the largest number of cases. The cases notified in the Registration districts were 2 in the North, 43 in the West, 3 in the South-East, 3 in Hunslet, 4 in Holbeck, 15 in Wortley, 8 in Kirkstall, 1 in Bramley, and 1 in Chapeltown—80 in all, including 1 case returned as membranous croup. Of the 43 in the West Registration districts, 38 were in the West Ward, and of the 15 in the Wortley Registration district, 9 were in New Wortley Ward, and 6 in the Armley and Wortley Wards.

TYPHOID FEVER was reported in 45 instances:—8 of the patients were taken to hospital, 37 were not. The deaths during the quarter from enteric fever were 9, and 1 death was attributed to continued fever.

DIARRHŒA caused 8 deaths, SMALL-POX one.

As compared with the corresponding quarter of the previous year, measles, scarlet fever, diphtheria, and whooping cough were all more fatal during the second quarter of 1898.

The BAROMETER had nearly the same average as in the second quarter of 1897. The mean TEMPERATURE was about half a degree less in the 1898 quarter, and the HUMIDITY 68·90 per cent. of saturation, as against 66·23. The means of the HIGHEST READINGS of the thermometer were about $\frac{3}{4}$ of a degree below those of the corresponding quarter of 1897 whilst those of the LOWEST READINGS were about $\frac{1}{2}$ a degree higher. The DAILY RANGE ($14^{\circ}08'$) of the thermometer averaged less than in the corresponding quarter of 1897 ($15^{\circ}27'$). The RAINFALL was 7·05 inches, against 5·68 in 1897.

As compared, therefore, with the corresponding quarter of the previous year, the temperature was, on the whole, more equable, a little moister, and there was more rain.

As compared with the preceding quarter of the same year, the barometer was a little lower, the temperature, as might be expected, somewhat higher, and, although the rainfall was a good deal more than double, the humidity was very much less. The diathermancy of the atmosphere, as measured by the daily range of the thermometer, was much greater.

The increased mortality from MEASLES during this quarter perhaps calls for remark. The excess was greatest in the month of April. During the four weeks of this month there were respectively 12, 13, 12, and 7 deaths attributed to measles—

the numbers in the five weeks of March having been respectively 6, 6, 7, 3, and 4. The humidity, which in the earlier seven weeks of the first quarter only once fell below 80 per cent. of saturation, had fallen in the eighth week to 77*. During the four earlier weeks of March it did not rise above 75. In the week ending April 2nd (the fifth week of March) it was 76, but fell in the following week to 68. It was 72 in the second, 67 in the third week of the second quarter, when it rose to 83.

The rainfall, in the five weeks of March and the first of April had averaged only a fifth of an inch per week. Rather more than $1\frac{1}{2}$ inches fell during the second week of April, but only the twenty-fifth of an inch in the following week, although the fall increased to nearly an inch the week after. In the three weeks last named, the wind had chiefly an easterly direction. It came round to the west again in May, during which month the average rainfall was nearly half an inch per week, the humidity keeping about 70 per cent.

These conditions of dryness, with considerable daily change of temperature, are frequently associated in my experience with a high mortality from measles. It will be noted that the dry months of March and April had the higher measles mortality, and that April showers were followed by a lowered death-rate from this disease.

The mortality already given of 18.9 for the City was higher than that of the corresponding period of the preceding year, when it had been 16.8. The deaths from measles, scarlet fever, diphtheria, and whooping cough had all been more numerous than in the second quarter of 1897. Fever

* The corrected humidity, for Leeds, in Mr. Glaisher's report to the Registrar-General, is given as 73 in the second quarter, both of 1897 and 1898. In the 1897 quarter it was 76 in April, 68 in May, 76 in June; in the later 1898 quarter, 77 in April, 73 in May, and 70 in June. The moisture in the air in the second quarter of 1898 was thus decreasing month to month.

and diarrhœa caused 10 and 8 deaths respectively, against 12 from each in 1897. The seven common zymotic diseases accounted for 207 deaths in 1898, against 90 in 1897. Deaths from diseases of the respiratory system (as is usual when measles is about), and from phthisis, as well as those from diseases of the circulation were more numerous. Violent deaths and inquest cases were less so.

The number of visits paid by the dispensary officers to home patients was 334 more than in the second quarter of 1897. The cases admitted to our own hospitals were 172, against 161.

Third quarter of 1898.—Although the mortality as a whole was not excessive in this quarter, that from zymotic disease was high. The death-rate for the quarter from all causes was 20·6, and the birth-rate 31·5. The death-rate in the thirty-three great towns had been 20·3, and the birth-rate 30·4, the former less than our own by 0·3, the latter by 1·1 per 1,000.

The Registrar-General credited us only with 5·43 deaths from the common zymotic diseases, though we took credit ourselves for a larger number. In comparing ourselves with other towns, however, it is convenient to take his estimate of 5·43. The rate for the 33 large towns was 4·94, or 0·49 deaths per 1,000 living against us. Our rate was thus 10 per cent. in excess of that of the 33 towns.

The increase of mortality was chiefly due, as is usual in the third quarter, to deaths from diarrhœa. The Registrar-General credits us with 421 such, although we have entered 430 in our own returns. This 421 is equivalent to 4·05* per 1,000 of the population against 3·85 in the 33 great towns. Of this I shall have more to say later in this report.

* Registrar-General's figures in his quarterly report. Our own calculation for his figures is 4·06, but in comparing with other published returns we accept his figures.

As compared with the corresponding quarter of the preceding year the deaths in Leeds had been slightly more numerous from measles (26 against 23), from scarlet fever (25 against 14), from diphtheria and croup (59 against 9), from whooping cough (21 against 17), and from continued fever (13 against 18), but less from diarrhœa (430 against 591).

The total of 574 from the seven diseases was below the 672 of the previous year, chiefly from the smaller number of diarrhœa deaths this year. The inclusion of the first three weeks of October might have altered the figures, as diarrhœa appeared later than usual and lasted to a later period.

As it may be necessary to say something about the meteorology of the third and fourth quarters in connection with the subjects of diarrhœa and typhoid, I shall deal with them only very briefly here. The BAROMETRIC PRESSURE had averaged 29.73 in. (uncorrected) in the second quarter, and was 29.91 in the third. This was a trifle higher than the average of the third quarter of 1897 (29.75).

The TEMPERATURE of the air averaged 64.34° F., about 9 degrees higher than in the preceding quarter of the same year, and rather less than a degree higher than in the third quarter of 1897. The HUMIDITY was 66.4 per cent. of saturation. It had been 68.9 in the second quarter, or nearly two-and-a-half degrees higher. In the third quarter of 1897 the humidity was 64.92 per cent., or one-and-a-half lower than in 1898. The highest means of the HIGHEST READINGS of the thermometer were chiefly observed in August and the middle of September, and the DAILY RANGE (14.84°) was about three-quarters of a degree above that (14.08°) in the second quarter, and nearly a degree below that (15.82°) of the third quarter of 1897.

As compared, therefore, with the second quarter of the same year the temperature was higher—as was to be

expected—and the humidity perceptibly lower, and the range of temperature slightly greater. The rainfall (4·19) also was less by nearly three inches than in the second quarter (7·05).

As compared with the corresponding quarter of the previous year the average temperature was only slightly higher, the humidity was also higher, and the diurnal range a little less, while the rainfall was nearly an inch-and-a-half less. With these conditions the wonder is that our diarrhœa death-rate was lower than in the corresponding quarter of the previous year.

The whole death-rate in Leeds had been 20·6, as against 22·0 in the third quarter of 1897. The birth-rate had been 31·5, as against 31·0. Our deaths from lung diseases, other than consumption, had been 1·9.

Fourth quarter of 1898.—The death-rate of the fourth quarter fell to 18 per 1,000—a fraction under that of the 33 large towns—although the birth-rate in Leeds, 31·2, was again 1·5 above that of the great towns. The Leeds death-rate in this quarter had been 21 in 1897, 19·3 in 1896, 19·0 in 1895, so that the year compared well with those immediately preceding it. The deaths from the seven zymotic diseases were 290, against 278 in 1897, 128 in 1896, and 262 in 1895.

From MEASLES the deaths registered were 27 in the 13 weeks concluding 1898. They had been 83 in the fourth quarter of 1897, 31 and 32 respectively in 1896 and 1895. Towards the end of the year, however, measles shewed itself, especially in Bramley, and the School Board thought it advisable to close their school there for a fortnight from November 11th, six weeks before the commencement of the Christmas holidays.

The mortality from SCARLET FEVER in the fourth quarter amounted also to 27, against 35, 30, and 22 in the three previous years. In the third quarter of 1898 the deaths from this disease had been 25. The number of cases of this disease reported in the 13 weeks was 410, of which 138 were taken to hospital, 272 remained at home. This was a diminution of cases upon the number of the previous quarter (491). The notifications from this disease in the second and first quarters had been 521 and 580 respectively. There was thus shewn a tendency to abatement on the part of this disease towards the end of the year, but of this more afterwards. Scarlet fever became somewhat prevalent in Stanningley towards the end of the quarter.

DIPHTHERIA, however, was fatal in 104 cases in the fourth quarter of 1898, against 32, 10, and 15 in the fourth quarters of the three preceding years. The notifications of this disease rose to 514.* Seventeen patients* were admitted to hospital, 497 not. The notifications (including those from membranous croup) had been 172 in the third quarter, 80 in the second, and 126 in the first. In the preceding year, 1897, still going backwards, the notifications had been 77, 27, 46, and 60 respectively.

ENTERIC FEVER was credited with 54 deaths; and 1 death in the week ended December 17th was classed to other or doubtful fever.† The deaths in the third quarter had been 12 from enteric, and 1 from other or doubtful fever (hyperpyrexia). The deaths had been more numerous in the earlier part of the fourth quarter. During the third, of the 12 deaths ascribed to enteric fever, 7 had occurred in the 4 weeks ending October 1st. In the first week of the fourth quarter there were 8 deaths, followed in the next 5 weeks by 2, 8, 4, 5, and 9 respectively. In the week ended November 19th there were 5 deaths from this cause, followed in successive weeks by 1, 3, 3, 1, 1, and 4 respectively.

* Including a nurse at Manston Hall (outside the city).

† The medical attendant, on enquiry, described the case as one of simple continued fever.

In 1897 the deaths from enteric fever in the fourth quarter had been 41, and in the third 17, and there had been in each of these quarters a death recorded from other continued fever.

In the third quarter of 1898, the cases reported as typhoid fever had been 119, 28 of them having been taken to hospital, 91 left at home. In the fourth quarter the cases reported were 294, of whom 69 had been taken to hospital, 225 left at home. The rate in city of reported cases during the fourth quarter was 2·83 per 1,000 of the estimated population, per annum. This rate was exceeded in Kirkstall (3·01), in West Leeds (3·04), in Wortley (3·15), and in Hunslet (3·53). Some further information will be given under the head of special diseases.

In the fourth quarter the BAROMETRIC PRESSURE averaged (uncorrected) 29·67 inches, against 29·91 in the third quarter of the current, and 29·88 in the fourth quarter of the preceding year. The average TEMPERATURE of the air was 49·11°, nearly two degrees higher than in the fourth quarter of 1897, and fifteen-and-a-quarter degrees lower than in the third quarter of the current year. The HUMIDITY (83·90) was 1 per cent. higher than in the fourth quarter of 1897, and seventeen-and-a-half per cent. greater than in the third quarter. It averaged more than eighty per cent. of saturation in eleven out of the thirteen weeks, the two drier weeks having been the last in October and the first in November. The DAILY RANGE of the thermometer (9·25°) was three-quarters of a degree greater than in the fourth quarter of 1897, and five-and-a-half degrees less than in the third quarter of 1898.

As compared, therefore, with the preceding year, the temperature had been a little higher, the humidity a little greater, notwithstanding which, and an increased rainfall, the diathermancy of the atmosphere had slightly increased. The

rain, which amounted to 7·47 inches, had been nearly an inch-and-a-half more than the amount registered in the thirteen concluding weeks of 1897. The third week of the quarter had had more than two inches of rain, the fourth nearly an inch, the eighth just over an inch, and the thirteenth an inch-and-a-third. In the preceding year, while the earlier weeks of the quarter had had less rain, this was chiefly owing to the absence of the heavy showers which occurred in 1898, no single week in 1897 having had an inch-and-a-half of rain, although the three earlier and consecutive weeks of December had averaged more than an inch each.

As compared with the third quarter of the same year, the temperature was lower, the humidity greater, the diathermancy less, and there had been three-and-a-quarter inches more rain. As already said, this had come down rather heavily in certain weeks.

COMPARATIVE MORTALITY.

With previous years.—The death-rate of 19·26 is calculated on the deaths in Leeds, inclusive of those dying in institutions. Although, as already stated, nearly the same as the rate of the four preceding years, it was 0·51 per 1,000 less than the average rate of the three years 1895-7. It was 1·85 below that of the five years 1890-94, and 1·90 less than that of the five years 1885-89.

As compared with the three immediately preceding years, our mortality was 0·57 higher from the seven zymotic diseases, but it was 0·11 lower from consumption. It was 0·66 lower from bronchial affections and pneumonia, although slightly higher from the small group of other lung diseases.

As compared with the earliest period given in table 1, it will be seen that while the death-rate for the seven zymotic diseases was in 1898 above that of the earlier period, the rates were less from consumption by 0·31, from bronchial affections by 0·87, and from other lung disorders by 0·05.

TABLE 1.

Annual deaths per 1,000 of the estimated population.

	All causes.	Seven zymotics.	Consumption.	Bronchitis, pneumonia, pleurisy.	Other lung diseases, without influenza.
Five years, 1885-89 ... (261 weeks)	21·16	2·78	1·70	3·93	0·27
Five years, 1890-94 ... (261 weeks)	21·11	2·51	1·61	4·42	0·31
Three years, 1895-97 ... (157 weeks)	19·77	2·57	1·50	3·72	0·21
Year 1898 (52 weeks)	19·26	3·14	1·39	3·06	0·22
1898 increase on '95-7	...	0·57	...	...	0·01
„ decrease „ '95-7	0·51	...	0·11	0·66	...
1898 increase on '85-9	...	0·36	...	...	...
„ decrease on '85-9	1·90	...	0·31	0·87	0·05

NOTE.—The seven zymotics in this table do not include membranous croup. Deaths from this disease have been included in those from diphtheria by the Registrar-General for England since 1894 inclusive, and are so included in Table F of these reports since 1895 inclusive.

With other towns.—In comparing ourselves with the great towns it is convenient to take the Registrar-General's death-rate. He excludes from the deaths in Leeds the deaths in the Workhouses of certain paupers belonging to outlying townships. Our death-rate of 19·26 includes the deaths of these paupers.

Excluding these deaths our rate for the year is 19·2, that of the THIRTY-THREE GREAT TOWNS was 19·1. The Leeds rate was 1·2 below that of the great towns in the first quarter. It was 1·8 above their rate in the second quarter, 0·2 higher in the third, and 0·1 lower in the fourth quarter of the year.

The BIRTH-RATE in Leeds, on the other hand, was 0·9 per 1,000 higher than that of the large towns, and the natural increase of population 0·8 per 1,000 greater, the natural increase of population by excess of births from deaths.

TABLE 2.

Shewing the death-rates in the nine largest towns or the United Kingdom for the 52 weeks of 1898, and each of the 13 week periods.

		First quarter of 1898.	Second quarter of 1898.	Third quarter of 1898.	Fourth quarter of 1898.	52 Weeks.
London	-	21·7	16·4	19·4	17·2	18·7
<i>Leeds</i>	-	19·2	18·9	20·6	18·0	19·2
Edinburgh	-	20·3	19·7	18·7	20·0	19·7
Birmingham	-	21·9	17·7	21·1	19·3	20·0
Sheffield	-	19·8	18·0	23·8	19·4	20·3
Glasgow	-	22·7	22·6	19·9	19·7	21·2
Manchester	-	21·2	20·0	24·1	22·3	21·9
Liverpool	-	23·5	23·0	26·3	23·1	24·0
Dublin	-	32·4	23·5	24·3	26·8	26·8

If instead of comparing ourselves, however, with the thirty-three large English towns, many of which are comparatively small, we take, as we have frequently done, the NINE LARGE CITIES of the United Kingdom, it will be found that Leeds

stands second on the list. London had a rate of 18·7, Leeds of 19·2, Edinburgh of 19·7, Birmingham and Sheffield of 20·0 and 20·3 respectively, Glasgow and Manchester of 21·2 and 21·9, Liverpool and Dublin of 24·0 and 26·8. The rates of the several quarters of the year are given in the accompanying table, and will be found to correspond to those in the quarterly reports of the Registrar-General for England and Wales.

AGE MORTALITY, BIRTH-RATE, &C.

Birth-rate.—Estimated upon the population assigned to us by the Registrar-General, Leeds had a birth-rate, as already said, of 31·2. This is calculated on the supposition that our population was 416,618, and that there are 52·17747 weeks in a year, the number of births (12·971) registered in the 52 weeks ended Saturday, December 31st, being increased proportionately for the purposes of the calculation. The birth-rate of the several quarters has been already mentioned, it was lowest in the first, and highest in the second quarter.

Deaths, all ages.—The rate of 19·26, calculated in the same manner upon the 7,996 deaths registered in the 52 weeks includes, as already said, those of non-municipal paupers. The rates in the several quarters have been already referred to.

Other age groups.—While we naturally accept the Geometrically increased population of the Registrar-General (although it is perhaps below the actual population of the city), there is considerable doubt as to the population at different ages. While, therefore, I print the rates at these ages, they may be useful for comparing the mortality at the several age groups in different portions of the same year with one another, and with the year as a whole, but they must not be regarded as having any claim to accuracy. When the results of the next census are published the rates can be re-calculated from the figures in table 3, till which time the rates in table 4 should be received with a few grains of salt.

TABLE 2a.

Shewing the death-rates in the Nine Largest Towns of the United Kingdom, for the four years 1890-93, with the average of the same. (Registrar-General's Figures.)

	Year 1890.	Year 1891.	Year 1892.	Year 1893.	Average of four years.
Edinburgh - -	20·0	21·6	19·4	19·7	20·2
London - -	20·3	21·4	20·6	21·3	20·9
Birmingham -	20·7	22·2	20·4	22·0	21·3
Leeds - -	22·6	22·9	19·8	22·3	21·9
Sheffield - -	24·9	23·9	20·8	22·3	23·0
Glasgow - -	25·3	25·3	22·7	23·4	24·2
Dublin - -	26·4	26·5	24·7	27·0	26·1
Manchester - -	30·6	26·5	23·8	24·9	26·4
Liverpool - -	23·6	27·0	29·3	27·4	26·8

TABLE 2b.

Shewing the death-rates in the Nine Largest Towns of the United Kingdom, for the four years 1894-97, with the average of the same.

	Year 1894.	Year 1895.	Year 1896.	Year 1897.	Average of four years.
London - -	17·8	19·8	18·6	18·2	18·6
Edinburgh - -	17·5	20·7	16·9	21·3	19·1
Leeds - -	17·9	20·5	18·8	19·9	19·3
Sheffield - -	17·8	20·5	19·3	21·2	19·7
Birmingham -	18·6	20·3	20·8	21·6	20·3
Glasgow - -	19·8	23·5	20·4	22·0	21·4
Manchester - -	20·4	25·2	22·6	23·1	22·8
Liverpool - -	23·9	28·8	22·7	24·4	24·9
Dublin - -	24·8	27·9	24·9	29·0	26·6

The corresponding table for the year 1898 and its several quarters is found at page 18 in the text.

TABLE 3.

Births and deaths registered in the City of Leeds in the periods of 13 weeks ended April 2nd, July 2nd, October 1st, and December 31st, 1898. Deaths in age groups.

1	2	3	4	5	6	7	8	9
1898. Estimated population at these ages.	Regis- tered Births.	At all Ages.	Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwards.
		416,618	11,831	40,307	92,867	85,685	163,386	22,542
I. Quarter	3,165	2,014	458	384	92	82	516	482
II. Quarter	3,298	1,967	463	348	98	90	549	419
III. Quarter	3,271	2,143	934	263	93	63	419	371
IV. Quarter	3,237	1,872	517	298	116	84	480	377
52 weeks. . .	12,971	7,996	2,372	1,293	399	319	1,964	1,649

TABLE 4.

DEATHS PER ANNUM PER 1,000 LIVING.										
1	2	3	4	5	6	7	8	9	10	11
1898.	Birth- rate.	At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 60.	60 and upwds.	25 to 65	Over 65
I. Quarter	30.5	19.4	155	38.2	4.0	3.8	12.7	85.8	14.6	113.7
II. Quarter	31.8	18.9	157	34.6	4.2	4.2	13.5	74.6	15.5	92.6
III. Quarter	31.5	20.6	317	26.2	4.0	3.0	10.3	66.1	11.6	89.8
IV. Quarter	31.2	18.0	175	29.7	5.0	3.9	11.8	67.1	13.2	88.9
52 weeks . .	31.2	19.3	201	32.2	4.3	3.7	12.1	73.4	13.8	96.2

Children under one.—Table 5, however, has a value apart from any census return, as in that table the deaths are compared with the births.

TABLE 5.

Mortality in Children under one year of age, during the 52 weeks of 1898.

	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	YEAR.
Calculated per 1,000 of the population under 1, estimated to the middle of 1898, on the supposition that the whole population of the city had increased at G.P. at the rate of 1.745 per cent. per annum, which was the rate of increase per annum between 1881 and 1891, and that the children bear the same proportion to the population as in 1891	155	157	317	175	201
Deaths under 1 per 1,000 births registered in same period	145	140	286	160	183
Deaths per 1,000 registered births, the latter averaged during each quarter and the four quarters preceding it, and the average of these for the year ...	142	143	286	158	182
Average rate by last method for five preceding years ...	157	160	222	167	177

PART II.—SPECIAL DISEASES.**TUBERCULOSIS.**

In previous reports I have given the first place, amongst the special diseases to which I have drawn attention, to the subject of tuberculosis. This has been done on the general principle that the disease is the most fatal of any single disease on which I have had to report. I have also wished to emphasise, by position, that it is regarded as one over which the Sanitary authority must ultimately have a large control.

During 1898 the deaths from this cause were at the rate of 2·14 per 1,000 of the population. The rate had been 2·29 in 1897, 2·14 in 1896, 2·35 in 1895. In these 4 years it averaged, therefore, 2·26 per 1,000, against an average of 2·39 in the 5 years which preceded. In these 5 years the tuberculous deaths formed 11·3 per cent. of the total mortality in Leeds. In the 4 years, of which 1898 was the last, they formed 11·4 per cent. of the total mortality. The percentage of the whole deaths has thus altered very little during the 4 years. The rate from this cause has gone down proportionately with the general death-rate, but in so purely a preventible disease, one would like to have had a greater ratio of diminution.

Of the groups under which deaths from this disease have been placed since my first report to you in 1890, very little change has been made. The second column of the table in that year was intended to deal only with general tuberculosis, meaning by that term, tuberculosis of the acute infecting type, regarded generally as a disease secondary to a chronic infection. In subsequent years, however, it was found that it was necessary to group under some heading such indefinite terms as "tuberculosis," and all undefined forms of the

disease were relegated to this heading. The third column bears the principal brunt. It deals with cases of consumption. This disease caused—as has been already pointed out—1·39 deaths per 1,000 of the estimated population. This is one of the lowest death-rates from phthisis that I have had to record. In 1890 the phthisis death-rate was 1·66, in 1891 it rose to 1·79, in 1892 it fell to 1·42, in 1893 it again rose to 1·70, in 1894 it was 1·49. In the 3 following years it was 1·55, 1·50, 1·49, and last year 1·39.

The two next headings might possibly be combined. In both cases there is an amount of uncertainty as to the use of terms which probably deteriorates from their statistical value. The use of the term "tuberculous meningitis" implies a diagnosis of tubercle, but it is not unlikely that a very much larger number of deaths would have been entered under this heading if a post-mortem had been made in every case. The next column but one, headed "tabes mesenterica," is also one under which the victims are chiefly young children. It is a disease which probably is less difficult to be sure about than some of the others. The death-rate has varied a little from year to year. In 1890 the deaths were 0·25 per 1,000, in 1891 they were 0·28, in 1892 0·25, in 1893 0·23, and in 1894 they fell to 0·16. In the three subsequent years they have been 0·23, 0·18, 0·24, and in 1898—as already said—0·24. It is this disease which especially is regarded as probably due to infection from tuberculous milk, and it is probable that the tuberculous affections of the brain already spoken of are not unfrequently secondary to affections of the mesenteric glands set up in this way. If we are successful in obtaining the milk clauses in our local act, we shall hope to see a diminution in time in the number of deaths in these columns.

Diminution of Death-rate.—During the nine years 1890-1898, 8,113 deaths from tuberculous disease have been recorded in the city. This is equivalent to a rate of 2·31 per 1,000.

Dividing the nine years into three periods of three years each, the death-rate was 2.43 in the earliest, 2.33 in the middle, and 2.19 in the last of these periods.

If, however, we divide the deaths recorded from this disease group into those reported in children under five and those occurring in persons above that age, it will be found that the diminution has not been equal in the two classes.

In those over five the deaths in the years 1890-1892, compared with the number of persons of the same age estimated as living at the middle of the period were at the rate of 2.04 per 1,000. The rate fell to 2.00 per 1,000 in the following triennium, and to 1.81 in the years 1896-1898, a diminution between the first and the last period of 11.7 per cent.

TABLE 6.

Mortality from tuberculosis, 1898.

1898.	Tuberculosis, general and undefined.	Phthisis.	Hydro- cephalus.	Tuberculous meningitis.	Tuberculous peritonitis.	Tubes mesenterica.	Scrofula.	TOTAL.
I. Quarter	27	146	4	19	5	19	1	221
II. do. ...	17	170	6	24	7	14	1	239
III. do. ...	27	122	—	18	4	38	—	209
IV. do. ...	25	138	7	12	10	27	1	220
Year (52 weeks)...	96	576	17	73	26	98	3	889
Annual death- rate, 52 weeks of 1898 ...	0.23	1.39	0.04	0.18	0.06	0.24	0.01	2.14

In the group of children under five the tuberculosis death-rate was 5·17, a much larger proportion, in the earlier period. It was 4·69 in the middle, and 4·81 in the third period; a diminution between the first and last period of just under 6·9 per cent.

TABLE 6a.

Shewing mortality per 1,000 living under and over the age of five, and at all ages from certain groups of tuberculous disease.

		Under five.	Over five.	All ages.
1890-2	Phthisis	0·48	1·78	1·62
	Tabes mesenterica ...	1·99	0·01	0·26
	Other tuberculous diseases	2·70	0·25	0·56
	Together	5·17	2·04	2·43
1893-5	Phthisis	0·41	1·75	1·58
	Tabes mesenterica ...	1·55	0·01	0·20
	Other tuberculous diseases	2·73	0·24	0·55
	Together	4·69	2·00	2·33
1896-8	Phthisis	0·34	1·60	1·44
	Tabes mesenterica ..	1·69	0·01	0·22
	Other tuberculous diseases	2·79	0·20	0·53
	Together	4·81	1·81	2·19

Combatting consumption.—The great improvements that are at present in progress in removing slums may be expected to have some effect upon the death-rate from consumption itself. In the Camp Field area the death-rate from consumption was 2·35 during the 5 years 1890 to 1894, against 1·61

in the whole city, while from other tuberculous diseases the rate in that district was 1·41, against 0·78 in the whole city. In the one case nearly half as much again, in the other nearly double. In the York Street area in the 3 years 1893, 1894, 1895 the phthisis rate was 6·87 in the area, against 1·58 in the city, and the death-rate from other tuberculous diseases was 0·87, against 0·68. The phthisis death-rate was probably exaggerated in this area from the large number of persons passing into the workhouse from lodging-houses in the district, but it is the universal experience that tuberculous diseases are most prevalent in slums, and it is by letting light and air into different parts of the town that we can best hope to combat the disease. I should recommend, however, that we carry out more fully than we have yet done the practice of disinfecting houses in which consumption has been fatal, and I propose, with your sanction, to draw up a small handbill pointing out some of the simple measures which may be taken by the people themselves to lessen the risk of this disease.

Mode of death from tuberculosis under and over five.—

The death-rate at all ages from tuberculosis in the nine years, it has been said, was 2·31 per 1,000. Two-thirds of this (1·54) was due to phthisis, 0·77 to the other groups dealt with in the tables corresponding to table 6. When, however, we again analyse these returns according as the deaths occurred amongst persons under or over the age of five, we find a difference in the grouping of the disease.

In persons over five the tuberculosis death-rate was 1·94 per 1,000 of the population above that age. Nearly the whole of this death-rate (1·70) is attributed to consumption; the tuberculous diseases not classed under this heading causing a rate of only 0·24 per 1,000 in those who had passed the age of five.

On the other hand, when we regard the deaths of children from tuberculosis we find, in the first place, that they bear a very much larger proportion to the population than amongst

those who have survived that age. Moreover, the deaths from consumption become much less important as compared with the large mortality from tuberculosis than at the higher age. They amount to only 0·41 per 1,000, or less than 10 per cent. of the whole tuberculous mortality, whilst the deaths from the tuberculous diseases, other than those of lung, caused 4·47 deaths amongst children under five.

In connection with the possibilities of milk infection it is noteworthy that the tuberculous disease of the glands, which deal immediately with matters entering the lacteal circulation from the alimentary canal—*tabes mesenterica*—has on the whole declined from 0·26 to 0·22, or about 16 per cent.

The mortality amongst children under five, amongst whom chiefly the deaths occurred, decreased to about the same extent, namely, from 1·99 per 1,000 to 1·69.

The fall, however, was not equal, the rate, as will be seen from the table, having been 1·99 in the earlier, 1·55 in the middle, and rising to 1·69 in the last triennial period.

Deaths from brain affections, from general or undefined tubercle, from tuberculous peritonitis, and from scrofula slightly increased amongst children. They caused 2·70 in the earlier, 2·73 in the middle, and 2·79 deaths per 1,000 in the later period. Amongst persons over five the same group showed a less and a diminishing death-rate.

Death-rates under one, and from one to five.—Comparing the periods 1890-92 and 1896-98, the death-rates in children under one from all causes improved 3·05 per cent., from tuberculous diseases 9·85. At the milk drinking age period, one to five, the improvement of the general death-rate was 11·13 per cent., that from tuberculosis 4·27.

**DISEASES AFFECTING CHIEFLY THE LUNGS AND
AIR PASSAGES.**

It has been already shown in Table 1, that as compared both with the three years, 1895-97, and the five years, 1885-89, the death-rate from lung diseases, as a whole, was less during the past year.

TABLE 6 b.

Shewing death-rates per 1,000 living, under and over the age of five, from all diseases of the breathing organs, including consumption.

	I.	II.	III.	IV.	YEAR.
Under 5 ...	15.55	14.32	7.31	13.32	12.63
Over 5 ...	4.15	4.34	2.40	3.23	3.53
All ages ...	5.58	5.59	3.02	4.49	4.67

PHTHISIS.

Consumption has been already spoken of under the heading of "tuberculosis." The general death-rate from this group was 0.11 below the rate of the three years 1895-97, and 0.31 below that of the five years, 1885-89.

When considered in regard to age-grouping the death-rate of 0.42 amongst children under five was higher at this age group than in any of the years during which the rate has been printed in Table 6c, with the exception of the second of those years, 1893, when the rate was 0.57.

In persons above the age of five, the death-rate was 1.53, and this was a lower rate than obtained at this age period in any of the years, 1892-97.

TABLE 6 C.

Shewing death-rates at the estimated population under and over the age of five years for each quarter of the year 1898, for the year, and for the three preceding years, from several groups of lung affections.

	1895.			1896.			1897.			1898.														
	YEAR.			YEAR.			YEAR.			I.			II.			III.			IV.			YEAR		
	- 5	+ 5		- 5	+ 5		- 5	+ 5		- 5	+ 5		- 5	+ 5		- 5	+ 5		- 5	+ 5		- 5	+ 5	
Bronchitis ...	8.25	1.65		6.94	1.34		7.15	1.40		6.85	1.55		6.77	1.37		2.69	0.61		6.93	1.01		5.81	1.13	
Broncho-pneumonia ...	4.07	0.09		4.01	0.15		4.01	0.10		5.54	0.15		3.39	0.15		2.16	0.07		3.00	0.08		3.52	0.11	
Pneumonia ...	2.15	0.49		2.17	0.84		1.66	0.71		1.92	0.56		2.93	0.81		1.77	0.29		2.08	0.52		2.17	0.55	
Pleuro-pneumonia ...	...	0.02		0.02	0.04		0.02	0.01		...	0.03		...	0.01		...	0.02		...	0.03		...	0.02	
Pleurisy ...	...	0.04		0.06	0.06		...	0.03		...	0.07		...	0.04		...	0.02		...	0.02		...	0.04	
Other lung diseases* ...	0.59	0.14		0.23	0.13		0.31	0.11		0.46	0.19		0.54	0.14		0.23	0.09		0.62	0.10		0.46	0.13	
Non-tuberculous respiratory diseases† ...	15.07	2.42		13.43	2.56		13.16	2.37		14.78	2.55		13.63	2.53		6.85	1.09		12.63	1.76		11.97	1.99	
Laryngitis ...	0.26	0.01		0.23	0.02		0.37	0.01		0.38	0.04		0.23	...		0.08	0.02		0.23	0.01		0.23	0.02	
Phthisis ...	0.39	1.72		0.35	1.66		0.23	1.62		0.38	1.55		0.46	1.81		0.38	1.29		0.46	1.45		0.42	1.53	

* Non-tuberculous and exclusive of croup, laryngitis, and influenza, and the groups in lines above. † Exclusive of phthisis, croup and laryngitis.

BRONCHITIS, PNEUMONIA, AND PLEURISY.

This group had a rate—as is shown in Table 1—0·66 below that of the triennium, 1895-97, and 0·87 below that of the quinquennium, 1885-89.

Bronchitis, the principal member of this group, has in Table 6c been distinguished from other members of the group. During the year, in children under five, deaths occurred at the rate of 5·81 per 1,000. In the preceding year, 1897, the rate had been 7·15 at this age; in 1896, 6·94; in 1895, 8·25; in 1894, 7·76; in 1893, 9·78; and in 1892, 9·54. The mortality in those under five was therefore less in 1898 than in any of the years previously tabled.

In persons above five, the rate was 1·13. It had been 1·40, 1·34, and 1·65 respectively, in the years 1897, 1896, and 1895. It was 1·09, 1·45, and 1·66 in the three which preceded. With the exception, therefore, of the specially healthy year, 1894, the death-rate from bronchitis in persons over five, was the lowest since I began to tabulate it.

Broncho-pneumonia.—Under five, the rate was 3·52; with the exception of that of 1892, the lowest recorded in the tables.

In persons over five, the rate was 0·11. It had been 0·10 in 1897; 0·15 in 1896; 0·09 in 1895; 0·12, 0·14, 0·17, in the three preceding years.

Pneumonia.—In children under five the rate was 2·17. This was considerably higher than in 1897 (1·66); practically the same as in 1896 (2·17) and in 1895 (2·15). In 1894, the rate had been 1·92, considerably below that of 1898, while in the two preceding years 1893 and 1892, it was 2·29 and 2·33, in both cases higher than in 1898.

In persons over five the rate had been 0·55 ; lower than in 1897 or 1896 (0·71 and 0·84) ; higher than in 1895 and 1894 (0·49, 0·47) ; but lower than in 1893 and 1892, when the rates were 0·70 and 0·64.

From *pleuro-pneumonia* and *pleurisy*, the rates were so small as scarcely to call for remark.

OTHER RESPIRATORY DISEASES.

From the *other non-tuberculous lung affections*, exclusive of croup and laryngitis, the rate amongst those under five was 0·46 ; higher than in 1897 or 1896 ; lower than in 1895 or 1893 ; but higher than in the remaining years, 1894 and 1892.

In persons over five, the death-rate in this group was 0·13, against 0·11 in 1897 ; 0·13, 0·14, and 0·17 in 1896, 1895, and 1894 ; and 0·14 in each of the two preceding years.

Laryngitis.—It is perhaps a little worthy of remark that in the remaining group which has been included in the table, that of laryngitis, the death-rate under five (0·23) was less than in 1897 (0·37) ; the same as in 1896 ; just below that of 1895 (0·26) ; less than half that of 1894 (0·49) ; less than a quarter of that of 1893 (0·94) ; and less than half that of 1892. This diminution in the death-rate from laryngitis would seem to suggest that diseases formerly so certified have now been included under another heading.

The death-rate from this disease over five is so small as to call for no great comment. It was 0·02 in 1898, 0·01 in 1897, 0·02, 0·01, 0·05, 0·04, 0·03 in the preceding years tabled.

GENERAL.

On the whole, it may therefore be said that so far as lung diseases are concerned, both under and over five, the year of 1898 stood well.

COMMONER ZYMOTIC DISEASES.

SMALL-POX.

During the year we heard of five cases of this disease, all of which were treated in our hospital. Two of them proved fatal. The patients all lived near one another, and the infection was traceable in each case, directly or indirectly, to a young woman who had come to Leeds from Middlesbrough during the incubation stage of the disease. The patients lived in four houses in a block between what we may call A street and B street, New Wortley. Two of the houses were back to back with one another, one in A street, the other in B street; two others were in B street, adjacent to one another, and four and five doors distant respectively from the other affected house in the same street (10 B street).

The first case reported was at the house No. 20, B Street. The patient had been out of sorts from the Monday, 14th of March. She complained of severe backache on the 17th (Thursday), and is said to have had an eruption of some kind that day. On Friday, the 18th, she was seen by a medical man, who considered the eruption as one of nettle rash. The following day, however, in consultation with another surgeon, he came to the conclusion that the disease was one of small-pox, and reported the case the same (Saturday) night. The patient was moved to hospital in the small hours of the morning. On the 20th (Sunday) the members of her family, six in number, including a lodger, were removed to No. 6 cottage at the Manston Hall Estate.

The following day, Monday, having learnt that a girl had been ill at No. 13, A street, all the members of this other family were also removed in the first instance to No. 6 cottage. On examination, however, three were sent to cottage No. 7, and the fourth to hospital. The three consisted of a man and his wife, recently confined, and the three weeks' old

baby. In addition, a midwife, not living in the house, but who had been frequently there, went to the cottages for a single night and had her clothes disinfected. She was re-vaccinated, returning home the following day. The girl of 17, sent into the ward from No. 6 cottage, was the niece of the woman recently confined. She was apparently well, but had the remains of what had evidently been a small-pox eruption.

The history of her case was as follows:—She arrived in Leeds on the 19th of February, from Middlesbrough, quite well. Small-pox patients had, however, been taken to hospital from the street in which she lived; from houses next door but one on either side of her father's house. She brought from home, besides the clothes she had on, a change of linen, five aprons, and a black cloth dress. She had done her own washing after arrival. Her object in coming to Leeds was to be with her aunt during the confinement of the latter. This took place on Sunday, February the 27th. The girl herself complained of being tired and weary the following day. On Tuesday she had a slight pimply eruption on her face and hands for which she took some domestic remedies. The spots are said to have disappeared entirely on the following Tuesday, March the 8th. It was stated voluntarily by her uncle that as one set of spots went away another came out; that a medical man was attending the aunt, and said nothing about the spots, although he must have seen the girl. He had not, however, been asked to examine her or prescribe for her. On the 21st of March Dr. Walden and I found four fair vaccination marks, rudely round, about half-an-inch in diameter, more or less superficial and cicatricial, on the left arm, none on the right. The marks of the recent eruption were distinctly visible on the arms, chest, and back, as red spots in the true skin, some of them raised and the cuticle over them being shed. We also learnt that the patient from No. 20 in the next (B) street had been in the house the day the baby was born, February the 27th, on the following day,

Monday, the 28th, on Tuesday, March the 1st, Thursday the 3rd, Sunday the 6th, and Tuesday the 8th. This woman, had, however, washed the clothes of the aunt and those of her baby. She had been in the habit of washing for the aunt, but did not wash any of the niece's clothes.

The nurse, or midwife, already referred to living in B street, was present when the baby was born, washed the child afterwards, and had been in the house again on March the 20th. A woman from No. 10, A street, also seemed to have been frequently in the house, and it was arranged that her clothes should be sent for disinfection.

The history of the attack of the woman who did the washing (Z.2681 : o) has been already briefly given. As her eruption came out on the 17th it is possible that she received the infection either on March the 1st, the day on which the girl's rash appeared, and on which she was in the house, or on March the 3rd, the day she returned the washing personally. Possibly, however, she may have received the infection through the wash tub at home, on March the 2nd, fourteen days before the appearance of the eruption. The case was a severe one, and the patient died in hospital on the 25th. "Only one very poor mark of vaccination could be seen."

Two other cases (Z.2694 : 8 and Z.2701 : 1) occurred in the same street as this patient, and there seems a probability that both of them received the infection from her rather than directly from the girl from Middlesbrough. The earlier of these two (2694 : 8) had visited A street on the 1st of March, the day when the Middlesbrough girl's eruption appeared, but so far as we could learn only on that occasion. On the 16th of March, however, she saw her neighbour (2681 : o) and took her to see the doctor. On the 17th she was in and out of the said patient's house, and saw the eruption. On the 18th and 19th she was also in the house. On the 28th (Monday) she herself had headache and

backache, and on Thursday, the 31st, exactly a fortnight from the date of rash of the patient whose case was first reported, developed her own eruption. She saw a medical man on the 2nd of April, (Saturday), who notified the case as one of small-pox, and she was admitted to hospital the same day.

The third patient in this street had been in and out of the house of the first on the 16th, 17th, 18th, 19th, and 20th of March. On the 31st she had pain in the limbs, back and head, with vomiting. On the third of April, the rash having just appeared, she was taken into hospital. It is probable that she received the infection from the case first heard, about the day that patient was removed to hospital, that is on the 19th of March. But it is of course not impossible that the incubation period may have been a little longer than usual and that she may have received the infection on an earlier day that week. It seems likely, however, that if case Z:2681:0 had been reported, and the patient removed on the 17th, this woman might have escaped the infection.

The Resident Medical Superintendent notes about these patients, that in the case of one "there were four fair vaccination marks, and in one two fair marks."

The fifth case (Z.2694:9) was that of the unfortunate baby. The baby came into the world on the 27th of February. The Middlesbrough girl's eruption appeared on the 1st of March. The baby went with his parents to the cottages on the 21st, and the following day, the 22nd, was vaccinated in three places—three weeks, however, after its first exposure to the poison of small-pox. On the 29th an eruption appeared, and one of the three inoculations seemed to be taking. It was at first doubtful whether the rash was due to vaccination or to small-pox. On the 1st of April, however, it was thought better to send the child into hospital, where he died the following day. If the 29th may be looked upon as the commencement of small-pox in the baby's case, it would seem

probable that he had received the infection a week before he was vaccinated. The case, however, was a somewhat obscure one.

The disease having existed in A street for nearly three weeks before we were on its track, it was thought desirable to make a very careful inspection in streets in the immediate neighbourhood, and of all persons who had been in contact with any of the known cases. In all twenty-four persons more or less exposed to the infection were isolated for periods varying from one to twenty-two days; the A street family having of course remained in quarantine for a fortnight after the date of the baby's attack.

Four thousand and odd visits were made to houses in the neighbourhood, enquiring if any cases of illness had occurred. Any illnesses in which backache, headache, or an eruption figured were reported to me, and I visited all where no medical man was in attendance, and communicated in several cases with the medical attendant where the patient was under treatment. A large number of visits were also made to workshops where persons in contact with members of any infected families had been working.

Two other cases were heard of from neighbouring towns, in both of which the patient had been in Leeds. One was that of a student attending the Yorkshire College daily, who was attacked in the town in which he lived. His illness commenced on Monday, the 20th of February, and he was at College on the 22nd. The eruption appeared on the 24th. There is no reason to suppose that he was in contact with any of the persons already named. His work lay in an entirely different part of the town, and it is more likely that he received the infection in the train from some person travelling to or from Middlesbrough in the same carriage.

The other case was that of a showman. He visited Leeds amongst several other towns on his way to Lancashire.

There is no reason to suspect that he was in contact with any of the persons named. He seems to have been in Rotherham from the 10th to the 13th of March, to have travelled from Doncaster and Pontefract to Leeds, and to have been in Leeds in a common lodging-house from the 17th to the 21st. The following day he went to Dewsbury, was in Huddersfield from the 23rd to the 27th, Hebden Bridge and Todmorden on the 28th and 29th, arrived in Rochdale on the 31st, and was admitted to hospital on the same night. Assuming that the eruption was three days old on the 31st, his infection would have been received about the time he was at Doncaster, and some three or four days, according to the dates given, before he arrived in Leeds.

Vaccination of all persons isolated.—Of the 24 persons taken to the sanatorium all but 4 had been previously vaccinated. Of those not previously vaccinated the baby was vaccinated, as already said, on the day after admission, but 22 days after his first exposure to the infection of small-pox. The others were aged 29, 5, and 3, and were successfully vaccinated. The inoculation in the first of these (a lodger, who had no mark of vaccination, in house of case Z 2701:1), was made on the first day after the first known exposure to small-pox, though he may possibly have been in contact with some earlier case. The two others were children of a charwoman working for same patient; we do not know that they were in her house. They were vaccinated on the 4th of April. Of those who had previously been vaccinated 4 were under 10, 7 were between 10 and 20, 7 between 20 and 40, and 2 over that age. With the exception of the baby none of the inmates of the sanatorium developed small-pox.

MEASLES.

Recent yearly death-rates.—The average death-rate from measles in Leeds in the eight years 1890-7 had been 0·51.

The rate varied from 0·20 in 1892, and 0·27 in 1890, to 0·75 in 1894, and 0·90 in 1893. In 1898 the death-rate was 0·45, a little, therefore, below the average of the eight years.

Recent death-rates for quarterly periods.—During the four quarters of the year 1898, the rates were respectively 0·56, 0·74, 0·25, and 0·26—in no quarter reaching 0·75. In the thirty-two preceding quarterly periods the measles death-rate in the city had varied from 0·01 in the first quarter of 1894, and 0·04 and 0·06 in the first and second quarters of 1892, to 1·81 in the first quarter of 1891, and 2·68 in the fourth quarter of 1894. It is evident, therefore, while during the year the total number of deaths was below the average of the preceding eight years, that in no quarterly period of 1898 was the death-rate either so high or so low as it had occasionally been during those eight years.

Death-rate in three four-year periods.—During the four years 1886-9 the average death-rate from measles in Leeds was 0·67 per 1,000. It fell to 0·52 in the four years 1890-3, and to 0·50 in the four years 1894-7. The slight diminution during the last four years is perhaps not very significant. There is an amount of uncertainty as to the exact population at a period so distant from the census. It has also to be remembered that the birth-rate has been lower of late, and that as measles is a disease specially affecting young children, the estimate of the population, especially at the earlier ages of life, is anything exact.

Mortality in districts.—Reference to the annexed table will show that in no district of Leeds during the year did the death-rate for the whole year reach one per 1,000.

The highest rate was in HOLBECK, in the month of April, the average rate during the period being at the annual rate of 6·67. During the last four months of 1898 only one death was recorded in Holbeck from this disease.



Measles.

One death was recorded in this sub-district in January, 1 in February, 3 in March. The deaths rose to 14 in April, and then fell to 3, 2, and 1 in succeeding months. Another death occurred in August, and another in December, the intervening months being without fatality from this disease.

SOUTH-EAST LEEDS had also its highest measles mortality (3·04 per 1,000 per annum) in April. This is a slightly larger district than that of Holbeck, and on referring to the deaths during the fourth quarter of 1897, it will be found that they were 3 and 2 respectively in the four-week periods of October and November, and 3 in the five-week period of December.

Monthly death-rates from measles in registration areas. The bold type shows the highest rate in each district and in the city, the italic figures show rates below the average of the city for the years 1890-97. The rates are calculated on the provisional population as estimated at the beginning of the year (see note to Table E).

1898.	January, 4 weeks.	February, 4 weeks.	March, 5 weeks.	April, 4 weeks.	May, 4 weeks.	June, 5 weeks.	July, 4 weeks.	August, 5 weeks.	September, 4 weeks.	October, 4 weeks.	November, 5 weeks.	December, 4 weeks.	Year, 52 weeks.
North ...	2·29	·42	·50	·42	...	·67	·21	·50	·42	...	·33	·83	·53
West ...	·60	·30	·36	...	·15	·24	·15	·12	...	...	...	...	·16
South-East	·76	2·28	2·43	3·04	·38	...	·38	...	...	...	·61	...	·82
Hunslet ...	·20	·20	1·27	2·18	·20	·63	·20	·47	·40	...	·16	..	·50
Holbeck ...	·48	·48	1·14	6·67	1·43	·76	·48	·38	...	...	..	·48	·99
Wortley ...	...	·23	...	2·08	1·15	1·11	1·38	·37	...	·23	1·29	1·15	·75
Kirkstall ...	...	...	·27	·34	...	...	...	...	...	...	...	·34	·08
Bramley ...	...	...	...	...	·79	1·26	...	...	...	...	...	2·37	·36
Chapelton	...	...	...	...	...	·39	...	...	...	...	...	...	·04
Osmond- thorpe	...	...	...	...	...	...	...	...	...	...	...	...	...
CITY ...	·59	·41	·65	1·38	·38	·53	·38	·25	·13	·03	·30	·44	·45

Calculated on the 1898 provisional population, these are equivalent to rates of 1.14, 0.76, and 0.91 in the three concluding months of 1897. The disease was therefore present, though not excessively so, at the commencement of the calendar year, but had its greatest mortality in April. After that month it caused only 4 deaths.

During 1897 the deaths from this disease in South-east Leeds had been in the several quarters 1, 4, 6, and 8 respectively. In the four quarters of 1898 they were 16, 9, 1, and 2.

WORTLEY had the next highest death-rate, and again the highest mortality was in April. There had been no death recorded in this district during the fourth quarter of 1897. There was 1 death in the first quarter of 1898 in February. After a month without a death, the fatal cases rose to 9 in April, and they were 5 and 6 respectively in the two following months, making 20 deaths in the thirteen weeks. There were 6 deaths in July, 2 in August, but none in September—that is 8 in the third period of thirteen weeks. In the fourth quarter of the year the deaths were 1, 7, and 5 in October, November, and December, or at the rate of 1 per week for the period. During January, 1899, 1 death was registered in this district, while February was free. The proportionate death-rate will be found in the table.

The NORTH district had a mortality of 0.53 during the year. The highest rate was 2.29 in January, but counted on the same population the rate in December, 1897, had been 3.33, in November 2.50, and 0.83 in October.

During 1897 the deaths in North Leeds in the several quarters had been 7, 3, 12, and 36 respectively, so that the 16 deaths in the first quarter of 1898 was really a fall. In a population of sixty-three thousand the fluctuations are not so marked as in a smaller district like Holbeck with twenty-seven thousand.

The WEST district, which had a rate of 0·16 during the year, also had its highest mortality, 0·60, in January. Like the North district, the mortality in the preceding quarter had been higher. Calculated on the 1898 population it was 2·28 in December, 1·50 in November, and 0·30 in October, 1897. The deaths in the several quarters of that year had been 2, 3, 1, and 31 respectively. The 9 deaths in the first quarter of 1898, therefore, showed a diminution in the virulence of the disease.

HUNSLET, with a death-rate of 0·50 during 1898, had registered no death from measles in the fourth quarter of 1897. The deaths in January, February, and March, 1898, had been respectively 1, 1, and 8. In April they became 11, falling to 1 in May, rising again to 4 the following month, being 1, 3, and 2 in the three months of the third quarter, and 1 in the November month of the fourth quarter of 1898.

KIRKSTALL had 1, 2, and 4 deaths in October, November, and December, 1897, corresponding to rates of 0·34, 0·67, and 1·08. January and February, 1898, were without fatal cases. A single case occurred in March, and another in April, after which the district was free from any measles death till December. Two occurred in January, 1899, and none in February.

BRAMLEY had 1 death in December, 1897, 1 and 2 in May and June, 1898, and 3 in December of that year, the latter being equivalent to a rate of 2·37 per annum. No death, however, occurred either in January or February, 1899.

CHAPELTOWN had a single death in June, 1898, and OSMONDTHORPE escaped entirely.

It will be noticed on referring again to the table that, while the disease was prevalent at the end of 1897 in the North and adjacent portions of the West district, its mortality

showed a tendency to decrease in the months of February and March in both those districts, while the South-east district, which had not been free during the end of 1897, had an increasing mortality in February, March, and April. Part of this district you will remember is on the south side of the river, and the mortality in Hunslet began to increase in March, reaching its highest in April. The same was true of the adjacent portion of Holbeck, while Wortley reached its highest mortality in April rather suddenly. As is usual with measles, the disease had spread gradually over the town. While never entirely absent from any district, the tendency of this malady is to accentuate itself in particular areas.

It had been necessary, however, at the end of 1897, to advise the closing till after the Christmas holidays of the Quarry Mount and Woodhouse Street Board Schools, along with the voluntary schools of St. Michael's (Meanwood Road), and the Holy Rosary (Barrack Street), partly on account of the prevalence of measles. The Bramley Board School was also closed towards the end of the year 1898, principally on the same account. During the early part of 1899 it was considered advisable to close the Roundhay Road Board School.

SCARLET FEVER.

Scarlet fever was more prevalent in 1898 than in any year since notification became compulsory. Not only were a larger number of cases notified, but the death-rate was higher than in any of the three preceding years. It was fractionally higher, 0·29 against 0·28, than in 1890, but was lower than any of the ten years 1880 to 1889, except 1881 and 1888. The average of these ten years was given at page 42 of my annual report for 1896. It was 0·68, that of the preceding decade, 1870-9, having been 1·09.

The eight years 1890-7 had a death-rate of 0·18. It is at first sight, perhaps, a little disappointing to find that the death-rate from scarlatina had increased towards the end of the current decade. It is never safe to prophesy, but the fact that in each quarter of 1898 the number of reported cases from this disease diminished steadily from 580 in the first to 410 in the fourth, and that the diminution seems to be continued into the first quarter of the present year would seem to indicate that we have touched the high water mark in the matter of this infectious disease.

It has also to be remembered that although during the last four years we have heard of a much larger proportion of cases, we have not been able to deal by isolation in hospital with anything like the number that ought to be removed. It is probable that from 80 to 90 per cent. of the cases reported ought to be isolated in the public hospital, but in 1898 only 532 out of 2,002 were so treated. Not only is this the case, but of the 532 out of the 2,002 cases reported during the year, which were afterwards sent to hospital, only 413 were so removed during the week in which their cases were reported. The accommodation at the hospital was so scanty that 119 of the 532 subsequently removed to hospital could not be accommodated until later on in the disease, 87 during the following, 12 during the third, 10 during the fourth, and 10 more during periods varying from five to nine weeks after notification. As notification itself does not generally take place for several days after the commencement of the illness, this means the exposure of other members of the family to the infection an unnecessarily long time. Some years ago when the number which we were asked to provide for was fewer, we were able during the greater part of the year to take in almost every case notified the same day that notification reached us.

DIPHTHERIA AND CROUP.

During the fifty-three weeks of 1898, 203 deaths were registered as due to diphtheria, 26 to membranous croup, and 23 to croup simply, exclusive of cases where this disease was described as "spasmodic." These numbers are equivalent to death-rates of 0.49, 0.06, and 0.06 respectively.

On reference to table D it will be seen that this is a higher rate than has been recorded during any of the eight years 1890-97. The highest rate during any of these years from diphtheria was 0.15 in 1893 and 1894, and from croup, membranous and otherwise, 0.18 and 0.17 in the same two years.

The greater prevalence of diphtheria in the latter part of 1897 was briefly remarked upon in the report for that year (pages 12 and 13), and the increasing prevalence during 1898 is alluded to in the early part of the present report, (pages 6, 8, 12, and 14). This matter, however, is so important that I have thought it well to analyse the localization of the reported cases, and have prepared a table showing the number of cases notified per thousand per annum of the estimated population, for each monthly period from October, 1897, to March, 1899. To differentiate more clearly the localities affected, each registration district has been divided into what I have called elsewhere "intercepts," that is to say, we have separated the cases in those portions of any registration district belonging to different wards. In this table the first column will represent, as usual, the registration districts of the town, although we have altered the order usually observed in order to place contiguous districts near one another in the table. The second column represents the wards or portions of wards belonging to the particular registration district to which the figures in the line opposite refer.

**Diphtheria : Cases heard of in Registration Districts and Ward intercepts during 18 months 1897-98-99,
per 1,000 of estimated population.**

EASTERN DIVISION.*

Registration Districts.	Wards intercepted.	1897. Oct., 4 wks.	1897. Nov., 4 wks.	1897. Dec., 5 wks.	1898. Jan., 4 wks.	1898. Feb., 4 wks.	1898. Mar., 5 wks.	1898. April, 4 wks.	1898. May, 4 wks.	1898. June, 5 wks.	1898. July, 4 wks.	1898. Aug., 5 wks.	1898. Sept., 4 wks.	1898. Oct., 4 wks.	1898. Nov., 5 wks.	1898. Dec., 4 wks.	1899. Jan., 4 wks.	1899. Feb., 4 wks.	1899. Mar., 5 wks.	Whole period, 78 wks.	1898 only. 52 wks.
HOLBECK	Holbeck West Hunslet	..	..	1'10	2'76	..	'37	..	'92	'74	'92	'37	'92	2'76	1'84	7'36	3'68	2'76	2'94	1'60	1'52
HUNSLLET	West Hunslet East Hunslet South	..	'55 '46 1'14	2'64 '37 '91	3'30 '46 ..	'55	'88 '73 '91		.. '46 ..	'44 '37 ..	1'10	'88		1'65 '46 ..	1'76 5'13 '91	1'10 4'12 11'41	3'85 4'12 6'85	5'50 4'58 11'41	3'08 4'40 '91	1'52 1'46 1'81	'97 1'04 1'05
LEEDS (South-East)	South Central East	..	..	..	..	5'39	..	1'80	..	1'44	..	1'44	1'80	1'80	..	5'39	3'60	1'80	..	1'29	1'52
OSMONDTHORPE	East	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
CHAPELTOWN (part of)	North-east North	..	..	..	..	..	5'42	..	..	..	..	..	..	..	5'42	..	6'78	..	..	1'04	1'04
LEEDS (North)	North	..	..	..	..	..	..	..	..	..	..	..	2'20	..	6'13	8'43	3'06	7'66	1'23	1'77	1'65
" West	North-east Central Central	..	'52 '67	..	..	'52	..	..	'52	..	..	'84	..	3'13	2'51	3'05	7'31	8'87	5'43	1'82	'92
		..	..	..	'67	..	'54	..	..	..	..	1'07	'67	..	'54	1'34	..	4'68	'54	'65	'51

* The small part of the West Registration Division, with an estimated population of 325, has been added to the larger part of the Central Ward in the North District. No case was heard of in this district. The whole Central Ward is in the Eastern Division.

WESTERN DIVISION.

Registration Districts.	Wards inter-cepted.	1897. Oct., 4 wks.	1897. Nov., 4 wks.	1897. Dec., 5 wks.	1898. Jan., 4 wks.	1898. Feb., 4 wks.	1898. Mar., 5 wks.	1898. April, 4 wks.	1898. May, 4 wks.	1898. June, 5 wks.	1898. July, 4 wks.	1898. Aug., 5 wks.	1898. Sept., 4 wks.	1898. Oct., 4 wks.	1898. Nov., 5 wks.	1898. Dec., 4 wks.	1899. Jan., 4 wks.	1899. Feb., 4 wks.	1899. Mar., 5 wks.	Whole period, 78 wks.	1898 only, 52 wks.
WORTLEY	New Wortley Armley and Wortley Bramley (Farnley) ..	..	..	1'07	..	2'10	'54	..	2'68	2'68	9'40	6'44	10'07	12'75	12'88	11'41	12'75	6'71	5'37	5'33	5'88
		'39	..	'31	'39	1'16	1'24	'39	1'24	1'24	9'73	4'95	6'19	9'28	22'89	33'63	17'40	9'28	3'71	6'62	7'46
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	20'94	2'99	8'97	..	1'69	1'61
BRAMLEY	Bramley ..	'81	..	'65	3'24	1'62	..	..	..	'65	..	1'30	..	'81	..	2'43	4'86	2'43	7'13	1'45	1'37
KIRKSTALL	Headingley (Kirkstall Burley Headingley) }	1'01	'34	'81	2'02	2'36	1'08	1'35	'67	'54	2'69	'27	1'35	3'70	2'42	10'77	11'78	13'47	5'93	3'35	2'69
CHAPELTOWN (part of)	Headingley (Meanwood) }	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Nor.h-west ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Brunswick ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
LEEDS (West, except Central)	Brunswick ..	..	1'23	..	1'84	1'84	'49	..	..	..	'61	..	..	1'23	3'44	3'07	'61	2'46	1'47	1'01	1'04
	North-west ..	..	'41	..	'41	2'06	1'32	'82	'41	..	'41	..	3'72	4'12	2'31	3'72	4'53	2'06	'66	1'44	1'55
	Mill Hill ..	..	..	1'25	3'13	3'13	1'25	1'57	..	..	1'57	..	..	3'13	15'04	1'57	..	6'27	5'01	2'49	2'65
	West ..	'52	6'81	10'05	5'76	3'67	2'93	5'24	5'76	7'54	3'67	5'86	4'71	1'05	2'93	3'67	2'09	3'14	4'19	4'31	2'95

WEST WARD.—It has been already remarked that the number of cases had been large in the West ward during the last quarter of 1897. For that quarter they averaged in that ward, which is entirely contained in the West registration district, 6.12 per 1,000 of the population. The number of cases increased during the successive months of October, November, and December, reaching in the last-named month 10.05 per 1,000 per annum. During the following quarter the average rate fell to 4.03, but it rose in the second quarter of 1898 to 6.28, falling in the third to 4.83. In the fourth quarter of 1898 it was 2.58, and in the first three months of the present year 3.22.

As was pointed out to you at the time, the disease manifested itself most vigourously, in 1897, in what we are accustomed to call the alphabetical streets, off Kirkstall Road.

Every house was of course examined carefully at the time, the name of the milk vendor obtained, and an analysis made of the schools where the children attended. The drains in the neighbourhood of these streets were flushed and disinfected, and careful attention was paid to the emptying of the ash-pits.

Localization within the ward.—Unfortunately we have not any good sub-divisions of the West ward. The ward had an estimated population in the middle of 1898, made from a careful examination of the rate books, of 24,911. The case incidence for December, 1897, of 10 per 1,000 upon the whole of this population means a very much larger case incidence on the locality in which the cases first appeared. In 1894 I gave an analysis of the special survey of the West ward. The four census enumeration areas, bounded on the North by Denison Street or Burley Road, East by North Hall Street, South by Kirkstall Road, and West by

Meynell Street, had a population at the census of 3,331. In the fourth quarter of 1897 the number of cases of diphtheria reported in this area was 18, or 21·69 per 1,000.

During the nine months from the beginning of October 1897, to the end of June, 1898, 38 cases were reported in the district between North Hall Street and Meynell Street, which for convenience may be termed the A.B.C. streets. Seven cases were reported in the streets between Meynell Street and the boundary of the Headingley Ward, which is just West of Ventnor Street, the last of the alphabetical group. Eighteen cases were reported in parts of the ward North of Burley Road and Park Lane, while 39 were reported in the part of the ward East of North Hall Street and South of Burley Road and Park Lane.

Of the 38 cases in the A.B.C. part (*i.e.*, A to M), 30 occurred between the 23rd of October and the 29th of January. After this period there was a lull, then a single case was reported in the week ended March the 19th, and 3 cases, all in one house in Meynell Street, in the fortnight ended April the 16th. The remaining 4 cases occurred one in the last week of April, one in the last week of May, and one each in the first and third weeks of June. From the 29th of January until the first week in April there was thus only one case.

In streets West of this district, however, 7 cases occurred as follows: one in the week ended December 25th, two in the week ended February 12th, one in the week ended February 19th, and three in the week ended March 26th.

The cases in the district North of Burley Road occurred principally in November, December, and January, after which, with the exception of 1 case in February, no case was reported until the week ended 28th of May, 1898, and 7 cases followed it in June, of which four, however, was in two houses.

The more densely populated Eastern district seems to have escaped until the second week of December, 1897, when 3 cases were notified. Another case occurred in the week ended the 25th, and 4 more in the week ended January 1st, 1898, after which the cases became fewer until the end of March; there being only 5 cases in twelve weeks. In the last week of March, however, there were three cases, and patients became more numerous in the end of April and in May and June, although in several instances there was more than one case in a house.

Calculated upon the approximate populations, the case rates in these several parts of the West ward will be something like the following in the nine months October, 1897, to June, 1898.

**Diphtheria case rate per 1,000 in portions of West Ward.
October, 1897 to June, 1898.**

Portions of Ward.	Approximate populations. Census.	Oct., 4 wks.	Nov., 4 wks.	Dec., 5 wks.	Jan., 4 wks.	Feb., 4 wks.	March, 5 wks.	April, 4 wks.	May, 4 wks.	June, 5 wks.	3 quarters, 39 weeks.
A.B.C. (A. to M.)	3331	3'9	39'2	37'6	27'4	..	3'1	15'7	3'9	6'3	15'3
WEST (M. to V.)	2942	..	..	3'5	..	13'3	10'6	..	..	..	3'2
NORTH	9575	..	4'1	4'4	2'7	1'4	..	..	1'4	7'6	2'5
EAST	8098	..	..	10'3	3'2	4'8	3'9	8'1	14'5	11'6	6'4

It will be noticed that the portion of the alphabetical district from North Hall Street and Angel Street to Meynell Street had the highest rate in the whole period. The district East of it if sub-divided in the same way would probably have shown a greater morbidity in some particular part. The same is true of the North district, in which the case rate is probably over-stated at 2'51, while the West part of the district is probably fairly accurate at 3'18. At no time, how-

ever, were the cases in any group of streets so numerous, in proportion to the houses, as in the A.B.C. (A. to M.) streets. The fall in this district at the end of January is remarkable. It followed by a period of three weeks the re-opening of the schools. The Burley Road School had been closed ten days before the usual time.

A limited outbreak occurred in November, 1898, chiefly amongst children attending St. George's School in the West ward. Between the 26th of October and the 7th of November 8 cases of diphtheria were reported in four houses. In one house, in Portland Crescent, there were 5 cases notified between the 26th and the 31st of October. Two of the patients were attending St. George's School, one was attending the Carlton Hill Board School, two were not at school, and of other members of the family a boy was attending the Central Higher Grade, and a girl the Carlton Hill School. The first case reported is said to have commenced on the 22nd of October. This boy was attending St. George's School and was in the first standard. His sister, aged 8, in the second standard of the same school was taken ill on the 26th, and the same day a child not at school was attacked, the remaining two being taken ill on October the 29th.

On the 23rd a boy of 8, in Back Blundell Street, at St. George's School, and in the second standard, began to be ill. No other member of the family was at school. On the 30th a girl of 6, in the first standard, at St. George's School, living at Stratton Street, was attacked, and on the 4th November a boy of 6, living in Bedford Place, close to the school, and attending in the first standard. Four other children were attending the school from this last-named house. It was found that the drainage from Back Bedford Place, a street in which a previous case of diphtheria had been reported in the week ended September 10th, was stopped. The drain ran South-west of the end of the cloister in which the children played,

the street being at a higher level than the covered playground. It was taken up and the obstruction removed, a strong solution of chloride of lime was poured down into the loose earth round the drain, and the school itself disinfected. We received every assistance from the managers of the school who gave us a complete list of absentees. Of 64 children enquired about in this way it was found that 15 were, or had recently been suffering from some infective disease, 6 from scarlet fever, 7 from diphtheria, 1 from influenza, and 1 from some throat affection. Thirteen others were suffering from some affection which might possibly be of an infective nature, such as colds, rheumatism, etc., 6 had other illnesses of a non-infective type, 18 were well, whilst in 12, from a wrong address or some other cause, the child could not be found. Of the 18 who were well some had been kept at home to help their mothers, but a good many were kept away on account of the rumours about diphtheria in the school.

General line of action.—It is perhaps, to save repetition, convenient to explain here our usual procedure in regard to these matters. As soon as a case of diphtheria was reported the house was visited by the inspector of the ward to ascertain the number of the family, the work-place, or school of each member, to carefully examine the house and test the drains with a smell test. The ashpit, or privy midden, if one existed, was immediately emptied. The house drains and the gullies in the immediate neighbourhood were flushed. We keep a careful register of the source of milk in each infectious case, and the Milkshops Inspector is in constant communication with me, and visits every milkshop supplying milk to more than two houses where the same disease is reported. In several cases, at my suggestion, he has gone to the farms from which the milk comes.

Milk.—The result of a very careful examination into the milk supply led us to the conclusion that it had nothing

whatever to do with the outbreak of diphtheria. I mention this specially, as at first I thought it desirable, until the examination of a certain farm could be made, to avail myself of the newspapers to request persons living in the Western part of the West ward, and the adjacent parts of Headingley ward to boil their milk. This recommendation was also pressed upon the inhabitants of the district by the Ward Inspector. A further investigation showed that the suspected milk supply was distributed in a large district unaffected by diphtheria—that the disease was largely localized to a particular area, and that the families within this area supplied by milk from other dairies did not escape.

Of the 15 families first affected during the earlier 9 weeks of 1897, 3 had obtained milk on recent occasions from milkman No. 61, but of these three, two more frequently used tinned milk. Two others obtained milk from milkman No. 9. This milk came from the same farm as that supplied by No. 61. Two families obtained milk from No. 376. Five families obtained milk each from different milk purveyors, some of them from more than one. Two families used Nestles' milk, and one "Swiss" milk, brand unknown. In addition to these three families using only tinned milk, four others used it frequently, and in one case milk was only obtained from vendor No. 61 after the patient became ill. In a second, milk was obtained from the same vendor only on one occasion.

The farmer supplying milk vendors, No. 9 and No. 61, keeps about 40 cows, which were all found in good condition. There had been no sickness amongst his family, which consisted of the farmer himself, his wife, two young children, a maid, and three farm men, since the early part of September. At that time he himself had a smart attack of English cholera.

Schools.—The Burley Road Board School, which was attended by a very large proportion of the patients first affected in this district, and in several cases, where those attacked were not of school-going age, by other members of their families, also received special attention. It was carefully overhauled, and the drainage, which had got into bad order, put right. At my request the School Board closed the boys', girls', and infants' department of the school ten days before the Christmas holidays. The whole school was thus closed from the 14th December, 1897, till January 10th, 1898.

My object in asking for this was not so much that the outbreak was due to any insanitary conditions found in the school, as from the feeling that, with the disease prevalent in the neighbourhood, children attending in the earlier and unrecognized stages might communicate it to their class-mates. A handbill was circulated in the whole of this district drawing special attention to the infectiousness of the ailment, and suggesting some means of preventing its spread. The Burley Road Board School has accommodation for 957 children, 305 in the infant department. The two nearest schools are St. Simon's National, and the Sacred Heart Roman Catholic School, with respectively 695 and 425 places, of which 239 and 206 respectively are for infants. The number of children on the roll at the Burley Road School, both in the whole school and in the infant department, was in each case larger than in both the others put together. The first outbreak of the disease, moreover, was in close proximity to the Burley Road Board School, somewhere about a quarter of a mile from the nearer of the other two schools.

During the first three October weeks of 1897 no case of diphtheria was notified in the West ward. During the fourth week one case was reported in the "alphabetical" area. No case was reported the week after. In the three

following weeks the cases reported were 2, 6, and 5 respectively. They fell to 1 in the first of the five December weeks. Cases were thus reported in five out of the nine earlier weeks of the quarter. These cases, to the number of 15, were returned as either diphtheria or membranous croup. In addition, we heard of a sixteenth case returned as "croup." Of these 16 cases one occurred in Back Abysinnia Terrace, another in Westfield Crescent, and a third in Victoria Mount, Woodsley Road, the last-named being a patient of 21. The remaining 13 were in the alphabetical streets (A. to V). Of the 15 cases occurring amongst children, 8 of the patients were actually in attendance at the time at the Burley Road Board School, and 1 had been at that school two months before. Six of these 8 children were in the infant department. Out of the remaining seven households, in 4, other members of the family were attending this school—in one of the four in the infant department. Of the 3 cases not amongst the A.B.C. streets, 1 was the adult already mentioned, no member of the family being at Burley Road School, in another neither the patient nor any of the family were attending Burley Road, whilst in the third (Westfield Crescent), the patient and three other members of the family were attending at this school. These are included in the figures already given.

These 15 children lived in 15 separate houses, as already said, with two exceptions, amongst the A.B.C. streets. The Burley Road School is just at the top of Hollis Street. There were altogether 29 school-going children in these 15 houses, and of these 27 were attending the Burley Road School. Of the 27 children, 9 were in the infant department, 4 in the first, 2 in the second, 2 in the third, 3 in the fourth, 6 in the fifth, and 1 in the sixth standard in the boys' or girls' department; in the boys' 8, in the girls' 10.

Drainage, &c.—The drains were tested in every case where diphtheria was reported. Of the 16 houses where the

earlier cases occurred the first test by calcium phosphide revealed defects in 4. A second test revealed it in 6 others, so that altogether in 10 out of the 16 houses drain defect was revealed by the smell tests. In these 16 houses entire disconnection had been effected in 7, but of these 7, 4 allowed the smell of the test to come from the sewer into the house.

It has been already mentioned that as soon as a case of diphtheria occurred the drains of the dwelling and the gullies in the immediate neighbourhood were thoroughly flushed with the hose-pipe. In addition to this a water barrel was sent, and each of the cross sewers leading to the main sewer in Kirkstall Road in the A.B.C. division was flushed so far as this method allowed. A large quantity of liquor, containing sulphates and chloride of iron, was put down into the street sewers after the flushing, and an iron sulphate powder into the gullies. Not only were the ashpits, whether dry or wet, emptied as soon as a case was heard of, but special attention was paid to others in the neighbourhood, which were freely treated with disinfectant in the form of chloride of lime. Where the family used a trough closet the whole block of closets, after emptying, was treated with carbolic acid, about a quart of crude acid being placed in each trough.

PROGRESS OF DISEASE.—During 1898 the number of cases in the A.B.C. area, and in the whole ward, diminished, but the disease spread gradually East and North. It will be noticed in this respect, on referring to the table, that the Mill Hill ward, which adjoins the West district, had occasional cases during the earlier part of 1898, and a somewhat larger number towards the end of that year. On the other hand, in the Burley portion of Kirkstall a good many cases occurred at the beginning of 1898, and the disease spread gradually westward, and assumed considerable importance in the fourth quarter of 1898 and the first quarter of 1899 in Kirkstall proper.

HEADINGLEY WARD.—The Headingley ward, with the exception of a small portion (Meanwood) at the eastern side, which is in Chapeltown, is all contained in the Kirkstall registration sub-district. Although Meanwood has frequently contributed diphtheria cases to our zymotic lists, no case in this portion of Headingley was reported during any of the six quarters from October, 1897, to March, 1899. We are concerned, therefore, with the part in the Kirkstall sub-district. It has been already pointed out that this portion adjoins the West ward. The division lies to the West of Ventnor Street, and is an irregular line between the backs of the houses in Ventnor Street and the backs of those in Lloyd Street. The streets from Meynell Street to Ventnor Street we have already dealt with as the western part of the West ward. Seven cases had occurred in this district between the weeks commencing with that ended December 25th, 1897, and ending with that ended on March 26th, 1898. These were the only cases reported in the fourth quarter of 1897 and first quarter of 1898. During the second quarter of 1898 no case was reported; during the next six months there were only two cases.

Burley is the part of Headingley ward adjacent to the West ward, and is enclosed by a line running from the river along the boundary already described, up Hyde Park Road as far as Royal Park Road, thence to the railway, down St. Ann's Lane, and back to the river. This district has increased very much in population since the time of the census, and is adjacent not only to the part of the western part of the West ward (M. to V.), but to the part North of that in which also a good many cases had occurred between November 18th, 1897, and July, 1898. Diphtheria was somewhat, though not largely, prevalent along the eastern margin of Burley, and there were in the first two weeks of July 4 and 3 cases reported respectively, after which, for eight weeks, including

the whole of the midsummer holidays, no case of diphtheria was notified. In the two following weeks 1 and 2 cases came to our knowledge. The week ended September the 1st gave us no fresh case. In the three earlier weeks of October there were 1, 3, and 1 cases respectively. In the last-named week of October, ended on the 22nd, there were 5 cases in one house close to the northern border line of Burley, but really in the district which I propose to call "Headingley." The two following weeks were without fresh cases in Burley, when a case occurred in the week ended November the 12th, followed by 4 the following, and 1 in the week after, chiefly in the neighbourhood of the eastern boundary of the district. After a week, without any case, 7 were reported in the following, and 9 in the week after, ended December 17th. Of these, however, 3 were in one, 5 in another, and 2 in a third house, the tendency being still to keep in the neighbourhood of the West ward. After that the Burley cases diminished in number, being in the weeks ended 24th and 31st of December 1 and 3 respectively. In January of the present year 1 case was reported in the first and 1 in the third week. In February the cases were 4, 2, 4, 2 in March, 0, 0, 1, 6, and 1 in the several weeks respectively. The incidence was, therefore, greatest in December, 1898, and in February, 1899.

Kirkstall.—In the part of the ward west of Burley, and which may be regarded as "Kirkstall proper," there was no case during the first, second or third quarters of 1898, but 2 were reported in new houses in the neighbourhood of Kirkstall Vicarage in the week ended November the 19th, 2 more in the same district in the week ended December the 10th, single cases in Bridge Fold (near the river) and Lumley Terrace (near the church) in the two following weeks, and 2 more cases at Morris Grove and Vicarage Place, both near the church, in the last week of the year. During the present year the cases reported in the four weeks of January were 8,

2, 0, and 17, in February 8, 6, 5, and 3, and in March 6, 2, 4, and 2, the last week being a maiden one. These cases had been principally in the neighbourhood of the church and in the body of the village of Kirkstall, several having occurred in Commercial Road, a continuation of Kirkstall Road.

Towards the end of the year 1898, the boys' and girls mixed department of the Church School (St. Stephen's) was closed from the 14th to the 31st of October. It then remained open till the ordinary Christmas holiday, which commenced on the 24th of December, but it was kept closed until the 16th of January, 1899, a full week later than the ordinary holiday. It remained open for a fortnight, and was closed again on the 27th, remaining closed until Monday, February the 13th, 1899. The Kirkstall Board School also remained closed after the Christmas holidays until the 16th of January both in the mixed and infant departments.

Headingley proper.—Distinguishing the portion of the ward North of the irregular line already traced from Hyde Park Road to St. Ann's Lane, and North of a line from Headingley Station to Spen Lane, and South of the Meanwood Beck as "Headingley proper," this district fared pretty well during the earlier part of 1898. Single cases were reported in the weeks ended July 30th, August 20th, September 17th, and October 22nd. In the last-named week 5 cases occurred in one house, as already stated, near the division line between Burley and Headingley, or rather Wrangthorn. In the week but one preceding, a death had been certified from "membranous pharyngitis" (Z. 2916: 7). This case had not been notified, and is not included in the above figures. In the week ended November the 3rd a case occurred in Norwood Place, off Victoria Road, followed by two cases in the same house the following, and two more the week after, while in Chestnut Avenue, close by, two cases occurred, one in the

week ended the 10th, the other in that ended the 17th. There was no other case in Headingley in 1898. There were 3 in the first, and 3 in the second week of January, 2, 3, and 1 respectively in the three earlier weeks of February, and no other in the quarter.

Causation.—It is evident from the way in which the disease occurred in this ward that it spread by contagion. There was no evidence of any endemic cause.

Measures taken.—It is unnecessary to repeat details:—every house was visited, isolation as far as practicable enforced, the drains examined and tested by a smell test in every case, and any serious defect found rectified. The emptying of the ashpits, and the flushing of the house drains and those adjacent were carried out as described in connection with the West ward, though the general flushing of the street sewers did not take place.

WORTLEY REGISTRATION DISTRICT.—The Wortley registration district contains two entire wards and part of a third. It is also divided into three townships. The wards are New Wortley, "Armley and Wortley," and part of Bramley. The New Wortley and part of the Armley and Wortley wards are in the Wortley township, the remaining and, so far as population goes, larger part of the Armley and Wortley ward is in the Armley township, and the portion of Bramley ward in the district is in and constitutes the township of Farnley. I propose to go into some little detail as to the localization of the earlier cases, both as regards dwelling and school.

In the fourth quarter of 1897 altogether four cases had been reported in the entire district. Of these 2 were in the New Wortley ward, and 2 in the Armley and Wortley ward. The former were respectively South-East of Wellington Road and North-West of the same road, but East of Green Lane, the latter respectively at Castleton, and near Tong Road. None of the patients were at school.

First quarter of 1898.—The following quarter, the first of 1898, New Wortley furnished 4, Armley and Wortley 8 cases. In the second week of the year a case occurred at Brooklyn Terrace, just North of Hall Lane, in the Armley part of the Armley and Wortley ward. The patient was in the infant department at Armley Board School, another child in the fifth Standard, the father a warder at the gaol. In the first week of February a case, notified as membranous croup, occurred on high ground at Ellis Square, off Theaker Lane, in the village of Armley, which is in the Armley township and Armley and Wortley ward. The next week a case was reported off Canal Street, New Wortley, and in the week after a case in Stapleton Grove, at the back of Canal Street. A second case occurred in the same house the week following. Two cases occurred also in the same two consecutive weeks in a house in Mistress Lane, which lies South of Armley Road, between it and Tong Road. The house was towards the Armley village end of the lane, and faced South. In the first week of March a case occurred at Park Crescent, Moorfield Road, in the North-Western part of the Armley and Wortley ward, and in the township of Armley, and about a quarter of a mile away from any of those yet mentioned. Three weeks later two occurred in the same house in Winchester Street, one of the new streets off Armley Road, in the neighbourhood of the gaol, in the Armley township, and in the Armley and Wortley ward. In the following week another case occurred at Bridlington Street, Bankfield, a little further out, on the South side of Armley Road, and the same week a case at Longley Street, which runs between Canal Street and Wellington Road. Of the dozen cases, therefore, in the district during the quarter, one was at Theaker Lane and a second at Park Crescent, places a quarter of a mile from one another. The cases at Mistress Lane, two in one house; at Bridlington Street; at Winchester Street, also two in one house; and at Brooklyn Terrace, although in the neighbour-

hood of one another, could not be said to be near together. On the other hand, the case in Hedley Street, off Canal Street, and the two cases in one house in Stapleton Grove were all within a few hundred yards of one another. The distance from Canal Street to Winchester Street is not very great—about a quarter of a mile.

Of the SCHOOLS attended by these patients, it may be remarked that one of the Stapleton Grove patients was in the infant department of the Castleton Board School, no other member of the family being at school—that one of the Winchester Street cases was in the same department of the same school; another member of the family being in the first standard. The Hedley Street case was also in the infant department of the Castleton Board School, another member of the family being in the third standard.

The Armley Board School was attended by one of the two cases in Mistress Lane, none of the rest of the family being at school, and by the patient and a sister at Brooklyn Terrace. The infant department of Christ Church School was attended by two children in the house in which the child was taken ill at Ellis Square, Theaker Lane, and by one member of the family in Park Crescent.

In the Longley Street and Bridlington Street cases no member of either family was in attendance at school. It will thus be seen that while Canal Street, Stapleton Grove, and Longley Street were near one another, that the Castleton Board School was a possible connecting link between Winchester Street and certain of these cases, whilst the Christ Church School, which is in the Western part of Armley township, but South of the Bradford Road, may have been a connecting link between the cases at Theaker Lane and Park Crescent.

Second quarter of 1898.—In April there was only one case in the district, and that was quite out of the way of

any of the previous ones, namely, at the lodge attached to the Cemetery, off Oldfield Lane. The patient was attending the Whitehall Road Board School, and another member of the family the Wortley Grammar School. This case was reported in the last week of April. In the second week of May one was reported in Victoria Square, off Skilbeck Street, New Wortley—a short street running West from Wellington Road, about half way between the railway arches and Oldfield Lane. This man worked at a printer's; none of his family was at school. In the following week three cases in one house were reported at Rhodes' Place, on the South-East side of Wellington Road. Two of the patients were at the Green Lane Board School, one in the infant department, one in the fourth standard; no other member of the family was at school. The following week a case occurred at Redshaw Place—a street on the South side of Tong Road, between the boundary of New Wortley and Strawberry Lane. The patient, the only child at school, was also attending the infant department of the Green Lane Board School. These five were the only cases returned in May. In the first week of June a case was reported at Gledhow Street, on the opposite side of Tong Road from Redshaw Place. This patient was also attending the Green Lane infant department. The case of another patient, not at school, was reported in the same house five weeks later. In the week ended June 11th three cases were reported in one house in Gilpin View, which lies in New Wortley, to the South of Tong Road, but not very far from it. Two of these three were in the junior department of the Green Lane Board School, the third was an infant not at school. Another member of the family was attending, and in the third standard. The following week a child, not at school, was reported as having diphtheria at Branch Road, in Armley village, and the week after a case occurred at Lodge Avenue, not far from Gilpin View already mentioned. The patient was not at school, but other members of the family were in attendance

at the Green Lane School, in the infant department, and first standard. Another patient in the same house, one of those attending the Green Lane infant department, was taken ill in the week ended September the 3rd. In the week ended July the 2nd there were 3 cases in the Wortley registration district, one of them was in Lodge Avenue, the street just mentioned, about nine doors from the house last-named. This child was attending the Green Lane School infant department, and other members of the family were in the junior department. In the same week a child in Fearnley Street, off Tong Road, in the district already mentioned between Strawberry Lane and the New Wortley boundary, was reported ill. No member of the family was at school. Still in the same week a case occurred in Barnet Terrace, close by, followed by another in the same house the following week. The first of these patients was attending the infant department at Green Lane School, the second was in the second standard, and there was one other in the same standard. This brings us to the end of the second quarter, during which 15 cases had been reported, 9 in New Wortley, and 6 in Armley and Wortley.

It will be noticed that during this quarter, while several cases had occurred in the New Wortley ward, they were not in immediate geographical relationship to those mentioned in the previous quarter, but most of them occurred on the South side of Tong Road, and several were directly or indirectly connected with the Green Lane Board School. Those in the Armley part of Armley and Wortley occurred chiefly in the streets on the right hand side of Tong Road, between Eighteenth Avenue and Strawberry Lane, and several of these also were connected directly or indirectly with the Green Lane Board School.

Latter half of 1898.—The third quarter was the one in which the disease assumed a somewhat epidemic form, 37

cases of diphtheria and 4 of membranous croup being reported in New Wortley, 50 of diphtheria and 3 of membranous croup in Armley and Wortley. The Farnley district still remained free. It would be tedious to narrate the exact situation of every house and specify the school of every patient. Dividing the New Wortley ward, however, into certain areas, the streets North and North-East of the Gas Works in this district may be conveniently called the NORTH PART OF NEW WORTLEY. Here there had been, as already mentioned, four cases in three houses during the first three months of the year. No new case was reported in this district during the second or third quarter. During the fourth quarter there were four cases in October and nine in November, of which three were in one house. There were six in December, of which one was in a house where a case had occurred in the last week of November.

Taking next the district SOUTH-EAST OF WELLINGTON ROAD in which there had been three cases in one house in May, there were altogether in the third quarter five cases, two in July and three in August. In October there were two cases, and in November three, followed by six more in December. Of these, however, two were in the same house (Z. 2991 : 5).

Taking the district, which may be called the EAST PART OF NEW WORTLEY PROPER, and which lies East of Green Lane, North of Tong Road, and North-West of Wellington Road, in this district there had been one case in the previous six months (in May). July furnished seven, August three, and September six; that is sixteen. In October the cases increased to eight, but of these two were in one house, and two others were in houses previously affected. In November there were seven cases, one of them in a house previously affected.

The district WEST OF GREEN LANE, extending to the boundary of New Wortley, had been free from cases in the six earlier months of the year. There were four in July, two in August, and one in September. In October there were two, and in November three, followed by two others in December.

The part of New Wortley, SOUTH OF TONG ROAD, the most populous part of which lies between Tong Road and Oldfield Lane, had furnished five cases in the previous half year, all in the month of June. There were two more in July, five in August, and six in September. In October there were three, two of them in one house. There was one case in November, and December had a clean bill.

The part of the township of Armley, between the boundary of New Wortley and Canal Road, taking in both sides of Armley Road, and going as far South as Hall Lane, may be conveniently called CASTLETON. It is contained in, but does not embrace the whole of, the Armley and Wortley polling district, 39. Three cases in two houses had occurred in this district in March, there was no other until August, when a case occurred. In September there were three more. In October there were four cases, two in one house. In November twenty-four cases were notified. Of these, however, four were in houses previously affected, three were in one, and two each in two other houses, so that the number of new houses was not so great as the figures would at first appear to suggest. The month, as will be remembered, consisted of five weeks. In the four weeks of December there were twenty-four cases. Of these two occurred in one house, another case was reported where two others had occurred the previous month, two other houses had each two cases, and a third had three, whilst another house was the same in which previous cases had occurred earlier in the year. This Castleton district contains a great deal of new property.

North-West of Canal Road, and North of Bradford Road, is a district containing some old property, and a great many newly-built houses. During the first half of the year no case occurred in this, which may be conveniently called the *PARK DISTRICT*. In July there was one case, in August two, and in September six. Six more occurred in October, two of them in one house. In November nineteen cases occurred, three of them in one house, two in another, and one in a house in which one of the October cases had occurred. In December there were five cases, two in one house.

The village, and the immediately surrounding part of *ARMLEY*, had furnished three cases in two houses in February, and one in June. In July there was one, and in September three cases. October had two cases, November seven—three in one house and two in another—whilst December furnished no fewer than fifteen new cases. Of these, however, five were in one house, three in another, and another case was in the same house as one of the October ones.

The district between Hall Lane, Main Road, the township boundary (which is a little South of the railway), and the boundary between Armley and New Wortley, may be conveniently called the *TONG ROAD DISTRICT*. This district furnished one case in May, and three in June, seventeen in July, nine in August, and three in September. In October there were eight cases, and in November fourteen. In December they fell to ten, of which four were in two houses.

WHINGATE, by which is understood the district North of the upper part of Tong Road and West of Whingate, including Silverroyd Hill, and lying for the greater part in the township of Wortley, had no case during the first seven months; one occurred in August, two in September, two in October, and six in November. Of the latter, however, three were in one house, and two in a house in which one of the

October cases had occurred. In December there were twenty-two cases in this comparatively small district; two in a house in which three cases had occurred in November, two others in the house in which two November and one October cases had occurred, and two others in a house not recently affected. Most of the houses in this district have been built recently.

UPPER WORTLEY had a single case in August; two cases (in one house) in October; two single cases in November, and three in December.

LOWER WORTLEY had no case till towards the end of the year. Two cases occurred, however, in the Wortley part of the Armley and Wortley ward that could not be referred either to Upper or Lower Wortley. One of these was reported in November, the other in December. This district may be conveniently spoken of as MIDDLE WORTLEY.

The district in the neighbourhood of MOORFIELD ROAD, and to the North of it, may be conveniently separated. It contributed six cases in the month of December, four of them, however, in two houses. An earlier case had occurred in March.

The FARNLEY portion of the Wortley registration district, which forms a portion of Bramley ward, also contributed six cases in December, two occurred in one, four in another house.

Schools attended, latter half of 1898.—During July fourteen children attending the Green Lane Board School were attacked, and nine other cases occurred in houses in which a member of the family was going to this school. One patient attending the Armley Board School was also attacked, and five patients at the Armley Church School, and three others in families

where others were attending the latter school. A case occurred in a house where other children were attending the Castleton Board School.

In August, five of the patients were at Green Lane Board School, and six other cases occurred where other members of the family were attending the same school. Two Armley Board School children were attacked, and two children from the Armley Church School, while three other cases occurred in houses where other children went to this last-named school. Whitehall Road Board School was attended by children from two houses in which cases occurred during this month, whilst the Upper Wortley Board School furnished two patients.

In the four weeks of September the Green Lane School furnished seven cases, and other members of the family were attending from houses in which seven others were attacked. The Armley Board School sent us eight cases, and another patient was attacked in a house from which children were attending this school and the Armley Church School. The latter sent us four patients, whilst the Whingate Board School furnished one. A patient, not at school, was attacked in a family where three children were attending the Christ Church School, whilst in the same week a patient employed elsewhere was reported in a house where children were attending the school of the Holy Family.

In October the Green Lane School furnished no fewer than fifteen patients, while two other cases occurred in families where children were attending this school. In November the same school gave us eleven patients in actual attendance, and children were attending this school from houses in which four other cases occurred. In December seven patients came from the school, and four from families, some of whose members attended.

At Green Lane the incidence was largely in the infant department, and as some drainage alterations had to be made I advised the School Board to close this department, which they did from the 27th of October to the 4th of November, and the whole school was closed a week in advance of the ordinary Christmas holidays, and remained so until January 16th, 1899.

The Castleton School had hitherto furnished very few cases. In October four patients had been in attendance upon the school, and two cases occurred in a family where one of the household had been at this school, and others at Green Lane. In November ten direct and two indirect cases occurred, and in December eight and two.

The Armley Board School had not furnished many cases in the earlier part of the year, but, as already said, a few cases occurred in September. In October four patients from this school were attacked, and in November twenty-nine were in attendance at the time of attack, and eleven cases might be said in an indirect way to be connected with the school. The direct cases fell to ten in December, and the indirect to three. The two schools last named were also closed a week before the regular holidays, and were not re-opened till a week later than the Elementary Schools in other parts of the town.

The Armley Church School, which had suffered a little in the third quarter, furnished three direct and two indirect cases in October, four and one in November, eight and one in December. The Christ Church National School had one direct case in November, three direct and two indirect in December. The Armley Higher Grade School was associated indirectly with three cases, one each in October, November, and December, and one direct in the latter month. These three schools were closed from the 19th of December to the 16th of January.

The Whingate Board School had been free from diphtheria cases until the middle of September, when one patient was attacked. In October one child in attendance was affected, and another house, from which a child attended this school, furnished a further case. In November three direct and two indirect attacks occurred, but in December no fewer than twenty-six direct and eleven indirect cases were connected with this school. The Board closed the school from December 16th to January 20th.

The other schools contributing cases to this district during the fourth quarter were St. John's, Whitehall Road, from which single direct cases were reported in Wortley, one each in October, November, and December—the Whitehall Road Board School one direct in Wortley district in October, two direct and two indirect in November, and three direct in December—the Upper Wortley Board School, two patients in November, one in December—the school attached to the Church of the Holy Family one in November and one in December—and the Lower Wortley Board School, which furnished one of the Farnley cases, in a house in which another patient was also taken ill. The remaining school on our notes in regard to Wortley is that connected with All Saints', York Road, where a patient fell ill in a house where another member of the family attending a different school was also attacked. With the exception of the Holy Family School, none of the above had the ordinary holidays extended. This school was closed from December 19th to January 16th.

GENERAL REMARKS.—*New houses.*—While the outbreak in the A.B.C. portion of the West ward at the end of 1897 occurred for the most part in houses closely built and old, though scarcely ancient, the earlier New Wortley cases occurred, many of them, in more recent houses, though most of them

in such as one would scarcely call new. As the disease extended, in Armley, along both sides of Tong Road, the cases occurred principally in houses built about ten years ago, some a little more. Later, the disease became most prevalent in houses built since the 1890 map was published, in what I have called the Tong Road, the Castleton, the Park, the Moorfield, and Whingate districts of the Armley and Wortley ward.

It is possible that the somewhat marked incidence of the disease upon families housed in new property may be partly due to the circumstance that new houses are generally occupied by persons with young and growing families, affording a larger number of children at school-going age. It is also, perhaps, worthy of remark that a good many of the houses built more than five years ago, especially in the outer parts of the Armley district, are provided with midden privies.

Street gullies.—It has been suggested that the abolition of street grids with catchpits, and the substitution of "shoots," may have had something to do with the prevalence of the disease on new property. Against this view it may be urged that while Wortley suffered severely from the outbreak in 1898, the East ward had comparatively few cases of the disease. In Wortley, "shoots" have here and there been substituted for catchpits, but not to any very great extent. In the East ward, for about five years, we have had practically none of the old catchpits, the "shoot" having been substituted, after the severe outbreak of diarrhœa we had in 1893, throughout the greater part of the ward, occasional exceptions being of course made owing to local circumstances. The removal of the catchpit, it must also be remembered, did not involve doing away with the trap, the grids being already untrapped in the majority of cases, and although, doubtless, the wider opening of the "shoot" allowed of the freer ventilation of the drain, the gases from the latter had not to pass over the decomposing filth collected in the catchpit.

The closing of schools is a remedy one is very unwilling to resort to where, as is the case in Leeds, the School Board and the Managers at the denominational schools are willing to help us by refusing to receive children from infected houses. The difficulty of recognizing early cases, and the probability that children from infected houses, or even patients themselves, where the case has not been recognized, may be sent to school, makes it exceedingly difficult, however, to carry out in practice this theoretical exclusion of morbiferous persons.

Change of name.—Another point to be kept in remembrance is that our experience of notification is limited; while the increased death-rate leaves no doubt that diphtheria has been lately more prevalent than of recent years, it is also probable that there has been lately a greater tendency on the part of medical men to regard suspicious throats as diphtheritic. It was found, for instance, on comparing the successive quarters of 1898, that the ratio between deaths and reported cases had suddenly decreased in the fourth quarter of that year. This great decrease in the case mortality coincided with a considerably increased death-rate, and a very much increased case-rate. Comparing the age of reported cases in the third and fourth quarters of 1898 it was found to be the same in both—nine and a half years. These facts point to the probability that a large number of slight cases, which a few years ago would not have been regarded as diphtheritic, now come into our list through notification. On the other hand, in a very large proportion of the cases in which bacteriological examination was made, this diagnosis was justified.

WHOOPING-COUGH.

As will be seen from Table D, whooping-cough caused 0·39 deaths per 1,000 of the population, against 0·40, the average of the eight preceding years. The rate had been higher in 1896, and lower in 1897. The disease is not one over

which we exercise very much control. We recommend that children from houses where the disease exists should not be admitted to the infant departments at the elementary schools, but as it is not notifiable, we know only of those houses in which death has occurred. We have examined most of such; the results for 1897 and 1898 will be found in table 25. Of the 260 death-houses examined 205 were of the back-to-back type, or nearly 80 per cent. Of the 260 houses, 143 had drains (other than water closets) severed; these correspond to 55 per cent. Of these, in two, obvious defects were found, whilst in 115, or 44 per cent., not severed, there were also two with drainage defects, the remaining two houses having no drains. As to conveniences 33 per cent. of the houses had the ordinary water carriage system; nearly 3 and nearly 4 per cent. having the two forms of inside closet, and nearly 27 per cent. having the outside water closet; 35 and 31 per cent. respectively had troughs and middens, or pails. The fact that so large a percentage of houses showed no defect, probably indicates that drain examination in the absence of tests is inadequate.

CONTINUED FEVER.

The death-rate from the three groups of continued fever, during the year, was at the rate of 0·23 per 1,000 per annum. As was pointed out at page 55 in the supplementary report for 1896-7, the death-rate for the ten years 1870-79 had been 0·73 per 1,000; for the decade 1880-89 0·33 per 1,000; while for the eight years 1890-97 it was 0·22. While, therefore, the rate last year was fractionally higher than the average for the eight preceding years, there was nothing about it specially alarming. Typhus fortunately was absent. Ninety-two deaths were registered from enteric, and four from other or doubtful fevers.

Turning now to the notifications it will be seen from table B that no fewer than 539 cases of typhoid, and 3 cases certified as continued fever were notified to us during the year. Of

the latter, 2 were in children under five, and one was between the ages of five and fifteen, whilst of the former 32 were at the earlier, 168 at the middle age group, and 339 were above fifteen years of age. The local prevalence of typhoid in sub-districts, so far as it is shown by the death-rate, is given in the third part of this report. The prevalence of the notified cases, however, which is perhaps more important, I propose to give in wards. The cases with the age grouping will be found in table B, part 2, the numbers for the districts can be found on referring to table B, part 1.

Typhoid: ward case-rates.—The case-rate for the city, rejecting the 3 cases of continued fever, was 1·30. The rate was exceeded in Mill Hill, where the rate was 2·29. The ward, however, it will be remembered is small. In the South (2·17) it was also exceeded. It was also exceeded in East Hunslet (1·69), in Armley and Wortley (1·61), in the North-west ward (1·55), in Headingley (1·48), and in the North ward (1·47). The rate in Holbeck was almost exactly that of the city, 1·31. The rate was lower than that of the city in the East ward (1·04), in New Wortley (1·03), in Bramley (1·03), in the West ward (1·01), in West Hunslet (1·00), in Brunswick (0·90), in the North-east (0·89), and in the Central (0·71). These rates are calculated on the newly estimated populations, making allowance for the fifty-two weeks in which notifications occurred.

Preference of typhoid for new property.—It has been already remarked in connection with diphtheria that the disease showed a predilection for new property. This was also the case in regard to typhoid, and is perhaps sufficiently marked in the figures already given for the several wards—wards being more convenient units than the districts because smaller and varying less in size, although they are less frequently used as the statistics are more troublesome to get out.

It will be noticed above that with the exception of the South and the Mill Hill ward—the latter comparatively small

—some of the higher mortalities have occurred in the outlying districts. The North ward, which contains a considerable quantity of new property, the Armley and Wortley, and the Headingley wards, which both have a good deal of new property, and East Hunslet ward, which is also being rapidly built up, suffered a good deal, whilst New Wortley, the West ward, Brunswick ward, the North-east and Central wards, which are not increasing so rapidly, had the fewest cases in proportion to the population. I propose on another occasion to place before you the proportions of typhoid cases in the same intercepts that have been used for diphtheria. The figures have in fact been got out for the third and fourth quarter of 1898, but will probably be of more value if combined with those for the three preceding years. For the quarters mentioned an analysis has been made of the sanitary conditions.

Typhoid and diarrhœa and drainage, 1898.

		Back-to-back.						Through.					
		Drains good.			Drains bad.			Drains good.			Drains bad.		
		W.C.	T. W.C.	M. or P.	W.C.	T. W.C.	M. or P.	W.C.	T. W.C.	M. or P.	W.C.	T. W.C.	M. or P.
TYPHOID (CASES).													
III. quarter	...	12	12	16	13	10	23	13	1	2	6	1	7
IV. „	...	25	24	24	34	38	54	23	4	15	25	5	16
Together	...	37	36	40	47	48	77	36	5	17	31	6	23
DIARRHŒA (DEATHS).													
III. quarter	...	46	65	49	43	73	77	32	6	9	14	4	9

DIARRHŒA.

The death-rate from diarrhœa was high, amounting to 1·24 for the year. It had been 1·58 in 1897 and 1895, 1·60 in 1893, while in 1896 it had fallen to 0·69 (little more than

TABLE 17.

Shewing the deaths of persons under and over five from certain causes and groups of causes.

1898.				Thirteen weeks ended April 2nd, 1898.		Thirteen weeks ended July 2nd, 1898.		Thirteen weeks ended Oct. 1st, 1898.		Thirteen weeks ended Dec. 31st, 1898.		Fifty-two weeks ended Dec. 31st, 1898.		Total.
				-	+	-	+	-	+	-	+	-	+	All ages
				5	5	5	5	5	5	5	5	5	5	
Small-pox				...	1	1	...	...	...	...	...	1	1	2
Measles				58	...	72	5	25	1	26	1	181	7	188
Scarlatina				20	15	19	15	10	15	15	12	64	57	121
Diphtheria				19	13	13	12	26	23	53	44	111	92	203
Croup (membranous)				6	2	...	1	6	4	5	2	17	9	26
,, (undefined)				7	1	2	...	4	1	6	2	19	4	23
Whooping-cough				75	2	51	...	21	...	13	...	160	2	162
Continued fever.	{ Typhus			...	...	...	...	...	...	...	...	...	...	...
	{ Enteric			2	15	1	8	...	12	3	51	6	86	92
	{ Other or doubtful			...	1	1	...	1	...	1	...	3	1	4
Diarrhoea and dysentery ..				6	4	4	4	40	26	58	6	472	40	512
Cholera				...	...	...	1	...	1	...	...	...	2	2
Rheumatic fever				...	1	...	...	...	1	...	1	...	3	3
Acute and sub-acute rheumatism				...	5	...	4	...	5	...	5	...	19	19
Erysipelas... ..				...	6	1	2	...	1	2	...	3	9	12
Pyæmia				1	3	...	3	...	...	...	...	1	6	7
Puerperal fever				...	3	...	6	...	1	...	5	...	15	15
Ague				...	...	...	2	...	...	...	...	...	2	2
Phthisis				5	141	6	164	5	117	6	132	22	554	576
Other tuberculous diseases				54	21	51	18	68	19	60	22	233	80	313
Bronchitis, pneumonia, and pleurisy				186	215	170	217	86	91	156	151	598	674	1272
Influenza				3	17	3	21	...	3	2	1	8	42	50
Heart disease				1	138	4	150	2	108	2	124	9	520	529
Other diseases of the circulatory system				1	15	...	13	...	13	1	11	2	52	54
Injuries				21	52	18	49	9	55	15	39	63	195	258
Other causes				377	501	394	461	530	449	391	448	1692	1859	3551
Total under 5				842	...	811	...	1197	...	815	...	3665	...	...
Total over 5				...	1172	...	1156	...	946	...	1057	...	4331	...
TOTAL ALL AGES				2,014	...	1,967	...	2,143	...	1,872	...	7,996	...	7996

half what it was in 1898), and in 1894, that specially healthy year, to 0.45; the average for the eight years 1890 to 1897 having been 1.10.¹ The disease manifested itself in the autumn of 1898, rather later than we are accustomed to, but made up for its tardy onset by the severity of its attack. The hot dry weather of August was especially favourable to its development.

Disinfecting latrines.—Along with Mr. Darley I spent nearly a week making observations upon the use of disinfectants for trough closets. We found that we could greatly reduce the offensiveness of these latrines by introducing daily a small quantity of disinfecting fluid. Accordingly the trough closet men were provided with small half gallon tins in which to carry an alkaline solution of some of the phenols, and were instructed to put a small portion into each closet. The proportion used made an emulsion with water that rendered it easy for the foreman to see if our instructions had been carried out. This process has been commenced in the present year before the advent of the very hot weather, and it remains to be seen whether it will justify the extra cost involved. It was unfortunately begun too late last year to enable us to say what the result would be.

More frequent cleansing of certain latrines.—During last year also the extra emptying on Sunday night of the trough closets under dwellings was carried out. It has not been recommenced up to the present time this year, as the offensiveness has been less since we began to use the deodorant. The subject of diarrhœa and the kind of closet induced me to make some remarks to the Committee at the time, and they instructed me to make a special inquiry, the substance of which I here embody.

DIARRHŒA AND CLOSET ACCOMMODATION.

During the third quarter of 1898 the death-rate of the city from diarrhœa amounted to 4.11 per 1,000 of the estimated

TABLE 18.

Shewing death-rate per 1,000 of the estimated population from certain causes and groups of causes, and for the periods of time dealt with in the preceding table.

1898.	I.	II.	III.	IV.	Year.
Small-pox	0'01	0'01	...	...	0'00
Measles	0'56	0'74	0'25	0'26	0'45
Scarlatina	0'34	0'33	0'24	0'26	0'29
Diphtheria	0'31	0'24	0'47	0'93	0'49
Croup (membranous)	0'08	0'01	0'10	0'07	0'06
„ (undefined)	0'08	0'02	0'05	0'08	0'06
Whooping-cough	0'74	0'49	0'20	0'13	0'39
Continued fever. { Typhus	...	...	...	...	...
Continued fever. { Enteric	0'16	0'09	0'12	0'52	0'22
Continued fever. { Other or doubtful	0'01	0'01	0'01	0'01	0'01
Diarrhoea and dysentery	0'10	0'08	4'14	0'62	1'23
Cholera	...	0'01	0'01	...	0'00
Rheumatic fever	0'01	...	0'01	0'01	0'01
Acute and sub-acute rheumatism	0'05	0'04	0'05	0'05	0'04
Erysipelas	0'06	0'03	0'01	0'02	0'03
Pyæmia	0'04	0'03	...	...	0'02
Puerperal fever	0'03	0'06	0'01	0'05	0'04
Ague	...	0'02	...	...	0'00
Phthisis	1'41	1'64	1'18	1'33	1'39
Other tuberculous diseases	0'72	0'67	0'84	0'79	0'75
Bronchitis, pneumonia, and pleurisy	3'86	3'73	1'71	2'96	3'06
Influenza	0'19	0'23	0'03	0'03	0'12
Heart disease	1'34	1'48	1'06	1'21	1'27
Other diseases of the circulatory system	0'15	0'13	0'13	0'12	0'13
Injuries	0'70	0'64	0'62	0'52	0'62
Other causes	8'46	8'24	9'43	8'08	8'55
ALL CAUSES	19'40	18'95	20'64	18'04	19'26

population. On the population estimated from the number of houses in the rate books, this rate varied in the different Registration divisions of the town, from 1.26 in Chapeltown and 2.27 in Bramley, to 5.14 in North and 6.56 in South-east, Leeds.

In returning the kind of closet in use in various houses visited on account of infectious disease, it has been our practice for some years to enter each house examined as if it had only one closet, putting it down, therefore, to the one that we regard as the least wholesome. In consequence, a certain number of houses having W.C.'s inside are classified in the diarrhœa and other disease tables as having middens when these conveniences exist in addition to the inside W.C.'s.

Proportion of diarrhœa houses in 1898 having various kinds of closets compared with proportion of closets of those kinds in the town in 1894.—In 1894, when Mr. Darley made a sort of census of the conveniences in the town, it was found that 36.74 per cent. of the houses had W.C.'s and dry ashpits, a smaller number, 1.52 per cent., of the whole houses in the borough had W.C.'s and wet ashpits, and would consequently be considered in our analysis of case-houses as having middens.

W.C. houses.—During the quarter, of the 427 who died from diarrhœa, 135 or 31.62 per cent. had lived in houses having a W.C., but (mistakes excepted) without a midden. The difference between the 31.62 per cent. of deaths in W.C. houses and the 36.74 per cent. of W.C. houses with dry ashpits leaves 5.12.

Trough water-closet houses.—The proportion of houses with trough water-closets in 1894 was 27.77 per cent. with dry ashpits and 0.05 per cent. with wet. The latter would in most cases be counted, had disease occurred in them, as houses with middens.

The deaths in the third quarter of 1898 in trough closet houses were 148, 34.66 per cent. of the deaths in the city—an excess of 6.89.

Midden houses.—The houses with unadulterated middens formed 35·26 per cent. of those recorded in 1894, while the 137 diarrhœa deaths recorded as occurring in midden houses were 32·08 per cent. of those in the city, leaving a difference in favour of the midden houses of 3·16, as compared with 5·12 in the W.C. houses.

This comparison, however, is not quite fair to the houses with middens, because, as already said, the deaths occurring in the houses which have both middens and W.C.'s are regarded as having occurred in those with the former.

If, therefore, we add the 1·52 per cent. of W.C. houses with wet ashpits, and the 0·05 per cent. of houses with trough closets and wet ashpits to the 35·26 per cent., we get 36·83 as the percentage number of midden houses as we should regard them in our death tables. And if we take the 32·08, the percentage of all the diarrhœa deaths occurring in houses with middens from this 36·83, it leaves 4·75 as the difference. This compares more favourably with the 5·12 per cent. in W.C. houses than one was altogether prepared to expect. The fallacy involved is alluded to later.

Pail closet houses.—Pail closets unconnected with wet ashpits were in use in only 1·62 per cent. of the houses in the city in 1894, and 0·05 per cent. in addition had pails and wet ashpits, together 1·67 per cent.

The 7 deaths in houses in which the pail was the form of closet used formed 1·64 per cent. of all the quarter's diarrhœa deaths. Pails, therefore, seem to have stood in a comparatively favourable position, less favourable than W.C.'s, less favourable than middens, but much more so than trough closets.

Diarrhœa and closet accommodation since 1890.—It is scarcely fair, however, to compare the proportion of deaths in houses with the several different classes of closets in 1898

with the proportion of houses using these kinds of closets in 1894. The action of the Committee during these four years has resulted in a very considerable change in the proportion between houses with water-carriage and those with middens. This will again be spoken of later.

During the eight years, 1891-97, of which 1894 forms a sort of middle period, the houses in which 3,048 deaths from diarrhœa had occurred were examined.* The records as to the class of closet accommodation to these houses are contained in Table 25 of the annual reports for each of these years.†

Of the 3,048 death-houses, 724 had the use of a water-closet, inside or outside the house, and in the majority of cases no other convenience, while 1,139 had the use of a trough closet, and 1,186 of a midden or pail. The midden and pail houses have not been kept separate in the tables for these years, and could not be got out without a little trouble. I propose, therefore, to treat the two classes as one.

W.C. houses, 1891-7.—During the seven years 23·76 per cent. of the deaths from diarrhœa occurred in houses using inside or outside water-closets. The percentage of these houses in the town in 1894, the middle year of the seven, we have already seen was 36·74, the difference in the percentages being 12·98.

T.W.C. houses, 1891-7.—In houses with trough closets 1,139, or 37·33 per cent. of the 3,048 diarrhœa deaths occurred. Closets of this kind were used by 24·77 per cent. of the families in Leeds in 1894, that is to say the death percentage was 12·56 in excess of the house percentage.

Middens and pail houses, 1891-7.—Adding the houses with pails to those with middens, and including amongst the latter all the houses to which there was a wet ashpit attached,

* Where more than one death occurred in the same house the latter is recounted.

† Except for 1897 which is included in the present report.

whether these were otherwise provided with water-closets or with trough closets, there were altogether in the town in 1894 38·5 per cent. of midden and pail houses.

The diarrhœa cases in the seven years as nearly as possible corresponded. The percentage of deaths from diarrhœa in the seven years in midden and pail houses was 38·91. The slight difference, 0·41, was against the midden houses.

General result.—Briefly, therefore, the difference between the percentages of water-closet houses existing in the town and the percentage of those in which deaths occurred from diarrhœa, and which were provided with conveniences of this kind was nearly 13. This difference points to some superior sanitary condition of water-closet houses.

The difference was principally due to the less sanitary condition of the houses with trough closets. The percentage in houses of this class amongst the diarrhœa death-houses was 12·56 above the percentage of houses in the town using this kind of convenience. When the excess of 0·41, by which the midden and pail houses exceeded, is added, the difference of nearly 13 by which the diarrhœa deaths in W.C. houses falls short of the number in the town is made up for.

It is not, perhaps, a very easy thing to grasp at once the exact import of a mass of figures of this kind. I may perhaps, therefore, be allowed to put them in a somewhat different way.

I place, therefore, below, first the diarrhœa houses examined and tabulated in the years 1891-97. These are divided into the three classes according as death occurred in houses with W.C.'s, troughs, or middens. In a second column of figures are placed the number of houses with the several kinds of closets which should have been found amongst the 3,048

houses, if the proportions had been the same as in the town at large in 1894, the middle of the period. In a third column will be found the corresponding number for the figures in the first column if the number in each line in the second had been 100.

	Number of diarrhœa death-houses, 1891-7.	As found in same number of houses in town in 1894.	Ratio of these numbers taking second column of figures as 100.
Total houses	3,048	3,048	100
With water-closets	724	1,120	65
With troughs	1,138	755	151
With middens and pails ...	1,186	1,173	101

1898 COMPARED WITH 1898.

Since the above was written an attempt has been made to estimate from the known number of wet ashpits, which

	Proportion of houses in town with certain kinds of closets. 1898.	Proportion of houses in which diarrhœa was fatal in the III. quarter of 1898.	Taking first column as 100, second becomes
W.C.	48.0	31.6	66
T.W.C.	23.6	34.7	147
Middens	27.7	32.1	116
Pails	7	1.6	234*

* It must be remembered that there were only 7 deaths from diarrhœa in the quarter in houses with pails.

have diminished from 10,093 to 8,618—from the number of dry ashplaces, which have increased from 20,916 to 25,729, and from the known number of houses using trough closets, the proportions of houses using these several kinds of conveniences in Leeds in the middle of 1898.

They are placed in two columns in the above table, and must of course be considered as approximations.

NOTIFICATION OF DISEASE.

Very complete lists for the year of the diseases notified (1) in registration districts; (2) in wards, are given in table B, parts 1 and 2 in the appendix. In these tables the cases are

Notifications since 1896.

DISEASE.	Cases notified.			Deaths registered.		
	1896.	1897.	1898.	1896.	1897.	1898.
Small-pox	2	...	5	1	...	2
Scarlet fever	1,216	1,791	2,002	72	95	121
Diphtheria	120	180	853	39	51	203
Membranous croup ...	16	30	38	11	23	26
Typhus fever	42	1	...	9	...	...
Typhoid fever	438	479	539	77	83	92
Continued fever	2	1	3	1	2	1
Puerperal fever	37	29	28	25	15	15
Erysipelas	368	330	345	13	20	12
Notifiable	2,241	2,841	3,813	248	289	472
Other (chiefly doubtful)	109	69	74	*	*	*

* To give either the deaths amongst "other diseases," or the whole deaths from other diseases in the city would be misleading, they are therefore omitted.

Population of intercepts, 1898.

Registration districts.	Ward intercepts.	Re-estimated population.	Old provisional population.	Factor for correcting rates in Table E. parts 2, 3, 4, 5.*
EASTERN DIVISION.				
HOLBECK ...	Holbeck ... 25,022 West Hunslet ... 5,523	30,545	27,359	0.8957
HUNSLET ...	West Hunslet ... 27,077 East Hunslet ... 28,307 South ... 11,433	66,817	65,961	0.9872
SOUTH-EAST, LEEDS ...	South ... 5,637 Central ... 1,627 East ... 25,629	32,893	34,328	1.0436
OSMONDTHORPE	East ... 455	455	438	0.9626
CHAPELTOWN (part of)	North-east ... 1,925 North ... 19,247	25,884	26,984	1.0426
NORTH LEEDS ...	North ... 17,031 North-east ... 24,993 Central ... (19,168) 19,493 Central in West (325) (less 325)	61,192	62,663	1.02404
WESTERN DIVISION.				
WORTLEY ...	New Wortley ... 19,438 Armley and Wortley ... 33,742 Farnley (Bramley) ... 4,361	57,541	56,575	0.9832
BRAMLEY ...	Bramley ... 16,109	16,109	16,531	1.0262
KIRKSTALL ...	Headingley ... Burley ... Kirkstall ...	38,742	38,688	0.9986
CHAPELTOWN (part of)	Headingley (Meanwood) 1,169 North-west ... 115 Brunswick ... 3,428	See above.	See above.	
WEST LEEDS ...	Brunswick ... 21,225 North-west ... 31,653 Mill-Hill... 8,326 West (less 325 Central)... 24,911	86,440	87,091	1.0080
		416,618	416,618	

* The corresponding correction factors for wards are as follows:—

Central 1.0755	North 1.0851	North-east .. 0.9543	East 1.0348
South 0.9939	East Hunslet .. 0.9945	West Hunslet .. 1.0098	Holbeck 0.8657
Mill Hill 1.0532	West 1.0136	North-west .. 0.9821	Brunswick .. 0.9904
New Wortley .. 1.0130	Armley & Wortley 0.9678	Bramley 1.0158	Headingley .. 0.9991

grouped at three ages, and those sent to hospital indicated in each case, the table in part 2 (wards) being divided into two for this purpose. In addition, the quarterly tables shewing the number of cases notified in each registration district and ward, and distinguishing those sent to hospital and left at home, have been printed from the stereotyped plates. It is possible, therefore, both in regard to wards and registration districts, to get out for each quarter of the year the number of cases notified, and to show in each instance what was done with them. These quarterly tables have been printed in the annual reports since 1895, notification having been compulsory since May, 1894.

PART III.—HEALTH OF DISTRICTS.

It is proposed to deal as formerly (1) with the Municipal Wards; (2) with the Registration Sub-districts; (3) with special areas, and (4) with some house conditions found to vary according to the disease investigated. It is necessary in the first instance to say a few word about the population.

Population.—Whilst the estimate made by the Registrar-General, for the population of the whole city at all ages, is accepted, and while all death-rates for the city have been calculated upon the basis of this population, any errors, from his method of estimating present population by geometrical progression calculating from the enumerated population at the censuses 1881 and 1891, are greatly exaggerated when we come to deal with smaller districts. For the second time, therefore, since the last census, the rate books have been gone over carefully to ascertain the number of houses in each district. Not only have these figures been got out for wards and registration sub-districts, but the houses in the various intercepts of wards and districts have been separately counted. In this way, combining a few of the various smaller intercepts, we obtain twenty-five districts of somewhat varied size, but

of which we have thus some sort of idea as to the probable population. These districts will be found in the annexed table, the intercepts of wards being arranged as far as possible in the several registration districts. The population of each of these twenty-five intercepts is given (and in two cases of the smaller intercepts used to make up the larger areas), and these have been employed in making up the table on page 46.

We hope at some time to be able to still further divide some of these districts, as for instance, by separating the Armley and Wortley ward into the portions of this ward belonging respectively to the Armley and Wortley townships; the deaths in these portions of this district have been kept separate from one another for several years past. Owing unfortunately to the pressure of time we were unable to separate each township in going over the rate books. In the same way we hope at some future time to separate the part of Headingley ward in the Kirkstall registration-district into the three hamlets of Kirkstall, Burley, and Headingley, the health conditions in which vary considerably.

Meantime we have estimated the population for each intercept by multiplying in the first instance the number of houses by a factor obtained in the following way. The population of these intercepts at the census being known, we ascertained from the rate books in 1891 the number of houses within the area—taking all houses whether then occupied or not into our calculation. The factor for the intercepts was found by dividing the 1891 population by the number of houses, and the population for this intercept for 1898 was obtained by, in the first instance, multiplying this factor into the number of houses in the rate books for 1898. The factor so utilized, however, varied in the different intercepts from 3.308 to 6.446. When the populations thus obtained came to be added together they amounted to 420,789. The population for 1898 being accepted

as 416,618, and for 1899 as 423,889, the population for the various intercepts was reduced in the one case, and increased in the other proportionately to make these respective numbers. To obtain the corresponding populations for 1898 and 1899 for Wards and Sub-districts, all that was necessary was to combine the population in the intercepts making up these several divisions.

Several considerable discrepancies occurred between the populations provisionally estimated and those revised by this method. If the new figures are right the South-east and Chapeltown districts require to have their death-rates increased accordingly by $4\frac{1}{2}$ and $4\frac{1}{4}$ per cent., whilst the Hunslet and Holbeck districts would have theirs decreased, in the former by $1\frac{1}{4}$, and in the latter by nearly $10\frac{1}{2}$ per cent. Amongst the municipal wards the Central and North would require to have their rates increased by $7\frac{1}{2}$ and $8\frac{1}{2}$ per cent. respectively, while on the other hand the North-east and Holbeck wards would require to have their rates reduced by $4\frac{1}{2}$ and nearly $13\frac{1}{2}$ per cent. respectively.

(1) MUNICIPAL WARDS.

Estimated upon the population calculated in the manner just described, whilst the whole city had a death-rate of 19·3, West Hunslet, Headingley, and Mill Hill wards reached only 14·0, 14·4, and 16·1. The North ward had a rate of 16·2, Brunswick of 16·7, Bramley of 17·0, Armley and Wortley—despite the prevalence of diphtheria—of 18·4, Central of 18·3, and Holbeck of 18·9—all below the rate of the city as a whole. Then comes North-west, East Hunslet, and South wards with rates of 19·5, 20·0, and 21·0 respectively. The West ward had 21·8, New Wortley 22·8, North-east and East wards bringing up the rear with rates of 23·7 and 26·8.

In the North-east ward measles and whooping-cough had been prevalent in the earlier part of the year, and diarrhoea

in the third quarter. Bronchitis also was somewhat fatal, while premature births and convulsions considerably diminished the population under five.

In the East ward, measles and whooping-cough were also prevalent, and diarrhoea was somewhat fatal, though less so than in the North-east ward. The details are not of course got out for wards to the same extent as for the sub-registration districts.

(2) REGISTRATION SUB-DISTRICTS.

The populations in the sub-districts have been calculated in the way already explained. Measles, it has been already said, existed in the North-east ward. It raised the mortality in the North district, and that in the South-east district was even higher from this cause (0·85). Hunslet, Holbeck, and New Wortley (more especially the two latter) had rates above that of the town.

Scarlet fever was proportionately most fatal in Kirkstall, after which came South-east Leeds, North Leeds, and Bramley, all having rates above that of the town.

Diphtheria was most fatal in the Wortley sub-district, causing a rate of 1·38 in that registration area. The district that next suffered most was West Leeds (0·65). These were the only districts with higher rates than that of the town. After them came, in a descending scale, Holbeck 0·39, Bramley 0·31, Kirkstall 0·26, Hunslet 0·24, North 0·23, South-east 0·21, Chapeltown 0·16. Osmondthorpe had no death.

Whooping-cough caused a rate of 0·39 per 1,000; it was most fatal in South-east Leeds 0·88, in North-east Leeds 0·79, after which, but with a lower rate than the whole city, came West Leeds 0·36, Holbeck 0·33, Kirkstall and Hunslet 0·26 and 0·24, Wortley 0·21, Chapeltown and Bramley 0·16 and 0·12 respectively.

TABLE 19.

Table shewing deaths in the four quarters of 1898, for each Municipal Ward, with the estimated population and the death-rate of the ward for the Year.

MUNICIPAL WARDS.	Population, estimated to middle of 1898.	First Quarter, 1898.	Second Quarter, 1898.	Third Quarter, 1898.	Fourth Quarter, 1898.	Fifty-two Weeks.	Death-rate.*
Central	21,120	120	83	104	79	386	18·3
North	36,278	166	136	137	146	585	16·2
North-East	26,918	168	151	183	135	637	23·7
East	26,084	186	170	183	159	698	26·8
South	17,070	110	76	85	86	357	21·0
East Hunslet ...	28,461	127	131	157	153	568	20·0
West Hunslet ...	29,104	93	115	125	74	407	14·0
Holbeck	28,364	123	140	147	123	533	18·9
Mill Hill	8,326	35	35	40	24	134	16·1
West	24,911	143	132	143	122	540	21·8
North-West	31,768	169	149	170	130	618	19·5
Brunswick	24,653	94	114	106	97	411	16·7
New Wortley ...	19,438	91	112	132	106	441	22·8
Armley & Wortley	33,742	129	149	170	170	618	18·4
Bramley	20,470	89	90	73	95	347	17·0
Headingley	39,911	128	144	156	146	574	14·4
Outsiders	...	43	40	32	27	142	
Totals	416,618	2,014	1,967	2,143	1,872	7,996	19·3

* These death-rates are calculated upon re-estimated populations as given in second column, and not on the ones used for the quarterly reports in tables A, parts 3, 4, 5, 6, 7, and E, parts 2, 3, 4, and 5.

Fever, practically all typhoid, had also a somewhat higher rate than usual, that for the year being 0·23. The rate was highest in Hunslet 0·33, Holbeck and Bramley 0·26 and 0·25, South-east Leeds and Wortley 0·24, all above the rate for the city. West Leeds and Kirkstall had rates of 0·22 and 0·21, Chapeltown of 0·19, and North of 0·13.

Diarrhœa was prevalent especially in the latter part of the third quarter. The highest rate was in the South-east registration district 2·14, North Leeds 1·43, Wortley 1·40, Hunslet 1·31. These were all above the rate of the city. West Leeds and Bramley had a rate of 1·06, Kirkstall and Holbeck of 1·04 and 1·02, Chapeltown dropped to 0·39. Osmondthorpe had no death from any of the seven diseases.

Consumption, which caused a rate of 1·38 for the whole city, was most fatal in South-east and North Leeds 1·86 and 1·85, both districts supplying many patients to the Workhouse Infirmary. West Leeds had the somewhat high rate of 1·64, Hunslet and Bramley followed with 1·20 and 1·18, Kirkstall and Wortley with 1·14 and 1·13, Holbeck with 1·08 and Chapeltown with 0·66.

Lung diseases, other than consumption, caused 3·39 deaths per 1,000 in the city. South-east Leeds accounted for 5·34. Two deaths in Osmondthorpe caused a rate of 4·41 in that small district. North Leeds, Bramley and West Leeds had rates of 3·90, 3·68, and 3·50—the foregoing all above that of the city. Then come Hunslet, Wortley, Holbeck, Kirkstall, and Chapeltown, the latter with the lowest death-rate from these causes in the city.

These numbers include the deaths of those in public institutions who belong to Leeds, but do not include the deaths occurring outside Leeds in asylums of persons belonging to Leeds. These are given in Table A, part II. for the whole city, but are not allocated to districts.

TABLE 20.

Shewing the number of deaths from certain specific causes and groups of causes in the 52 weeks of 1898 in the Sub-Registration Districts in the City of Leeds. All deaths in public institutions within the City of persons belonging to the City have been referred to the Sub-District to which they belonged.

	Small-pox.	Measles.	Scarlatina.	Diphtheria.	Whooping-cough.	Fever.	* Diarrhœa.	All Seven.	Croup.	Phthisis.	Influenza and Diseases of the Air-Passages other than Consumption.	All other Causes.	All Causes.
Leeds, North	...	34	24	14	48	8	87	215	4	113	238	737	1307
„ West ...	...	14	22	56	31	19	91	233	4	141	301	1004	1683
„ South-E.	...	28	13	7	29	8	70	155	6	61	175	453	850
Hunslet ...	...	33	15	16	16	22	87	189	9	80	218	653	1149
Holbeck	...	27	7	12	10	8	31	95	6	33	93	357	584
Wortley...	2	43	15	79	12	14	80	245	16	65	179	603	1108
Kirkstall	...	2	18	10	10	8	40	88	1	44	88	327	548
Bramley...	...	6	5	5	2	4	17	39	2	19	59	179	298
Chapelton...	...	1	2	4	4	5	10	26	1	17	54	216	314
Osmondthorpe	...	...	...	...	...	...	...	...	...	...	2	11	13
City of Leeds	2	188	121	203	162	96	513	1285	49	573	1407	4540	7854

One death from diarrhœa, 3 from phthisis, 5 from influenza and diseases of the air-passages other than consumption, and 133 deaths from other causes, occurred in the City of persons not belonging to Leeds.

* Including 2 deaths from "English cholera."

(3) AREAS SPECIALLY INVESTIGATED.

NEW WORTLEY WARD.

In considering the condition of the New Wortley Ward, it is convenient to regard it in relation to the neighbouring Armley and Bramley wards, and to contrast it with some of the wards in the Eastern division of the town.

The Registration Sub-district of Wortley contains the whole of the New Wortley and the Armley and Wortley wards, and that portion of the Bramley ward lying in the township of Farnley. The sub-district had in 1898 a mortality of 19·3—that of the whole city having been the same.

The sub-district of Bramley is smaller than the ward of the same name—the latter including the township of Farnley just mentioned. The sub-district had a death-rate last year of 18·6—below that of the city.

By separating the deaths registered in these two sub-districts according as they occurred in the New Wortley ward, in the sub-district of Bramley, in the Armley and Wortley ward, or the comparatively rural township of Farnley, we are able to get a series of death-rates in localities of gradually lessening density of population. The rates last year were in these several places respectively 22·8, 18·6, 18·4, and 11·0.

There is, however, a natural hesitancy about accepting results for a single year, when dealing with minor divisions of the city. The figures have, therefore, for comparison, been taken out for the eight years 1890-97. In these years the tremendous disparity between the rate in New Wortley and Farnley disappears, although the advantages to health of greater elbow room are still sufficiently conspicuous. In the eight years 1890-97, the mortality in these places, going from more dense to less dense, was 20·3, 18·5, 17·4, and 16·0.* This

* The rates given above for 1898 are on the re-estimated population, and differ slightly from those in the first draft of the report. The position of the Bramley district and Armley and Wortley wards has changed places in the earlier paragraph (1898). It is Armley and Wortley that is 18·5 in the present paragraph for which the old data has been used.

TABLE 21.

Shewing the mortality stated in deaths per 1,000 of the population of the Sub-Districts, as estimated to the middle of 1898.

	Small-pox.	Measles	Scarlatina.	Diphtheria	Whooping-cough.	"Fever."	* Diarrhoea.	All Seven.	Croup.	Phthisis.	Influenza and Diseases of the Air-Passages, other than Consumption	All Other Causes.	All Causes.
Leeds, North	...	0.56	0.39	0.23	0.79	0.13	1.43	3.53	0.07	1.85	3.90	12.08	21.43
,, West	...	0.16	0.26	0.65	0.36	0.22	1.06	2.71	0.05	1.64	3.50	11.66	19.55
,, S. E.	...	0.85	0.40	0.21	0.88	0.24	2.14	4.73	0.18	1.86	5.34	13.82	25.93
Hunslet	...	0.50	0.23	0.24	0.24	0.33	1.31	2.84	0.14	1.20	3.27	9.80	17.25
Holbeck	...	0.89	0.23	0.39	0.33	0.26	1.02	3.12	0.20	1.03	3.05	11.73	19.18
Wortley	0.03	0.75	0.26	1.38	0.21	0.24	1.40	4.27	0.28	1.13	3.12	10.52	19.32
Kirkstall	...	0.05	0.47	0.26	0.26	0.21	1.04	2.28	0.03	1.14	2.28	8.47	14.19
Bramley	...	0.37	0.31	0.31	0.12	0.25	1.06	2.43	0.12	1.18	3.68	11.15	18.56
Chapelton	...	0.04	0.08	0.16	0.16	0.19	0.39	1.01	0.04	0.66	2.09	8.37	12.17
Osmondthorpe	...	...	...	...	...	...	...	...	...	...	4.41	24.26	28.67
City of Leeds	0.00	0.45	0.29	0.49	0.39	0.23	1.24	3.09	0.12	1.38	3.39	10.94	18.92

One death from diarrhoea, 3 from phthisis, 5 from influenza and diseases of the air-passages other than consumption, and 133 deaths from other causes, occurred in the City of persons not belonging to Leeds.

* Including 2 deaths from "English cholera."

is pretty much what one might expect. It will be of course understood that even these death-rates can at a period so distant from the census be regarded only as approximate. The death-rate of 20 in New Wortley, for the septennium, compares well with the rates of 23 in Holbeck ward, 24 in the South, and 26 in the East ward, during the same period of time.

Even the higher death-rate of 22 last year, is low compared with the septennial rates for these three wards. It will be remembered that during a great part of last year diphtheria was somewhat prevalent amongst the children attending the Green Lane School, and that diarrhoea was very fatal in the ward in autumn. The mortality of Wortley during that period is discussed elsewhere.

New Wortley is not capable of great increase from new buildings, most of the building land in the ward is already occupied. As new houses arise in Armley and Wortley many of the better-to-do in the ward move outwards, and their places are taken by others from the still more densely peopled parts in the centre of the town, and to some extent by those displaced by the conversion of houses into offices and warehouses. The tendency of such a district is to deteriorate socially. It is all the more necessary, therefore, that such a district should be kept under careful inspection, and it is to be hoped that the new arrangements proposed, if carried out, will enable us to do more in the way of watching the condition of the dwellings here, and in similar parts of the town. This is the more needed as the increase of buildings in the neighbourhood, by diminishing the access of air and by making it necessary for the inhabitants to go further to get into the country, makes it all the more important that the air in the dwellings themselves should be as pure as possible. It is a district with a large proportion of trough closets, with a large number of badly ventilated streets, especially short

streets running into longer ones at right angles to them. The sewer running through it now carries a much larger volume of sewage than formerly, and the street grids discharge gases near the dwellings, while nearly all available land has been built upon, the gas works and the river also add to the fragrance of the atmosphere, and the subsoil is principally clay. Compared with the older parts of the town, the ward is not an unhealthy one, but there is room for considerable improvement.

(4) OTHER LOCAL FACTORS.

HOUSE CONDITIONS AND DISEASES.

Table 25 was omitted in the report for 1897, as it was not ready in time. It is numbered this year 25*a*, and the corresponding table for 1898, 25*b*. In the former will be found the general results of the examination of 4,912 case-houses in 1897, and in the latter for 5,471 case-houses examined on account of illness or death heard of during 1898. Both tables follow the lines of previous years. It will be noticed that under the head of drainage, 2,656 in the one, 2,851 in the other, are entered as "bad." These are respectively 54 and 52 per cent. of the case-houses examined in this way. Disregarding the question of soil-pipe, under this heading are included in the first place all which had not their other wastes severed from the drain. These amounted to 2,339 in the earlier, and 2,450 in the later year. The heading includes also in the former year 89, and in the later year 154 case-houses (again disregarding the question of inside water closets) in which, though the wastes were otherwise severed, some obvious defect was found. It also includes in the earlier year 174 houses, which, though severed in regard to the ordinary wastes, and not obviously defective, had an inside water closet with a soil-pipe not carried full bore above the eaves of the house. In the later year the corresponding number was 203. There are also included 54 houses in 1897, and 44 in 1898, in which there was no drain.

Since the adoption of compulsory notification in May, 1894, the clerical work has been so great that it has been scarcely possible to complete the detailed tables, formerly given in Part II. of the text, in regard to individual diseases. In these tables, it will be remembered, there were given for each district the number of the patients at certain age groups, their sex, the periods that had elapsed previous to our hearing of the cases, the numbers attending school, the presence or absence in the houses of a through draught, the proportion of inmates and rooms to a house, and somewhat full details as to drainage arrangements and closet accommodation. In the present report these detailed tables for districts have been left out in every case. On the other hand, in order to compensate to some extent for the want of this information, table 25 has been somewhat more elaborated, and will be found in the appendix, under the heading 25*c* and 25*d* for the two years 1897 and 1898. In this more detailed table each group in the ordinary table 25 is dealt with, but only for the town as a whole, in regard to the question of through draught, of whether ordinary wastes were severed from the sewer, and of whether or not, where this had been done, the drainage was found otherwise defective. The closet part of the table has been also extended to include the information for each disease in the whole town, previously given for the districts in the tables in Part II., the extension giving more detail as to the kind of water closet. I propose to deal with both tables as if they were in the text.

Back-to-back houses.—In the whole group, numbering 10,383, the proportions of back-to-back and through houses, using the terms in the usual way to mean not throughs and throughs, were in the two years 72·8 of the former, and 27·2 of the latter class in every 100 examined. The proportions have been given before in regard to separate diseases, but never in regard to the whole group, although the figures have been kept for several years back in manuscript.

TABLE 25a.

Shewing case-houses examined on account of certain diseases, and some of the conditions found as to drainage and closet arrangements during 1897.

52 WEEKS, 1897.	CASES.		Total deaths in City.	DRAINAGE.		CLOSETS.		
	Alive.	Dead.		Good.	Bad.*	Water carriage.		Midden or pail.
						W.C.	T.W.C.	
Small-pox	...	...	...	...	...	...	...	...
Scarlet fever	1737	11	95	799	949	756	471	521
Diphtheria	161	18	51	74	105	99	42	38
Croup	24	29	40	18	35	19	17	17
Typhus fever	1	...	...	1	...	...	1	...
Typhoid fever	460	11	83	198	273	184	130	157
Erysipelas	298	2	20	146	154	114	92	94
Puerperal fever	21	10	15	12	19	15	3	13
Measles (death-houses)	...	165	165	77	88	52	50	63
Measles (recovery-houses)	520	...	...	244	276	190	112	218
Measles (recoveries in death-houses)	60	...	...	26	34	18	13	29
Whooping-cough	...	98	98	49	49	31	28	39
Diarrhoea	...	638	643	306	332	166	255	217
Septicæmia. Pyæmia	...	9	11	3	6	2	3	4
Broncho-pneumonia	...	238	242	109	129	60	102	76
Pneumonia	...	317	337	158	159	113	84	120
Pleuro-pneumonia	...	5	5	2	3	3	2	...
Pleurisy	...	10	11	4	6	4	2	4
Empyæma	...	2	5	...	2	...	1	1
Influenza	...	45	48	19	26	20	11	14
Laryngitis	...	22	24	11	11	8	6	8
Totals	3282	1630	1893	2256	2656	1854	1425	1633

Under "Bad" are included (1) all houses in which drain, other than w.c., wastes are not severed from sewer, (2) all which, though wastes disconnected, were found out of working order, (3) all which, though other drainage was severed, had w.c. inside, of which the ventilator to soilpipe was not carried full bore above the eaves, (4) houses without drainage.

The scarlet fever case-houses furnished 67·7 per cent. not through, and 32·3 through. Croup and diphtheria together, for the two years, had 74·9 per cent. of back-to-backs, 25·1 of throughs.* Amongst the typhoid case-houses the proportions were 68·8 of not-throughs, 31·2 of throughs, whilst from diarrhœa the back-to-back houses rose to 82·4, and the throughs fell to 17·6 per cent.

Drainage.—Disregarding the condition of the soil-pipe, all drains were severed in the whole group in the two years in 52·9 per cent. In 46·1 per cent. there were drain wastes other than soil-pipes which were not cut off, whilst 0·9 per cent. of the whole of the case-houses examined had no drain. Of the 52·94 per cent. "severed," in 2·34 there was an obvious defect, and this was the case in 5·37 of the 46·13 "not severed." In saying an obvious defect I am not excluding defects found on testing, but as testing was done in a comparatively small number of the houses examined it did not control the result.

In the scarlet fever houses the proportion with ordinary wastes all severed was greater than in the table generally, namely, 54·34, and those found defective were 0·54 (or 1 per cent. of those whose wastes were cut off). Amongst the "not severed," which formed 44·97 of the scarlatina houses, the number found obviously defective was considerably greater, 1·19 of the whole scarlatina group (a little more than $2\frac{1}{2}$ per cent. of those "not-severed"). The houses without drains were 0·68 per cent. The scarlet fever case-houses were therefore rather better devised than those of the whole group, a larger proportion of them being severed from the sewer. It must be remembered, however, that as testing was not the rule some defects would be overlooked.

* The percentages for diphtheria alone differed a little, being 73·9 and 26·1, the excess of back-to-back houses amongst the people whose medical attendants certified croup and membranous croup having made the difference.

TABLE 25b.

Shewing case-houses examined on account of certain diseases, and some of the conditions found as to drainage and closet arrangements during 1898.

52 WEEKS, 1898.	CASES.		Total deaths in City.	DRAINAGE.		CLOSETS.		
	Alive.	Dead.		Good.	Bad.*	Water carriage.		Midden or pail.
						W.C.	T.W.C.	
Small-pox	5	...	2	..	5	3	2	...
Scarlet fever	1942	12	121	1015	939	909	470	575
Diphtheria	820	28	203	359	489	370	179	299
Croup	41	33	49	33	41	25	28	21
Typhus fever	...	...	...	...	...	...	...	...
Typhoid fever	514	12	92	212	314	204	128	194
Erysipelas	313	...	12	168	145	118	94	101
Puerperal fever	24	5	15	17	12	13	8	8
Measles (death-houses)	...	187	188	78	109	51	65	71
Measles (recovery-houses)	234	...	...	120	114	43	67	124
Measles (recoveries in death-houses)	16	...	...	12	4	2	3	11
Whooping-cough	...	162	162	86	76	55	65	42
Diarrhoea	...	507	512	239	268	160	180	167
Septicæmia. Pyæmia	...	4	5	2	2	2	1	1
Broncho-pneumonia	...	221	224	91	130	77	85	59
Pneumonia	...	297	311	145	152	102	108	87
Pleuro-pneumonia	...	9	9	5	4	6	1	2
Pleurisy	...	13	14	5	8	9	2	2
Empyæma	...	10	14	5	5	6	3	1
Influenza	...	43	50	23	20	19	9	15
Laryngitis	...	19	19	5	14	8	5	6
Totals	3909	1562	2002	2620	2851	2182	1503	1786

* Under "Bad" are included (1) all houses in which drain, other than w.c., wastes are not severed from sewer, (2) all where, though wastes disconnected, drains found out of working order, (3) all which, though other drainage was severed, had w.c. inside, of which the ventilator to soilpipe was not carried full bore above the eaves, (4) houses without drainage.

In the diphtheria and croup group of case-houses those severed numbered 54·2, those non-severed 45·1, and those without drain 0·7 per cent. of the whole. These houses were also therefore of the more cared for kind. Of the 54·2 "severed" 8·6 were found defective, and amongst the 45·1 "not-severed" 20·3 were found out of order.* It might at first be supposed that this showed a very much larger proportion of defective houses amongst those where diphtheria occurred than amongst the scarlet fever ones. The inference would not be justified, for all the diphtheria and croup houses were tested by the smell test. This matter has been referred to in previous reports, and more especially in the supplementary report for 1896, at page 44.

In typhoid, also, the system of testing the drains in every case was carried out. In just short of 1,000 case-houses examined for this disease 53·5 per cent. had their wastes, other than that of the water closet, cut off, and 45·7 had not, while 0·8 per cent. had no drain. The "severed" houses were again a little in excess of the percentage in the whole group, the "not-severed" houses a little below. Of the 53·5 "severed," 10·0 were found defective on examination, and of the 45·7 "not-severed," 21·3 were found defective, nearly a fifth amongst the "severed," and nearly half amongst the "non-severed."

The diarrhoea death-houses numbered upwards of 1,100. Only 49·7 per cent. of them had their wastes severed, 49·2 were connected to the sewer or only separated by a trap, whilst 1·1 per cent. had no drain. The diarrhoea case-houses, therefore, had furnished fewer that were severed from the sewer, and a larger proportion without any drain. Of the

* Leaving out membranous croup and "croup" the "severed" diphtheria case-houses were 55·3 per cent., of these 9·1 per cent. were found defective as to drainage, or nearly a sixth. The "non-severed" were 44·1, of which 20·7 had defects.

49.70 per cent. of case-houses "severed," 0.44 (or less than 1 per cent.) were obviously defective; whilst of the 49.17 "not-severed," 0.87 (or nearly 2 per cent.) were found defective. In diarrhoea the drain testing was not systematically carried out.

Closets.—In the whole group 38.9 per cent. had some ordinary kind of water closet, 28.2 per cent. used trough closets, 32.9 per cent. middens or pails. The greater number of the water closet houses (28.6 out of 38.9) had their conveniences outside. Of the remaining 10.3 with inside closets, 4.5 had F.V. and 5.8 not F.V. soil pipes.

Amongst the scarlet fever cases the inside water closets were more numerous. There were 6.2 per cent. F.V. and 7.2 not F.V.; whilst 31.6 per cent. of the case-houses had outside water closets. In all 44.98 per cent. had some kind of ordinary water closet, considerably in excess therefore of the percentage in the whole group. Trough closets prevailed in 25.4 per cent., as against 28.2 in the whole group, whilst 29.6 per cent. of the houses had middens, against 32.9 of the whole group.

Taking diphtheria and croup together 44.47 per cent. had some kind of ordinary water closet, nearly the same as in the scarlet fever group. The 44.47 consisted of 32.34 outside closet houses, 12.13 with closets inside; F.V., 5.11, not F.V., 7.02.* In this larger group 23.05 per cent. of the case-houses used trough closets, against 28.20 in the complete tables. Middens or pails were used in 32.49 per cent. of the croup and diphtheria houses, differing very little from 32.93 in the whole group.

* The percentage was even higher, 45.68 amongst the cases where the disease was called diphtheria. In each group the numbers were highest amongst the cases where the disease was called diphtheria, 5.26 F.V., 7.60 not F.V., 32.82 outside, while only 21.5 had troughs.

In typhoid the inside water closets F.V. were 3·91, against 4·50 in the whole group, the not F.V's. 5·62, against 5·80; the outside water closet houses 29·39, against 28·57; the trough closets houses 25·88 against 28·20; and the midden houses 35·21, against 32·93. The houses with inside water closets were therefore fewer than in the whole group, those with outside water closets a little in excess, whilst the number with trough closets was fewer.

Of diarrhœa death-houses 1·92 per cent. had inside F.V. closets, 2·53 inside not F.V., 24·02 outside water closets. Trough closets prevailed in 37·99, as against 28·20 per cent. and middens in 33·5, as against 32·9. Diarrhœa, therefore, was more prevalent in houses with trough closets, and slightly so in houses with middens; whilst those with water carriage were less affected. This matter is referred to elsewhere in the report, and it is shown comparing the proportion of houses using various closets with those in the town, that the houses in which diarrhœa occurred were as 66 to 100 with water closets, as 147 to 100 with trough closets, and as 116 to 100 with middens.

Percentage closets found in houses.

	City. Approximate.		TABLE 25, 1897 and 1898.				
			All.	Scarlet fever.	Diph- theria, &c.	Typhoid Fever.	Diarrhœa.
	1894.	1898.					
W.C. F.V. ...	...	...	4·50	6·19	5·11	3·91	1·92
W.C. not F.V.	...	...	5·81	7·19	7·02	5·62	2·53
W.C. outside	...	...	28·57	31·60	32·34	29·39	24·02
Ordinary W.C.	36·74	48·0	38·87	44·98	44·47	38·92	28·47
T.W.C. ...	24·81	23·6	28·20	25·42	23·05	25·88	37·99
Midden ...	36·78	27·7	32·93	29·60	32·49	35·21	33·53
Pail ...	1·67	·7					
	100·00	100·0	100·00	100·00	100·01	100·01	99·99

PART IV.—DEPARTMENTAL WORK.

WARD INSPECTION.

Some errors had crept into the table of Inspectors' work from carelessness in entering up. In lines 4, 5, 6 only houses should be entered which are thoroughly examined as to the occupants and air space, or as to the buildings themselves, including the condition of walls as to damp, ventilation, closet accommodation, fall-pipes, &c., or in line 6 as to drainage. Merely calling to see if the W.C. is kept clean is not even a "partial examination" of a house, and none of these lines are intended to receive mere visits made to see if instructions have been carried out, or to complete imperfect reports. The registration of such work has been provided for elsewhere in the table. It will accordingly be found that the total work entered in these columns in Tables I. and II. in this report will not correspond to the sum of the figures shewn in these columns in the quarterly reports. The present tables, though more accurate, are still probably somewhat incorrect in this respect.

This remark does not apply, however, to anything like the same extent to the "complete inspections" given in lines 1, 2, 3. "Complete examination," however, even here does not imply drain testing in every case. This we intend to alter in future, and the attention of the Ward Inspectors has again been directed to the very detailed instructions as to filling up their reports with which they have all been already furnished.

Line 1, "Infective disease" includes all examinations made not only for notifiable diseases, but for diarrhœa, measles, whooping-cough, and pneumonia. In most of the latter our only information is from the death returns. Some of the general conditions found are tabulated in table 25, earlier in the report. This group of houses numbered 5,303, against 4,635 in 1897, 3,916 in 1896, and 3,384 in 1895. When the

new arrangement of inspectors comes into force, it is proposed to relinquish the examination of pneumonia, broncho-pneumonia, and whooping-cough death-houses to give more time for systematic house-to-house examination.

Line 2, "Alleged nuisances" deals only with so-called "complete examination." The houses examined on this account in 1898 were 1,919, against 1,337 in 1897, 666 in 1896, and 546 in 1895. The increase latterly shews a tendency (1) on the part of the public and medical men to require our services more frequently, and (2) on the part of the staff to more thoroughly examine houses when asked. We always deprecate the system of only examining for the particular nuisance alleged. The only safety is in making a complete and thorough examination of the dwelling.

Line 3, "House-to-house work."—There is a tendency, especially amongst the seniors, for inspectors to enter houses examined at request under this heading. It is not intended for them. They should go into the previous line. Our entry this year is 2,295, against 3,366 in 1897, 6,697 in 1896, and 6,842 in 1895. The fall is partly due to a more accurate entering, partly to the greater amount of work done under the first heading.

Lines 1-3.—It will thus be seen that the somewhat complete examinations entered in these three lines amounted to 9,517 in 1898, against 9,338, 11,279, and 10,772 in the earlier years.

Line 7.—For reasons already given, too much value must not be attached to the figures in this line. The number (corrected, but not correct) for 1898 is 18,029. In the three preceding years, going backwards, it was 17,560, 17,051, and 15,852. The uncorrected figure for the year was 20,804. The number of the houses examined in which some defect

TABLE I.
Table of Ward Inspectors' Work. Year 1898.

		Quarters.				City	Quarters.				City	
		I.	II.	III.	IV.	Total	I.	II.	III.	IV.	Total	
		1893.					1898.					Total
HOUSE INSPECTION.												
1.	Houses and premises	1201	1062	1420	1620	5303	1035	530	750	1105	3420	
2.	completely exam-ined on account of	491	479	471	478	1919	702	349	449	659	2159	
3.	Infestive disease	612	635	745	302	2295	343	265	242	333	1183	
4.	Houses and premises examined	127	120	115	116	478	49	31	31	309	420	
5.	Occupants	756	937	895	1366	3954	..	3	1	17	21	
6.	Buildings and Offices	1023	818	839	1400	4080	..	4	..	2	6	
7.	Drainage	4210	4052	4485	5282	18029	..	71	83	127	125	
8.	Number of houses wholly or partly examined	1863	1999	2006	2677	8545	..	52	60	49	46	
9.	Total number of above houses where sanitary defects were found	1858	1910	1970	2666	8404	..	105	143	76	116	
NUISANCES, &c.												
10.	Houses dirty	90	113	204	95	502	..	11	10	17	14	
11.	overcrowded	81	75	94	66	316	..	..	..	..	..	
12.	damp or dilapidated	76	69	63	69	282	..	53	40	47	64	
13.	with defective eave-gutters or fall pipes	134	107	104	158	593	..	106	128	129	177	
14.	badly drained	782	515	662	891	2850	..	15	20	15	62	
15.	without sink drain	10	26	6	3	45	..	93	69	85	103	
16.	badly lighted	..	1	..	..	1	..	40	48	12	47	
17.	badly ventilated	..	..	..	..	..	..	20	12	11	4	
18.	with defective or insufficient closet accommodation	15	..	..	2	17	..	2	1	..	8	
19.	with dirty closets	832	1080	998	1324	4234	..	225	314	187	258	
20.	with drains, &c., temporarily stopped	389	466	312	257	1424	..	446	250	242	373	
21.	with other nuisances	311	313	312	288	1224	..	671	397	304	457	
22.	Total nuisances found in houses	483	416	454	438	1816	..	118	77	67	100	
23.	No. of houses in which above nuisances were found	3208	3202	3214	3594	13214	..	852	787	513	812	
24.	Street gullies stopped	3307	3341	3402	3631	13681	..	9	18	1	15	
25.	Offensive accumulations	251	298	462	259	1270	..	4	..	1	4	
26.	Other outside nuisances	56	55	56	43	210	..	9	12	1	23	
27.	Total nuisances found	123	111	128	77	439	..	332	401	301	314	
28.	Complaints unfounded	3638	3695	3860	3970	15433	..	654	719	557	666	
OTHER WORK DONE.												
29.	Additional visits paid to houses for	2751	1664	1270	1644	7338	..	3334	3345	2621	3374	
30.	Infestive disease	2159	2367	1930	2115	8568	..	1643	1686	1173	1466	
31.	Nuisances found	100	118	125	110	453	..	279	240	213	301	
32.	Completion of Reports	..	..	..	..	..	..	61	50	32	52	
33.	Other causes	..	..	..	..	..	..	..	1	2	..	
34.	Additional visits paid to houses for	2751	1664	1270	1644	7338	..	43	83	31	57	
35.	Infestive disease	2159	2367	1930	2115	8568	..	4068	3599	2854	4003	
36.	Nuisances found	100	118	125	110	453	..	3337	3593	2595	3386	
37.	Completion of Reports	..	..	..	..	..	..	..	..	..	..	
38.	Other causes	..	..	..	..	..	..	..	..	..	..	

OTHER WORK DONE (continued).

33.	Special examinations of drains by tests	..	..	..	..	..	70	..	..	..	..	..	..	..
34.	Defects found by ditto	..	..	..	..	..	71	..	..	..	..	..	..	..
35.	Appointments	..	..	..	..	..	72	..	..	..	..	..	..	..
36.	Notices and letters served	..	..	..	..	..	73	..	..	..	..	..	..	..
37.	Dwelling houses unfit for human habitation closed	..	..	..	..	..	74	..	..	..	..	..	..	..
38.	Dwelling houses rendered fit for human habitation	..	..	..	..	..	75	..	..	..	..	..	..	..
39.	Houses cleansed	..	..	..	..	..	76	..	..	..	..	..	..	..
40.	Overcrowded houses dealt with	..	..	..	..	..	77	..	..	..	..	..	..	..
41.	Defective spouting, &c., repaired	..	..	..	..	..	78	..	..	..	..	..	..	..
42.	New middle privies built	..	..	..	..	..	79	..	..	..	..	..	..	..
43.	Old middle privies repaired	..	..	..	..	..	80	..	..	..	..	..	..	..
44.	Do. rebuilt	..	..	..	..	..	81	..	..	..	..	..	..	..
45.	Privies converted into trough water closets	..	..	..	..	..	82	..	..	..	..	..	..	..
46.	Do. do. ordinary water closets	..	..	..	..	..	83	..	..	..	..	..	..	..
47.	Water closets erected	..	..	..	..	..	84	..	..	..	..	..	..	..
48.	New dry ashpits or tubs	..	..	..	..	..	85	..	..	..	..	..	..	..
49.	New trough water closets built	..	..	..	..	..	86	..	..	..	..	..	..	..
50.	Fail closets converted into water closets	..	..	..	..	..	87	..	..	..	..	..	..	..
51.	Do. altered into privies	..	..	..	..	..	88	..	..	..	..	..	..	..
52.	Closets cleansed (lime-washed, &c.)	..	..	..	..	..	89	..	..	..	..	..	..	..
53.	Drains in course of reconstruction inspected	..	..	..	..	..	90	..	..	..	..	..	..	..
54.	" " of reconstruction	..	..	..	..	..	91	..	..	..	..	..	..	..
55.	" inspected when connection made to sewer	..	..	..	..	..	92	..	..	..	..	..	..	..
56.	Disconnections of house drains effected	..	..	..	..	..	93	..	..	..	..	..	..	..
57.	Cesspools filled up	..	..	..	..	..	94	..	..	..	..	..	..	..
58.	Public or private wells abolished	..	..	..	..	..	95	..	..	..	..	..	..	..
59.	Houses supplied with town's water	..	..	..	..	..	96	..	..	..	..	..	..	..
60.	Trough and water closets repaired	..	..	..	..	..	97	..	..	..	..	..	..	..
61.	Other houses: nuisances remedied	..	..	..	..	..	98	..	..	..	..	..	..	..
62.	Total houses for which above work done	..	..	..	..	..	99	..	..	..	..	..	..	..
63.	Houses in which all defects found have been remedied	..	..	..	..	..	100	..	..	..	..	..	..	..
64.	Street gullies cleansed	..	..	..	..	..	101	..	..	..	..	..	..	..
65.	Offensive accumulations removed	..	..	..	..	..	102	..	..	..	..	..	..	..
66.	Pollutions of river or streams remedied	..	..	..	..	..	103	..	..	..	..	..	..	..
67.	Other non-domestic nuisances removed	..	..	..	..	..	104	..	..	..	..	..	..	..
68.	Additional visits paid to inspect work in progress	..	..	..	..	..	105	..	..	..	..	..	..	..
69.	Total nuisances abated	..	..	..	..	..	106	..	..	..	..	..	..	..

TABLE II—continued.

[illegible]

was discovered was in the year 1898 8,545, and 6,960, 5,903, and 6,231 in the three earlier years. The percentage of houses found wrong to all entered in the column was 47. It had been 40, 35, and 40 in the preceding years. The more frequent examination by drain tests has probably most to answer for in the increasing proportion of defects found. The tendency to enter all visits as examinations, while it on the one hand adds many houses with non-structural defects to the list, on the other hand brings in some houses very superficially examined. The number examined for infectious disease, and the nature of such disease, also affects the result. For whooping-cough, diarrhoea, and pneumonia the drain test is not insisted upon in every case: for typhoid and diphtheria it is. Diphtheria has been very prevalent, and many drains tested in consequence.

Line 33 gives special tests made of drains. These were 3,420 last year, against 2,650, 1,947, and 2,378 the three preceding years. The defects revealed were respectively 2,159 last year, 1,693, 1,555, 1,801 the previous years, 63 64, 80, and

TABLE III.

Shewing the number of drains or sources of pollution diverted from the River Aire and its tributaries and connected to the town sewers.

DATE.	Mill, factory, house drains, stables, and pigstyes.	Water Closets.	Privies.	Trade pollu- tions.	Total.
Previous to Jan. 1st, 1898	5,259	328	232	25	5,844
During the 52 weeksend- ed Dec. 31st, 1898	163	109	...	7	279
Totals	5,422	437	232	32	6,123

76 per cent. respectively. The year with fewest examinations by test had largest proportion of defects found—only notoriously insanitary dwellings having been examined.

WORKSHOPS.

The visits paid to workshops already registered were 338. Of these the ventilation was found unsatisfactory in 36 instances, that is in 10·7 per cent. The previous year the percentage found insufficiently ventilated was 4·8, in 1896 4·6, and in 1895 6·2.

TABLE IV.

Shewing the sanitary condition of workshops on register, and occupied during the 52 weeks ended December 31st, 1898.

DATE. 1898.	Visits to Workshops.	EMPLOYEES.			VENTILA- TION.		CONDITION OF PREMISES.				Workshops closed.
		Male.	Female.	Total.	Good.	Defect- ive.	Rooms.		Closets.		
							Clean.	Dirty.	Clean.	Dirty.	
4 weeks ended Jan. 29	34	84	59	143	34	...	26	8	26	8	28
4 weeks ended Feb. 26	18	36	19	55	17	1	13	5	12	6	9
5 weeks ended April 2	81	310	166	476	68	13	36	45	36	45	5
4 weeks ended „ 30	9	59	63	122	9	...	4	5	4	5	6
4 weeks ended May 28	...	...	...	...	...	...	...	...	...	...	15
5 weeks ended July 2	9	48	38	86	7	2	6	3	6	3	15
4 weeks ended „ 30	53	271	168	439	53	...	35	18	35	18	12
5 weeks ended Sept. 3	38	206	166	372	38	...	30	8	30	8	7
4 weeks ended Oct. 1	19	64	44	108	19	...	12	7	12	7	8
4 weeks ended „ 29	22	100	81	181	20	2	9	13	7	15	5
5 weeks ended Dec. 3	35	194	113	307	25	10	14	21	15	20	9
4 weeks ended „ 31	20	103	83	186	12	8	12	8	11	9	3
Total	338	1,475	1,000	2,475	302	36	197	141	194	144	122

Of 338 work-rooms visited, 141 were found dirty, and notices served upon the occupiers. This corresponds to 41·7 per cent. of those visited. This is also more than any recent year, the number of dirty rooms having been 31·7 per cent. in 1897, 38·4 in 1896, and 35 per cent. in 1895. The closets were found dirty in 144, or 42·6 per cent., against 37·2, 47·4, and 43·1 in the three preceding years, working backwards. The figures for the several months will be found in table IV.

TABLE V.

Shewing the number of workshops not previously visited to which visits have been paid this year, and the sanitary arrangements at time of visit.

DATE. 1898.	Workshops added to register.	DESCRIPTION OF DRAINAGE.			SITUATION OF CLOSETS.				Workshops closed.
		Cut off.	Not cut off.	Without.	Inside.		Outside.		
					w.c. soil-pipe carried up.	w.c. soil-pipe not car- ried up.	W.C.	Privies.	
4 weeks ended Jan. 29	28	10	11	7	12	3	8	5	...
4 weeks ended Feb. 26	36	10	11	15	12	2	16	6	...
5 weeks ended April 2	38	9	10	19	15	...	18	5	...
4 weeks ended „ 30	39	16	10	13	9	2	22	6	4
4 weeks ended May 28	51	26	15	10	11	3	31	6	2
5 weeks ended July 2	34	13	11	10	8	2	19	5	6
4 weeks ended „ 30	33	13	13	7	22	4	5	2	4
5 weeks ended Sept. 3	32	16	8	8	9	...	16	7	9
4 weeks ended Oct. 1	23	9	6	8	7	...	14	2	3
4 weeks ended „ 29	14	4	2	8	4	2	7	1	2
5 weeks ended Dec. 3	10	2	2	6	5	...	4	1	4
4 weeks ended „ 31	21	6	8	7	4	1	13	3	3
Total	359	134	107	118	118	19	173	49	37

From table V. it will be seen that the number of new workshops added to the register this year was 359, the largest number of these will be found to have been visited during May, the month in which no visits were made to workshops already on the register. Of the 359, 134 had their drainage "cut off," 107 had drains that were not cut off, while 118 were without drainage, these figures correspond to 37·3, 29·8, and 32·9 per cent. respectively. Of the water closets inside the buildings (137) 118 had the soil-pipe carried up above the eaves, and 19 not. The conveniences were outside in 222 workshops, 173 of these having outside water closets, 49 having privies. No fewer than 37 of these new workshops were found to be closed, work having been given up.

OTHER WORK OF WORKSHOPS INSPECTOR.

The other work done by the Workshops' Inspector is accounted for below. Most of it relates to Factories and Workshops, although in a few cases he assisted in testing drains in houses. Through his work 451 nuisances were abated in workshops and factories.

In addition to the work shewn in tables IV. and V., 1,494 additional visits were paid to workshops and 1,107 to factories, as follows:—On account of infectious disease, 16 visits were made to workshops and 93 to factories; for wage enquiry, 6 to factories. Additional visits, 268 and 304 were made for drain and closet inspection, 46 and 32 for drain testing, 245 and 233 in regard to complaint, 421 and 237 respectively on account of non-abatement of nuisances, and 464 and 135 visits were made for other causes, and 67 visits were made to factories in regard to rivers pollution. He also assisted in testing drains on 104 occasions. Nuisances were abated in workshops to the number of 208 and 243 in factories, not including 4 rivers pollutions abated at the latter.

BAKEHOUSES.

The following visits have been made to bakehouses by the Ward inspectors during the year 1898. Central ward 39 visits to 32 bakehouses; North 46 to 13; North-East 102 to 12; East 156 to 13; South 44 to 9; East Hunslet 51 to 17; West Hunslet 15 to 10; Holbeck 18 to 6; Mill Hill 40 to 17; West 24 to 12; North-West 16 to 11; Brunswick 48 to 11; New Wortley 24 to 9; Armley and Wortley 22 to 9; Bramley 48 to 11; Headingley 12 to 12. Total, 728 visits to 219 bakehouses.

HOUSE REFUSE.

TABLE VI.

Ashpits inspected during the 52 weeks ended
January 1st, 1899.

Number of inspections of ashpits	Requisitions to cleanse sent to Refuse Removal Department from Sanitary Office.	Number of latter returned as carried out.	Ashpits not cleanse.d within four days of requisition.	Condition of ashpits generally.
65,248	7,893	7,874	179	Good.

TABLE VII.

No. of middens emptied.	No. of dry ashpits or tubs emptied.	No. of boxes or pails emptied.	Total.	LOADS REMOVED.			Total.
				Night-soil.	Dry ashes.	Rubbish.	
86,304	393,704	67,163	547,171	32,913	102,463	15,564	150,940

DESTRUCTORS.

At Armley Road 24,089 loads of rubbish, weighing 20,399·8 tons (0·85 tons, or 16·9 cwt. a load) were destroyed in 16 cells of the destructor during 299 working days, being an average of 5·7 tons per cell-day. The highest

observed temperature was 1,500° Fahr.; the lowest 300°; average 1,449°. The pyrometer does not register above 1,500°. There were 7,176 observations taken.

At Beckett Street 8,162 loads of rubbish, weighing 7,417·4 tons (0·91 tons, or 18·2 cwts. a load) were destroyed in eight cells during 266 working days, being an average of 3·5 tons per cell-day. The highest observed temperature was 1,500° Fahr.; the lowest 200°; average 1,451°. There were 6,384 observations taken.

At Kidacre Street 24,011 loads of rubbish, and weighing 22,456·3 tons (0·93 tons, or 18·7 cwts. a load) were destroyed in 12 cells during 303 working days, being an average 6·2 tons per cell-day. There were 7,272 temperature observations taken, the readings averaging 1,430° Fahr.; the highest was 1,500°; the lowest 300°. Pyrometer as at Armley Road.

At Meanwood Road 16,073 loads of rubbish, weighing 14,674·5 tons (0·91 tons, or 18·3 cwts. a load), were destroyed in eight cells during 303 working days, being an average of 6·1 tons per cell-day. No observations of temperature were taken.

STREET CLEANSING.

Mr. Darley reports that during 310 working days, 242,078 streets were cleansed, an average of 781 per day. The cleansing of gullies was equivalent to cleansing 179,400, or an average of 579 per day. In addition to this, 45,137 loads of street refuse were carted away and deposited.

The number of horse-days for street cleansing was 19,220, and for watering 4,202, being an average of 62 and 37 respectively.

The cost of street watering amounted to £2,340 13s. 9d., of street cleansing £18,732 14s. 3d., and of snow removal £457 17s. 11d.; together making a total cost of £21,531 5s. 11d.

COWSHEDS, DAIRIES, AND FOOD INSPECTION.

It will be found in table VIII. that the number of cowsheds on the register has been very considerably reduced. This is not so much that any sudden change has taken place, as that a number of disused cowsheds which had been allowed to remain on the list have been removed. Great changes take place in the occupation of cowsheds, and it is the *cowkeeper* and not the *cowshed* that is really registered. The additional inspector appointed during the present year will enable us to carry out a more systematic survey.

TABLE VIII.

Shewing work in connection with the Cowsheds and Dairies order, 52 weeks ended 31st December, 1898.

Cowsheds on the register	..	...	...	176
Milksellers	„	...	...	526
Visits to both	...	...	...	964
Applications for registration (milkshops)	...	...	...	15
Cowkeepers registered	...	...	...	—
Milkdealers	„	...	...	40
New cowsheds erected	...	...	...	—
Cowsheds drained	...	...	...	6

Although no new cowshed happens to have been completed during 1898, arrangements had been made for the erection of several, and during the early part of the present year many of these have been finished. During the past $3\frac{1}{2}$ years eleven new cowsheds have been erected, generally in lieu of old ones. Five others are in course of erection, and plans have been submitted for four more. Twenty-four others have been re-constructed in such a manner as to give better light and ventilation, greater air space, and freer facilities for cleanliness.

I regret to say the practice of adding water or removing cream still prevails in regard to milk. Out of 312 milk samples examined, 211 were returned as genuine, 13 as adulterated, whilst in 88 the milk was reported as poor in quality, which means that the Analyst considers that they have been adulterated considerably, but that the chances of a conviction, owing to the low standard of milk set up by Somerset House, would be exceedingly small.

TABLE IX.

Samples of food sent to the City Analyst for examination during the 52 weeks ended December 31st, 1898.

Article.	Genuine.	Poor in quality.	Adulterated.	Total.	Summoned.	Convicted.	Dismissed.
Milk	211	88	13	312	12	11	...
Butter	9	...	15	24	14	14	...
Tinned peas ...	...	...	5	5	...	...	...
Lard	1	...	...	1	...	...	...
Liquorice powder	2	...	...	2	...	...	...
Cocoa	1	...	...	1	...	...	...
Cream of tartar	2	...	...	2	...	...	...
Condensed milk	2	...	...	2	...	...	...
Kola nut ...	1	...	...	1	...	...	...
Chocolate ...	1	...	...	1	...	...	...
Total ...	230	88	33	351	26	25	*...

* One withdrawn.

TABLE IXa.

Summonses issued under the Sale of Food and Drugs Acts, 1875—9, and the Margarine Act, 1887, during the year 1898.

No. of sample.	Article.	Percentage of adulteration.	Fines.			Remarks.
			£	s.	d.	
13	Milk ...	17% of butter fat removed ...	2	0	0	
37	Do. ...	21% added water ...	10	0	0	and costs. Second conviction
114	Do. ...	15% do. ...	1	0	0	and costs
125	Do. ...	60% fat removed ..	1	0	0	
169	Do. ...	19% added water ...	0	10	0	
173	Do. ...	23% do.	0	5	0	
174	Do. ...	18% do.	—			Withdrawn at Magistrates' suggestion
176	Do. ...	26% do.	20	0	0	Second conviction
178	Do. ...	20% do.	2	0	0	
228	Do. ...	20% do.	1	0	0	
289	Do. ...	11% do.	0	5	0	
312	Do. ...	7½% do.	3	0	0	Second conviction
The Margarine Act, 1887.						
41	Butter ...	76% foreign fat ...	0	10	0	and costs
42	Do. ...	74% do.	0	10	0	
60	Do. ...	82% do.	—			To pay costs
68	Do. ...	68% do.	—			Do.
98	Do. ...	55% do.	20	0	0	Third conviction
213	Do. ...	67% do.	1	0	0	
214	Do. ...	74% do.	1	0	0	
238	Do. ...	77% do.	2	0	0	
265	Do. ...	78% do.	7	0	0	Second conviction
266	Do. ...	77% do.	7	0	0	
267	Do. ...	68% do.	1	0	0	and costs
324	Do. ...	66% do.	1	0	0	Do.
343	Do. ...	67% do.	1	0	0	Do.
346	Do. ...	72% do.	1	0	0	
			£84	0	0	

TABLE X.

Slaughter House and Meat Inspection, Fifty-two Weeks ended December 31st, 1898.

Class of meat seized and destroyed.	Weight in stones of 14 lb.	No. of seizures.	No. of persons summoned.	No. of convictions.	Penalties.
Beef	2	1	1	1	£5 os. od. and costs.

For slaughtering on unregistered premises a butcher was fined £3 os. od.

The Meat inspectors paid 21,027 visits to 115 slaughter houses during the year, and 2,129 stones weight of meat, 176 stones of fish, 106 stones of fruit, 80 sheeps' heads or plucks, and 11 couple of rabbits were destroyed by the owners.

TABLE XI.

Smoke Inspector's Report, 1898.

Complaints received	...	...	...	...	...	11
Furnaces inspected	...	...	...	...	...	7,966
Observations taken of chimneys (for a period of sixty minutes each)	...	...	...	...	...	1,946
Average minutes' dense smoke emitted during each observation of one hour's duration	...	...	...	...	...	1'07
Total number of minutes' dense smoke	...	...	...	...	...	2,095
Smoke prevention appliances adapted to furnaces	...	...	...	...	...	79
Chimneys newly erected	...	...	...	...	...	27
Furnaces in connection with new chimneys	...	...	...	...	...	91
Notices served upon manufacturers	...	...	...	...	...	7
Do. do. stokers	...	...	...	...	...	35
Persons summoned before the magistrates	...	...	...	...	...	1
Do. convicted	...	...	...	...	...	1
Total amount in fines	..	...	...	...	...	10s. od.

DISINFECTION AND FLUSHING

The total amount of work done varies with the number of infection cases, but also to some extent according to the greater diligence with which houses are looked after. The number of houses disinfected has increased since 1895 steadily to the present number of 3,237. The figures for the preceding years, beginning with 1895, were 1,786, 2,399, 2,478, and for the present year, as already said, 3,237. The proportion of rooms disinfected per house has not varied very much; it has been about three all through, although the proportion rose to nearly five in 1897. A larger number of rooms have been stripped of their wall paper than in any previous year—the proportion of rooms stripped to houses disinfected having increased from 14 and 11 per cent. in 1895 and 1896, to 18 per cent. in 1897, and 32 per cent. in 1898. The average of articles per house removed for disinfection has also increased on the whole, though not so steadily. In 1895 and 1896 it was 28 per house, it rose to 40 in 1897, falling, however, to 36 per house in 1898. The number of articles depends somewhat on the kind of disease we are dealing with.

TABLE XII.

Work done by Disinfecting Staff, 1898.

Houses disinfected	...	...	...	...	3,237
Rooms disinfected (stripped 1001, limewashed 770)	10,861				
Beds and mattresses disinfected	...	...	...	...	8,863
Articles of bed clothing disinfected	...	...	...	...	28,583
Articles of wearing apparel disinfected	...	...	...	...	62,965
Miscellaneous articles	...	...	...	...	16,937

Flushing.—The flushing of local drains have been persevered with, and the Sanitary Committee have resolved to obtain a large flushing cart similar to the one used in Liverpool to flush side sewers. Other information will be found below.

During the 52 weeks of the year six carts, each with two attendants, have been employed for the flushing of house drains. In this period 46,005 house drains, 13,563 water closets, and 33,860 outside drains have been flushed, making a total of 93,428.

In addition to this, two men have been employed putting an iron solution into tanks connected with the sewers, and in this manner 21,120 gallons of disinfecting solution have been allowed to trickle into certain of the sewers.

HOSPITALS.

The number of cases admitted to your hospitals was a little in excess of that in the previous year, some of the new wards having been opened towards the close of the year. The hospitals have been practically full all the year round. The work done by the removal staff is given in table XIII., and the paragraph immediately following it.

TABLE XIII.

Cases removed to hospital by our own staff.
Classified according to diseases certified.

Small-pox.	Scarlet fever.	Diphtheria.	Typhus fever.	Typhoid fever.	Other diseases.	Total, 1898.
5	535	17	—	171	6	734

OTHER WORK OF REMOVAL STAFF.

In addition to the above work, 163 persons were removed to Gildersome Convalescent Home, 482 to Manston Cottages, 77 from their homes to Beckett Street Disinfecting Station, 35 from Beckett Street Hospital to Manston Hospital, 52 from Manston Hospital to Beckett Street Hospital, 1 from Manston to the General Infirmary, and 1 from Leeds to Huddersfield, making a total of 811 additional removals.

TABLE XIV.

Return for the 52 weeks ended December 31st, 1898,
of patients in hospital.

	1 Small-pox.	2 Scarlet Fever.	3 Diphtheria.	4 Typhus Fever.	5 Enteric, or Typhoid Fever	6 Other or doubtful cases.	7 Total.
No. in Hospital on Saturday, January 1st, 1898 ...	...	47	...	...	28	7	82
No. since admitted ...	5	533	19	...	133	77	767
No. discharged ...	3	466	2	...	121	72	664
No. died ...	2	25	5	...	11	6	49
No. remaining in Hospital, Dec. 31st, 1898 ...	...	89	12	...	29	6	136

TEMPORARY DWELLINGS, &c.

Owing to the death of Mr. Burton, but after some little delay, Mr. Matthew Carter, previously in charge of the Headingley ward, and before that of Brunswick, one of our most valued and efficient ward inspectors, was appointed to the charge of canal boats and temporary dwellings in December, 1897. Unfortunately, owing to ill-health, Mr. Carter lost some months in the early part of 1898. Notwithstanding which, I am able to report a very satisfactory amount of work done by him during the year. The change of Inspector has induced us to make some alteration in the form of the table of his work. The number of boats (table XV.) on the register was slightly greater at the end of 1898 than in 1897. We have distinguished in the table visits to wharves and locks from those involving a complete inspection of boats. The former numbered nearly 1,000. Many such visits are paid to see

whether boats not previously or recently inspected are at the wharves. The 389 inspections of boats imply ascertaining ownership, number of occupants, the sanitary condition, and an examination of certificate in every case.

TABLE XV.
Canal Boats.

Registered during the year 1898	...	...	...	12
Transfers to fresh owners	...	...	...	8
Struck off register	...	...	...	7
On register, 31st December, 1898	...	...	...	331
Visits of inspection to Wharves and Locks	...	...	...	979
Boats completely inspected	...	...	...	389

TABLE XVI.
Houses Let in Lodgings.

	Houses. Rooms.	
Registered during the year ; used by weekly lodgers or boarders	...	...
Registered during the year ; let as furnished rooms	...	...
On register, 31st December, 1898	...	...
Houses letting furnished rooms visited, but not yet registered	...	...
Total visits for registration purposes	...	...
Total visits for additional inspection	...	...
Nuisances found and abated—		
	Found.	Abated.
Overcrowded rooms	...	...
Dirty rooms	...	...
Dirty and bad bedding	...	...
Dilapidated dwellings	...	...
Defective drains	...	...
Dilapidated ashpits	...	...
Dirty closets	...	...
Cellars let as furnished rooms	...	...
	308	302

Houses let in lodgings.—The greatest amount of new work, however, has been done in re-establishing the register of houses let in lodgings, which had to some extent fallen into abeyance. It had been found that a large number of the houses where lodgers were taken were used for immoral purposes, and, I presume, acting on instructions received, Inspector Burton had refused to register many of such. On looking into this matter, however, it was found that morality in no wise gained by this procedure, while the health of the occupants suffered. Accordingly you have this year placed on the register upwards of 190 houses containing some 400 rooms, and some 208 other houses containing upwards of 400 rooms have been visited for registration purposes. We have insisted in every case on 300 cubic feet per lodger, and have to a certain extent exercised a supervision over the occupancy of apartments by the sexes. In 117 cases the rooms were found overcrowded, in 143 dirty, the bedding was dirty in ten, the buildings themselves out of order in 23. We found also that 10 cellar-dwellings were let as furnished rooms; to this matter I refer later. Out of 308 nuisances found, 302 were abated during the year.

In addition to this work the Inspector has made visits to common lodging-houses, to vans, and tents, he has investigated the condition of 103 cellar dwellings, and done certain other work with, or sometimes instead of other inspectors, making in all some 315 additional visits outside his special work.

Cellar dwellings.—It was determined to make a re-investigation as to the cellars used as dwellings. In 1873 a crusade was made against cellar dwellings. The Council at that time determined that no cellar should be occupied as a dwelling that did not comply with the conditions now laid down in the Public Health Act, 1875, and a large number of cellar dwellings were closed. Other were joined to the houses above,

but disused as separate dwellings. Since that time, however, in a few cases, some of these cellars have been re-opened as dwellings, in others they have been let off as furnished rooms. Of the latter 10, of the former 23 have been reported during the year, 10 of the latter have been since closed, and 8 of the former. The matter is still receiving attention, and the Inspector has thrown a great deal of enthusiasm into his work.

TABLE XVII.
Other work of Temporary Dwellings' Inspector.

Visits to common lodging-houses	...	...	...	24
„ vans	...	...	...	96
„ tents	...	...	...	14
„ cellar dwellings	...	...	...	103
„ overcrowded houses	...	...	...	4
„ houses as to drainage	...	...	...	8
„ infectious diseases	...	...	...	13
„ as to other causes	...	...	...	53
Total				315

J. SPOTTISWOODE CAMERON,

Medical Officer of Health.

APPENDIX.

TABLE A, Part I.

Table shewing deaths recorded in the City of Leeds during the fifty-two weeks ended 31st December, 1898, classified according to cause, age, and the registration sub-districts in which they occurred.

TOWNSHIP, &c.	LEEDS.						WORKHOUSES.												Annual rate per 1,000 pop.	TOTAL Mortality in City.			DEATHS OF													
	North.		West.		South E.		Hunslet.		Holbeck.		Wortley.		Kirkstall.		Bramley.		Chapel- town.			Osmond- thorpe.		In- firmity, &c.		Fever Hospitals *.		Leeds.		Hunslet.		Holbeck.		Bramley.		Leeds persons occurring outside City †	Out- siders occurring in City.	
	und 5	ov 5	und 5	ov 5	und 5	ov 5	und 5	ov 5	und 5	ov 5	und 5	ov 5	und 5	ov 5	und 5	ov 5	und 5	ov 5		und 5	ov 5	und 5	ov 5	und 5	ov 5	und 5	ov 5	und 5	ov 5	und 5	ov 5	und 5	ov 5			
Re-estimated Population.	61,192	86,440	32,883	66,817	30,545	57,541	38,742	16,109	25,884	455																										
Under and over 5.	30	3	13	32	1	43	2	6	1	1	2	2	4	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Small-pox	7	7	10	9	5	7	6	4	1	2	2	4	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Measles	8	4	24	8	4	43	35	7	3	4	3	7	1	3	4	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Scarlatina	1	1	1	3	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Diphtheria	2	2	2	5	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Croup (memb)	2	2	2	5	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
„ undefined	2	2	2	5	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Whooping- cough	46	2	31	16	10	12	10	2	4	4	12	10	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
„ Typhus	5	5	14	1	1	2	8	7	3	1	2	8	7	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
„ Enteric	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
„ Other or doubtful	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Diarrhoea	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cholera	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Rheumatic Fever	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Acute & Sub- acute Rheu- matism	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Erysipelas	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pyæmia	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Puerperal Fever	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ague	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Phthisis	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bronchitis	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pneumonia	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pleurisy	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Heart Disease	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Injury, &c.	83	2	83	81	29	67	13	13	9	1	1	13	13	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total of Above causes	270	273	308	271	132	265	281	110	57	81	33	87	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
All other causes	309	236	345	316	172	250	224	107	71	79	81	102	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Total under and over 5	579	509	653	587	304	515	505	217	128	160	114	189	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Total ..	1,088	1,513	735	1,043	533	1,020	517	238	303	12	429	49	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Mortality per 1,000 per an.	17.8	17.6	22.4	15.6	17.7	17.8	13.4	17.9	11.7	26.5																										

* Including the deaths of nine persons at Manston (outside the City boundary). † Deaths of Leeds persons occurring at Wakefield and Manston Asylums.

TABLE A, Part II.

Table of populations, registered births, and mortality at certain ages,
in the registration sub-districts.

(Public institutions regarded as sub-districts.)

Population estimated to middle of 1886. at each age group.														
REGISTRATION SUB-DISTRICTS OF LEEDS CITY.		Population at all ages.		Registered Births.	Mortality from all causes, at subjoined ages.							Death- rate per 1,000 for each district.		
		Census 1881	Estimated to middle of 1886		At all ages.	Under 1 year.	1 and under 5	5 and under 15	15 and under 25	25 and under 60	60 and under 65		65 and upwards	
Leeds Township—North ..		60,618	61,192	2,179	1,088	378	201	47	36	251	57	118	17.8	
Do. do. West ..		83,520	86,440	2,339	1,513	428	225	69	55	387	72	277	17.6	
Do. do. South ..		33,385	32,893	1,222	735	270	169	28	30	157	29	52	22.4	
Hunslet ..		58,164	66,817	2,190	1,042	398	188	39	40	199	45	133	15.6	
Holleck ..		23,592	30,545	1,002	538	198	106	17	20	100	19	78	17.7	
Wortley ..		49,436	57,541	1,743	1,020	323	192	78	37	204	54	132	17.8	
Kirkstall ..		29,911	38,742	1,081	517	156	62	23	22	113	26	115	13.4	
Bramley ..		14,787	16,109	444	288	84	44	9	12	67	12	60	17.9	
Chapelton ..		13,661	25,884	654	303	80	34	16	10	74	16	73	11.7	
Osmondthorpe ..		431	455	9	12	2	4	..	..	4	..	2	26.5	
Infirmary ..		..	..	..	429	20	46	46	36	230	24	27	..	
* Fever Hospitals ..		..	..	..	49	3	11	17	7	11	..	..	..	
WORKHOUSES { Leeds Hunslet .. Holleck .. Bramley ..		..	..	82	347	31	10	4	12	136	38	116	..	
		..	..	8	45	..	1	..	2	13	5	24	..	
		..	..	6	25	..	..	..	..	7	4	14	..	
		..	..	12	45	1	..	..	1	16	1	26	..	
For the whole City ..		367,505	416,618	12,971	7,996	2,372	1,293	393	320	1,969	402	1,247	19.3	

The populations of Districts given in parts 1 & 2, Table A, are re-estimated from entries in rate books. The corresponding populations in parts 3, 4, 5 & 6, are the original and provisional estimates. * Including the death of nine persons at Manston Hospital.

1898.—FIRST QUARTER.

Table shewing Deaths recorded in the City of Leeds during the thirteen weeks ended April 2nd, 1898, classified according to cause, age, and the registration sub-districts in which they occurred.

[illegible]

* There was one death at Manston during the quarter. † No return received during quarter.

1898.—THIRD QUARTER.

Table shewing Deaths recorded in the City of Leeds during the thirteen weeks ended October 1st, 1898, classified according to cause, age, and the registration sub-districts in which they occurred.

TOWNSHIP &c.	LEEDS.						Osmoud- thorpe. 438	In- firmary, etc.	Fever Hospitals *	WORKHOUSES.				TOTAL Mortality in City.		Annual rate per 1,000 pop.	DEATHS OF				
	North.		West.		South E.					Leeds.	Hunslet.		Holbeck Bramley.		und. 5		over. 5	All Ages	Leeds persons occurring outside City.†	und. 5	ov. 5
	und. 5	ov. 5	und. 5	ov. 5	und. 5	ov. 5					und. 5	ov. 5	und. 5	ov. 5							
Population— 416,618	62,663	87,091	34,328	65,961	27,359	56,575	32,688	16,531	26,984												
Under and over 5.	6	2	1	5	2	8	6	1	1	4	2	1	5	5	25	15	0.25	5			
Smallpox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	25	0.24	..			
Measles	..	..	..	..	..	..	..	..	..	..	..	..	..	..	26	49	0.47	..			
Scarlatina	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	15	0.14	..			
Diphtheria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	5	..	..			
Croup (not spasmodic)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Whooping Cough	5	4	3	4	1	2	1	..	1	..	..	..	..	..	21	..	0.20	..			
Typhus	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	12	0.12	..			
Enteric	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..			
Other or doubtful	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	26	0.01	..			
Diarrhoea	70	1	70	71	27	62	34	9	8	..	3	1	..	..	404	430	4.14	1			
Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0.01	..			
Rheumatic Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0.01	..			
Acute & Sub- acute Rheu- matism	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	0.05	1			
Erysipelas	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0.01	..			
Pyæmia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Puerperal Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	0.01	..			
Ague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Phthisis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	1.18	..			
Bronchitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	117	1.71	..			
Pneumonia	13	12	15	26	8	3	4	2	3	1	2	4	..	..	86	91	1.71	1			
Pleurisy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	1.06	4			
Heart Disease	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9	55	0.62	1			
Injury, &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Total of above causes	99	50	109	96	70	27	109	55	40	23	94	67	40	34	13	13	462	10.22	8		
All other causes	106	55	120	99	69	24	88	56	59	29	77	62	34	32	14	19	588	10.42	2		
Total ..	310	424	190	308	151	300	140	59	57	1	81	10	8	6	1138	946	20.64	32			
Mortality per 1,000 per an.	19.86	19.54	22.21	18.74	22.13	21.28	14.52	14.33	8.48	9.16	29.2	10.4	20.64	20.64	2.22	2.22	..	..			

* There was no death at Manston Hospital during the quarter. † No return received during quarter.
Erysipelas death in North should be referred to Leeds Workhouse, and totals altered accordingly.

1898.—FOURTH QUARTER.

Table shewing Deaths recorded in the City of Leeds during the thirteen weeks ended December 31st, 1898, classified according to cause, age, and the registration sub-districts in which they occurred.

[illegible]

There were 7 deaths at Manston Hospital during the quarter. † No return received during quarter.

1899.—FIRST QUARTER.

A. 7.
Table shewing Deaths recorded in the City of Leeds during the thirteen weeks ended April 1st, 1899, classified according to cause, age, and the registration sub-districts in which they occurred.

TOWNSHIP &c.	L E E D S.						Fever Hospitals *	WORKHOUSES.				TOTAL Mortality in City.	Annual rate per 1,000 pop.	DEATHS OF		
	North.		West.		South E.			Leeds.	Hunslet.	Holbeck.	Bramley.			persons occurring outside City.	Leeds persons occurring outside City.	Out- siders occurring in City.
	und.	ov.	und.	ov.	und.	ov.										
Population— 423,889	62,261	87,948	34,467	67,984	31,077	58,546	39,418	16,380	26,335	463						
Under and over 5.	und. 5	ov. 5	und. 5	ov. 5	und. 5	ov. 5	und. 5	ov. 5	und. 5	ov. 5	und. 5	ov. 5	und. 5	ov. 5	und. 5	ov. 5
Smallpox	15	1	12	1	2	1	1	1	1	..	1	..	39	3	42	0.40
Measles	..	..	3	1	2	..	..	..	..	..	..	..	9	7	16	0.15
Scarlatina	4	8	4	3	1	12	8	1	1	..	..	..	36	39	75	0.71
Diphtheria	4	1	2	1	3	1	..	..	1	..	..	..	10	4	14	0.13
Croup (membr.)	1	1	..	..	1	..	..	..	..	..	..	..	3	..	3	0.03
" undefined	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough	2	..	1	8	3	..	1	1	1	..	..	..	17	..	17	0.16
Contn. { Typhus Enteric Other or doubtful Diarrhoea	..	1	..	1	1	..	..	1	..	1	..	..	..	16	16	0.15
Cholera	..	..	..	1	..	..	..	..	..	..	..	..	2	1	1	0.01
Rheumatic Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0.02
Acute & Sub- acute Rheu- matism	..	..	..	1	..	..	1	1	..	..	..	..	..	3	3	0.03
Erysipelas	..	..	1	1	..	..	1	1	..	..	1	..	1	4	5	0.05
Pyæmia	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	0.01
Puerperal Fever	..	1	1	..	1	..	1	..	..	..	..	..	..	3	3	0.03
Ague	24	2	13	18	11	16	16	5	5	..	1	36	5	178	183	1.73
Phthisis	27	40	22	33	16	25	6	10	10	1	2	12	189	255	454	4.30
Bronchitis	1	18	33	19	12	23	15	6	9	4	4	17	1	174	175	1.66
Pneumonia	7	3	5	1	3	1	..	1	5	25	5	5	3	12	61	0.69
Pleurisy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Heart Disease	55	54	53	56	31	39	11	63	14	33	1	2	3	1	762	10.28
Injury, &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total of above causes	67	81	50	78	40	55	30	25	26	2	12	4	5	439	628	10.10
All other causes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	297	357	197	278	155	254	166	71	97	4	105	16	10	763	1190	20.39
Mortality per 1,000 per an.	19.1	16.3	23.6	16.4	20.0	17.4	16.9	17.4	14.8	34.7			61.0	15.9	20.4	45

There were 10 deaths at Manston Hospital during the quarter. † No return received during quarter.

B. I.

TABLE B, Part I. (SUB-DISTRICTS.)

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the 52 weeks of 1898, in the Urban Sanitary District of Leeds; classified according to Diseases, Ages, and Localities.

Names of Localities adopted for the purpose of these Statistics.	Population at all ages.		Registered Births.	Aged under 5, 5 under 15, 15 upwards.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.													Number of such Cases Removed from their Homes in the several Localities for Treatment in the Isolation Hospitals.												
	Census, 1891.	Estimated to middle of 1898.			1	2	3	4	5	6	7	8	9	10	11	12	13	1	2	3	4	5	6	7	8	9	10	11	12	13
(a)	(b)	(c)	(d)	(e)	Small-pox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Other.	Total.	Small-pox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Other.	Total.
North (H) ..	60,618	61,192	2,261	Under 5, 5 under 15, 15 upwards.	..	182	25	2	..	36	..	..	..	..	5	1	115	..	17	2	..	..	7	..	..	..	..	..	..	19
West ..	83,520	86,440	2,339	Under 5, 5 under 15, 15 upwards.	..	118	53	4	..	33	2	1	..	2	4	5	124	..	64	1	..	..	11	..	..	..	..	..	..	78
South-East ..	33,385	32,883	1,222	Under 5, 5 under 15, 15 upwards.	..	73	45	..	..	28	..	..	..	10	9	5	187	..	27	..	..	..	11	..	..	..	..	..	..	32
Hunslet ..	58,164	66,817	2,198	Under 5, 5 under 15, 15 upwards.	..	105	12	2	..	35	..	..	..	..	71	1	296	..	80	2	..	..	22	..	..	..	..	..	..	96
Holbeck ..	23,592	30,545	1,008	Under 5, 5 under 15, 15 upwards.	..	12	9	..	..	18	..	..	..	3	25	3	80	..	14	..	..	..	1	..	..	..	..	..	..	16
Wortley ..	49,436	57,541	1,755	Under 5, 5 under 15, 15 upwards.	1	69	117	9	..	28	..	..	..	..	25	4	139	..	34	1	..	..	5	..	..	..	..	..	..	40
Kirkstall ..	29,911	38,742	1,081	Under 5, 5 under 15, 15 upwards.	4	20	39	8	..	58	..	..	..	4	46	3	93	..	20	3	..	..	9	..	..	..	..	..	..	23
Bramley ..	14,787	16,109	444	Under 5, 5 under 15, 15 upwards.	..	80	14	1	..	6	..	..	..	..	3	1	58	..	10	..	..	..	2	..	..	..	..	..	..	9
Chapelton ..	13,661	25,884	654	Under 5, 5 under 15, 15 upwards.	..	39	26	1	..	12	..	..	..	..	15	2	112	..	28	..	..	..	4	..	..	..	..	..	..	12
Osmondthorpe ..	431	455	9	Under 5, 5 under 15, 15 upwards.	..	56	4	..	..	23	..	..	..	..	15	2	57	..	4	..	..	..	11	..	..	..	..	..	..	10
Totals ..	367,505	416,618	12,971	Under 5, 5 under 15, 15 upwards.	1	69	117	9	..	7	..	..	..	..	3	2	205	..	9	..	..	..	2	..	..	..	..	..	..	36
Grand total ..	..	..	..	..	..	129	198	8	..	17	..	..	..	4	42	1	357	..	29	..	..	..	8	..	..	..	..	..	..	15
					..	84	22	..	..	54	..	..	..	..	3	1	113	..	15	1	..	..	1	..	..	..	..	..	..	15
					..	240	42	1	..	20	..	..	..	3	25	4	312	..	65	2	..	..	1	..	..	..	..	..	..	74
					..	39	26	1	..	34	..	..	..	3	25	4	131	..	8	..	..	..	7	..	..	..	..	..	..	16
					..	56	4	..	..	4	..	..	..	1	4	1	47	..	9	..	..	..	3	..	..	..	..	..	..	9
					..	32	5	..	..	12	..	..	..	1	14	3	39	..	3	..	..	..	1	..	..	..	..	..	..	7
					..	63	3	..	..	4	..	..	..	..	3	3	37	..	3	..	..	..	1	..	..	..	..	..	..	3
					..	23	7	..	..	14	..	..	..	1	14	1	60	..	3	..	..	..	..	..	..	..	..	..	..	11
					..	1	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	5
					1	547	275	25	..	32	2	..	..	..	22	14	918	1	107	5	..	..	3	..	..	..	..	..	..	125
					4	1226	419	13	..	168	1	..	28	..	30	29	1886	4	357	11	..	..	42	..	..	..	..	..	..	23
					..	229	159	..	..	339	..	..	..	..	293	51	1083	..	68	2	..	..	89	..	..	..	..	..	..	25
					5	2002	853	38	..	539	3	..	28	..	345	74	3987	5	532	18	..	..	134	..	..	..	..	..	..	57
					..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	746

Notification has been compulsory since the first of May 1894. The City General Fever Hospital (the old House of Recovery), is situated in the district marked H. The Small-pox Hospital is at Manston Hall outside the town. New wards for general fever cases were opened on the same estate in October, 1898. One hundred and twenty-one cases, exclusive of those removed from Beckett Street, were admitted after that date. These cases are included in the table. A case of diphtheria occurred amongst the nurses at this hospital, and is not included. Cases admitted to the Isolation Hospitals from outside the city are not included in this table. The 4 cases mentioned in note to table B for 1897, reported in 1897, but hospitalised in 1898, are not included above. Five cases scarlet fever and 1 case typhoid fever included in the 3,887 notified in 1898, are included in the 746 removed to hospital, although the actual removal did not take place until 1899.

B. 2.

TABLE B, Part 2. (Wards).

Names of Localities adopted for the purpose of these Statistics.	Population at all ages.		Aged under 5, 5 under 15, 15 upwards.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.												
	Census, 1891.	Estimated to middle of 1898.		1	2	3	4	5	6	7	8	9	10	11	12	13
				Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Fevers.					Cholera.	Erysipelas.	Other.	TOTAL.
								Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.				
(a)	(b)	(c)	(d)													
Central	23,009	21,120	Under 5, .. 16 3 1 .. 1 2 .. 23 5 under 15, .. 23 5 9 2 .. 39 15 upwards, .. 7 2 5 2 .. 26													
North	26,596	36,278	Under 5, .. 58 17 3 3 .. 78 5 under 15, .. 129 12 1 .. 19 3 .. 169 15 upwards, .. 28 10 31 1 .. 99													
North-East (H) ..	24,190	26,918	Under 5, .. 26 13 2 1 .. 43 5 under 15, .. 84 9 13 1 .. 110 15 upwards, .. 15 3 9 16 6 49													
East	25,598	26,084	Under 5, .. 43 3 3 .. 1 1 .. 52 5 under 15, .. 91 6 2 .. 10 1 .. 111 15 upwards, .. 10 5 16 1 .. 54													
South	17,255	17,070	Under 5, .. 19 7 1 .. 1 28 5 under 15, .. 31 9 11 51 15 upwards, .. 5 5 25 2 .. 49													
East Hunslet ..	25,386	28,461	Under 5, .. 15 9 1 .. 3 1 1 3 33 5 under 15, .. 42 11 14 1 2 1 71 15 upwards, .. 7 6 31 4 .. 26 2 76													
West Hunslet ..	23,794	29,104	Under 5, .. 28 6 2 .. 1 1 1 39 5 under 15, .. 56 8 11 2 2 79 15 upwards, .. 7 7 17 14 .. 45													
Holbeck	21,563	28,364	Under 5, .. 29 17 2 .. 6 3 1 58 5 under 15, .. 80 14 1 .. 11 2 2 110 15 upwards, .. 8 9 20 15 3 55													
Mill Hill	9,214	8,326	Under 5, .. 18 6 2 .. 26 5 under 15, .. 29 12 4 5 .. 50 15 upwards, .. 7 4 15 2 .. 18 1 47													
West	24,668	24,911	Under 5, .. 33 35 1 1 2 72 5 under 15, .. 77 54 5 1 2 139 15 upwards, .. 16 20 20 1 .. 21 2 80													
North-West	28,363	31,768	Under 5, .. 44 10 3 .. 2 1 1 3 64 5 under 15, .. 93 25 12 1 3 134 15 upwards, .. 30 12 35 3 .. 19 3 102													
Brunswick	22,752	24,653	Under 5, .. 31 4 1 3 .. 36 5 under 15, .. 64 10 7 5 .. 84 15 upwards, .. 24 7 15 4 .. 16 .. 66													
New Wortley ..	19,410	19,438	Under 5, .. 1 32 35 4 .. 3 1 .. 80 5 under 15, .. 48 57 4 .. 3 1 113 15 upwards, .. 4 8 11 .. 14 1 .. 15 1 54													
Armley and Wortley	26,436	33,742	Under 5, .. 37 79 5 .. 4 1 .. 126 5 under 15, .. 78 137 4 .. 12 3 1 235 15 upwards, .. 11 27 38 2 .. 23 .. 101													
Bramley	18,377	20,470	Under 5, .. 35 6 1 .. 2 4 1 49 5 under 15, .. 58 8 6 3 .. 75 15 upwards, .. 6 5 13 2 .. 18 3 47													
Headingley	30,894	39,911	Under 5, .. 83 21 3 3 1 111 5 under 15, .. 243 42 1 .. 21 3 6 316 15 upwards, .. 40 26 35 3 .. 26 3 133													
Totals	367,505	416,618	Under 5, .. 1 547 275 25 .. 32 2 22 14 918 5 under 15, .. 1226 419 13 .. 168 1 30 29 1886 15 upwards, .. 229 159 339 28 .. 293 31 1083													
Grand total ..				5	2002	853	38	539	3	28	23	345	74	3,857		

TABLE B, Part 2.—Wards (continued).

Names of Localities adopted for the purpose of these Statistics.	Population at all ages.		Aged under 5, 5 under 15, 15 upwards.	Number of such Cases Removed from their Homes in the several Localities for Treatment in Isolation Hospitals.												
	Census, 1891.	Estimated to middle of 1898.		1	2	3	4	5	6	7	8	9	10	11	12	13
				Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Other.	TOTAL.
(a)	(b)	(c)	(d)													
Central ..	23,009	21,120	Under 5, .. 2 5 under 15, .. 9 15 upwards, .. 4	..	2	1	..	..	2	..	..	..	..	..	1	13
North ..	26,596	36,278	Under 5, .. 7 5 under 15, .. 31 15 upwards, .. 8	..	1	1	..	..	2	..	..	..	..	..	4	38
North-East (H) ..	24,190	26,918	Under 5, .. 11 5 under 15, .. 31 15 upwards, .. 4	..	1	..	..	..	3	..	..	..	..	..	1	12
East ..	25,598	26,084	Under 5, .. 13 5 under 15, .. 29 15 upwards, .. 7	..	..	..	..	..	1	..	..	..	..	..	1	15
South ..	17,255	17,070	Under 5, .. 1 5 under 15, .. 7 15 upwards, .. 1	..	1	2	..	..	3	..	..	..	..	..	2	12
East Hunslet ..	25,386	28,461	Under 5, 5 under 15, .. 4 15 upwards,	..	..	..	..	..	3	..	..	..	..	..	3	7
West Hunslet ..	23,794	29,104	Under 5, .. 4 5 under 15, .. 15 15 upwards, .. 2	..	..	1	..	..	4	..	..	..	..	..	2	22
Holbeck ..	21,563	28,364	Under 5, .. 10 5 under 15, .. 28 15 upwards, .. 4	..	..	..	..	..	2	..	..	..	..	..	2	12
Mill Hill ..	9,214	8,326	Under 5, .. 4 5 under 15, .. 12 15 upwards, .. 6	..	..	..	..	..	1	..	..	..	..	..	..	4
West ..	24,668	24,911	Under 5, .. 6 5 under 15, .. 17 15 upwards, .. 6	..	..	..	..	..	3	..	..	..	..	..	2	22
North-West ..	28,363	31,768	Under 5, .. 10 5 under 15, .. 31 15 upwards, .. 8	..	..	..	..	..	5	..	..	..	..	..	3	39
Brunswick ..	22,752	24,653	Under 5, .. 7 5 under 15, .. 23 15 upwards, .. 4	..	1	..	..	..	2	..	..	..	..	..	..	8
New Wortley ..	19,410	19,438	Under 5, .. 1 5 under 15, .. 8 15 upwards, .. 4	..	4	1	..	..	..	..	..	..	..	..	..	5
Armley and Wortley	26,436	33,742	Under 5, .. 5 5 under 15, .. 21 15 upwards, .. 1	..	..	3	..	..	2	..	..	..	..	..	1	27
Bramley ..	18,377	20,470	Under 5, .. 9 5 under 15, .. 26 15 upwards, .. 3	..	..	..	..	..	3	..	..	..	..	..	..	9
Headingley ..	30,894	39,911	Under 5, .. 14 5 under 15, .. 65 15 upwards, .. 8	..	1	2	..	..	1	..	..	..	..	..	6	29
Totals ..	367,505	416,618	Under 5, .. 1 5 under 15, .. 357 15 upwards, .. 4	107	5	11	..	..	42	..	..	..	..	..	23	433
Grand total ..	..	..	..	5	532	18	..	..	134	..	..	..	..	..	57	746

B. 3.

New cases of Infectious Sickness heard of in the several Sub-districts and Wards of the City of Leeds during the thirteen weeks ended April 2nd, 1898.

	Where treated.	Small-pox.	Scarlet fever.	Diphtheria.	Membranous croup.	Typhus fever.	Typhoid fever.	Continued fever.	Puerperal fever.	Erysipelas.	Cholera.	Other.	TOTALS.
SUB-DISTRICTS.	North	Hosp. ...	22	1	...	...	5	...	...	...	...	3	31
	Home	...	77	5	...	...	10	...	1	5	...	2	101
	West	Hosp. ...	32	...	...	...	6	...	...	...	...	1	39
	Home	...	117	44	3	...	10	...	2	26	...	...	202
	South-East	Hosp. ...	6	...	...	...	3	...	...	...	...	...	9
	Home	...	43	12	1	...	3	...	1	6	...	...	66
	Hunslet	Hosp. ...	2	1	...	...	3	...	...	...	...	4	10
	Home	...	42	10	2	...	6	...	1	15	...	...	76
	Holbeck	Hosp. ...	16	...	...	...	6	...	...	...	...	1	23
	Home	...	20	7	...	...	7	...	...	6	...	2	42
	Wortley	Hosp. ...	4	12	...	...	2	...	...	...	...	1	19
	Home	...	50	8	4	...	6	...	2	16	...	1	87
	Kirkstall	Hosp. ...	13	...	...	...	1	...	...	...	...	2	16
	Home	...	43	16	1	...	5	...	1	11	...	...	77
	Bramley	Hosp. ...	2	...	...	...	...	...	...	...	...	2	4
	Home	...	18	5	1	...	4	...	1	9	...	...	38
WARDS.	Chapelton	Hosp. ...	4	...	...	...	1	...	...	...	...	1	6
	Home	...	61	5	...	...	3	...	...	1	...	...	70
	Osmondthorpe	Hosp. ...	...	...	...	...	...	...	...	...	...	...	...
	Home	...	...	...	...	...	...	...	...	...	...	...	...
	Central	Hosp. ...	2	1	...	...	1	...	...	...	...	1	5
	Home	...	7	4	...	...	1	...	1	2	...	...	15
	North	Hosp. ...	14	...	...	...	1	...	...	...	...	2	17
	Home	...	86	5	...	...	6	...	...	1	...	1	99
	North-East	Hosp. ...	10	...	...	...	4	...	...	...	...	1	15
	Home	...	36	2	...	...	6	...	...	3	...	1	48
	East	Hosp. ...	5	...	...	...	3	...	...	...	...	...	8
	Home	...	29	9	1	...	3	...	...	5	...	...	47
	South	Hosp. ...	1	...	...	...	...	...	...	...	...	...	1
	Home	...	20	3	...	...	1	...	1	4	...	...	29
	East-Hunslet	Hosp. ...	...	...	...	...	2	...	...	...	...	2	4
	Home	...	13	2	1	...	2	...	1	10	...	...	29
	West-Hunslet	Hosp. ...	2	1	...	...	1	...	...	...	...	2	6
	Home	...	22	7	1	...	3	...	...	2	...	...	35
	Holbeck	Hosp. ...	16	...	...	...	6	...	...	...	...	1	23
	Home	...	20	7	...	...	7	...	...	6	...	2	42
	Mill Hill	Hosp. ...	3	...	...	...	1	...	...	...	...	...	4
	Home	...	9	5	...	...	...	...	...	5	...	...	19
	West	Hosp. ...	7	...	...	...	2	...	...	...	...	1	10
	Home	...	18	24	1	...	2	...	...	5	...	...	50
	North-West	Hosp. ...	14	...	...	...	3	...	...	...	...	...	17
	Home	...	61	8	2	...	3	...	1	8	...	...	83
	Brunswick	Hosp. ...	8	...	...	...	...	...	...	...	...	...	8
	Home	...	39	7	...	...	5	...	1	9	...	...	61
	New Wortley	Hosp. ...	4	2	...	...	2	...	...	...	...	...	8
	Home	...	12	2	2	...	3	...	...	5	...	1	25
	Armley & Wortley	Hosp. ...	10	...	...	...	...	...	...	...	...	1	11
	Home	...	37	6	2	...	3	...	1	9	...	...	58
	Bramley	Hosp. ...	2	...	...	...	...	...	...	...	...	2	4
	Home	...	18	5	1	...	4	...	2	11	...	...	41
	Headingley	Hosp. ...	13	...	...	...	1	...	...	...	...	2	16
	Home	...	44	16	1	...	5	...	1	11	...	...	78
CITY	Home	4	109	2	...	...	27	...	...	...	...	15	157
	Home	...	471	112	12	...	54	...	9	96	...	5	759
	Cases	4	580	114	12	...	81	...	9	96	...	20	916

In addition to the 157 cases hospitalised (out of the 916 reported during the quarter) 4 cases of scarlet fever, which had been reported, but not removed, in previous quarter, were also taken to hospital, but were not included in the total for the previous quarter.

B. 4.

New cases of Infectious Sickness heard of in the several Sub-districts and Wards of the City of Leeds during the thirteen weeks ended July 2nd, 1898.

	Where treated.	Small-pox.	Scarlet fever.	Diphtheria.	Membranous croup.	Typhus fever.	Typhoid fever.	Continued fever.	Puerperal fever.	Erysipelas.	Cholera.	Other.	TOTALS.
SUB-DISTRICTS.	North	Hosp. ...	31	...	...	...	1	...	...	...	...	5	37
	Home	...	56	2	...	...	4	...	1	15	...	...	78
	West	Hosp. ...	38	...	...	...	1	...	...	...	...	4	43
	Home	...	73	43	...	...	12	1	3	15	...	...	147
	South-East	Hosp. ...	11	...	...	...	2	...	...	...	...	2	15
	Home	...	32	2	1	...	2	...	2	10	...	...	49
	Hunslet	Hosp. ...	7	...	...	...	1	...	...	...	...	1	9
	Home	...	37	3	...	...	8	...	...	12	...	1	61
	Holbeck	Hosp. ...	9	...	...	...	2	...	...	...	...	1	12
	Home	...	25	4	...	...	3	...	...	2	...	...	34
WARDS.	Wortley	Hosp. ...	12	...	...	...	...	...	...	...	...	...	13
	Home	...	56	15	...	...	2	...	...	10	...	...	83
	Kirkstall	Hosp. ...	28	...	...	...	...	...	...	...	...	4	32
	Home	...	78	8	...	...	5	...	...	5	...	1	97
	Bramley	Hosp. ...	5	...	...	...	1	...	...	...	...	1	7
	Home	...	3	1	...	...	1	...	...	4	...	1	10
	Chapeltown	Hosp. ...	1	...	...	...	...	...	...	...	...	...	1
	Home	...	18	1	...	...	...	...	...	2	...	...	21
	Osmondthorpe	Hosp. ...	1	...	...	...	...	...	...	...	...	...	1
	Home	...	...	...	...	...	...	...	...	...	...	...	...
WARDS.	Central	Hosp. ...	3	...	...	...	1	...	...	...	...	1	5
	Home	...	11	...	...	...	2	...	1	3	...	...	17
	North	Hosp. ...	15	...	...	...	...	...	...	...	...	...	15
	Home	...	41	2	...	...	...	...	...	7	...	...	50
	North-East	Hosp. ...	14	...	...	...	...	...	...	...	...	4	18
	Home	...	17	1	...	...	2	...	...	6	...	...	26
	East	Hosp. ...	12	...	...	...	2	...	...	...	...	2	16
	Home	...	32	...	1	...	1	...	1	7	...	...	42
	South	Hosp. ...	...	...	...	...	1	...	...	...	...	1	2
	Home	...	1	2	...	...	2	...	1	5	...	...	11
	East-Hunslet	Hosp. ...	1	...	...	...	...	...	...	...	...	...	1
	Home	...	17	1	...	...	4	...	...	5	...	1	29
	West-Hunslet	Hosp. ...	6	...	...	...	...	...	...	...	...	...	6
	Home	...	19	2	...	...	4	...	...	4	...	...	29
	Holbeck	Hosp. ...	9	...	...	...	2	...	...	...	...	1	12
	Home	...	25	4	...	...	2	...	...	2	...	...	33
	Mill Hill	Hosp. ...	9	...	...	...	...	...	...	...	...	...	9
	Home	...	8	1	...	...	2	...	2	6	...	...	19
	West	Hosp. ...	6	...	...	...	1	...	...	...	...	...	7
	Home	...	20	38	...	...	4	...	...	4	...	...	66
	North-West	Hosp. ...	14	...	...	...	...	...	...	...	...	4	18
	Home	...	24	4	...	...	4	1	1	4	...	...	38
CITY	Brunswick	Hosp. ...	9	...	...	...	...	...	...	...	...	...	9
	Home	...	26	...	...	...	1	...	...	2	...	...	29
	New Wortley	Hosp. ...	1	...	...	...	...	...	...	...	...	...	2
	Home	...	25	9	...	...	1	...	...	5	...	...	40
	Armley & Wortley	Hosp. ...	11	...	...	...	...	...	...	5	...	...	11
	Home	...	28	6	...	...	1	...	...	5	...	...	40
	Bramley	Hosp. ...	5	...	...	...	1	...	...	...	...	1	7
	Home	...	6	1	...	...	1	...	...	4	...	1	13
CITY	Headingley	Hosp. ...	28	...	...	...	...	...	...	...	...	4	32
	Home	...	78	8	...	...	6	...	...	5	...	1	98
CITY	Home	...	143	...	...	...	8	...	...	...	...	18	170
	Cases	...	378	79	1	...	37	1	6	75	...	3	580
	Cases	...	521	79	1	...	45	1	6	75	...	21	750

In addition to the 170 cases hospitalised (out of the 750 reported during the quarter) 2 cases of scarlet fever, which had been reported, but not removed, in previous quarter, were also taken to hospital.

B. 5.

New cases of Infectious Sickness heard of in the several Sub-districts and Wards of the City of Leeds during the thirteen weeks ended October 1st, 1898.

	Where treated.	Small-pox.	Scarlet fever.	Diphtheria.	Membranous croup.	Typhus fever.	Typhoid fever.	Continued fever.	Puerperal fever.	Erysipelas.	Cholera.	Other.	TOTALS.
SUB-DISTRICTS.	North	{ Hosp. ... 21	...	...	...	...	6	...	...	...	...	2	29
	Home	{ ... 40	8	1	...	13	...	...	9	...	1	72	101
	West	{ Hosp. ... 22	...	...	...	4	...	...	...	...	6	32	202
	Home	{ ... 90	41	...	...	14	...	3	21	...	1	170	202
	South-East	{ Hosp. ... 19	...	...	...	5	...	...	...	...	2	26	62
	Home	{ ... 19	2	2	...	8	...	...	5	...	...	36	62
	Hunslet	{ Hosp. ... 4	...	...	...	5	...	...	...	...	...	9	66
	Home	{ ... 27	3	1	...	11	...	2	12	...	1	57	66
	Holbeck	{ Hosp. ... 6	...	...	...	2	...	...	...	...	...	8	38
	Home	{ ... 15	5	...	...	3	...	...	7	...	...	30	38
	Wortley	{ Hosp. ... 12	...	...	...	3	...	...	...	...	...	15	183
	Home	{ ... 46	87	7	...	22	...	...	5	...	1	168	183
WARDS.	Kirkstall	{ Hosp. ... 24	...	...	...	2	...	...	...	...	...	26	167
	Home	{ ... 103	13	...	...	15	...	1	7	...	2	141	167
	Bramley	{ Hosp. ... 6	...	...	...	1	...	...	...	...	...	7	30
	Home	{ ... 15	2	...	...	2	...	...	4	...	...	23	30
	Chapelton	{ Hosp. ... 2	...	...	...	...	...	...	...	...	...	2	30
	Home	{ ... 20	...	...	...	3	...	...	5	...	...	28	30
	Osmondthorpe	{ Hosp. ...	...	...	...	...	...	...	...	...	...	...	...
	Home	{ ...	...	...	...	...	...	...	...	...	...	...	...
	Central	{ Hosp. ... 7	...	...	...	...	...	...	...	...	...	7	23
	Home	{ ... 8	3	...	...	2	...	...	2	...	1	16	23
	North	{ Hosp. ... 6	...	...	...	4	...	...	...	...	...	10	60
	Home	{ ... 31	3	1	...	6	...	...	9	...	...	50	60
WARDS.	North-East	{ Hosp. ... 10	...	...	...	2	...	...	...	...	2	14	40
	Home	{ ... 16	2	...	...	6	...	...	2	...	...	26	40
	East	{ Hosp. ... 19	...	...	...	3	...	...	...	...	1	23	53
	Home	{ ... 17	...	2	...	6	...	...	5	...	...	30	53
	South	{ Hosp. ...	...	...	...	4	...	...	...	...	1	5	16
	Home	{ ... 6	2	...	...	3	...	...	...	...	...	11	16
	East-Hunslet	{ Hosp. ...	...	...	...	3	...	...	...	...	...	3	27
	Home	{ ... 10	...	...	...	4	...	2	8	...	...	24	27
	West-Hunslet	{ Hosp. ... 4	...	...	...	...	...	...	...	...	...	4	33
	Home	{ ... 13	3	1	...	6	...	...	5	...	1	29	33
	Holbeck	{ Hosp. ... 6	...	...	...	2	...	...	...	...	...	8	38
	Home	{ ... 15	5	...	...	3	...	...	6	...	1	30	38
WARDS.	Mill Hill	{ Hosp. ... 4	...	...	...	...	...	...	...	...	...	4	30
	Home	{ ... 12	1	...	...	5	...	...	7	...	1	26	30
	West	{ Hosp. ... 4	...	...	...	...	...	...	...	...	3	7	92
	Home	{ ... 43	29	...	...	4	...	...	9	...	...	85	92
	North-West	{ Hosp. ... 8	...	...	...	3	...	...	...	...	3	14	55
	Home	{ ... 25	10	...	...	1	...	1	4	...	...	41	55
	Brunswick	{ Hosp. ... 6	...	...	...	1	...	...	...	...	...	7	29
	Home	{ ... 12	1	...	...	6	...	2	1	...	...	22	29
	New Wortley	{ Hosp. ... 6	...	...	...	1	...	...	...	...	...	7	73
	Home	{ ... 19	38	4	...	3	...	...	1	...	1	66	73
	Armley & Wortley	{ Hosp. ... 6	...	...	...	2	...	...	...	...	...	8	109
	Home	{ ... 27	49	3	...	19	...	...	3	...	...	101	109
WARDS.	Bramley	{ Hosp. ... 6	...	...	...	1	...	...	...	...	...	7	31
	Home	{ ... 15	2	...	...	2	...	...	5	...	...	24	31
WARDS.	Headingley	{ Hosp. ... 24	...	...	...	2	...	...	...	...	...	26	170
	Home	{ ... 106	13	...	...	15	...	1	8	...	1	144	170
CITY	Hosp. ...	116	...	...	...	28	...	...	...	...	10	154	879
	Home ...	375	161	11	...	91	...	6	75	...	6	725	879
Cases		...	491	161	11	...	119	...	6	75	...	16	879

In addition to the 154 cases hospitalled (out of the 879 reported during the quarter) 7 cases of scarlet fever, which had been reported in previous quarter, were also taken to hospital.

B. 6.

New cases of Infectious Sickness heard of in the several Sub-districts and Wards of the City of Leeds during the thirteen weeks ended December 31st, 1898.

	Where treated.	Small-pox.	Scarlet fever.	Diphtheria.	Membranous croup.	Typhus fever.	Typhoid fever.	Continued fever.	Puerperal fever.	Erysipelas.	Cholera.	Other.	TOTALS.
SUB-DISTRICTS.	North	{ Hosp. ... 17 Home ... 25	3	40	2	...	6	30	...	19	...	3	29 116
	West	{ Hosp. ... 32 Home ... 41	3	65	1	...	22	44	2	22	...	3	60 176
	South-East	{ Hosp. ... 18 Home ... 21	...	10	1	...	8	16	...	6	...	1	27 54
	Hunslet	{ Hosp. ... 11 Home ... 57	3	40	1	...	14	44	2	12	...	3	31 157
	Holbeck	{ Hosp. ... 8 Home ... 18	...	24	3	...	7	11	...	6	...	1	16 62
	Wortley	{ Hosp. ... 5 Home ... 25	4	240	6	...	5	38	2	16	...	...	14 327
	Kirkstall	{ Hosp. ... 19 Home ... 55	3	50	...	...	5	24	1	8	...	1	28 139
	Bramley	{ Hosp. ... 21 Home ... 25	...	5	...	...	2	7	...	4	...	...	23 41
	Chapelton	{ Hosp. ... 7 Home ... 5	...	9	...	...	...	11	1	6	...	1	8 34
	Osmondthorpe	{ Hosp. ... Home ...	...	...	...	...	...	...	...	...	...	...	...
WARDS.	Central	{ Hosp. ... 3 Home ... 5	...	2	1	...	2	6	...	4	...	...	5 18
	North	{ Hosp. ... 10 Home ... 12	2	27	...	...	4	32	1	13	...	4	20 85
	North-East	{ Hosp. ... 9 Home ... 13	1	19	...	...	...	4	...	7	...	2	10 45
	East	{ Hosp. ... 12 Home ... 18	...	5	1	...	3	6	...	5	...	1	16 35
	South	{ Hosp. ... 8 Home ... 19	3	11	1	...	7	19	...	1	...	...	18 51
	East-Hunslet	{ Hosp. ... 2 Home ... 21	...	23	...	...	9	24	2	5	...	2	13 76
	West-Hunslet	{ Hosp. ... 7 Home ... 18	...	8	...	...	4	11	...	6	...	1	12 43
	Holbeck	{ Hosp. ... 8 Home ... 18	...	24	3	...	6	9	...	6	...	1	15 60
	Mill Hill	{ Hosp. ... 4 Home ... 5	...	15	...	...	...	11	...	7	...	...	4 38
	West	{ Hosp. ... 11 Home ... 17	...	18	...	...	5	7	1	5	...	2	18 48
	North-West	{ Hosp. ... 10 Home ... 11	1	24	1	...	15	20	...	5	...	1	27 62
	Brunswick	{ Hosp. ... 9 Home ... 10	2	11	1	...	2	7	1	7	...	...	13 37
	New Wortley	{ Hosp. ... 5 Home ... 18	1	57	2	...	2	8	1	5	...	...	8 91
	Armley & Wortley	{ Hosp. ... Home ... 7	3	179	4	...	3	26	1	10	...	...	6 227
	Bramley	{ Hosp. ... 21 Home ... 26	...	11	...	...	2	10	...	5	...	...	23 52
	Headingley	{ Hosp. ... 19 Home ... 54	3	49	...	...	5	25	1	8	...	1	28 138
	CITY	{ Hosp. ... 138 Home ... 272	16	483	14	...	69	225	2	7	99	13	236 1106
	Cases		410	499	14	...	294	2	7	99	...	17	1342

In addition to the 236 cases hospitalised (out of the 1,342 reported during the quarter) 12 cases of scarlet fever, 1 case of typhoid fever and 1 other case, which had been reported in previous quarter, were also taken to hospital. A nurse at Manston contracted diphtheria and was admitted to hospital. Her case is not included in table.

B. 7.

New cases of Infectious Sickness heard of in the several Sub-districts and Wards of the City of Leeds during the thirteen weeks ended April 1st, 1899.

		Where treated.	Small-pox.	Scarlet fever.	Diphtheria.	Membranous croup.	Typhus fever.	Typhoid fever.	Continued fever.	Puerperal fever.	Erysipelas.	Cholera.	Other.	TOTALS.	
SUB-DISTRICTS.	North	{ Hosp.	...	17	5	...	...	18	...	...	...	...	...	40	143
		{ Home	...	12	59	5	...	7	...	1	16	...	3	103	
	West	{ Hosp.	...	25	2	...	...	4	...	...	...	...	6	37	177
		{ Home	...	39	48	4	...	16	...	1	32	...	...	140	
	South-East	{ Hosp.	...	7	...	...	...	3	...	...	...	...	1	11	65
		{ Home	...	16	19	1	...	7	...	...	11	...	...	54	
	Hunslet	{ Hosp.	...	31	2	...	...	4	...	...	...	...	3	40	215
		{ Home	...	76	70	...	...	5	...	2	20	...	2	175	
	Holbeck	{ Hosp.	...	17	...	...	...	...	...	...	...	...	1	18	78
		{ Home	...	28	20	2	...	7	...	...	2	...	1	60	
	Wortley	{ Hosp.	...	10	1	...	...	3	...	...	...	...	...	14	166
{ Home		...	15	120	1	...	5	3	...	8	...	...	152		
Kirkstall	{ Hosp.	...	34	14	...	...	2	...	...	...	...	1	51	197	
	{ Home	...	35	84	...	...	12	...	2	13	...	...	146		
Bramley	{ Hosp.	...	9	5	...	...	4	...	...	...	...	2	20	53	
	{ Home	...	8	15	...	...	4	...	...	6	...	...	33		
Chapelton	{ Hosp.	...	1	...	...	...	...	...	...	...	...	...	1	29	
	{ Home	...	7	8	1	...	4	...	1	7	...	...	28		
Osmondthorpe ..	{ Hosp.	...	...	...	...	...	...	...	...	...	...	...	...	...	
	{ Home	...	...	...	...	...	...	...	...	...	...	...	...		
WARDS.	Central	{ Hosp.	...	3	1	...	...	...	...	...	...	...	...	4	20
		{ Home	...	3	6	2	...	2	...	...	3	...	...	16	
	North	{ Hosp.	...	5	2	...	...	9	...	...	...	...	...	16	68
		{ Home	...	8	20	2	...	8	...	...	14	...	...	52	
	North-East	{ Hosp.	...	10	3	...	...	9	...	...	...	...	...	22	82
		{ Home	...	8	39	2	...	...	...	1	7	...	3	60	
	East.....	{ Hosp.	...	6	...	...	...	2	...	...	...	...	1	9	46
		{ Home	...	9	18	...	...	3	...	...	7	...	...	37	
	South	{ Hosp.	...	2	1	...	...	1	...	...	...	...	...	4	51
		{ Home	...	18	18	1	...	4	...	...	6	...	...	47	
	East-Hunslet	{ Hosp.	...	10	1	...	...	4	...	...	...	...	2	17	89
		{ Home	...	29	30	...	...	2	...	2	7	...	2	72	
	West-Hunslet.....	{ Hosp.	...	20	...	...	...	...	...	...	...	...	1	21	101
		{ Home	...	39	24	...	...	8	...	...	9	...	...	80	
	Holbeck	{ Hosp.	...	16	...	...	...	...	...	...	...	...	1	17	70
		{ Home	...	26	20	2	...	2	...	...	2	...	1	53	
	Mill Hill.....	{ Hosp.	...	1	...	...	...	...	...	...	...	...	2	3	23
		{ Home	...	1	8	...	...	3	...	...	8	...	...	20	
	West.....	{ Hosp.	...	10	1	...	...	2	...	...	...	...	1	14	52
{ Home		...	13	16	2	...	3	...	...	4	...	...	38		
North-West	{ Hosp.	...	12	...	...	...	...	...	...	...	...	2	14	74	
	{ Home	...	18	16	2	...	8	...	...	15	...	...	60		
Brunswick	{ Hosp.	...	3	...	...	...	...	2	...	...	...	1	6	30	
	{ Home	...	6	8	...	...	3	...	2	5	...	...	24		
New Wortley	{ Hosp.	...	5	1	...	...	...	...	...	...	...	...	6	59	
	{ Home	...	5	39	...	...	4	...	...	5	...	...	53		
Armley & Wortley	{ Hosp.	...	4	...	...	...	1	...	...	...	...	...	5	101	
	{ Home	...	10	78	1	...	1	3	...	3	...	...	96		
Bramley	{ Hosp.	...	9	4	...	...	6	...	...	...	...	2	21	59	
	{ Home	...	8	20	...	...	4	...	...	6	...	...	38		
Headingley.....	{ Hosp.	...	35	15	...	...	2	...	...	...	...	1	53	198	
	{ Home	...	35	83	...	...	12	...	2	13	...	...	145		
CITY	{ Hosp.	...	151	29	...	...	38	...	...	...	...	14	232	1123	
	{ Home	...	236	443	14	...	67	3	7	115	...	6	891		
	{ Cases	...	387	472	14	...	105	3	7	115	...	20	1123		

Two nurses at Manston Hall contracted diphtheria, and were treated in the hospital. They are not included in the 29 given above. Cases of infectious illness occurring amongst the staff at the Beckett Street hospital are entered in the district and ward in which the hospital is situated. Manston Hall is outside the city. In addition to the 232 cases hospitalised (out of the 1,123 reported during the quarter) 5 cases of scarlet fever, and 1 case of typhoid fever, which had been reported in previous quarter, were also taken to hospital.

TABLE C.

Table shewing deaths recorded in the City of Leeds during the fifty-two weeks ended 31st December, 1898, classified according to cause, age, and the registration sub-districts to which the patients belonged. Deaths in institutions allocated to districts to which patients belonged.

TOWNSHIPS, &c.	LEEDS.						Deaths of outsiders in City.	TOTAL mortality in City.	Annual rate per 1,000 pop.
	North. 61,192		West. 86,440		South E. 32,893				
	under 5	over 5	under 5	over 5	under 5	over 5			
Estim. Pop., 416,618 ..									
Under and over 5 }									
Small-pox ..	..	..	..	..	..	..	..	1	2
Chicken-pox ..	..	..	..	..	..	..	..	1	1
Measles ..	31	3	13	1	28	..	..	181	168
Scarlet Fever ..	11	13	12	10	8	5	7	64	57
Typhus ..	..	..	..	..	..	..	..	..	121
Euteric ..	1	7	..	..	..	8	..	..	..
Other or doubtful ..	..	..	..	..	..	..	..	6	86
Influenza ..	..	..	..	..	..	..	..	3	1
Whooping-cough ..	46	2	31	10	29	4	2	160	50
Diphtheria ..	9	5	26	30	4	3	7	111	102
Cholera ..	..	..	..	..	..	..	..	..	203
Diarrhoea, &c. ..	85	2	83	8	66	4	..	472	2
Ague ..	..	1	..	..	..	..	..	..	512
Zoogenous diseases ..	..	..	..	..	..	..	..	..	2
Syphilis ..	14	3	9	..	10	2	..	45	..
Gonorrhoea ..	..	1	..	2	..	..	..	..	55
Stricture of Urethra ..	..	..	..	..	..	..	..	7	7
Erysipelas ..	1	2	..	3	..	1	..	3	12
Pyæmia ..	..	..	..	..	..	..	..	..	..
Phagedæna ..	..	2	..	1	..	1	..	1	7
Septicæmia ..	..	..	..	..	..	..	..	..	..
Phlebitis ..	..	..	..	6	..	3	1	..	15
Puerperal Fever ..	..	..	..	..	..	..	..	..	15
Parasitic diseases ..	3	..	..	..	3	..	..	9	11
Starvation ..	9	1	11	..	9	1	..	56	2
Alcoholism ..	..	8	..	3	..	4	..	..	27
Rheumatic Fever ..	..	..	..	1	..	..	1	..	3
Acute and Sub-acute Rheumatism ..	..	6	..	5	..	3	1	..	19
Rheumatism ..	..	3	..	4	1	2	..	1	20
Gout ..	..	..	..	2	..	1	..	..	5
Rickets ..	29	1	9	..	31	..	..	80	1
Cancer ..	..	34	2	66	2	26	..	4	288

TABLE C (continued).

TOWNSHIPS, &c. . .	LEEDS.						Hunslet.		Holbeck.		Wortley.		Kirkstall.		Bramley.		Chapelton.		Osmond- thorpe.		Deaths of outsiders occurring in City.			Total mortality in City.			Annual rate per 1,000 pop.
	North.		West.		South E.																						
	under 5	over 5	under 5	over 5	under 5	over 5	under 5	over 5	under 5	over 5	under 5	over 5	under 5	over 5	under 5	over 5	under 5	over 5	under 5	over 5	under 5	over 5	all ages.				
Under and over 5	20	13	19	4	1	4	21	7	6	2	7	2	2	8	1	1	4	1	1	1	93	5	98	0.24			
Tabes Mesenterica	13	1	19	4	3	4	7	2	3	2	2	2	8	1	1	2	2	1	1	1	52	15	73	0.18			
Tub. Meningitis	1	2	1	1	2	2	5	3	1	1	3	1	1	1	1	2	1	1	1	1	17	17	17	0.04			
Hydrocephalus	2	11	4	137	4	57	2	2	6	27	2	63	44	2	19	2	15	2	22	554	576	576	1.39				
Phthisis	1	4	1	3	1	2	3	2	1	1	2	3	1	1	1	1	3	11	15	26	43	96	0.06				
Tub. Peritonitis	5	7	8	9	3	1	24	6	5	3	3	5	3	1	1	1	4	1	53	43	2	3	0.23				
Other Tuberculous	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.01			
Scrofula	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.05			
Anemia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.08			
Dialetes, &c.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.60		
Premature Birth	50	17	42	17	17	17	42	11	21	35	7	36	5	5	2	14	12	1	1	1	248	248	248	0.13			
Malformations and Atelectasis (23)	5	2	14	2	2	13	7	36	6	13	24	16	3	3	6	1	7	1	1	1	52	316	316	0.76			
Old Age	37	13	75	13	13	13	55	10	19	24	13	24	16	3	4	4	1	7	1	1	167	173	173	0.42			
Brain Disease	1	37	2	37	14	14	2	18	6	1	13	5	3	3	6	1	4	1	1	1	81	25	106	0.25			
Meningitis	10	2	10	2	11	3	23	7	8	18	10	10	3	10	5	5	8	1	1	1	159	160	160	0.39			
Apoplexy	22	1	1	43	21	21	7	2	2	7	7	7	3	3	2	2	2	2	1	1	54	54	54	0.13			
Paralysis	11	1	1	12	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.03			
Gen. Paralysis— Insanity	1	1	1	6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.03		
Epilepsy	5	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.04		
Convulsions	62	1	57	1	33	1	35	20	29	40	1	13	1	10	2	2	14	1	233	4	297	4	297	0.72			
Laryngismus Stridulus	1	1	4	1	1	1	3	1	1	1	1	1	1	1	1	1	2	1	12	1	13	1	13	0.03			
Other Diseases of Nervous System	1	6	1	9	1	2	4	1	1	2	2	3	3	1	1	1	1	1	1	1	2	29	31	31	0.07		
Dis. of Organs of Special Sense	1	1	1	5	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	9	12	12	0.03		
Endocarditis, &c.	23	1	1	40	6	6	24	1	8	31	13	31	13	1	7	11	1	1	1	168	169	169	0.41				
Pericarditis	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	0.00			
Heart Disease	2	53	2	74	35	35	41	1	30	1	37	1	34	1	14	20	1	1	7	345	352	352	0.85				
Angina Pectoris	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	6	6	6	0.01			
Syncope	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	17	17	17	0.04			
Aneurism	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8	8	8	8	0.02			
Other Circulatory	11	1	1	2	4	4	1	1	1	3	3	3	2	2	2	1	1	1	1	27	28	28	28	0.07			
Laryngitis	2	1	1	1	1	1	3	1	1	2	3	2	3	1	1	2	1	1	12	7	19	7	19	0.05			
Croup (membranous)	1	1	1	1	3	3	4	1	1	3	4	4	1	1	1	1	1	1	17	9	26	9	26	0.06			
Croup (undefined)	2	1	1	1	2	2	5	1	4	1	1	1	1	1	1	1	1	1	19	4	23	4	23	0.06			
Bronchitis	46	74	53	99	48	44	33	46	22	30	58	25	25	15	16	17	1	1	302	412	714	412	714	1.72			
Broncho-Pneumonia	27	9	53	12	37	5	10	5	12	7	9	8	1	1	5	2	1	1	183	41	224	41	224	0.54			
Pneumonia	14	43	19	37	3	25	56	34	8	13	5	16	4	4	3	12	1	1	113	198	311	198	311	0.75			
Pleuro-Pneumonia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9	9	9	9	0.02			
Pleurisy	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	14	14	14	0.03			
Other Respiratory	13	1	6	3	5	7	8	3	4	4	4	6	2	3	2	2	3	2	24	47	71	47	71	0.17			

TABLE C (continued).

TOWNSHIPS, &c.	LEEDS.										Deaths of outsiders occurring in City		TOTAL mortality in City.			Annual rate per 1,000 pop.						
	North.		West.		South E.		Hunslet.		Holbeck.								Wortley.		Kirkstall.		Bramley.	
	under 5	over 5	under 5	over 5	under 5	over 5	under 5	over 5	under 5	over 5	under 5	over 5	under 5	over 5	under 5		over 5	under 5	over 5	under 5	over 5	all ages.
Under and over 5 {	2	18	3	33	1	12	28	1	31	3	24	15	8	1	3	1	10	1	172	4	11	0'03
Stomatitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'41
Dentition	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'03
Tonsillitis, &c.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'13
Dis. of Stomach	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'42
Enteritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'05
Hernia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'01
Fistula	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'05
Peritonitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'01
Ascitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'05
Jaundice	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'01
Cirrhosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'05
Dis. of Liver	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'01
Dis. of Bowels..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'07
Disease of ductless Glands	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'12
Nephritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'03
Kidney Disease	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'23
Albuminuria	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'19
Other Urinary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'06
Dis. of Generative Organs	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'05
Childbirth	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'10
Disease of Bones (10), Joints (2), Arthritis (11)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'07
Ulcer: Phlegmon (6), Skin Disease	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'02
Injury	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'02
Lead Poisoning	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'02
Mortification	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'04
Delirium	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'31
Marasmus, Atrophy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'53
Tumour	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'05
Abscess	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'07
Other causes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0'00
Total under 5 and over 5	509	698	684	999	459	391	601	548	311	273	525	583	130	168	114	200	3,665	4,331	7,996	19'26	..	
Total	1,307	1,683	1,683	850	1,149	1,108	1,149	548	548	548	1,108	548	298	298	314	314	7,996	7,996	7,996	..	..	
Mortality per 1,000 per annum	21'4	19'5	25'9	17'3	19'2	19'3	18'6	12'2	28'7	70'5	11'9	19'3	..	..	..	..	..	..	..	..	..	

NOTES TO TABLE C.

This table is printed for the first time in the report for 1892. In it the causes of death are more detailed than in the other tables. They are classified as in Table A, part 1, according as the deaths were those of persons under or over the age of five. All the deaths which occurred in the following public institutions: the Infirmary, the Women and Children's Hospital, the Borough Fever and Small-pox Hospitals, the Leeds, Hunslet, Holbeck, and Bramley Workhouses, have been classified under the districts to which the patients belonged. The 142 deaths of persons who belonged to no district in the city have been separated in two columns by themselves, as deaths of outsiders; these deaths are, however, included in the total mortality of the city. As far as possible, the order of the Registrar-General has been followed in the arrangement of this table. The horizontal lines correspond with the groups in the Registrar-General's annual report.

Septicæmia includes deaths from pyæmia (2), phlebitis (2), phagedæna (0), septicæmia (not puerperal) (3). *Parasitic* diseases include thrush (9), and hydatids (2). *Starvation* includes purpura hæmorrhagica (1), scurvy (2), privation and want of breast milk, from which, however, there was no death, and inanition (55 deaths). *Rheumatic fever* in reports previous to 1892 had only the deaths ascribed in those terms to this disease by the medical attendant. Deaths from acute and sub-acute rheumatism had previously been classed under "rheumatism." A separate line has been given, both in Table C, Table A, and Tables 17 and 18, to prevent confusion and enable comparison. "*Rheumatism*" includes chronic rheumatism and disease simply described as "rheumatism" (see Report, 1893, page 144). *Anæmia* includes chlorosis (0), hæmophilia (0), but not leucocythemia; deaths from the latter, had any occurred, would have been referred to diseases of the *ductless glands*. In *malformations* are included cyanosis (0), patent foramen ovale (9), spina bifida (6), atelectasis (23), imperforate anus (1), cleft palate (1), harelip (0), and other congenital defects (12).

Brain disease includes deaths registered from such causes as cerebral hæmorrhage, and softening of the brain. *Meningitis*, includes diseases classified as meningitis (103), and spinal (3) meningitis, but not tuberculous. *Apoplexy* includes all apoplexies not otherwise defined. *Paralysis* includes hemiplegia, paraplegia, and "paralysis." *General paralysis* (13) is included under insanity, and does not include deaths from "softening of the brain." *Convulsions* includes diseases so certified, and deaths (0) due to "fits." Fits of apoplexy, &c., come under apoplexy, &c. Other diseases of the nervous system include tetanus (1). We have tried, as far as possible, to keep to the old headings.

Endocarditis, &c., includes valvular disease of the heart. "Heart disease" includes such diseases as hypertrophy, atrophy, fatty degeneration, weak heart, cardiac disease or degeneration and "disease of the heart." *Angina pectoris* includes only those deaths in which the symptom but no disease is stated. *Aneurism* includes all the aneurisms so stated. *Other diseases of the circulatory system* includes atheroma. *Other respiratory diseases* includes asthma (8), emphysema (16), empyæma (14), pulmonary congestion (28), "lung disease" (2), and others (3). *Diseases of the stomach* includes dyspepsia, hæmatemesis, gastritis. *Diseases of liver* (30) includes hepatitis (6). *Diseases of the bowels* includes melæna (0), ulcer of intestines, obstruction of bowels, appendicitis, strangulation not due to hernia, intussusception. *Kidney disease* includes deaths from granular kidney (1), Bright's disease (60), other kidney diseases (10), and uræmia (8). *Albuminuria* includes only deaths in which the symptom without any pathological cause was registered. *Diseases of the urinary system* includes calculus, hæmaturia, cystitis and other diseases of the bladder. *Disease of the generative organs* includes uterine disease (3), ovarian disease (4), and other diseases of the generative organs, male (15), female (7). *Childbirth* includes all the accidents of parturition, except puerperal fever.

Diseases of the bones and joints includes disease of the spinal column, but not, of course, such diseases as spinal sclerosis, which are now referred to disease of the nervous system. A comparison of mortality previous to 1890 is difficult, as the term spinal disease was used to include both diseases of the spinal column and of the spinal marrow. *Abscess* (31) includes cellulitis (5), phlegmon (0), carbuncle (1). *Injury* includes deaths from accident or negligence, homicide, suicide, execution, and sun-stroke. *Other causes* includes one death certified as from ptomaine poisoning, and one (inquest case), which cannot be classed under any of the groups.

TABLE D.

Shewing death-rates from certain causes for the years 1890-1-2-3-4-5-6-7-8.

	SEVEN COMMON ZYMOTICS.												
	Small-pox	Measles.	Scarlatina.	Diphtheria.	Whooping cough.	"Fever."	Diarrhoea.	All seven.	Group (membranous and undefined)	Phthisis.	Influenza and diseases of the air-passages other than consumption.		
1890 (53 wks.)	0'00	0'27	0'28	0'07	0'50	0'30	0'98	2'39	0'09	1'66	5'62		
1891 (52 wks.)	0'00	0'71	0'18	0'04	0'41	0'20	0'86	2'41	0'08	1'79	6'11		
1892 (52 wks.)	0'02	0'20	0'20	0'08	0'42	0'17	1'10	2'18	0'13	1'42	4'56		
1893 (52 wks.)	0'08	0'90	0'08	0'15	0'44	0'30	1'60	3'55	0'18	1'70	4'60		
1894 (52 wks.)	0'01	0'75	0'13	0'15	0'34	0'14	0'45	1'98	0'17	1'49	3'64		
1895 (52 wks.)	...	0'35	0'13	0'10	0'29	0'22	1'58	2'65	0'12	1'55	4'34		
1896 (53 wks.)	0'00	0'48	0'18	0'10	0'60	0'21	0'69	2'27	0'09	1'50	4'02		
1897 (52 wks.)	...	0'40	0'23	0'13	0'24	0'21	1'58	2'79	0'10	1'44	3'90		
1898 (52 wks.)	0'00	0'45	0'29	0'49	0'39	0'23	1'24	3'10	0'12	1'39	3'41		

TABLE E.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the fifty-two weeks ended 31st December, 1898. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the re-estimated population.

Districts.		Births.	Birth Rate.	Deaths.	Death Rate. All causes. 7 Zymotics.	
LEEDS.	North	2,261	37'1	1,307	21'4	3'6
	West	2,339	27'2	1,683	19'5	2'7
	South-East ...	1,222	37'3	850	25'9	4'8
	Hunslet	2,198	33'0	1,149	17'3	2'9
	Holbeck	1,008	33'1	584	19'2	3'2
	Wortley	1,755	30'6	1,108	19'3	4'5
	Kirkstall	1,081	28'0	548	14'2	2'3
	Bramley	444	27'7	298	18'6	2'4
	Chapelton ...	654	25'4	314	12'2	1'0
	Osmondthorpe ...	9	19'9	13	28'7	...
Outsiders ...	...	...	142	...	...	
Totals ...		12,971	31'2	7,996	19'3	3'2

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows:—

Wards.		Deaths.	Death Rate.	Wards.		Deaths.	Death Rate.
Eastern Division.				Western Division.			
Central ...	...	386	18·3	Mill Hill ...	...	134	16·1
North ...	...	585	16·2	West ...	...	540	21·8
North-East	...	637	23·7	North-West	...	618	19·5
East ...	...	698	26·8	Brunswick...	...	411	16·7
South ...	...	357	21·0	New Wortley	...	441	22·8
East Hunslet	...	568	20·0	Armley ...	...	618	18·4
West Hunslet	...	407	14·0	Bramley ...	...	347	17·0
Holbeck ...	...	533	18·9	Headingley	...	574	14·4

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There were nine deaths at Manston Hospital during the 52 weeks of 1898.

The rates in this table are calculated upon a re-estimated population, and not the same as was used for the quarterly reports which follow.

E. 2.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the thirteen weeks ended April 2nd, 1898. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	7 Zymotics.
LEEDS. { North	579	<i>37.1</i>	363	<i>23.3</i>	<i>3.7</i>
{ West	546	<i>25.2</i>	435	<i>20.0</i>	<i>2.0</i>
{ South-East	288	<i>33.7</i>	237	<i>27.7</i>	<i>5.4</i>
Hunslet	526	<i>32.0</i>	269	<i>16.4</i>	<i>1.6</i>
Holbeck	268	<i>39.3</i>	138	<i>20.2</i>	<i>2.2</i>
Wortley	433	<i>30.7</i>	235	<i>16.7</i>	<i>1.6</i>
Kirkstall	256	<i>26.6</i>	124	<i>12.9</i>	<i>1.2</i>
Bramley	109	<i>26.5</i>	74	<i>18.0</i>	<i>2.9</i>
Chapelton	158	<i>23.5</i>	91	<i>13.5</i>	<i>0.9</i>
Osmondthorpe	2	<i>18.3</i>	5	<i>45.8</i>	...
<i>Outsiders</i>	...	...	43	...	...
Totals	3,165	<i>30.5</i>	2,014	<i>19.4</i>	<i>2.3</i>

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows:—

Eastern Division.			Western Division.		
Wards.	Deaths.	Death Rate.	Wards.	Deaths.	Death Rate.
Central	120	<i>21.2</i>	Mill Hill	35	<i>16.0</i>
North	166	<i>16.9</i>	West	143	<i>22.7</i>
North-East	168	<i>26.3</i>	North-West	169	<i>21.7</i>
East	186	<i>27.7</i>	Brunswick	94	<i>15.5</i>
South	110	<i>26.0</i>	New Wortley	91	<i>18.5</i>
East Hunslet	127	<i>18.0</i>	Armley	129	<i>15.9</i>
West Hunslet	93	<i>12.7</i>	Bramley	89	<i>17.2</i>
Holbeck	123	<i>20.1</i>	Headingley	128	<i>12.9</i>

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There was one death at Manston Hospital during this quarter from small-pox.

E. 3.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the thirteen weeks ended 2nd July, 1898. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.		Births.	Birth Rate.	Deaths.	Death Rate. All causes. 7 Zymotics.	
LEEDS.	North	573	36·7	289	18·5	1·4
	West	602	27·7	429	19·8	2·0
	South-East	311	36·4	208	24·3	2·8
	Hunslet	540	32·9	279	17·0	1·7
	Holbeck	246	36·1	151	22·1	4·1
	Wortley	458	32·5	268	19·0	3·1
	Kirkstall	253	26·2	133	13·8	0·9
	Bramley	122	29·6	84	20·4	1·7
	Chapelton	190	28·3	80	11·9	0·4
	Osmondthorpe	3	18·3	6	55·0	...
Outsiders		...	...	40	...	...
Totals		3,298	31·8	1,967	18·9	2·0

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows:—

Wards.			Deaths.	Death Rate.	Wards.			Deaths.	Death Rate.
Eastern Division.					Western Division.				
Central	...	...	83	14·7	Mill Hill	...	...	35	16·0
North	...	...	136	13·9	West	...	...	132	21·0
North-East	...	...	151	23·6	North-West	...	...	149	19·2
East	...	...	170	25·3	Brunswick	...	...	114	18·7
South	...	...	76	18·0	New Wortley	...	...	112	22·8
East Hunslet	...	...	131	18·6	Armley	...	...	149	18·3
West Hunslet	...	...	115	15·7	Bramley	...	...	90	17·4
Holbeck	...	...	140	22·9	Headingley	...	...	144	14·5

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There was one death at Manston Hospital during this quarter from small-pox.

North-Leeds and Wortley Sub-districts read deaths 290 and 267, death-rates 18·6 and 18·9.

E. 4.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the thirteen weeks ended October 1st, 1898. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.		Births.	Birth Rate.	Deaths.	Death Rate. All causes. 7 Zymotics.	
LEEDS.	North ...	536	34.3	371	23.8	6.4
	West ...	605	27.9	452	20.8	4.9
	South-East ...	345	40.3	214	25.0	7.5
	Hunslet ...	560	34.1	325	19.8	5.4
	Holbeck ...	246	36.1	166	24.4	4.8
	Wortley ...	430	30.5	311	22.1	8.0
	Kirkstall ...	284	29.5	152	15.8	4.9
	Bramley ...	108	26.2	59	14.3	2.7
	Chapelton ...	155	23.1	60	8.9	1.5
	Osmondthorpe ...	2	18.3	1	9.2	...
	<i>Outsiders</i> ...	...	...	32	...	...
Totals ...		3,271	31.5	2,143	20.6	5.5

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows:—

Wards.			Deaths.	Death Rate.	Wards.			Deaths.	Death Rate.
Eastern Division.					Western Division.				
Central	...	...	104	18.4	Mill Hill	...	...	40	18.3
North	...	...	137	14.0	West	...	...	143	22.7
North-East	...	...	183	28.6	North-West	...	...	170	21.9
East	...	...	183	27.2	Brunswick	...	...	106	17.4
South	...	...	85	20.1	New Wortley	...	...	132	26.9
East Hunslet	...	...	157	22.3	Armley	...	...	170	20.9
West Hunslet	...	...	125	17.1	Bramley	...	...	73	14.1
Holbeck	...	...	147	24.0	Headingley	...	...	156	15.7

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There was no death at Manston Hospital during this quarter.

* In the Registration Sub-districts of Holbeck and Wortley the deaths should be 161 and 316, and the rates 23.6 and 22.4.

E. 5.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the thirteen weeks ended December 31st, 1898. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	Zymotics.
LEEDS. { North	573	36·7	283	18·1	2·4
{ West	586	27·0	367	16·9	1·9
{ South-East	278	32·5	191	22·3	2·9
Hunslet	572	34·8	276	16·8	3·0
Holbeck	248	36·4	134	19·7	3·1
Wortley	434	30·8	290	20·6	5·5
Kirkstall	288	29·9	139	14·4	2·3
Bramley	105	25·5	81	19·7	1·9
Chapelton	151	22·5	83	12·3	1·0
Osmondthorpe	2	18·3	1	9·2	...
<i>Outsiders</i>	...	...	27	...	...
Totals	3,237	31·2	1,872	18·0	2·8

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows:—

Wards.			Deaths.	Death Rate.	Wards.			Deaths.	Death Rate.
Eastern Division.					Western Division.				
Central	...	...	79	14'0	Mill Hill	...	...	24	11'0
North	...	...	146	14'9	West	...	...	122	19'4
North-East	...	...	135	21'1	North-West	...	...	130	16'7
East	...	...	159	23'6	Brunswick	...	...	97	15'9
South	...	...	86	20'3	New Wortley	...	...	116	21'6
East Hunslet	...	...	153	21'7	Armley	...	...	170	20'9
West Hunslet	...	...	74	10'1	Bramley	...	...	95	18'3
Holbeck	...	...	123	20'1	Headingley	...	...	146	14'7

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There were 7 deaths at Manston Hospital during this quarter.

E. 6.

The following Births and Deaths were recorded in the several Sub-Registration Districts of the City of Leeds during the thirteen weeks ended April 1st, 1899. The figures in italics after the Births and Deaths give the proportion per annum per 1,000 of the re-estimated population.

Districts.	Births.	Birth Rate.	Deaths.	Death Rate.	
				All causes.	Zymotics.
LEEDS. { North	574	37.0	348	22.4	2.6
{ West	522	23.8	417	19.0	1.0
{ South-East	312	37.4	236	28.3	2.6
Hunslet	529	31.2	307	18.1	1.5
Holbeck	251	32.4	167	21.6	1.7
Wortley	417	28.6	272	18.6	2.0
Kirkstall	253	25.8	177	18.0	1.8
Bramley	116	28.4	74	18.1	1.5
Chapelton	166	25.3	106	16.2	0.8
Osmondthorpe	1	8.7	4	34.7	...
<i>Outsiders</i>	...	...	45	...	...
Totals	3,141	29.7	2,153	20.4	1.7

Considered as occurring in the Municipal Wards, the foregoing Deaths are classed as follows:—

Wards.			Deaths.	Death Rate.	Wards.			Deaths.	Death Rate.
Eastern Division.					Western Division.				
Central	...	...	94	17.6	Mill Hill	...	...	45	21.3
North	...	...	181	19.7	West	...	...	132	20.9
North-East	...	...	185	27.1	North-West	...	...	147	18.2
East	...	...	189	28.6	Brunswick	...	...	94	15.0
South	...	...	110	25.4	New Wortley	...	...	94	19.1
East Hunslet	...	...	135	18.7	Armley	...	...	156	18.2
West Hunslet	...	...	121	16.4	Bramley	...	...	96	18.5
Holbeck	...	...	149	20.7	Headingley	...	...	180	17.8

In both these tables deaths occurring in public institutions have been referred to the districts to which the patients belonged. The births in workhouses are included in those of the districts in which these institutions are situated. There were 10 deaths at Manston Hospital during this quarter.

TABLE F.

Shewing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, and some of the Meteorological conditions and the Death-rates from certain causes in Leeds; with the Birth and Death-rates from all causes in the 33 large English towns for each of the thirteen weeks ended April 2nd, 1898.

1898.	JANUARY.				FEBRUARY.				MARCH.					TOTALS OR AVERAGES.	
	Jan. 8th.	Jan. 15th.	Jan. 22nd.	Jan. 29th.	Feb. 5th.	Feb. 12th.	Feb. 19th.	Feb. 26th.	Mar. 5th.	Mar. 12th.	Mar. 19th.	Mar. 26th.	April 2nd.		
Total Births	1	301	242	239	226	235	254	231	253	246	223	244	216	255	3,165
Total Deaths	2	167	159	161	129	147	138	137	178	157	148	151	147	195	2,014
Under 1 year	3	38	40	40	31	38	30	33	37	26	39	36	27	43	458
1 to 2 years.....	4	26	16	21	11	14	11	14	15	11	12	18	13	23	205
2 to 5 years.....	5	19	14	16	11	16	15	8	15	17	16	11	11	10	179
5 to 60 years	6	54	46	50	47	57	47	49	57	60	53	46	61	63	690
60 yrs. and upwards	7	30	43	34	29	22	35	33	54	43	28	40	35	56	482
Deaths: Small-pox..	8	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Measles	9	7	4	6	2	4	4	...	5	6	6	7	3	4	58
Scarlet Fever	10	...	1	...	4	5	3	4	2	3	1	3	7	2	35
*Diphtheria	11	2	2	7	4	6	3	2	4	4	...	3	2	1	40
Whooping-cough..	12	8	7	8	6	11	2	4	5	2	6	3	8	7	77
{ Typhus Fever.....	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...
{ Enteric Fever.....	14	3	1	2	2	...	...	1	5	...	1	...	1	1	17
{ Other or doubtful	15	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Diarrhoea or Dysent.	16	1	1	1	...	...	1	...	1	...	1	2	...	2	10
All seven.....	17	21	16	24	18	26	13	11	22	15	15	18	23	17	239
Cholera	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup	19	...	...	...	2	...	...	4	...	1	...	...	...	1	8
Dis. of Resp. System	20	52	39	30	30	24	28	30	40	35	29	36	28	52	453
Influenza†	21	...	1	...	...	...	2	2	2	1	4	4	1	3	20
Phthisis	22	8	8	14	13	9	15	9	11	15	12	9	10	13	146
Dis. of Circul. System	23	7	13	8	13	6	17	8	19	12	18	11	9	13	154
Violent Deaths	24	10	6	8	7	6	5	3	5	3	3	5	3	9	73
Inquest cases	25	17	19	16	14	11	12	15	12	6	16	12	15	17	182
Deaths in Pub. Inst.	26	17	11	23	13	24	23	11	20	19	22	23	16	29	251
Dispensary: visits pd.	27	345	458	397	315	312	323	398	444	413	382	376	417	437	5,017
Cases admitted to our own hospitals	28	15	9	12	11	17	26	14	9	12	14	9	11	11	170
Barom. (inches)	29	29.80	30.24	30.12	30.26	29.66	29.83	29.81	29.55	29.57	29.96	29.71	29.85	29.49	29.83
Attached Ther. °F....	30	51.23	50.00	52.70	51.31	50.38	49.92	48.92	44.00	46.92	43.85	50.38	47.77	45.70	48.70
Dry bulb.....	31	45.47	44.77	48.85	46.70	44.23	45.23	43.38	38.92	41.23	40.62	48.85	41.70	43.85	44.14
Wet bulb.....	32	43.77	42.92	46.62	43.77	42.46	43.08	40.85	36.08	37.85	37.15	44.54	38.00	40.31	41.34
Humidity	33	87.46	86.62	84.54	79.85	86.54	84.31	80.77	77.00	75.00	74.23	71.77	73.92	76.00	79.85
Mn. of highest reading	34	47.28	46.57	49.86	48.86	46.57	47.29	46.86	43.86	44.43	45.86	52.14	47.00	46.71	47.18
„ lowest „	35	41.71	40.57	43.86	42.14	39.86	39.43	37.57	32.00	34.86	31.29	41.43	34.57	35.00	38.02
„ daily range ...	36	5.57	6.00	6.00	6.72	6.71	7.86	9.29	11.86	9.57	14.57	10.71	12.43	11.71	9.16
Total rainfall (inches)	37	0.47	0.01	0.07	0.01	0.45	0.17	0.19	0.35	0.47	...	0.05	0.44	0.15	2.83
Wind { Direction ...	38	NW SE	SW	SW	SW	NW	NW	W SW	NW	NW	NW SE	NW SW	NW NE	NW	...
{ Force 0-6 ...	39	1	1	2	1	2	1	2	1	2	1	2	2	1	1
Amount of Cloud 0-10	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birth-rate (Leeds) ...	41	37.7	30.3	29.9	28.3	29.4	31.8	28.9	31.7	30.8	27.9	30.6	27.0	31.9	30.5
Death-rate (Leeds)...	42	20.9	19.9	20.2	16.2	18.4	17.3	17.2	22.3	19.7	18.5	18.9	18.4	24.4	19.4
Death-rate(33 towns)	43	21.4	20.6	20.6	18.7	19.2	20.7	20.4	20.9	20.7	21.1	21.8	20.2	21.5	20.6
Birth-rate (33 towns)	44	35.5	32.3	31.1	31.6	30.1	32.7	29.9	30.5	30.6	31.2	31.3	27.8	32.6	31.3
D.R. lung dis. (Leeds)	45	6.5	4.9	3.8	3.8	3.0	3.5	3.8	5.0	4.4	3.6	4.5	3.5	6.5	4.4
D.R. 7 zymotics „	46	2.6	2.0	3.0	2.3	3.3	1.6	1.4	2.8	1.9	1.9	2.3	2.9	2.1	2.3

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading.

The meteorological data are compiled from returns sent me by Mr. Crowther. They are uncorrected readings, made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs. The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar month of January, 85; February, 85; March, 80. Average, 83.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

Line 21 is included in line 20.

TABLE F.

Shewing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, and some of the Meteorological conditions and the Death-rates from certain causes in Leeds; with the Birth and Death-rates from all causes in the 33 large English towns for each of the thirteen weeks ended July 30th, 1898.

1898.		APRIL.				MAY.				JUNE.					TOTALS OR AVERAGES.
		April 9th.	April 16th.	April 23rd.	April 30th.	May 7th.	May 14th.	May 21st.	May 28th.	June 4th.	June 11th.	June 18th.	June 25th.	July 2nd.	
Total Births	1	251	246	278	238	227	256	240	276	230	306	275	212	263	3,298
Total Deaths	2	188	176	165	149	146	150	166	137	156	139	141	129	125	1,967
Under 1 year	3	37	57	37	31	32	38	38	37	41	32	29	25	29	463
1 to 2 years	4	27	22	19	18	17	10	17	7	9	20	14	14	11	205
2 to 5 years	5	18	10	13	8	10	14	10	15	9	7	10	14	5	143
5 to 60 years	6	68	61	63	61	50	58	67	45	55	45	56	49	53	737
60 yrs. and upwards	7	38	26	33	31	31	30	34	33	42	35	32	27	27	419
Deaths: Small-pox..	8	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Measles	9	12	13	12	7	2	4	4	2	4	2	6	7	2	77
Scarlet Fever	10	...	2	2	1	3	3	4	4	2	3	2	4	4	34
*Diphtheria	11	2	2	...	2	1	...	3	3	2	1	6	...	4	26
Whooping-cough..	12	3	5	5	1	3	8	5	6	7	2	3	2	1	51
Typhus Fever	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	14	2	2	...	...	...	2	...	...	...	1	...	...	2	9
Other or doubtful	15	...	...	...	...	...	...	...	1	...	...	...	...	...	1
Diarrhoea or Dysent.	16	1	...	1	...	...	...	1	1	1	1	...	...	2	8
All seven	17	21	24	20	11	9	17	17	17	16	10	17	13	15	207
Cholera	18	...	...	...	...	...	...	...	...	...	...	...	1	...	1
Croup	19	...	...	...	...	...	...	...	1	1	...	...	...	...	2
Dis. of Resp. System	20	45	42	41	41	45	32	35	32	29	26	21	28	17	434
Influenza†	21	2	4	1	6	3	3	2	1	1	1	...	...	...	24
Phthisis	22	12	14	16	15	11	15	15	12	11	8	11	11	19	170
Dis. of Circul. System	23	20	9	13	11	16	23	11	14	15	10	12	6	8	168
Violent Deaths	24	5	7	4	1	4	4	4	3	11	5	4	7	8	67
Inquest cases	25	18	15	12	4	15	15	10	8	22	13	10	16	16	174
Deaths in Pub. Inst.	26	20	20	22	20	24	18	15	19	21	19	18	19	28	263
Dispensary: visits pd.	27	433	386	419	348	328	325	348	343	282	322	325	309	299	4,467
Cases admitted to our own hospitals	28	9	12	10	10	13	22	19	14	14	13	9	13	14	172
Barom. (inches)	29	29.63	29.60	29.89	29.59	29.61	29.46	29.89	29.77	29.57	29.92	30.09	29.61	29.83	29.73
Attached Ther. °F ...	30	51.00	54.15	51.23	51.31	53.46	52.54	52.31	53.92	54.31	60.92	58.85	61.92	60.85	55.16
Dry bulb	31	51.33	51.31	50.15	49.23	54.08	52.00	51.15	55.85	54.08	65.70	59.85	61.69	62.62	55.33
Wet bulb	32	46.08	46.69	44.85	46.62	49.15	47.00	45.85	50.31	48.62	58.00	53.85	55.54	55.54	49.88
Humidity	33	67.75	71.62	67.38	82.77	71.00	69.46	69.62	68.46	67.54	61.46	67.85	67.23	63.46	68.90
Mn. of highest reading	34	58.00	57.00	55.43	53.86	57.57	56.00	54.71	61.14	58.57	69.71	64.29	66.43	66.43	59.93
„ lowest „	35	44.86	45.00	38.71	42.43	44.28	43.85	43.00	44.86	44.57	51.43	49.14	53.29	50.57	45.85
„ daily range ...	36	13.14	12.00	16.72	11.43	13.29	12.15	11.71	16.28	14.00	18.28	15.15	13.14	15.86	14.08
Total rainfall (inches)	37	0.10	1.61	0.04	0.87	0.16	0.48	1.02	...	0.51	0.01	...	0.77	1.48	7.05
Wind (Direction ...	38	W SW	NW SE	SE	E	SW	SW	NE	NE	SW W	SE NW	NE	SW W	NW	...
Force 0-6 ...	39	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Amount of Cloud 0-10	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birth-rate (Leeds) ...	41	31.4	30.8	31.8	29.8	28.4	32.1	30.1	34.6	28.8	38.3	34.4	26.6	32.9	31.8
Death-rate (Leeds) ...	42	23.5	22.0	20.7	18.7	18.3	18.8	20.8	17.2	19.5	17.4	17.7	16.2	15.7	18.9
Death-rate (33 towns)	43	20.2	19.5	18.1	18.4	17.4	16.6	16.4	16.5	16.8	16.9	14.7	15.1	14.9	17.1
Birth-rate (33 towns)	44	28.8	30.8	33.5	30.1	29.5	29.3	28.8	31.2	25.2	32.5	31.4	28.7	30.6	30.0
D. R. lung dis. (Leeds)	45	5.6	5.3	5.1	5.1	5.6	4.0	4.4	4.0	3.6	3.3	2.6	3.5	2.1	4.2
D. R. 7 zymotics „	46	2.6	3.0	2.5	1.4	1.1	2.1	2.1	2.1	2.0	1.3	2.1	1.6	1.9	2.0

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading.

The meteorological data are compiled from returns sent me by Mr. Crowther. They are uncorrected readings, made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs. The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar month of April, 77; May, 73; June, 70. Average, 73.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

† Line 21 is included in line 20.

TABLE F.

Shewing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, and some of the Meteorological conditions and the Death-rates from certain causes in Leeds; with the Birth and Death-rates from all causes in the 33 large English towns for each of the thirteen weeks ended October 1st, 1898.

1898.	JULY.				AUGUST.				SEPTEMBER.					TOTALS OR AVERAGES.	
	July 9th.	July 16th.	July 23rd.	July 30th.	Aug. 6th.	Aug. 13th.	Aug. 20th.	Aug. 27th.	Sept. 3rd.	Sept. 10th.	Sept. 17th.	Sept. 24th.	Oct. 1st.		
Total Births	1	246	261	244	289	200	274	260	259	278	237	234	229	260	3,271
Total Deaths	2	133	118	140	133	159	177	197	205	176	189	192	165	159	2,143
Under 1 year	3	29	32	59	40	70	87	97	114	91	82	81	82	70	934
1 to 2 years.....	4	14	8	6	11	9	13	24	8	11	17	14	14	15	164
2 to 5 years.....	5	7	8	10	5	9	9	7	6	6	4	13	8	7	99
5 to 60 years	6	49	41	43	51	45	46	28	47	45	51	52	37	40	575
60 yrs. and upwards	7	34	29	22	26	26	22	41	30	23	35	32	24	27	371
Deaths: Small-pox..	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	9	3	2	3	4	2	3	2	3	...	2	1	1	...	26
Scarlet Fever	10	4	4	2	1	2	2	1	2	2	2	1	2	...	25
*Diphtheria	11	6	3	6	4	6	4	3	1	4	5	10	2	5	59
Whooping-cough..	12	1	1	2	2	1	...	3	1	3	4	...	1	2	21
Typhus Fever.....	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever.....	14	1	...	1	1	1	1	...	...	...	2	1	2	2	12
Other or doubtful	15	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Diarrhoea or Dysent.	16	3	5	15	10	31	41	51	58	51	47	48	38	32	430
All seven.....	17	18	16	29	22	43	51	60	65	60	62	61	46	41	574
Cholera	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup	19	...	...	...	1	1	...	1	...	...	1	...	1	...	5
Dis. of Resp. System	20	21	13	10	26	7	12	18	15	14	10	16	10	22	194
Influenza†	21	1	1	...	...	...	...	...	...	...	...	...	...	1	3
Phthisis	22	6	7	11	8	9	4	10	17	8	12	16	6	8	122
Dis. of Circul. System	23	14	11	7	13	7	7	13	8	8	9	10	7	9	123
Violent Deaths	24	1	7	5	5	2	6	7	3	7	7	3	7	4	64
Inquest cases	25	7	14	9	12	9	12	16	9	18	15	9	8	9	147
Deaths in Pub. Inst.	26	17	26	8	15	15	14	15	24	10	22	18	9	10	203
Dispensary: visits pd.	27	309	275	286	280	264	274	266	292	309	310	295	290	326	3,776
Cases admitted to our own hospitals	28	9	13	10	12	4	11	21	10	14	20	19	10	10	163
Barom. (inches)	29	30.05	29.99	29.81	29.95	29.73	29.82	30.00	29.87	29.95	29.95	29.96	29.96	29.80	29.91
Attached Ther. °F...	30	61.85	63.46	64.46	62.31	63.54	63.08	67.54	66.31	61.00	67.15	64.92	60.62	54.85	63.16
Dry bulb	31	63.85	60.54	64.85	62.92	64.54	67.08	68.38	66.31	61.23	68.85	67.46	59.31	55.08	64.34
Wet bulb.....	32	56.08	57.31	57.69	56.23	58.39	60.15	61.54	60.00	55.85	63.46	60.54	54.00	50.15	57.80
Humidity	33	60.23	56.08	64.54	65.23	67.92	66.08	65.54	68.23	70.23	72.31	65.77	69.92	71.08	66.40
Mn. of highest reading	34	68.14	71.57	68.43	68.57	70.43	72.14	74.71	71.00	64.29	75.57	75.00	63.14	59.71	69.29
„ lowest „	35	51.71	53.71	55.71	53.86	54.86	57.14	57.43	56.29	52.86	59.43	56.57	52.00	46.29	54.45
„ daily range ..	36	16.43	17.86	12.72	14.71	15.57	15.00	17.28	14.71	11.43	16.14	16.43	11.14	13.42	14.84
Total rainfall (inches)	37	0.07	...	0.51	0.07	1.41	0.90	0.07	0.67	0.18	0.02	...	...	0.29	4.19
Wind { Direction ...	38	SW NW	NW	SW	NW NE	SW NW	SW	NE	SE	NW SW	SE NW	SE SW	SW	SE	...
{ Force 0-6 ...	39	1	1	1	1	2	1	1	1	2	1	1	1	1	1
Amount of Cloud 0-10	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birth-rate (Leeds) ...	41	30.8	32.7	30.6	36.2	25.0	34.3	32.6	32.4	34.8	29.7	29.3	28.7	32.6	31.5
Death-rate (Leeds)...	42	16.7	14.8	17.5	16.7	19.9	22.2	24.7	25.7	22.0	23.6	24.0	20.7	19.9	20.6
Death-rate (33 towns)	43	14.7	14.7	15.6	17.2	18.3	20.5	22.0	23.2	24.4	24.6	24.0	23.6	21.8	20.3
Birth-rate (33 towns)	44	30.3	29.8	29.9	32.1	26.7	32.8	30.3	30.6	31.4	29.4	30.3	30.3	30.9	30.4
D. R. lung dis. (Leeds)	45	2.6	1.6	1.3	3.3	0.9	1.5	2.3	1.9	1.8	1.3	2.0	1.3	2.8	1.9
D. R. diarrhoea „	46	0.4	0.6	1.9	1.3	3.9	5.1	6.4	7.3	6.4	5.9	6.0	4.8	4.0	4.1

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading.

The meteorological data are compiled from returns sent me by Mr. Crowther. They are uncorrected readings, made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs. The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar month of July, 69; August, 78; September, 78. Average, 75.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

† Line 21 is included in line 20.

TABLE F.

Shewing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, and some of the Meteorological conditions and the Death-rates from certain causes in Leeds; with the Birth and Death-rates from all causes in the 33 large English towns for each of the thirteen weeks ended 31st December, 1898.

1898.		OCTOBER.				NOVEMBER.					DECEMBER.				TOTALS OR AVERAGES.	YEAR.
		Oct. 8th.	Oct. 15th.	Oct. 22nd.	Oct. 29th.	Nov. 5th.	Nov. 12th.	Nov. 19th.	Nov. 26th.	Dec. 3rd.	Dec. 10th.	Dec. 17th.	Dec. 24th.	Dec. 31st.		
Total Births	1	234	240	250	257	288	283	257	221	252	252	242	257	204	3,237	12,971
Total Deaths	2	149	158	155	121	149	147	132	145	139	150	134	143	150	1,872	7,996
Under 1 year	3	51	56	52	35	41	41	38	31	35	32	34	27	44	517	2,372
1 to 2 years	4	18	17	10	9	12	12	10	15	5	7	7	15	11	148	722
2 to 5 years	5	8	12	8	9	10	7	10	17	18	14	15	17	5	150	571
5 to 60 years	6	46	50	58	46	51	60	44	49	52	57	51	49	67	680	2,682
60 yrs. and upwards	7	26	23	27	22	35	27	30	33	29	40	27	35	23	377	1,649
Deaths: Small-pox..	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Measles	9	...	...	...	1	1	2	3	5	1	5	1	6	2	27	188
Scarlet Fever	10	1	...	2	1	3	3	3	...	3	2	3	3	3	27	121
*Diphtheria	11	5	8	2	9	4	8	4	10	15	9	8	17	5	104	229
Whooping-cough..	12	...	4	...	1	...	1	3	...	2	1	...	...	1	13	162
Typhus Fever	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	14	8	2	8	4	5	9	5	1	3	3	1	1	4	54	92
Other or doubtful	15	...	...	...	...	...	...	...	...	...	...	1	...	...	1	4
Diarrhoea or Dysent.	16	15	17	13	3	3	4	1	3	...	1	1	2	1	64	512
All seven	17	29	31	25	19	16	27	19	19	24	21	15	29	16	290	1,310
Cholera	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Croup	19	...	...	1	...	...	...	...	2	2	1	1	1	...	8	23
Dis. of Resp. System	20	18	30	26	22	34	20	22	26	32	23	30	21	27	331	1,412
Influenza†	21	...	1	...	...	...	...	...	...	...	...	1	...	1	3	50
Phthisis	22	9	11	10	8	11	14	8	12	12	8	12	10	13	138	576
Dis. of Circul. System	23	9	9	15	7	11	12	9	16	14	10	10	7	10	139	584
Violent Deaths	24	4	3	3	5	1	4	1	5	3	8	4	5	8	54	258
Inquest cases	25	13	10	8	9	13	7	7	15	10	13	11	11	18	145	648
Deaths in Pub. Inst.	26	7	20	13	12	22	19	16	16	19	18	16	20	24	222	939
Dispensary: visits pd.	27	307	350	220	424	404	480	336	418	364	377	315	378	269	4,642	17,902
Cases admitted to our own hospitals	28	34	15	22	18	29	17	16	9	22	19	26	23	13	263	768
Barom. (inches)	29	30.09	29.71	29.24	29.71	29.46	29.85	30.09	29.28	29.37	29.61	29.88	30.09	29.39	29.67	29.79
Attached Ther. °F ...	30	57.31	54.15	56.08	56.85	53.77	52.00	54.85	45.85	46.77	51.46	50.92	46.46	46.46	51.76	54.70
Dry bulb	31	57.92	52.23	54.62	55.54	51.15	48.54	51.15	41.00	43.46	50.00	48.38	42.00	42.46	49.11	53.22
Wet bulb	32	54.85	49.23	52.77	52.15	47.85	47.23	49.08	39.00	41.38	48.08	46.08	39.92	41.00	46.82	48.95
Humidity	33	82.08	80.61	88.15	78.77	78.31	90.77	85.85	83.69	80.23	86.31	84.00	83.38	88.54	83.90	74.77
Mn. of highest reading	34	62.43	56.28	57.14	58.43	53.57	51.43	53.29	46.14	47.86	56.14	53.00	49.00	49.14	53.37	57.44
„ lowest „	35	50.86	44.43	49.86	50.00	47.43	44.57	48.43	36.57	36.43	45.28	43.28	36.86	39.57	44.12	45.61
„ daily range ...	36	11.57	11.85	7.28	8.43	6.14	6.86	4.86	9.57	11.43	10.86	9.72	12.14	9.57	9.25	11.83
Total rainfall (inches)	37	0.04	0.18	2.13	0.95	0.42	0.26	0.19	1.09	0.30	0.54	0.02	0.03	1.32	7.47	21.54
Wind { Direction ...	38	E SE	E NW	NE SE	SW	SW	SE	SW	SE NW	SW	SW W	N W	NW SE	NW SW	...	...
Force 0-6 ...	39	1	1	2	1	2	1	1	1	1	2	1	1	2	1	1
Amount of Cloud 0-10	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birth-rate (Leeds) ...	41	29.3	30.1	31.3	32.2	36.1	35.4	32.2	27.7	31.6	31.6	30.3	32.2	25.5	31.2	31.2
Death-rate (Leeds) ...	42	18.7	19.8	19.4	15.2	18.7	18.4	16.5	18.2	17.4	18.8	16.8	17.9	18.8	18.0	19.3
Death-rate (33 towns)	43	20.5	19.0	18.8	17.9	16.9	17.1	16.9	17.3	19.1	17.8	16.6	17.8	19.1	18.1	19.1
Birth-rate (33 towns)	44	30.4	30.0	28.9	31.4	31.1	32.1	30.4	26.2	30.9	31.1	29.2	28.7	25.4	29.7	30.3
D.R. lung dis. (Leeds)	45	2.3	3.8	3.3	2.8	4.3	2.5	2.8	3.3	4.0	2.9	3.8	2.6	3.4	3.0	3.4
D.R. diphtheria ..	46	0.6	1.0	0.3	1.1	0.5	1.0	0.5	1.3	1.9	1.1	1.0	2.1	0.6	1.0	0.6

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading.

The meteorological data are compiled from returns sent me by Mr. Crowther. They are uncorrected readings, made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs. The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar month of October, 85; November, 86; December, 88. Average, 86.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

† Line 21 is included in line 20.

TABLE F.

Shewing Births, Deaths, from all and certain causes, Home Patients of the Dispensary, admissions to the Fever Hospitals, and some of the Meteorological conditions and the Death-rates from certain causes in Leeds; with the Birth and Death-rates from all causes in the 33 large English towns for each of the thirteen weeks ended 1st April, 1899.

1899.	JANUARY.				FEBRUARY.				MARCH.					TOTALS OR AVERAGES.	
	Jan. 7th.	Jan. 14th.	Jan. 21st.	Jan. 28th.	Feb. 4th.	Feb. 11th.	Feb. 18th.	Feb. 25th.	Mar. 4th.	Mar. 11th.	Mar. 18th.	Mar. 25th.	April 1st.		
Total Births	1	290	248	252	225	237	244	226	269	233	252	247	204	214	3,141
Total Deaths	2	175	173	135	137	154	170	150	148	169	167	192	203	180	2,153
Under 1 year	3	43	29	38	23	25	35	28	28	43	38	36	41	37	444
1 to 2 years.....	4	14	12	7	6	9	18	12	16	13	17	18	19	11	172
2 to 5 years.....	5	18	11	11	7	12	12	8	13	13	7	7	13	15	147
5 to 60 years	6	65	69	49	63	69	57	58	60	60	68	80	82	61	841
60 yrs. and upwards	7	35	52	30	38	39	48	44	31	40	37	51	48	56	549
Deaths: Small-pox..	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	9	5	4	1	1	...	1	...	1	3	4	10	5	7	42
Scarlet Fever	10	...	4	2	1	2	1	1	2	1	...	...	...	2	16
*Diphtheria	11	10	8	3	8	10	11	5	13	4	7	2	7	1	89
Whooping-cough..	12	2	2	...	...	3	1	1	...	...	2	...	6	...	17
Typhus Fever	13	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever.....	14	...	3	...	1	3	2	4	1	2	...	...	...	...	16
Other or doubtful	15	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Diarrhoea or Dysent.	16	...	...	...	...	...	1	...	...	...	...	...	...	1	2
All seven.....	17	17	21	6	11	18	18	11	17	10	13	12	18	11	183
Cholera	18	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Croup	19	...	...	1	1	...	1	...	...	...	...	...	...	...	3
Dis. of Resp. System	20	29	36	31	28	27	27	40	35	44	55	60	63	58	533
Influenza†	21	1	...	2	1	1	1	...	...	2	7	6	11	14	46
Phthisis	22	20	17	16	8	14	6	9	8	16	17	20	20	12	183
Dis. of Circul. System	23	16	13	5	20	12	15	11	20	12	15	16	15	17	187
Violent Deaths	24	5	6	4	7	9	12	4	8	3	7	6	1	1	73
Inquest cases	25	18	11	13	19	20	23	17	16	14	13	11	11	10	196
Deaths in Pub. Inst.	26	18	20	15	23	19	23	21	21	22	21	22	25	27	277
Dispensary: visits pd.	27	356	345	361	379	374	353	408	421	421	452	481	447	424	5,222
Cases admitted to our own hospitals	28	21	19	16	21	15	21	10	18	17	10	30	26	30	254
Barom. (inches)	29	29.61	29.24	29.35	30.17	29.60	29.20	29.45	30.16	30.16	29.54	30.26	29.68	29.76	29.71
Attached Ther. °F...	30	44.38	46.62	48.62	44.46	42.38	46.77	48.77	46.38	45.69	46.46	50.38	40.31	50.33	46.25
Dry bulb.....	31	40.23	42.70	45.08	36.31	37.23	45.23	45.54	41.62	42.46	44.31	47.08	35.77	50.92	42.60
Wet bulb.....	32	38.70	41.00	43.08	34.23	35.38	43.62	43.46	39.46	40.38	41.77	44.69	34.38	49.25	40.67
Humidity	33	87.31	87.00	85.15	80.15	83.31	87.15	85.23	84.08	84.38	81.15	83.08	87.15	88.58	84.90
Mn. of highest reading	34	46.14	46.57	50.71	48.43	42.14	48.86	53.71	49.00	49.29	50.57	54.86	46.00	55.14	49.34
„ lowest „	35	34.86	37.29	40.00	32.29	33.29	38.00	39.57	35.86	35.57	35.57	39.86	27.43	41.86	36.26
„ daily range ..	36	11.28	9.28	10.71	16.14	8.85	10.86	14.14	13.14	13.72	15.00	15.00	18.57	13.28	13.08
Total rainfall (inches)	37	0.60	0.77	1.82	0.08	0.14	1.05	0.18	...	0.05	0.14	0.01	0.25	0.58	5.67
Wind { Direction ...	38	SW	SW	SW	NW	NW	NW SE	SW	SE	NW	SW	SE	NW	NW	...
{ Force 0-6 ...	39	1	1	2	1	1	1	1	1	1	1	1	1	2	1
Amount of Cloud 0-10	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Birth-rate (Leeds) ...	41	35.7	30.5	31.0	27.7	29.2	30.0	27.8	33.1	28.7	31.0	30.4	25.1	26.3	29.7
Death-rate (Leeds)...	42	21.5	21.3	16.6	16.9	19.0	20.9	18.5	18.2	20.8	20.6	23.6	25.0	22.1	20.4
Death-rate (33 towns)	43	19.1	18.3	18.2	17.0	19.6	22.0	19.6	20.6	21.6	22.2	23.3	23.1	23.1	20.6
Birth-rate (33 towns)	44	33.1	30.1	31.5	30.9	30.7	30.8	32.2	31.6	30.7	29.9	30.6	28.4	30.1	30.8
D. R. lung dis. (Leeds)	45	3.6	4.4	3.8	3.4	3.3	3.3	4.9	4.3	5.4	6.8	7.4	7.8	7.1	5.0
D. R. diphtheria „	46	1.2	0.9	0.4	0.9	1.2	1.4	0.6	1.7	0.5	0.9	0.2	0.9	0.1	0.8

The Dispensary returns are furnished me by the kindness of the resident staff, and have regard to a week ended in each case a day earlier than that given in the heading.

The meteorological data are compiled from returns sent me by Mr. Crowther. They are uncorrected readings, made at 10 a.m. and 4 p.m. The humidity each week is the average of the humidities calculated on each of the thirteen observations of the wet and dry bulbs. The corrected humidity in Mr. Glaisher's report for the quarter is, for the calendar month of January, 88; February, 89; March, 93. Average, 90.

* Including membranous croup. Line 19 includes non-spasmodic croup not returned as membranous.

† Line 21 is included in line 20.

TABLE 25c.

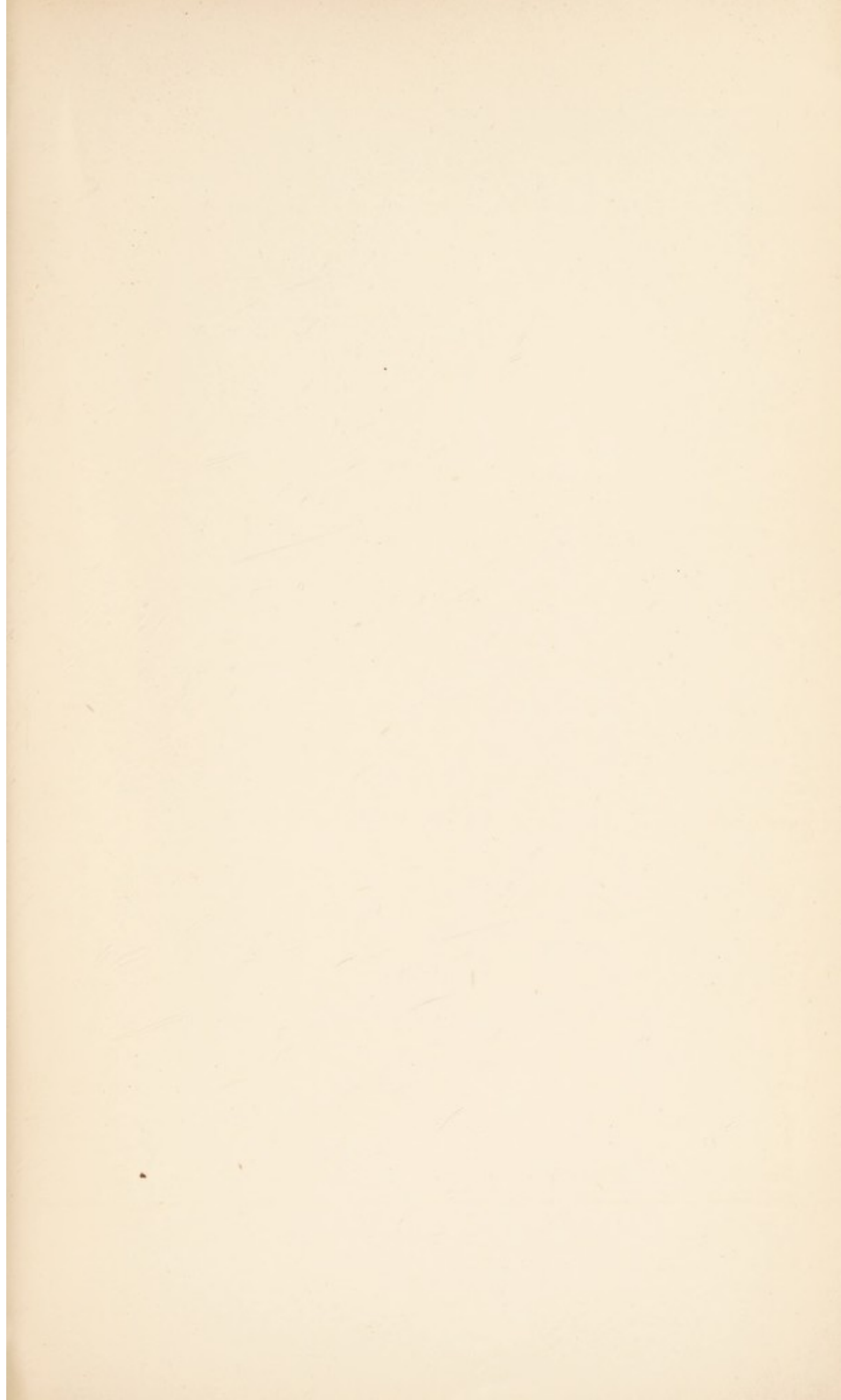
Shewing case-houses examined on account of certain diseases, and some of the conditions found as to drainage and closet arrangements during 1897.

52 WEEKS, 1897.	Houses.		Drainage, exclusive vent. soil-pipe.				No. drain.	Closets.					
	B.-to-B.	Thro.	Severed.		Not severed.			Inside.		Out- side.	T.W.C.	M. or F.	
			Found deft.	Not found deft.	Found deft.	Not found deft.		F.V.	Not F.V.				
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet fever	1185	563	6	881	19	824	18	98	122	536	471	521	
Diphtheria	111	68	26	80	28	42	3	17	23	59	42	38	
Croup	48	5	2	19	11	20	1	3	1	15	17	17	
Typhus fever	1	...	..	1	...	...	...	...	...	...	1	...	
Typhoid fever	316	155	40	209	99	118	5	14	25	145	130	157	
Erysipelas	194	106	3	158	7	130	2	16	14	84	92	94	
Puerperal fever	23	8	1	14	3	13	...	1	3	11	3	13	
Measles (death-houses) ...	139	26	1	78	2	82	2	1	2	49	50	63	
Measles (recovery-houses) ...	401	119	1	263	1	247	8	24	29	137	112	218	
Measles (recoveries in death- houses)	50	10	2	26	...	28	4	...	2	16	13	29	
Whooping-cough	74	24	...	52	2	43	1	5	4	22	28	39	
Diarrhoea	534	104	4	317	6	308	3	13	14	139	255	217	
Septicæmia. Pyæmia	6	3	...	3	1	5	..	...	...	2	3	4	
Broncho-pneumonia	194	44	2	112	7	115	2	2	5	53	102	76	
Pneumonia	221	96	1	174	7	131	4	12	20	81	84	120	
Pleuro-pneumonia	4	1	...	2	...	3	...	...	...	3	2	...	
Pleurisy	8	2	...	5	...	5	...	1	1	2	2	4	
Empyæma	2	...	...	...	...	2	...	...	...	...	1	1	
Influenza	28	17	...	25	1	18	1	1	7	12	11	14	
Laryngitis	14	8	...	11	1	10	...	1	...	7	6	8	
Totals	3553	1359	89	2430	195	2144	54	209	272	1373	1425	1633	

TABLE 25d.

Shewing case-houses examined on account of certain diseases, and some of the conditions found as to drainage and closet arrangements during 1898.

52 WEEKS, 1898.	Houses.		Drainage, exclusive vent. soil-pipe.				No. drain.	Closets.				
	B.-to-B.	Thro.	Severed.		Not severed.			Inside.		Out- side.	T.W.C.	M. or P.
			Found deft.	Not found deft.	Found deft.	Not found deft.		F.V.	Not F.V.			
Small-pox	5	...	...	...	...	5	...	...	...	3	2	...
Scarlet fever	1321	633	14	1111	25	797	7	131	144	634	470	575
Diphtheria	648	200	67	395	185	198	3	37	55	278	179	299
Croup	57	17	4	33	10	26	1	2	2	21	28	21
Typhus fever	...	...	...	...	...	...	...	...	...	...	...	...
Typhoid fever	370	156	60	224	113	126	3	25	31	148	128	194
Erysipelas	224	89	1	183	7	121	1	16	24	78	94	101
Puerperal fever	24	5	...	21	3	5	...	2	5	6	8	8
Measles (death-houses) ...	149	38	2	82	2	97	4	6	7	38	65	71
Measles (recovery-houses) ...	193	41	...	122	2	103	7	1	3	39	67	124
Measles (recoveries in death- houses)	11	5	...	12	...	4	...	2	...	...	3	11
Whooping-cough	131	31	2	89	...	70	1	2	6	47	65	42
Diarrhoea	410	97	1	247	4	245	10	9	15	136	180	167
Septicæmia. Pyæmia	3	1	...	3	...	1	...	1	1	...	1	1
Broncho-pneumonia	179	42	...	98	3	118	2	6	14	57	85	59
Pneumonia	222	75	2	154	1	137	3	10	15	77	108	87
Pleuro-pneumonia	3	6	...	5	...	4	...	2	1	3	1	2
Pleurisy	8	5	...	7	...	6	...	2	3	4	2	2
Empyæma	6	4	...	6	...	4	...	...	1	5	3	1
Influenza	24	19	...	25	...	16	2	3	3	13	9	15
Laryngitis	14	5	1	6	7	5	...	1	1	6	5	6
Totals	4002	1469	154	2823	362	2088	44	258	331	1593	1503	1786



JOWETT & SOWRY, Printers and Lithographers, Albion Street, Leeds.

