[Report 1895] / Medical Officer of Health, Birmingham.

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REPORT

ON THE

HEALTH OF THE CITY

OF

BIRMINGHAM,

FOR THE YEAR 1895;

ALSO,

ON THE PROCEEDINGS TAKEN UNDER THE ACTS FOR THE

PREVENTION OF ADULTERATION

OF ARTICLES OF FOOD AND DRINK,

BY

ALFRED HILL, M.D., F.R.S.E., F.I.C.,

Past-President of the Society of Medical Officers of Health; Past-President of the Society of Public Analysts; Late Examiner in Public Health to the University of Aberdeen; Fellow of the Sanitary Institute; Fellow of the College of State Medicine; Fellow of the Incorporated Society of Medical Officers of Health;

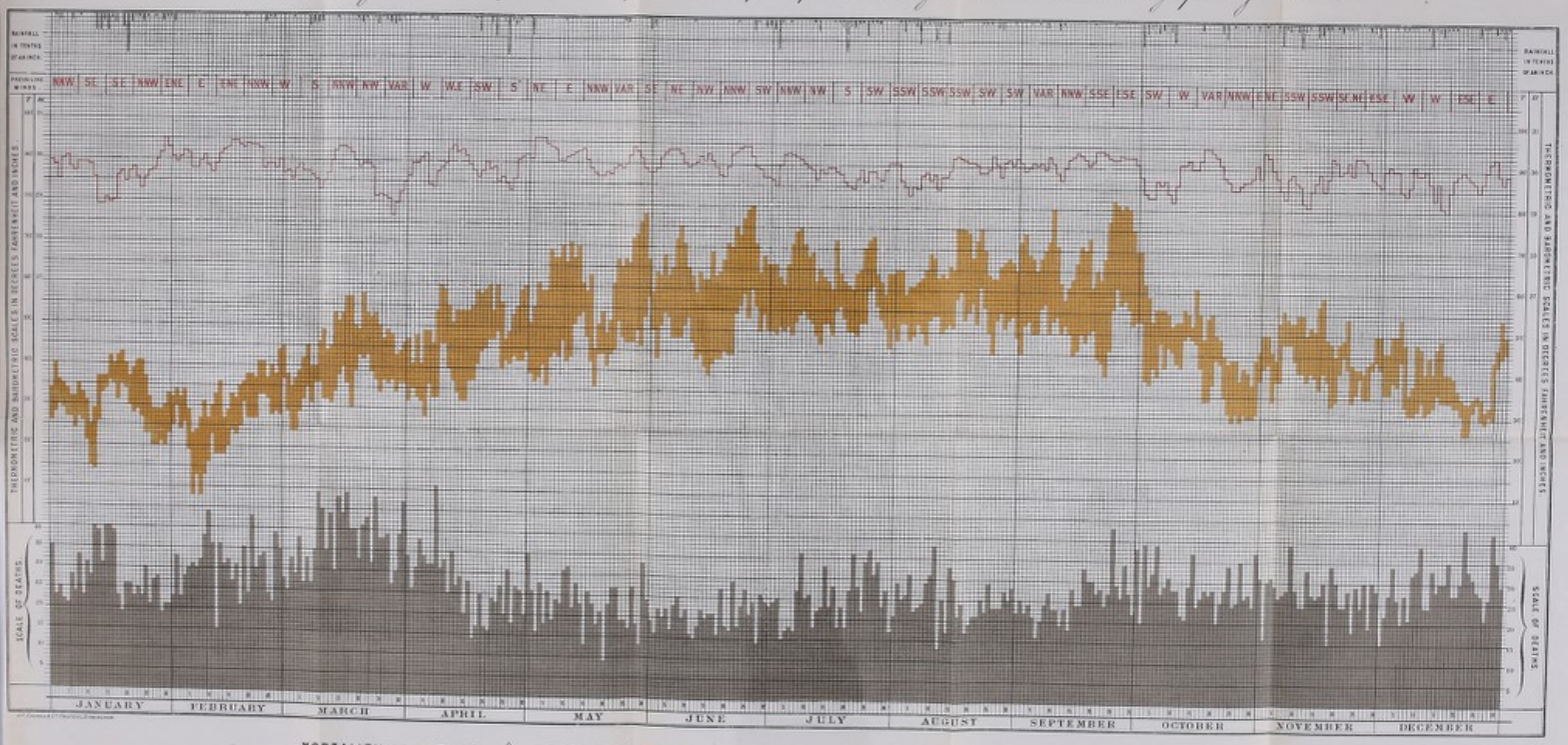
MEDICAL OFFICER OF HEALTH AND ANALYST TO THE CITY.

PRINTED BY ORDER OF THE HEALTH COMMITTEE

BIRMINGHAM:
GEO. JONES & SON, TOWN HALL PRINTING OFFICES, 87-89, EDMUND STREET

City of Birmingham.

Chart illustrating the relations of the number of deaths to the principal meteorological conditions on each day of the year 1895.



MORTALITY: Deaths | METEOROLOGY: Temperature (maximum and minimum) — BAROMETRIC PRESSURE (corrected and reduced to 32° Fahrenheit and sea level) — RAINFALL.

With the

Medical Officer of Health's Compliments.

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HEALTH DEPARTMENT,

THE COUNCIL HOUSE,

BIRMINGHAM,

March 20th, 1896.

TO THE HEALTH COMMITTEE.

MR. CHAIRMAN AND GENTLEMEN,

I beg to present to you my twenty-third Annual Report as Medical Officer of Health for the City, the report being for the year which ended on December 28th, 1895. **Introductory Remarks.**

I cannot say that the past year has been altogether a satisfactory one. The total Death-rate was practically identical with the average for the last ten years, so that in this particular the statistics show the general health of the town to have been just maintained, but not improved.

The zymotic Death-rate also showed little variation from the average. Certain of the zymotic diseases, however, exhibited great increases both in prevalence and mortality. Chief amongst these were Diphtheria and Scarlet Fever, with which I have dealt at some length in the body of my report. I am pleased to say that the recent epidemic of Smallpox came to an end in the early part of the year, not a single case of the disease having occurred in the last six months.

As it is now five years since the taking of the last census, I think it may not be inappropriate if I give a few figures relating to the last two quinquennial periods. I find that the average Birth-rate was almost the same in these two quinquennia, being 32·9 in the five years 1886–1890, and 32·7 in the five years 1891–95. There was but little difference also in the Death-rates for the two periods, that for the first quinquennium being 19·8, and that for the second 20·1. Unfortunately what difference there is in the two rates, instead of showing an improvement as one could have wished it to do, shows a slight retrogression. The infant mortality, that is the deaths under one year to births, rose from 170 to 175 per 1,000. The general zymotic Death-rate showed a little improvement, falling from 2·8 to 2·5, and this improvement was shared in by Scarlet Fever, but Diphtheria and Typhoid Fever suffered some increase. Perhaps the figures will be more plainly seen from the statement below:—

	Death Rate per 1,000 from					
	All Causes.	Zymotic Diseases.	Scarlet Fever.	Diphtheria.	Fever.	Infant Mortality.
5 years—1886–90	19·8	2·8	·21	·14	·14	170
5 years—1891–95	20·1	2·5	·18	·15	·17	175

I regret that the health of the City, as judged from these figures, has shown no improvement in the two last quinquennial periods, but rather the reverse. I cannot think that the present position of the town indicates the greatest degree of healthiness possible to it, and I believe that with the carrying out of certain sanitary improvements the mortality in the City may yet be considerably reduced. Amongst the improvements necessary I would place the substitution of water-closets for pan and ashpit privies, the paving of courts, the systematic cleansing of the yards and outhouses in the poorer parts of the town, and the overhauling of the sewers whenever there is reason to suspect that they may be defective. Work of this kind is already being carried out to a certain extent, and I believe that eventually it will be found to exert a very beneficial influence on the health of the City.

I. VITAL STATISTICS.

Elevation.

The elevation of Birmingham is considerable, its highest part, near the junction of Hagley Road and Harborne Lane, being 675 feet, and its lowest, near the River Tame at Bromford, 281 feet above sea level. The surface of the City

Geological position.

is undulatory, and the soil is mostly of a sandy or gravelly nature.

Old and enlarged City.

In 1891 the boundary of the City was extended, so as to include certain outlying districts. At the time of the extension I endeavoured to obtain such information relating to the annexed districts as would make it possible for me to give statistics respecting the enlarged area for a long series of years. But I found it impossible to do this for any years prior to 1886, and all the figures in my report which relate to earlier years than this must be taken as applying to the old City, not to the enlarged area. I have been careful, however, in using figures relating to the two different areas, either to give rates instead of actual numbers or to make allowance for the differences in population. By this plan I think the statistics for the old City may fairly be compared with those for the larger area.

Population.

The estimated population of the City at the middle of 1895 was 496,751. As I stated in my last Annual Report, I think it very possible this may be too large a figure, but I do not suppose the error is so great as to seriously vitiate the

Area.

calculations I have made. The area of the City is 12,705

Density.

acres, so that there are on an average 39·1 persons to an acre. Before the enlargement of the City its area comprised 8,400 acres, with a mean density in 1891 of 51·2 persons per acre.

In the following statement the population of the area now included in the City and the mean density of that population is shown :—

	Estimated Population at middle of each year.	Average Number of Persons per acre.
1886 ...	458,110 ...	36·1
1887 ...	462,251 ...	36·4
1888 ...	466,430 ...	36·7
1889 ...	470,646 ..	37·0
1890 ...	474,900 ...	37·4
1891 ...	479,193 ...	37·7
1892 ...	483,526 ..	38·1
1893 ...	487,897 ...	38·4
1894 ...	492,301 ...	38·7
1895 ...	496,751 ...	39·1

Population and Density in certain large towns.

In the course of my report I propose to make comparisons between Birmingham and certain other large towns. It will be interesting, therefore, to see the relative population and density of these towns. They are as follows :—

	Estimated Population, 1895.	No. of Persons to an acre.
33 Large Towns ...	10,591,530	35·3
London	4,392,346	58·8
Liverpool	503,967	96·7
Manchester	524,865	40·7
Birmingham ...	**496,751**	**39·1**
Leeds	395,546	18·3
Sheffield	342,768	17·4
Bristol	228,139	51·1
Bradford	226,384	21·0
West Ham	249,473	53·0
Nottingham	226,658	20·7

MARRIAGES.

Marriages. Marriage-rate

The number of Marriages in the City in 1895 was 4,442, equal to a marriage-rate of 17·9 per 1,000. In 1894 the rate was 17·3, in 1893 it was 16·9, and in 1892 17·9.

BIRTHS.

Births. Birth-rate.

The Births recorded in the fifty-two weeks comprised for registration purposes in the year 1895 amounted to 16,014, 8,032 being those of males, and 7,981 those of females ; in one instance the sex was unknown. They were equal to an annual Birth-rate of 32·3 per 1,000. This was with two exceptions the lowest Birth-rate stated in my records. The Births and Birth-rates for the past ten years are shown below :—

	Number of Births.	Birth-rate per 1,000 persons living.
1886	15,622	34·2
1887	15,315	33·2
1888	15,076	32·4
1889	15,357	32·7
1890	15,487*	32·1
1891	16,166	33·8
1892	16,026	33·2
1893	15,881	32·6
1894	15,505	31·6
1895	16,014	32·3

*53 weeks.

Birth-rates in large towns.

In the ten large towns the Birth-rates were as follows :—

	Birth-rate per 1,000.
33 large Towns	31·3
London	30·5
Liverpool	36·9
Manchester	33·7
Birmingham	**32·3**
Leeds	31·6
Sheffield	34·9
Bristol...	28·9
Bradford	26·1
West Ham	34·3
Nottingham	29·7

It will be seen that only Liverpool, Manchester, Sheffield, and West Ham had higher Birth-rates than Birmingham.

VACCINATION.

Vaccination.

I have received from the Vaccination Officers returns as to Vaccination for the year ending June 30th, 1895. Copies of these returns will be found in Table XI.

I am sorry to find a considerable reduction in the number of successful Vaccinations, the total percentage having fallen from 86·0 to 83·5. This reduction has brought the amount of Vaccination to a lower point than in either of the three previous years. It is chiefly due to an increase in the number of cases not yet accounted for in the Officers' records either as successfully disposed of or as lost sight of. The percentage of such cases rose from 5·2 in the previous year to 6·8. The number of cases lost sight of rose from 8·2 to 8·8. The percentages in different parts of the City will be seen in the table below :—

District.	Year.	Percentage of Surviving Children.			
		Successfully Vaccinated.	Insusc'ptible of Vaccination or had Smallpox.	Unaccounted for, from: Removal to places unknown ; and not having been found.	Unaccounted for, from: Postponement by Medical Certificate ; Removal to other Vaccination Districts, etc.
Birmingham Parish ...	1892	87·9	0·2	8·6	3·3
	1893	90·2	0·4	6·8	2·6
	1894	90·1	0·4	6·6	2·9
	1895	88·6	0·7	7·1	3·6
Aston Union (within the City) ...	1892	81·3	0·5	12·3	5·9
	1893	81·6	0·5	11·3	6·6
	1894	82·4	0·7	11·0	5·9
	1895	78·9	1·0	11·9	8·2
King's Norton Union (within the City) ...	1892	83·9	0·4	3·8	11·8
	1893	81·4	0·9	2·9	14·7
	1894	79·6	0·8	6·2	13·4
	1895	76·6	1·0	5·8	16·6
Whole City...	1892	84·9	0·3	9·6	5·2
	1893	86·0	0·5	8·1	5·5
	1894	86·0	0·6	8·2	5·2
	1895	83·5	0·9	8·8	6·8

Vaccination was much more extensively carried out in Birmingham Parish than in Aston and King's Norton Unions, the respective percentages being 88·6, 78·9, and 76·6. In Aston the number of cases lost sight of was much greater than elsewhere, while in King's Norton the instances in which Vaccination had not yet taken place was very excessive. In view of the figures given on page 12 with respect to Smallpox, one cannot feel at all satisfied with the year's work in regard to Vaccination. Vaccination in various districts.

DEATHS.

The Deaths registered during 1895 numbered 9,863, of which 5,154 were those of males and 4,708 those of females; in one instance the sex was unknown. They were equal to a Death-rate of 19·9 per 1,000. In the past ten years the Death-rate has varied from 18·2 to 21·5, and the average has been 20·0, so that the figure for 1895 stood just half way between the highest and lowest rate, and was almost identical with the average. Deaths. Death-rate.

The following table shows the number of Deaths and the Death-rates for the last ten years:—

	Number of Deaths.	Death-rate per 1,000 Persons living.
1886 ...	9,182 ...	20·1
1887 ...	9,225 ...	20·0
1888 ...	8,465 ...	18·2
1889 ...	9,035 ...	19·2
1890 ...	10,329* ...	21·4
1891 ...	10,077 ...	21·1
1892 ...	9,642 ...	20·0
1893 ...	10,445 ...	21·5
1894 ...	8,946 ...	18·2
1895 ...	9863 ...	19·9

* 53 weeks.

In order to show what diseases were chiefly implicated in causing variations in the mortality, I have prepared the following table:— Variations in mortality.

	Deaths in 1895.	Average in 3 years, 1892-4.	Above or below the average.
Enteritis	282	151	+131
Diphtheria	163	53	+110
Diarrhœa	605	509	+96
Old Age	510	426	+84
Scarlet Fever	133	70	+63
Convulsions	241	184	+57
Pneumonia	584	771	−187
Measles	133	235	−102
Whooping Cough ...	173	275	−102
Smallpox	8	80	−72
Bronchitis	1,153	1,218	−65

The most noteworthy feature in the above figures is the influence exerted by the zymotic diseases. Three of them, viz., Diphtheria, Diarrhœa, and Scarlet Fever, caused 269 Deaths in excess of the average for the three previous years. Moreover, Enteritis, a disease which is closely allied to Diarrhœa, caused nearly twice as many deaths as usual. On the other hand there was a great falling off in the mortality from Measles and Whooping Cough, while Pneumonia also showed a large decrease.

Death-rates of Birmingham and large towns compared.

The Death-rates in ten of the largest English towns are shown below :—

	1895.	1894.	1893.	1892.	1891.
33 large Towns ...	20·7	18·1	21·6	20·7	22·2
London	19·8	17·8	21·3	20·6	21·4
Liverpool	28·8	23·8	27·3	24·7	27·0
Manchester	25·2	20·4	24·9	23·8	26·5
Birmingham ...	**19·9**	**18·2**	**21·5**	**20·0**	**21·1**
Leeds	20·5	17·9	22·3	19·8	22·9
Sheffield	20·5	17·8	22·3	20·8	23·9
Bristol	18·1	17·3	18·9	19·5	20·9
Bradford	19·9	17·0	21·0	18·0	22·2
West Ham	17·9	16·2	18·9	18·6	17·8
Nottingham... ...	19·0	17·2	18·5	18·7	19·9

The Death-rate in Birmingham was ·8 per 1,000 below that recorded in the 33 large towns. It was also lower than the rates for Liverpool, Manchester, Leeds, and Sheffield, and just equal to that of Bradford. Birmingham stands fifth in the above list; in 1894 it was only eighth, in 1893 sixth, in 1892 sixth, and in 1891 fourth. Its position was thus a little better than usual.

Discrepancies between Registrar General's and own figures.

In the Registrar General's Annual Summary the figures relating to Birmingham will be found to differ slightly from my own. This is due to the fact that he adds the Deaths of Birmingham paupers who die in the Aston and King's Norton Workhouses to the Deaths actually occurring in the City. I do not follow this plan, because I think the Deaths of non-residents which take place in Hospitals in the City quite counterbalance the Deaths of Birmingham people who die outside its boundary.

Death-rate in each quarter of the year.

The mortality in Birmingham in each quarter of the past year was as follows :—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Year.
TOTAL DEATHS	2,861*	2,196	2,264	2,542	9,863*
Males ...	1,454	1,146	1,258	1,296	5,154
Females ...	1,406	1,050	1,006	1,246	4,708
Death-rate ...	23·1	17·7	18·3	20·5	19·9

* One sex unknown.

In the first quarter the Death-rate was an unfavourable one, even for a winter quarter. Very severe weather prevailed during January and February, but it was not until the long

continued frost had broken up that the heavy mortality began, and it appeared to be due to the sudden change of weather. In the second quarter the Death-rate was the lowest I have ever recorded in that portion of the year, a very great reduction occurring in the mortality from Measles and Pneumonia. The third quarter had a medium Death-rate, largely owing to a heavy mortality from Diarrhœa. In other respects the quarter was a healthy one. In the fourth quarter the Death-rate was rather high, most of the zymotic diseases being more than usually fatal. It is curious that out of 133 Deaths from Measles during the whole year, no less than 129 occurred in the fourth quarter.

Charts.

At the beginning of my report will be found a diagram showing the number of Deaths on each day of the year, together with certain meteorological conditions observed at the same time. In the appendix there is a chart showing the total Death-rate and the average age at death in each week of the year.

Death-rates in wards.

Assuming that the Deaths in large institutions should be distributed over the various wards in proportion to the mortality actually recorded in those wards, I find that the ward Death-rates would be as follows :—

	Estimated Population.	No. of Deaths.	Approximate Death-rate.
Rotton Park	40,009	614	18·5
All Saints'	39,590	685	20·8
Ladywood	27,104	430	19·1
St. Paul's	16,765	256	18·4
St. George's	21,409	408	22·9
St. Stephen's	23,876	517	26·0
St. Mary's	15,211	311	24·6
St. Bartholomew's ...	26,622	549	24·8
Market Hall	13,096	218	20·0
St. Thomas's	20,517	345	20·2
St. Martin's	25,530	424	20·0
Edgbaston and Harborne ...	29,591	381	15·5
Deritend	26,851	496	22·2
Bordesley	43,713	609	16·8
Duddeston	23,121	483	25·1
Nechells	32,854	572	20·9
Balsall Heath	38,277	522	16·4
Saltley	27,892	387	16·7

The highest Death-rate was 26·0 in St. Stephen's, followed by 25·1 in Duddeston, 24·8 in St. Bartholomew's, and 24·6 in St. Mary's. Edgbaston and Harborne had the lowest mortality, next in order being Balsall Heath, Saltley, and Bordesley. On looking into the causes of death, I find that in St. Stephen's Ward, Wasting Diseases, Diarrhœa, and Bronchitis were the most prominent factors in the excessive mortality. In St. Bartholomew's Ward, Diarrhœa, with its allied complaint Enteritis, was answerable for a great part of the excess. In St. Mary's, Bronchitis and Wasting Diseases were the chief agents in raising the mortality above that of the whole City,

and in Duddeston, Diarrhœa and Wasting Diseases. It is to be noted that these diseases resolve themselves into those arising from errors in feeding, and those due to exposure to cold, and it is probable, therefore, that the real causes of the high mortality in the wards alluded to were poverty and ignorance, and consequent neglect. The Death-rates in the four wards from each of the diseases mentioned, were as follows :—

	St. Stephen's.	Duddeston.	St. Bartholomew's.	St. Mary's.	City.
Bronchitis ...	3·5	2·4	2·6	3·6	2·3
Wasting Diseases	2·5	2·1	1·1	2·0	1·3
Diarrhœa ...	1·9	2·2	2·1	1·8	1·2
Enteritis ...	0·9	—	1·1	0·9	0·6

Distribution of deaths amongst the ætal periods.

The next statement shows the Deaths at various age-periods during the last four years :—

	1895.	1894.	1893.	1892.
Under 1 year	2,910	2,539	3,146	2,664
Between 1 and 5 years ...	1,398	1,441	1,306	1,570
„ 5 „ 15 „ ...	391	389	334	375
„ 15 „ 25 „ ...	386	426	436	343
„ 25 „ 45 „ ...	1,287	1,285	1,556	1,289
„ 45 „ 65 „ ...	1,863	1,561	1,961	1,812
At 65 years and upwards...	1,628	1,305	1,706	1,589

Infant mortality.

The Deaths of infants under one year of age were in the proportion of 182 per 1,000 Births. In the past ten years this figure has only once been exceeded, viz., in 1893, when the proportion was 198 per 1,000. In 1888 it fell as low as 152 per 1,000, while the average number in the ten years 1886–1895 was 172. I have compared the infant Deaths in 1895 with those in the three previous years, and find the chief increases were as follows :—

	1895.	Average, '1892-94.	Increase.
Enteritis	203	97	106
Diarrhœa	439	383	56
Convulsions	198	149	49
Premature Birth ...	375	349	26

It is evident from these figures that bowel complaints were chiefly responsible for the increase in the infant mortality.

Infant deaths per 1,000 births in large towns.

The next table shows the infant mortality in the ten large towns :—

	1895.	1894.	1893.	1892.	1891.
33 large towns ...	182	152	181	164	—
London	166	143	164	155	154
Liverpool... ...	210	179	211	181	188
Manchester ...	203	160	203	179	192
Birmingham ...	**182**	**164**	**198**	**166**	**165**
Leeds	191	155	206	169	177
Sheffield	197	157	191	171	170
Bristol	143	150	141	147	146
Bradford	203	145	197	155	181
West Ham ...	168	138	170	153	150
Nottingham ...	190	174	170	167	169

The infant mortality in Birmingham was just equal to that of the thirty-three large towns. It was lower than that of Liverpool, Manchester, Bradford, Sheffield, Leeds, and Nottingham. It is to be noticed that in all the towns except Bristol there was a great increase upon the figures recorded in the previous year.

Average age at death.

The average age of the persons whose Deaths were registered during 1895 was 28 years and 8 months, against 27 years and 1 month in 1894, and 29 years in 1893. The figures for the four quarters of the year were as follows :—

	1895.	1894.
First Quarter ...	34 years and 5 months.	27 years and 5 months.
Second „ ...	31 „ „ 11 „	25 „ „ 4 „
Third „ ...	23 „ „ 11 „	27 „ „ 0 „
Fourth „ ...	23 „ „ 7 „	28 „ „ 8 „
Whole Year ...	28 „ „ 8 „	27 „ „ 1 „

Chart.

A Chart at the end of the report shows the weekly variations in the average age at Death.

INFECTIOUS DISEASES.

Zymotic diseases.

Zymotic death-rate.

The seven principal Zymotic Diseases—Smallpox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever, and Diarrhœa—had 1,299 Deaths attributed to them, against an annual average of 1,263 in the previous nine years. The Zymotic Death-rate was 2·6 per 1,000, and was identical with the average for the nine preceding years. On the whole, therefore, the Zymotic Mortality was satisfactory, though in some of its details it was very much the reverse. Of the individual diseases, Smallpox, Measles, and Whooping Cough caused fewer Deaths than usual, but Scarlet Fever, Diphtheria, Fever, and Diarrhœa were more fatal than they generally are.

Zymotic death-rates in large towns.

The subjoined table affords a comparison of the Zymotic Death-rates in the ten large towns.

	1895.	1894.	1893.	1892.	1891.
33 large towns ...	2·8	2·4	3·2	2·6	—
London	2·6	2·7	3·1	2·8	2·3
Liverpool	4·0	3·4	3·9	2·9	3·6
Manchester ...	3·7	2·4	3·7	3·0	3·1
Birmingham ...	**2·6**	**2·4**	**3·0**	**2·6**	**2·0**
Leeds	2·7	2·0	3·5	2·2	2·4
Sheffield	3·2	2·3	3·5	3·1	2·7
Bristol	1·3	2·0	1·6	2·1	1·9
Bradford	2·5	1·8	3·4	1·7	2·3
West Ham	3·2	3·2	3·4	2·9	2·3
Nottingham ...	2·2	2·3	2·6	2·3	2·5

The Zymotic Rate in Birmingham was lower than in the thirty-three large towns. Only three towns in the above list—Bristol, Nottingham, and Bradford—occupy better positions than Birmingham with regard to Zymotic Mortality.

Smallpox.

Smallpox.

Eight Deaths were registered during 1895 from Smallpox, of which disease just one hundred cases were notified to me. The year 1895 witnessed the end of the great epidemic which commenced in 1893, the last case reported having occurred on June 29th. From that date to the end of the year the City was entirely free from Smallpox. Of the 100 cases notified, 85 were vaccinated, 14 unvaccinated, and 1 doubtful. Two of the Deaths registered during 1895 were in patients reported in 1894, so that out of the 100 fresh cases there were 6 deaths, all of them, strange to say, amongst the vaccinated. This is an interesting example of the danger of drawing inferences from a small number of observations. For these figures would appear to show that the case mortality is much higher amongst vaccinated than amongst unvaccinated patients. But the real facts as to vaccination will be seen from the following figures, which deal with the total number of cases notified from the beginning to the close of the epidemic, that is, from the commencement of 1893 to the middle of 1895.

Vaccination and Smallpox.

	No. of Cases.	No. of Deaths.	Proportion of Deaths to Cases.
Vaccinated	2701	121	4·5 per cent.
Unvaccinated	343	107	31·2 "
Doubtful	109	20	18·3 "

Thus the mortality amongst the unvaccinated cases was really seven times as high as amongst the vaccinated.

As the question of Vaccination is just now exciting a good deal of interest, I have thought it desirable to look into the above figures a little closely in order to see what is the exact effect of the prophylactic on health and life. I have therefore prepared the following table, the headings of which explain themselves :—

AGE PERIODS.	Cases.			Deaths.			Case Mortality per cent.		
	Vaccinated.	Unvaccinated.	Doubtful.	Vaccinated.	Unvaccinated.	Doubtful.	Vaccinated.	Unvaccinated.	Doubtful.
Under 1 year	0	55	1	0	38	1	—	69	—
1 to 5 years	12	65	7	0	25	0	—	38	—
5 to 10 years	84	74	12	0	5	1	0	7	—
10 to 15 years	264	40	5	1	3	0	0	7	—
15 to 25 years	1095	57	30	20	12	2	2	21	7
25 to 45 years	1042	41	35	79	19	11	8	46	31
45 and upwards	204	11	19	21	5	5	10	—	—

Vaccination and Smallpox (*continued*).

The first point I wish to call attention to is the practical immunity from Smallpox enjoyed by vaccinated children under 10 years old. We are often told that even if vaccination lessens the probability of a fatal issue—a fact which few find it possible to dispute—it certainly does not reduce the liability to an attack. But the experience of Birmingham proves this to be quite a fallacy. There are in the City something like 118,000 children under 10 years old. The vaccination returns for the last few years show that about 85 per cent. of the children born were successfully vaccinated shortly after their birth; how many more were vaccinated later in life I cannot tell. But at any rate it may safely be assumed that at least 85 per cent. of the children under 10 years of age are vaccinated, so that there must have been about 100,000 vaccinated and 18,000 unvaccinated children in the City during the recent epidemic. Of these 100,000 vaccinated children under 10 years of age 96 took Smallpox, giving a proportion of 1 case per 1,000 children living at that age period; amongst the unvaccinated there were 194 cases, giving a proportion of 11 per 1,000. Thus the unvaccinated children under ten suffered 11 times as heavily from attacks of Smallpox as the vaccinated. It is obvious from these figures that for the first ten years after it has been performed vaccination affords a large degree of immunity from an attack of Smallpox. And for the first five years the degree of immunity is much greater, inasmuch as only 12 vaccinated children under five years old were attacked out of about 48,000 living at that age, or only about one in every 4,000. But amongst the 9,000 unvaccinated children under 5 years one out of every 75 took Smallpox. The experience of Birmingham therefore shows that vaccination confers almost absolute immunity from an attack of Smallpox for the first five years, and practical immunity for the first ten years.

I come now to the question of immunity from death, and here the beneficial results of vaccination are still more marked; for amongst the 96 vaccinated Smallpox patients under 10 not a single death occurred, while amongst the 194 unvaccinated cases there were 68 deaths. It appears, therefore, that for 10 years after its performance vaccination conferred absolute immunity from death from Smallpox, although amongst the unvaccinated of all ages the disease had a mortality of over 30 per cent., that is to say, by means of vaccination within ten years from the time of an outbreak the deaths of 30 per cent. of the persons attacked may be prevented.

The City of Birmingham having been pointed to as being a well vaccinated town which has suffered heavily from Smallpox, I should like to say that although the recent epidemic lasted for two years and a half, the total number of cases at all ages was only equal to a rate of about 6 per 1,000 for the whole period. In contrast with this, I may say that in Gloucester, which is a stronghold of the opponents of vaccination, and where the compulsory powers of the Vaccination Acts have been suspended, there had already been 916 cases in the first three months of

the present year, giving a rate of over 22 per 1,000, or nearly four times as many in three months as occurred in Birmingham in the whole two and a half years; moreover, the epidemic, so far from showing any signs of subsiding, was distinctly on the increase. In the week which ended on April 4th there were 21[illegible] cases in Gloucester, which, making allowance for the difference in population, would be equivalent to over 2,500 cases in one week in Birmingham. One wonders how, after such a lesson as the present Gloucester epidemic teaches, anybody can be found to throw doubt on the value of vaccination and to oppose the practice of it. Even the popular demand for a Commission of Enquiry appears by the light of it to have been totally unnecessary, and indeed injurious in temporarily impairing the efficiency of the Vaccination Acts and exposing communities to avoidable danger, disfigurement, and death.

Smallpox in years 1872-95.

The following table shows the number of cases and deaths from Smallpox in Birmingham in the last twenty-four years. The figures for 1872-1891 apply to the City as constituted prior to its extension :—

DATE.	Cases Notified.		Deaths Registered	
1872.				
1st Quarter	798		96	
2nd "	632		92	
3rd "	355		67	
4th "	192		44	
Total		1,977		299
1873.				
1st Quarter	171		29	
2nd "	246		37	
3rd "	124		18	
4th "	253		38	
Total		794		122
1874.				
1st Quarter	757		123	
2nd "	1,303		196	
3rd "	1,059		165	
4th "	672		153	
Total		3,791		637
1875.				
1st Quarter	366		85	
2nd "	347		72	
3rd "	95		14	
4th "	16		2	
Total		824		173
1876.				
1st Quarter	2		0	
2nd "	2		0	
3rd "	2		0	
4th "	5		0	
Total		11		0
1877.				
1st Quarter	7		1	
2nd "	20		3	
3rd "	20		3	
4th "	3		1	
Total		50		8

Smallpox in years 1872-95 (*continued*).

DATE.	Cases Notified.		Deaths Registered.	
1878.				
1st Quarter	3		0	
2nd "	4		0	
3rd "	10		2	
4th "	10		3	
Total	—	27	—	5
1879.				
1st Quarter	1		0	
2nd "	0		0	
3rd "	3		0	
4th "	0		0	
Total	—	4	—	0
1880.				
1st Quarter	2		0	
2nd "	5		1	
3rd "	8		1	
4th "	3		0	
Total	—	18	—	2
1881.				
1st Quarter	5		5	
2nd "	9		1	
3rd "	2		0	
4th "	0		0	
Total	—	16	—	6
1882.				
1st Quarter	0		0	
2nd "	43		6	
3rd "	33		9	
4th "	13		2	
Total	—	89	—	17
1883.				
1st Quarter	48		7	
2nd "	152		9	
3rd "	567		54	
4th "	435		40	
Total	—	1,202	—	110
1884.				
1st Quarter	384		54	
2nd "	64		8	
3rd "	13		1	
4th "	10		1	
Total	—	471	—	64
1885.				
1st Quarter	69		12	
2nd "	4		0	
3rd "	9		0	
4th "	2		0	
Total	—	84	—	12
1886.				
1st Quarter	1		0	
2nd "	1		0	
3rd "	0		0	
4th "	0		0	
Total	—	2	—	0
1887.				
1st Quarter	0		0	
2nd "	1		1	
3rd "	1		0	
4th "	10		1	
Total	—	12	—	2

Smallpox in years 1872-95 (*continued*

DATE.	Cases Notified.		Deaths Registered.	
1888.				
1st Quarter	13		0	
2nd "	4		0	
3rd "	1		0	
4th "	0		0	
Total	—	18	—	0
1889.				
1st Quarter	0		0	
2nd "	0		0	
3rd "	0		0	
4th "	0		0	
Total	—	0	—	0
1890.				
1st Quarter	0		0	
2nd "	0		0	
3rd "	0		0	
4th "	0		0	
Total	—	0	—	0
1891.				
1st Quarter	1		0	
2nd "	15		0	
3rd "	23		2	
4th "	8		5	
Total	—	47	—	7
1892.				
1st Quarter	0		0	
2nd "	20		0	
3rd "	5		0	
4th "	2		0	
Total	—	27	—	0
1893.				
1st Quarter	35		0	
2nd "	245		18	
3rd "	116		9	
4th "	583		43	
Total	—	979	—	70
1894.				
1st Quarter	717		66	
2nd "	651		54	
3rd "	305		20	
4th "	401		31	
Total	—	2,074	—	171
1895.				
1st Quarter	97		7	
2nd "	3		1	
3rd "	0		0	
4th "	0		0	
Total	—	100	—	8

These figures show that the recent epidemic of Smallpox was much more severe than the one which occurred in 1883-4. It was, however, not nearly so extensive as the visitation of the disease which culminated in 1874.

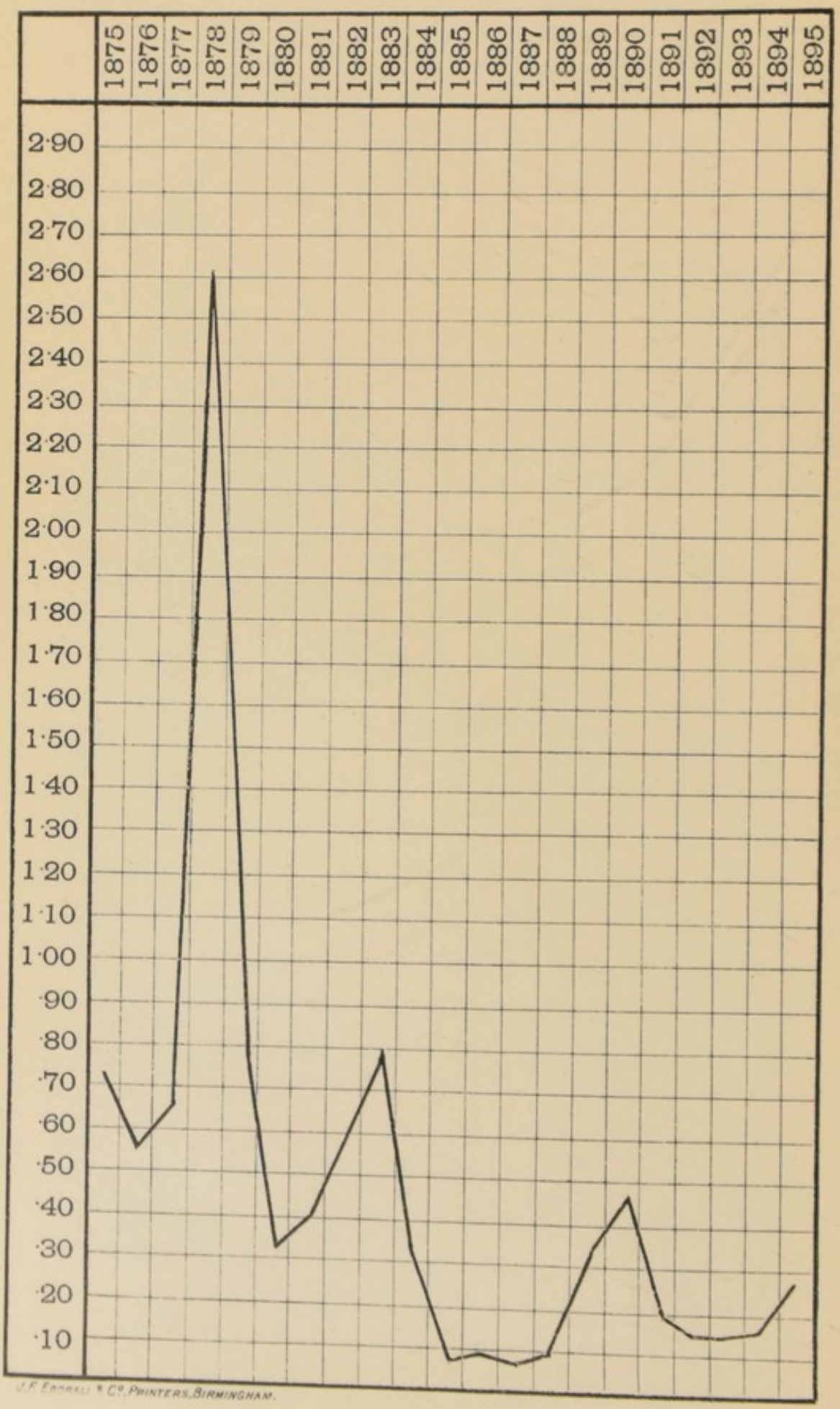
Measles.

Measles.

The Deaths from Measles numbered 133, against an average of 248 in the nine preceding years. The disease again exhibited the most extraordinary fluctuations; in the first quarter there was not a single death, in the second quarter there was 1, in the third quarter 3, and in the fourth quarter 129. These figures show what I have again and again

DEATH RATES FROM SCARLET FEVER

PER 1000 PERSONS LIVING.



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remarked, that Measles is a disease which spreads from time to time with extraordinary rapidity and dies away again with equal suddenness. The Deaths from Measles are represented on the map at the end of my report by red crosses. Measles (*continued*).

Scarlet Fever.

Scarlet Fever caused 133 Deaths, against an annual average of 89 in the previous nine years. The Deaths were at the rate of ·27 per 1,000 of the population, a higher figure than had been recorded since 1890, when the proportion was ·45 per 1,000. Scarlet Fever.

The year 1895 was marked by a very extensive prevalence of the disease, and owing to the prominence given to the subject in the press, and to the fact that special means had to be taken to accommodate the enormous number of cases to be removed to the City Hospital, an impression has arisen in some quarters that the recent visitation of Scarlet Fever has been one of very exceptional severity. I think it will be interesting, therefore, if I review the Scarlet Fever history of the City for the 21 years during which Hospital accommodation for this disease has been provided by your Committee.

Dealing first with the mortality, I find that in the period mentioned there has been an enormous decline in the Death-rate from Scarlet Fever. This may be readily seen from the diagram on the opposite page. The highest Death-rate represented there was 2·61 per 1,000 in 1878, when the "crest" of one of the periodic waves which mark the prevalence of Scarlet Fever occurred. The next "crest" came in 1883, but the Death-rate then was only ·80 per 1,000. The third "crest" was observed in 1890, when the Death-rate was ·45 per 1,000; and the fourth was apparently reached in 1895, when the Death-rate was only ·27 per 1,000. These "crests" serve to divide the 21 years into epidemic periods, in which the Death-rates were as follows:— Scarlet Fever death-rates, 1875-95.

1875	·72	Average Annual Death-rate, **1·13** per 1,000.
1876	·55	
1877	·63	
1878	2·61	
1879	·78	Average Annual Death-rate, **·59** per 1,000.
1880	·31	
1881	·41	
1882	·63	
1883	·80	
1884	·32	Average Annual Death-rate, **·21** per 1,000.
1885	·08	
1886	·09	
1887	·08	
1888	·09	
1889	·34	
1890	·45	
1891	·20	Average Annual Death-rate, **·18** per 1,000.
1892	·14	
1893	·14	
1894	·15	
1895	·27	

Scarlet Fever (*continued*).

Thus the Scarlet Fever Death-rate fell from 1·13 in the first epidemic to ·59 in the second, to ·21 in the third, and to ·18 in the last.

Reduced case-mortality of Scarlet Fever.

This enormous decline in the mortality might of course be due either to a great decrease in the prevalence of the disease, or to such an alteration in its malignancy as would result in a smaller number of Deaths out of as large a number of cases as usual. As complete notification has only been in force since 1890, I have no record of the actual number of cases reported, and therefore cannot give the total case-mortality prior to that date. I have, however, obtained the number of cases and Deaths in the City Hospital in each year, and have calculated the case-mortality in that institution in each of the four epidemics. I find it to have been as follows:—

1875–78	... ...	14·6 per cent.
1879–83	... ...	10·6 "
1884–90	... ...	6·2 "
1891–95	... .	4·5 "

It appears from these figures that Scarlet Fever has for many years past assumed a less and less fatal form, and much of the decrease in its mortality is due to this fact. It would be very interesting to speculate as to how far the decreased malignancy of the disease has been brought about by improved sanitary surroundings; but what I wish now to point out is that the Death-rate has on the whole diminished to a much greater extent than the case mortality. This will be clearly seen when the figures are placed side by side.

	Average Death-rate per 1,000.	Case Mortality per cent.
1875–78	1·13	14·6
1879–83	·59	10·6
1884–90	·21	6·2
1891–95	·18	4·5

Decreased prevalence of Scarlet Fever.

Comparing the first with the last epidemic, it appears that the Death-rate has been reduced to one-sixth of its original height, while the case mortality has only fallen to one-third. It is obvious, therefore, that the fall in the case mortality only accounts for part of the reduction in the Death-rate, and the rest of the reduction must be due to a decrease in the actual number of cases, *i.e.*, to a lessened prevalence of the disease.

Effect of isolation on Scarlet Fever.

This point is an interesting one in its bearing on the influence exerted by an isolation hospital on the health of the district which uses it. It is supposed in some quarters that while the removal of Scarlet Fever patients to a hospital reduces the mortality from the disease, it does *not* diminish its prevalence. As to the first of these points I have sufficient figures at command to set it at rest at once. Since compulsory notification came in force in the City in 1890, over 10,000 cases have been treated at the City Hospital, and nearly 1,900 have been attended at home. In the hospital 4·9 per cent. of the cases died; at home the percentage was 7·2, or half as high again. If the cases which

Scarlet Fever (*continued*).

were removed to the hospital had died at the same rate as those left at home, there would have been over 230 more deaths in the six years than actually occurred; in other words, hospital treatment saved the lives of 230 Scarlet Fever patients. Or, to put the case in another way, a patient's chance of recovery was, on an average, half as great again if he went to hospital as if he stayed at home. And this, I think, is not surprising, when it is remembered that in the vast majority of homes in Birmingham it is quite impossible to treat a case of Scarlet Fever in the best manner.

I now wish to say a little about the suggestion that hospital provision does not diminish the prevalence of Scarlet Fever. Unfortunately the actual number of cases is not known for any year prior to 1890, but I have endeavoured to estimate the number of them for each of the four epidemic periods by means of the proportion of cases to deaths observed in the City Hospital. Thus in the first epidemic the case mortality in the City Hospital was 14·6 per cent., or, in other words, there were 100 cases to every 14·6 deaths. If this proportion existed outside the hospital, then the number of cases treated at home would be obtained by dividing the number of deaths at home by 14·6 and multiplying by 100. I have already pointed out, however, that the mortality amongst home treated cases in the past six years has been one and a half times as great as amongst those removed. I shall assume that this proportion held good in each of the epidemics. Then, in the first epidemic, the case mortality at home would be about 22 per cent., that in the hospital having been 14·6. There were 1,623 deaths of patients at home, and dividing this number by 22 and then multiplying by 100, it appears that these 1,623 deaths would represent 7,377 cases treated at home. Add to this 536 cases removed to hospital, and the total number of cases for the four years 1875-1878 may be estimated at 7,913, or 1,978 per annum. Making allowance for the great increase of population since then, this figure would be equal to 2,524 cases per annum in the last epidemic period, viz., 1891-1895.

I have applied this plan to the two succeeding epidemics, and find that the estimated number of cases, corrected for increase of population, was as follows:—

1875-1878	... ...	2,524 per annum.
1879-1883	... ...	1,916 „
1884-1890	.. ..	1,469 „
1891-1895	... ...	1,850 „

The figure for the last epidemic is not an estimate but an actual record. Combining the first two and the last two periods, it appears that the average annual number of cases in the nine years 1875-1883 was 2,186, and of these cases 16 per cent. were treated in the Hospital. In the twelve years 1884-1895, the proportion of cases treated in the Hospital rose from 16 to 77 per cent., and the average number of cases fell from 2,186 to 1,628. In other words, the more extensive use of the City Hospital was accompanied by a greatly decreased prevalence of Scarlet Fever.

Scarlet Fever (*continued*).

These considerations seem to prove that the provision of Hospital accommodation for Scarlet Fever patients not only greatly reduces the mortality, but also diminishes the prevalence of the disease, and, therefore, not only justifies but demands that every effort shall be made to secure the removal of the largest possible proportion of cases to the City Hospital.

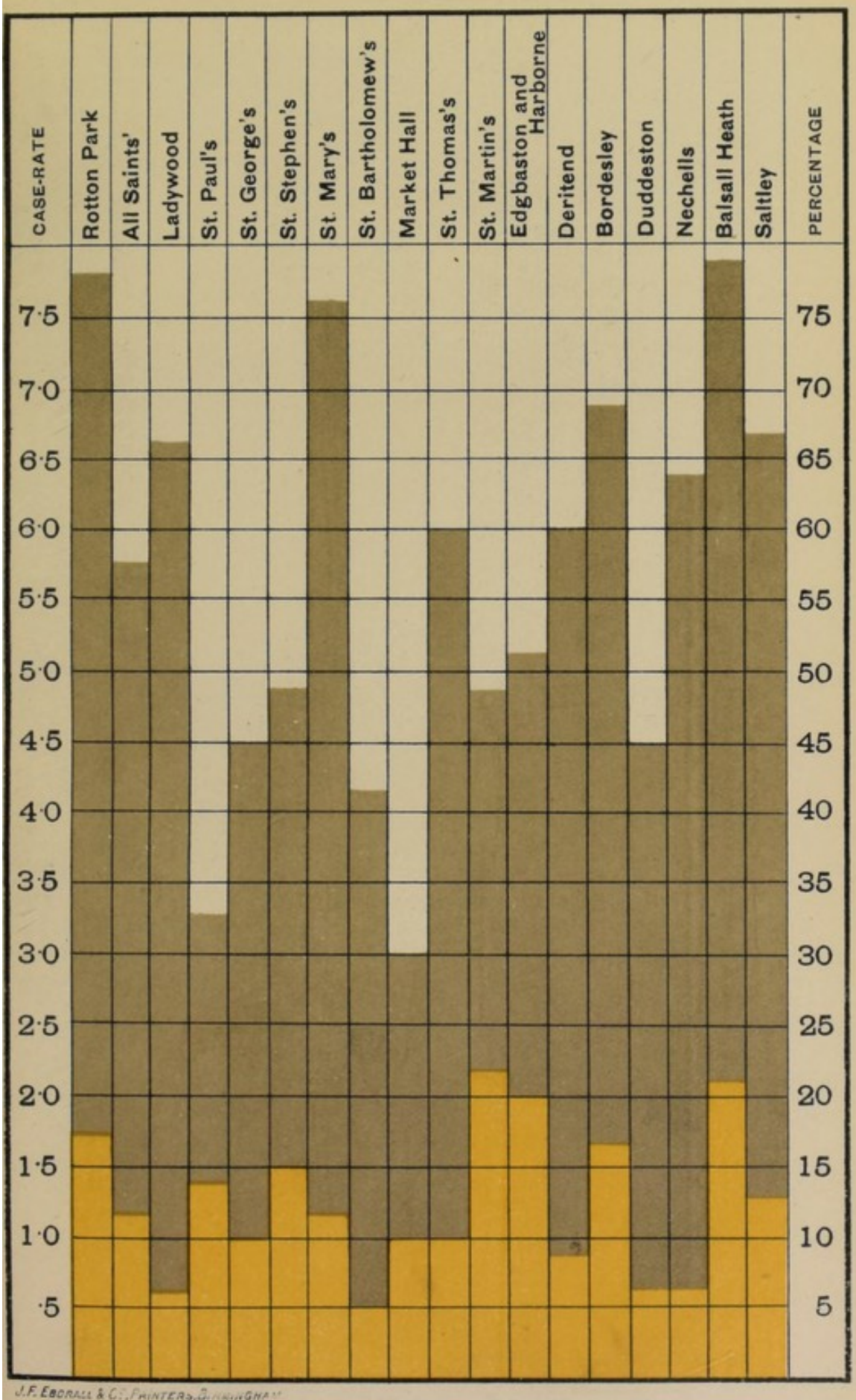
Distribution of Scarlet Fever cases.

With regard to the incidence of Scarlet Fever upon the different parts of the town, I think the chart on the opposite page will be found of interest. The colouring of the upper part of the diagram shows the relative prevalence of the disease in each ward. It will be seen that Balsall Heath had the greatest number of cases in proportion to its population, followed very closely indeed by Rotton Park and St. Mary's. In fact these three wards may be said to have suffered equally in regard to Scarlet Fever. They have not much in common. They are widely separated from each other, one being on the extreme south, one on the west, and the third almost on the extreme north of the town. They are populated by quite different classes of people, those living in St. Mary's being much poorer than those in Rotton Park and Balsall Heath. There is also a great difference in their general healthiness, for St. Mary's has a Death-rate nearly half as high again as the other two wards. And they cannot be considered to have suffered from proximity to the City Hospital, for although Rotton Park lies very near to that institution, St. Mary's is considerably over a mile away from it, and Balsall Heath is more than two miles distant. Moreover, in All Saints', the ward in which the Hospital is situated, the case-rate from Scarlet Fever was only 5·8 per 1,000, while it was 7·9 in Balsall Heath, 7·8 in Rotton Park, 7·6 in St. Mary's, 6·9 in Bordesley, 6·7 in Saltley, 6·6 in Ladywood, 6·4 in Nechells, 6·0 in Deritend, and 6·0 in St. Thomas's. All these nine wards, scattered as they are all over the City, had more Scarlet Fever cases in them than the ward in which the Hospital is placed, a clear proof that the Institution does not spread Scarlet Fever in its vicinity.

The Scarlet Fever case-rates in the different Wards were as follows :—

Rotton Park	7·8
All Saints'	5·8
Ladywood	6·6
St. Paul's	3·3
St. George's	4·5
St. Stephen's	4·9
St. Mary's	7·6
St. Bartholomew's	4·2
Market Hall	3·0
St. Thomas's	6·0
St. Martin's	4·9
Edgbaston and Harborne	5·2
Deritend	6·0
Bordesley	6·9
Duddeston	4·5
Nechells	6·4
Balsall Heath...	7·9
Saltley	6·7
Whole City	6·0

SCARLET FEVER IN 1895.



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Case-rate per 1000 persons living

Percentage of cases treated at home to Total cases

Scarlet Fever (*continued*).

Removal of Scarlet Fever cases to Hospital.

The lower part of the chart is coloured to show the percentage of cases left at home in each ward. It is interesting to notice that the wards which treat the largest number of cases at home are St. Martin's (which now includes the whole of the district between Bristol Road and the River Rea), Balsall Heath, Edgbaston and Harborne, Bordesley, and Rotton Park. This, I think, is as it should be, for these are the wards in which isolation at home is most practicable, owing to the better house accommodation existing in them. The diagram does not seem to show at all clearly that any excessive prevalence occurs in wards where a large number of cases are treated at home, though it is true that Balsall Heath and Rotton Park, the two wards in which Scarlet Fever was most prevalent, were also amongst the wards in which the largest number of patients remained at home. On the other hand, St. Martin's and Edgbaston and Harborne had but a comparatively slight prevalence of Scarlet Fever, though a large number of cases were kept at home. But, of course, in these two wards, and more especially in that of Edgbaston and Harborne, very special steps could and would be taken to prevent the spread of infection, and I think that, on the whole, the prevalence of the disease in wards of the same class appears to have been greater where a large number of patients were treated at home than elsewhere.

In the whole City less than 15 per cent. of the cases were treated at home, thus leaving 85 per cent. admitted into Hospital, a proportion which, I believe, is exceeded in very few if any towns, and is not equalled in many.

Scarlet Fever at various ages.

The question of the mortality at different ages is one of interest, there being a popular idea that Scarlet Fever is less fatal amongst young patients than amongst those who are older. A result of this impression is that many parents think it is best for children to have the disease early and "get it over," and they accordingly take no means to prevent its spread, and in some instances they rather encourage it. As a fact Scarlet Fever is much more dangerous in the first years of life than in the periods of youth and adolescence, or any subsequent period, so that the longer an attack is postponed the greater the chance of recovery and the saving of life. Almost the whole of the cases last year, 2,864 out of 2,964, occurred in persons between 1 and 25 years old. The mortality amongst them was as follows :—

	Cases.	Deaths.
1—5 years	937 ...	94 or 10·0 per cent.
5—15 „	1,664 ...	26 or 1·6 „
15—25 „	263 ...	6 or 2·3 „

It thus appears that Scarlet Fever is five or six times as fatal to children between 1 and 5 years old as it is to persons of more mature years. I would therefore urge all who have charge of children to take every precaution to prevent their being exposed to the Scarlet Fever infection, inasmuch as even if they do

Scarlet Fever (*continued*).

eventually contract the disease, the older they are the better will be their chance of recovery. Amongst infants under one year old there were only 38 cases last year, a figure too small to draw reliable conclusions from; but 5 deaths occurred at this age-period, giving a mortality of 13·2 per cent.

Map.

The Scarlet Fever deaths are marked on a map at the end of the Report.

Diphtheria.

Diphtheria deaths.

Perhaps the most interesting feature in the year's statistics is the extraordinary and unaccountable increase in the prevalence and mortality of Diphtheria. The Deaths rose from an average of 58 in the previous 9 years to no less than 163, equal to a rate of ·33 per 1,000. For the next highest Death-rate from this disease I have to look back to 1873, the first year of my appointment, and even then it was only ·31 per 1,000. Ever since 1873 Diphtheria had been on the decline, in which respect Birmingham occupied an exceptional position among the large towns; so that one began to hope that in a few years the disease would disappear altogether. The astounding increase observed last year will be clearly seen by glancing at the Chart on the opposite page. With the exception of 1873, 1874, and 1878 no year has had a Death-rate from Diphtheria at all approaching that of 1895. And a curious feature about the increase is the suddenness with which it occurred, 1893 and 1894 being two of the best years on record in regard to this disease, while 1895 proved to be the very worst.

Diphtheria death-rate.

Diphtheria cases.

The notified cases did not show quite so large an increase as the Deaths. They numbered 640 against 316, 322, and 456 in 1894, 1893, and 1892, while the Deaths amounted to 163, against 50, 43, and 67. The Deaths were therefore three times as numerous as in the previous three years, while the cases were less than twice as numerous; so that the disease last year must have been not only more prevalent but of a more severe type.

Origin and spread of Diphtheria.

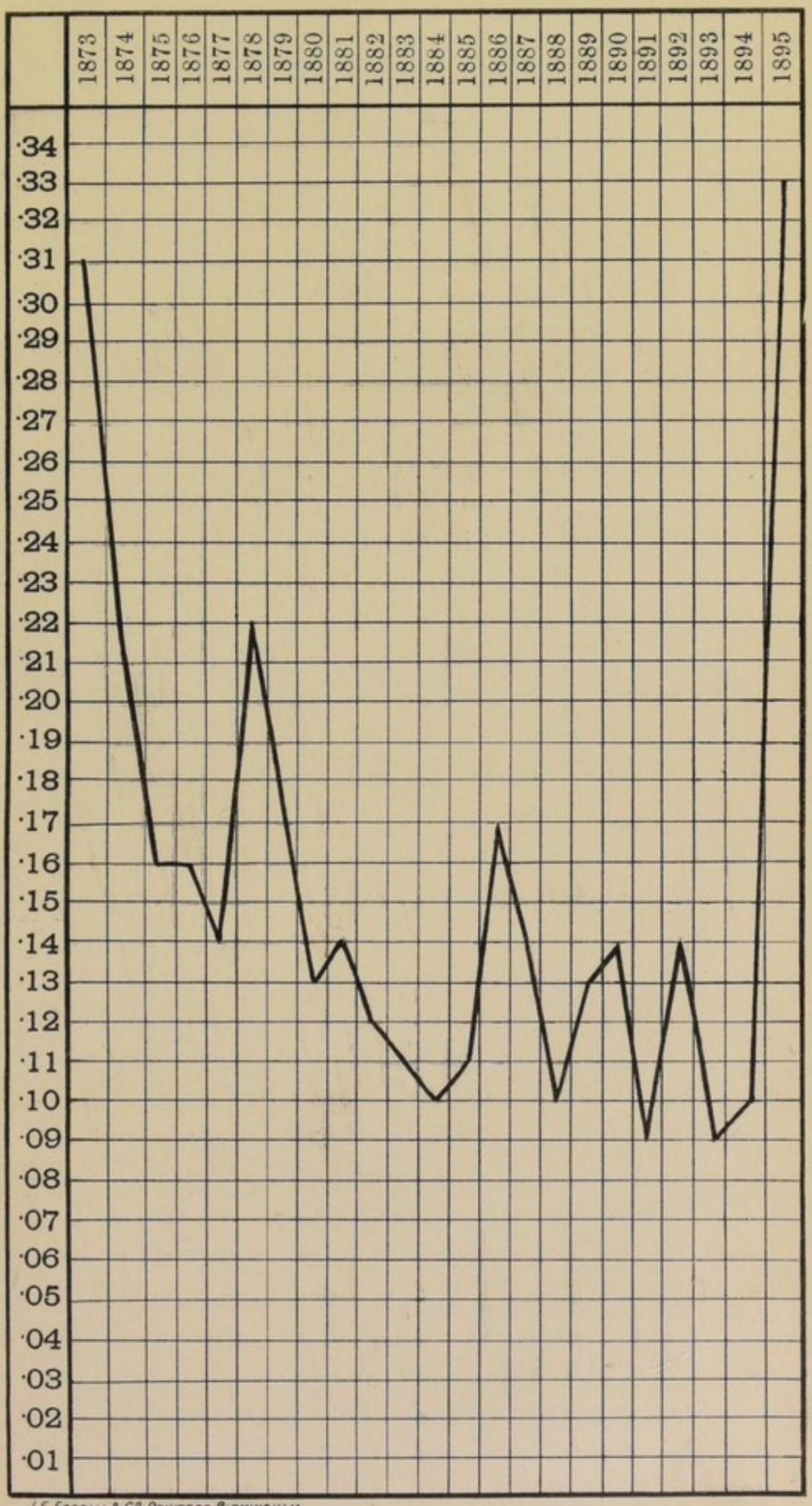
The question of the origin and spread of Diphtheria is as full of mystery as it is of interest and importance. For many years some of our ablest sanitarians have been diligently studying it, but at present without any very marked results. I should like, however, to point out certain facts connected with it, which may be of interest.

Diphtheria and insanitary conditions.

In the first place the present outbreak cannot be supposed to be directly due to any extension or intensification of the insanitary conditions existing in the town. I do not, of course, mean to imply that defective sanitation may not be a predisposing cause of the disease. I firmly believe that it is so. But the sanitary state of Birmingham was practically the same in 1895 as in 1894, 1893, and 1892, yet the Diphtheria Death-rate

DEATH RATES FROM DIPHTHERIA

PER 1000 PERSONS LIVING.



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was three times as high. It is clear, therefore, that sanitary defects could not have been the immediate cause of last year's sudden outbreak, and this conclusion is strengthened by a consideration of the prevalence of Diphtheria in the past. In England and Wales the Diphtheria Death-rates have been as follows :— Diphtheria (*continued*).

3 years,	1858–60	·372	per 1,000
5 "	1861–65	·248	"
5 "	1866–70	·127	"
5 "	1871–75	·121	"
5 "	1876–80	·122	"
5 "	1881–85	·156	"
5 "	1886–90	·170	"
4 "	1891–94	·251	"

I think there can be no question that the sanitary condition of England and Wales is better at the present time than at any other period since 1860 : yet the Death-rate from Diphtheria is higher than at any time since that date. Moreover, it is to be noted that the towns most affected by this disease are many of them very healthy in other respects. West Ham, which is now the seventh largest town in England, is a striking example of this, having had last year a Diphtheria Death-rate of ·77 per 1,000, against ·35 in the thirty-three large towns, while its general Death-rate was only 17·9 against 20·7. London, too, which on the whole has a very good Death-rate, suffers heavily from Diphtheria. It seems, therefore, that there is no very close connection between known insanitary conditions and endemic Diphtheria.

There is a common idea that Diphtheria is more prevalent in better class houses than in inferior ones. In order to test this notion I have tabulated the houses which were invaded by the disease last year, and find that 195 out of 517 consisted of 5 rooms and upwards. So far as I can learn from the census returns, there were in 1891 about 41,000 houses in Birmingham containing 5 rooms or more, out of a total of 95,000. Thus Diphtheria occurred at one out of 170 of the smaller houses, while only one out of 210 of the larger houses was invaded, the larger houses thus suffering considerably less than the smaller ones. Diphtheria and house accommodation

I have also enquired into the incidence of the disease upon houses using respectively ashpit privies, pans, and water-closets. I find that out of 517 houses invaded, 71 had ashpit privies, 247 pan privies, and 205 water-closets, six of the latter having either a pan or ashpit privy as well. I do not know the exact number of houses using each kind of closet, but judging from the actual number of pans and water-closets in existence, I should think that about as many use the one as the other. If this be so, there were rather more cases amongst houses provided with pan privies than amongst those using water-closets. And I Diphtheria and closet accommodation.

Diphtheria (*continued*).

find that a secondary case occurred at one out of 11 of the houses having pan closets, and only one out of 29 of the houses using water-closets. These facts appear to show that pan closets favour the introduction of the Diphtheria virus a little, and when it is once introduced, facilitate its spread in a marked degree.

Diphtheria and school attendance.

I have endeavoured to discover how far the bringing together of a large number of children in schools affects the spread of Diphtheria. Of the 517 houses invaded, there were 163 in which no children attended school, and 168 others in which the patient did not attend school, though other children from the house did so. I do not see how any school influence can be made out in these cases. This leaves 186 patients, who themselves were in attendance at school, out of a total of 517. But these 186 cases occurred in children attending no less than 74 schools, giving on an average a little more than two cases per school per annum ; and in only 41 instances had there been a previous case at school within a fortnight. These 41 cases out of 517 may possibly have contracted the disease at school ; I do not see the least probability that any of the others did so. I think it must be admitted then that schools have very little to do with the spread of Diphtheria so long as proper precautions are taken to keep away all children from infected houses, as is done in Birmingham.

Diphtheria and Harborne Board School.

But while this is so as a general rule, there can be no doubt that occasionally a school does become a centre of infection. This was well illustrated last year at Harborne. There had been very little Diphtheria there until October 9th, when the case of a child attending the Board School was notified to me. At intervals varying from one to thirteen days, as many as ten other cases occurred at the school in less than six weeks, and the patients all being very young children, they would of course be closely associated at school. Moreover, between October 9th and November 29th, there were altogether 18 cases of Diphtheria and Croup at Harborne. Of these 18 patients, 13 attended the school, and four out of the remaining five lived with children who went there ; so that only one case occurred in the district which did not connect itself either directly or indirectly with the school. From enquiries made, I learned that about nine years before there had been an outbreak of Diphtheria at the same school, and the drainage had been re-arranged. The old drain was disconnected from the sewer, but was not taken out at that time. About the 16th of October this old drain was taken up, when it was found to be full of dry solid matter. This, however, was a week after the first case occurred at the school, so that it does not seem to have originated the outbreak, though perhaps it had some influence on the spread of infection among the scholars. At my request the school buildings were fumigated. During the next month only two cases occurred at Harborne, and neither of these was in any way connected with the school.

To show the distribution of the cases over the City, I have calculated the attack-rate for each ward, which is as follows:— Diphtheria in wards.

Rotton Park	1·5	per 1000
All Saints'	3·8	„
Ladywood	1·9	„
St. Paul's	1·8	„
St. George's	1·1	„
St. Stephen's	1·0	„
St. Mary's	1·5	„
St. Bartholomew's	0·8	„
Market Hall	0·7	„
St. Thomas's	0·9	„
St. Martin's	0·7	„
Edgbaston and Harborne	1·6	„
Deritend	0·5	„
Bordesley	0·5	„
Duddeston	0·9	„
Nechells	0·9	„
Balsall Heath	0·7	„
Saltley	1·4	„
Whole City	1·3	„

It will be seen that one ward, that of All Saints', has suffered pre-eminently from Diphtheria, its case-rate being more than twice as high as any other. Next in order come Ladywood, St. Paul's, Edgbaston and Harborne, St. Mary's, Rotton Park, and Saltley, all having rates above that for the whole City. It has sometimes been supposed that the more elevated parts of the City suffer more severely from Diphtheria than the rest. With a view to ascertaining the correctness or otherwise of this idea, I have obtained from Mr. Till, the City Surveyor, the height in feet of the highest and lowest point in each ward. This information I now give, side by side with the corresponding case-rates from Diphtheria. Diphtheria and elevation.

	Highest point.	Lowest point.	Mean of Highest and Lowest.	Diphtheria Case-rate.
Edgbaston and Harborne	675	385	530	1·6
Rotton Park	616	417	516	1·5
Ladywood	506	424	465	1·9
St. Thomas's	504	392	448	0·9
St. Paul's	463	393	428	1·8
All Saints'	473	369	421	3·8
Market Hall	465	355	410	0·7
St. George's	434	362	398	1·1
St. Mary's	432	356	394	1·5
Balsall Heath	439	348	393	0·7
Bordesley	435	336	385	0·5
Deritend	427	341	384	0·5
St. Stephen's	419	340	379	1·0
St. Martin's	403	339	371	0·7
St. Bartholomew's	405	330	367	0·8
Saltley	438	281	359	1·4
Duddeston	394	310	352	0·9
Nechells	378	293	335	0·9

I have arranged the wards in order of elevation from the highest to the lowest. The table shows that there is no definite relation between elevation and the prevalence of Diphtheria. The ward which suffered most of all from the disease was All Saints', and yet there are no less than five other wards which occupy a higher position than this one does. On the

Diphtheria (*continued*).

other hand, the most satisfactory case-rates were in Bordesley and Deritend, which are by no means the lowest wards in the town. Again, the highest point in the City is in Edgbaston and Harborne Ward, and the lowest is in Saltley; yet these two wards had almost identical case-rates from Diphtheria. And this want of constant relationship between Diphtheria prevalence and elevation does not appear to have been peculiar to the year under notice, for I find that in 1894 the highest number of cases occurred in All Saints', Ladywood, and St. Paul's, which are fairly high wards; while in 1893 the greatest prevalence was in St. George's Registration Sub-district, embracing St. George's, St. Stephen's, and St. Mary's, which are rather low wards.

Map.

The Deaths from Diphtheria are indicated on the map at the end of my report.

Membranous Croup.

The cases of Membranous Croup numbered 101, against 90, 65, and 77 in the three previous years.

Whooping Cough.

Whooping Cough.

Whooping Cough caused 173 Deaths, against an average of 267 in the previous nine years. This disease, to which all too little attention is paid, causes more deaths than either Smallpox, Scarlet Fever, Diphtheria, Typhoid Fever, or Measles. On an average it is responsible for more than one-fifth of the whole zymotic mortality.

Fever.

Fever deaths.

The Deaths from Fever numbered 84, of which 82 were attributed to Typhoid and 2 were due to Simple Continued Fever. The average number in the nine preceding years was 75.

Fever death-rate.

The Deaths were at the rate ·17 per 1,000. It will be seen from the figures below that this Death-rate was lower than in 1893 or 1894, but a little higher than in most other recent years. In the earlier years in my records the Death-rate from Fever invariably exceeded ·50 per 1,000.

Death-rate from Fever per 1,000 Persons Living.

1886	1887	1888	1889	1890	1891	1892	1893	1894	1895
·15	·18	·15	·10	·14	·17	·08	·21	·22	·17

Typhoid Fever cases.

The cases of Typhoid Fever numbered 436, against 511, 489, and 260 in 1894, 1893, and 1892. They were distributed over the wards of the city as shown below:—

Rotton Park	0·9	per 1000
All Saints'	0·7	"
Ladywood	1·1	"
St. Paul's	1·5	"
St. George's	0·7	"
St. Stephen's	0·7	"
St. Mary's	0·5	"
St. Bartholomew's	0·9	"
Market Hall	0·9	"
St. Thomas's	1·2	"
St. Martin's	1·3	"
Edgbaston and Harborne	0·3	"
Deritend	1·6	"
Bordesley	0·4	"
Duddeston	0·8	"
Nechells	0·8	"
Balsall Heath	0·9	"
Saltley	1·1	"

Typhoid Fever (*continued*).

The disease appears to have been most prevalent in Deritend, followed in order by St. Paul's, St. Martin's, St. Thomas's, Ladywood, and Saltley. The smallest case-rates recorded were in Edgbaston and Harborne, Bordesley, and St. Mary's. The distribution of this particular disease does not point to high levels as being an important element in its production or spread, but on the contrary, seems to show that its favourite localities are the lower parts of the city, and especially those bordering the river.

Map.

The Deaths from Typhoid Fever are indicated on the map at the end of the report.

Simple Continued Fever cases.

Four cases of Simple Continued Fever were reported during the year. There was no case of Typhus or of Relapsing Fever.

Puerperal Fever.

Puerperal Fever.

Twenty-four cases were reported to me as Puerperal Fever, and 15 deaths were registered from this cause.

Erysipelas.

Erysipelas.

The cases of Erysipelas numbered 818, against 772, 852, and 569 in 1894, 1893, and 1892. There were 22 deaths from this disease, which rarely proves fatal.

Diarrhœa.

Diarrhœa.

The Deaths certified from Diarrhœa, including those attributed to Simple Cholera, amounted to 605, against an average of 498 in the previous nine years. The greater part of the Diarrhœal mortality occurs in the third or summer quarter of the year, as will be seen from the following figures:—

NUMBER OF DEATHS FROM DIARRHŒA.

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Year.
1891	39	34	177	90	340
1892	45	49	292	57	443
1893	39	115	596	78	828
1894	34	38	114	70	256
1895	39	39	410	117	605
Average 1891–5	39	55	318	82	494

It appears that the increased mortality from Diarrhœa occurred in the latter half of the year, most of it being in the third quarter. This is curious, because it is generally found that Diarrhœa becomes very prevalent in hot, dry weather, whereas the weather during the greater part of last summer was cool and wet. It is true that September had a very high average temperature, but strange to say the Diarrhœal mortality in this month was much smaller than in July and August. Taking the

Diarrhœa (*continued*).

last twelve weeks of the summer quarter and dividing them into two periods of six weeks each, I obtain the following figures :—

	Deaths from Diarrhœa.	Mean Temp. of the air.	Ground Temp. 4ft. deep.	Total Rainfall.	Days on which rain fell.
Six weeks ending Aug. 17th ...	227	58·5	53·2	4·52in.	30
Six weeks ending Sept. 28th ...	167	60·0	55·0	0·87in.	13

In the first six weeks the temperature of the air and of the ground was low, the rainfall was excessive, and yet there were 227 deaths from Diarrhœa. In the next six weeks the temperature both of the air and the ground was much higher, the rainfall was extremely small, so was the number of wet days; in other words there appeared to be every atmospheric condition present that might be expected to result in a heavier Diarrhœal mortality, yet the deaths from Diarrhœa numbered only 167, as compared with 227 in the previous six weeks. Dr. Ballard in his exhaustive inquiry into the prevalence of Diarrhœa came to the conclusion that the disease did not become seriously prevalent till after the ground temperature four feet from the surface had reached 56°. But last year this temperature was not reached on a single occasion. In every respect, therefore, Diarrhœa appears to have shown itself capable of causing a very heavy mortality under meteorological conditions quite opposite to those which are supposed to govern both its prevalence and its fatality.

A very curious feature in the mortality returns is the large number of deaths last year from Enteritis, a disease very closely allied to Diarrhœa. It had no less than 282 Deaths set down to it, against an average of 151 in the three previous years. This is a much higher mortality than in any other recent year. Like Diarrhœa, the Deaths were almost confined to young children, 203 being in infants under one year old.

Disease Map.

Disease Map.

I have appended to my report a Map of the City, on which the Deaths from Scarlet Fever, Measles, Diphtheria, and Typhoid Fever are indicated by spots and crosses placed upon the streets in which the patients resided. The only feature in the map to which I wish to call attention is the large number of Deaths from Diphtheria in what is known as the Brookfields, that is, the district lying between Icknield Street and the Birmingham Workhouse. If the number of Deaths can be taken as a guide, it would appear that this part of All Saints' Ward suffered far more from Diphtheria than the rest.

Certification of Causes of Death.

Certification of Causes of Death.

According to the figures given in the Returns published by the Registrar General, over 92 per cent. of the deaths in Birmingham were registered on certificates of qualified Medical Practitioners. In the 33 large towns the percentage was 91. Inquests were held respecting 3·2 per cent. of the deaths, and the remaining 4·8 per cent. were uncertified.

The following table shows the Death-rates from all causes, and from Smallpox, Scarlet Fever, Diphtheria, and Fever in Birmingham and in the other thirty-two large towns. Mortality in 33 large towns.

	Death-rate per 1,000 from				
	All Causes.	Smallpox.	Scarlet Fever.	Diphtheria.	Fever.
33 large Towns	20·7	0.01	0·18	0·35	0·20
London... ...	19·8	0·01	0·19	0·53	0·14
West Ham ...	17·9	0·04	0·18	0·77	0·26
Croydon ...	14·5	—	0·04	0·19	0·12
Brighton ...	18·9	—	0·04	0·15	0·12
Portsmouth ...	17·8	—	0·04	0·11	0·20
Plymouth ...	20·1	—	0·02	0·11	0·08
Bristol	18·1	—	0·07	0·15	0·09
Cardiff	18·2	—	0·05	0·36	0·10
Swansea ...	18·3	—	0·05	0·12	0·21
Wolverhampton	24·4	—	0·39	0·98	0·20
Birmingham	**19·9**	**0·02**	**0·27**	**0·33**	**0·17**
Norwich ...	19·3	—	0·09	0·18	0·24
Leicester ...	17·2	—	0·08	0·18	0·20
Nottingham ...	19·0	—	0·23	0·04	0·24
Derby	16·7	0·08	0·08	0·06	0·18
Birkenhead ...	19·5	—	0·15	0·42	0·39
Liverpool ...	28·8	0·03	0·29	0·24	0·37
Bolton	24·0	0·01	0·19	0·13	0·45
Manchester ...	25·2	0·00	0·32	0·21	0·19
Salford... ...	25·6	—	0·47	0·30	0·42
Oldham ...	22·0	0·16	0·11	0·18	0·18
Burnley ...	23·4	—	0·22	0·43	0·30
Blackburn ...	24·3	—	0·06	0·07	0·23
Preston.. ...	23·9	0·01	0·04	0·03	0·20
Huddersfield ...	16·9	—	0·19	0·15	0·06
Halifax... ...	19·3	—	0·05	0·15	0·17
Bradford ...	19·9	—	0·11	0·09	0·18
Leeds	20·5	—	0·13	0·16	0·21
Sheffield ...	20·5	—	0·10	0·15	0·28
Hull	20·8	—	0·18	0·17	0·22
Sunderland ...	21·8	—	0·08	0·06	0·96
Gateshead ...	19·6	—	0·15	0·20	0·16
Newcastle ...	20·5	—	0·11	0·25	0·23

Fifteen of the towns mentioned in the above table had a higher general death-rate than was recorded in Birmingham. Very few of them suffered at all seriously from Smallpox, Oldham being the only town with a death-rate exceeding 0·1 per 1,000. With regard to Scarlet Fever, Birmingham had rather a bad position amongst the great towns, only four of which had a heavier mortality from this disease. Only six towns had a higher Diphtheria death-rate than this City, but no less than twenty-three had a greater mortality from Fever, including Typhus, Typhoid, and Simple Continued. Except in the case of Birmingham, the figures in the table are taken from the Registrar General's Annual Summary.

TABLE OF DEATHS REGISTERED IN THE CITY OF BIRMINGHAM DURING THE YEAR ENDING DECEMBER 28TH, 1895.

1895.	AGES.							WARDS.																				Institutions.	City.
	0—1	1—5	5—15	15—25	25—45	45—65	65 and up.	Rotton Park.	All Saints'.	Ladywood.	St. Paul's.	St. George's.	St. Stephen's	St. Mary's.	St. Bartholomew's.	Market Hall	St. Thomas's	St. Martin's.	Edgbaston & Harborne.	Deritend.	Bordesley.	Duddeston.	Nechells.	BalsallHeath	Saltley.		
ALL CAUSES	2,910	1,398	391	386	1,287	1,863	1,628	614	685	430	256	408	517	311	549	218	345	424	381	496	609	483	572	522	387	1656	9,863
I.—Specific Febrile or Zymotic Diseases.																											
1.—MIASMATIC DISEASES.																											
Small-pox	1	..	..	3	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	8
Measles	22	97	13	1	..	..	..	12	24	20	3	4	1	2	5	1	2	2	13	6	8	4	4	12	7	3	133
Scarlet Fever	5	94	26	6	2	..	..	5	4	2	..	..	..	1	1	..	1	..	1	1	1	1	1	2	3	109	133
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough	64	100	9	..	..	..	..	10	13	6	2	12	14	11	9	3	13	8	7	7	3	17	20	12	2	4	173
Diphtheria	8	97	52	3	1	2	..	12	34	8	5	3	6	2	5	1	3	4	11	1	3	5	3	2	4	51	163
Membranous Croup	3	40	8	..	..	..	..	5	6	2	3	3	4	2	1	..	1	1	1	2	3	2	3	2	4	6	51
Simple Continued, or Ill-defined Fever	..	1	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	2
Enteric or Typhoid Fever	..	5	19	30	20	8	..	7	6	4	1	3	2	3	2	2	2	6	2	5	3	3	3	7	..	21	82
Influenza	6	8	3	5	25	35	39	6	25	7	3	6	1	3	9	1	4	5	5	6	13	7	3	4	8	5	121
Other Miasmatic Diseases	2	8	..	1	..	..	..	1	2	..	..	1	..	1	1	1	1	1	1	..	..	..	..	..	..	1	11
2.—DIARRHŒAL DISEASES.																											
Simple Cholera	5	4	1	..	..	2	1	..	..	2	..	..	1	2	2	..	..	..	..	..	..	4	2	..	..	..	13
Diarrhœa, Dysentery	434	113	1	1	9	10	24	39	38	20	15	39	45	25	55	17	31	41	16	36	28	48	48	21	20	10	592
3.—MALARIAL DISEASES.																											
Remittent Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4.—ZOOGENOUS DISEASES																											
Cowpox and effects of Vaccination	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases (*e.g.*, Hydrophobia, Glanders, Splenic Fever)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5.—VENEREAL DISEASES.																											
Syphilis	31	2	..	..	1	4	..	4	5	1	1	..	1	..	3	1	..	2	1	4	1	2	1	..	1	10	38
Gonorrhœa, Stricture of Urethra	..	..	..	..	1	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	7
6.—SEPTIC DISEASES.																											
Erysipelas	14	..	..	..	2	4	2	2	1	3	1	2	..	..	1	..	1	..	1	..	2	2	..	1	2	3	22
Pyæmia, Septicæmia	1	..	1	1	4	1	2	..	..	1	..	..	..	..	..	..	1	..	..	..	..	1	..	1	..	6	10
Puerperal Fever	..	..	..	4	11	..	..	..	2	..	..	..	2	..	..	1	1	..	2	2	2	1	1	1	..	..	15
II.—Parasitic Diseases.																											
Thrush, and other Vegetable Parasitic Diseases	8	..	..	..	..	..	..	3	..	1	..	1	1	..	..	..	..	..	2	..	..	..	..	..	..	..	8
Worms, Hydatids, and other Animal Parasitic Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*	*l*	*m*	*n*	*o*	*p*	*q*	*r*	*s*	*t*	*u*	*v*	*w*	*x*	*y*	*z*	*

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	*
III.—Dietic Diseases.																											
Want of Breast Milk, Starvation	12	2	..	..	..	1	..	..	..	1	..	..	1	..	1	..	..	2	1	3	1	..	1	1	2	1	15
Scurvy	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chronic Alcoholism, Delirium Tremens	..	..	..	..	10	22	..	..	2	1	1	..	..	1	2	2	2	2	4	2	..	1	4	1	..	7	32
IV.—Constitutional Diseases.																											
Rheumatic Fever, Rheumatism of the Heart	..	..	7	10	11	8	1	9	2	2	2	2	1	..	..	1	1	1	2	..	2	1	3	1	2	5	37
Rheumatism	..	1	1	..	2	9	11	1	..	1	3	3	..	..	1	1	..	3	1	1	..	..	1	..	1	7	24
Gout	..	..	..	..	1	5	3	2	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	2	1	1	9
Rickets	15	22	1	..	..	..	..	1	6	..	1	3	..	1	1	..	..	2	1	3	4	2	3	5	1	4	38
Cancer, Malignant Disease	..	..	1	2	54	190	85	22	23	23	7	13	9	8	12	7	4	15	22	16	21	17	13	18	11	71	332
Tabes Mesenterica	39	22	5	..	..	..	..	10	3	9	..	6	2	..	3	1	1	1	1	1	9	2	11	1	4	1	66
Tubercular Meningitis, Acute Hydrocephalus	28	50	13	3	..	..	..	10	6	4	5	5	5	2	1	3	5	4	1	2	14	3	11	6	2	5	94
Phthisis	5	10	16	102	378	179	28	43	37	24	14	22	33	26	30	18	21	29	20	35	53	37	39	37	21	179	718
Other forms of Tuberculosis, Scrofula	31	40	13	8	17	11	7	13	7	3	2	2	2	1	3	3	8	5	3	9	4	5	9	7	3	38	127
Purpura, Hæmorrhagic Diathesis	..	..	2	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	3	4
Anæmia, Chlorosis, Leucocythœmia	1	2	..	7	8	1	2	3	..	1	..	..	2	..	..	..	..	2	1	..	2	..	..	2	..	8	21
Glycosuria, Diabetes Mellitus	..	..	..	4	9	11	8	3	1	2	2	..	1	1	2	1	2	1	3	..	..	..	3	3	1	6	32
Other Constitutional Diseases	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
V.—Developmental Diseases.																											
Premature Birth	375	1	..	..	..	..	..	37	31	22	12	11	21	10	27	10	10	15	14	25	39	19	22	34	13	4	376
Atelectasis	20	..	..	..	..	..	..	1	1	1	..	1	3	..	2	..	..	..	..	1	3	2	2	2	..	1	20
Congenital Malformations	30	2	..	2	..	..	..	1	1	2	1	..	3	..	2	..	1	1	2	1	3	2	..	4	3	7	34
Old Age	..	..	..	..	..	27	483	33	24	14	12	15	17	14	24	5	19	16	30	27	30	17	20	19	23	151	510
VI.—Local Diseases.																											
1.—Diseases of Nervous System.																											
Inflammation of Brain or Membranes	73	56	13	4	13	19	5	10	13	12	3	5	11	8	18	4	5	7	4	8	10	9	9	12	6	29	183
Apoplexy, Softening of Brain, Hemiplegia, Brain Paralysis	2	1	..	..	23	125	145	17	18	13	3	12	13	12	17	5	9	12	10	19	23	20	20	25	10	38	296
Insanity, General Paralysis of the Insane	..	..	1	2	25	19	5	2	2	..	..	1	..	1	..	..	..	..	3	..	2	..	..	.	1	40	52
Epilepsy	..	..	3	10	15	8	2	..	..	6	..	3	2	..	2	1	..	2	..	2	2	2	2	2	1	11	38
Convulsions	198	41	2	..	..	..	..	16	18	11	9	15	16	11	19	7	3	11	12	17	16	17	18	12	9	4	241
Laryngismus Stridulus (Spasm of Glottis)	11	5	1	..	..	..	..	2	..	..	..	..	..	..	..	2	3	..	3	2	1	..	3	..	1	..	17
Disease of Spinal Cord, Paraplegia, Paralysis Agitans	2	1	1	..	11	16	9	1	2	1	2	6	1	2	2	2	1	..	2	..	1	..	2	1	4	10	40
Other Diseases of Nervous System	13	8	9	5	9	14	6	3	2	2	2	3	2	1	4	1	3	1	3	4	7	1	2	3	3	17	64
2.—Diseases of Organs of Special Sense. (*e.g.*, of Ear, Eye, and Nose).	2	6	8	5	5	..	..	1	..	..	1	2	..	1	1	1	..	..	1	1	2	..	..	1	2	12	26
3.—Diseases of Circulatory System.																											
Pericarditis	..	1	2	1	1	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	1	2	6
Acute Endocarditis	..	..	3	3	4	2	..	1	..	..	..	..	1	..	1	..	..	..	1	1	..	..	.	..	..	7	12
Valvular Diseases of Heart	1	..	4	13	33	42	38	8	11	9	3	5	4	3	2	4	3	5	3	4	13	7	5	6	4	32	131
Other Diseases of Heart	12	3	13	21	80	194	141	26	35	21	14	21	20	12	44	20	23	16	23	19	33	20	28	27	23	39	464
Aneurism	..	..	..	..	9	12	1	..	1	..	..	..	1	2	1	..	..	1	1	..	1	..	1	..	..	13	22
Embolism, Thrombosis	..	..	1	..	5	3	3	2	..	..	..	..	..	..	3	..	..	..	1	..	1	1	..	1	..	3	12
Other Diseases of Blood Vessels	..	..	..	..	3	2	6	1	1	..	..	..	1	..	..	..	..	1	1	..	..	..	..	..	2	4	11

TABLE OF DEATHS REGISTERED IN THE CITY OF BIRMINGHAM DURING THE YEAR ENDING DECEMBER 28TH, 1895—(*continued*).

1895.	AGES.							WARDS.																			Institutions.	City.
	0—1	1—5	5—15	15—25	25—45	45—65	65 and up.	Rotton Park.	All Saints'.	Ladywood.	St. Paul's.	St. George's.	St. Stephen's.	St. Mary's.	St. Bartholomew's.	Market Hall.	St. Thomas's.	St. Martin's.	Edgbaston & Harborne.	Deritend.	Bordesley.	Duddeston.	Nechells	Balsall Heath	Saltley.		
Local Diseases—*continued.*																												
4.—DISEASES OF RESPIRATORY SYSTEM.																												
Laryngitis	6	11	8	..	1	..	1	2	3	1	3	2	..	1	2	..	..	1	3	..	3	1	..	2	2	1	27	
Croup	1	4	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	3	..	..	..	1	5	
Emphysema, Asthma	..	1	..	..	5	14	12	1	5	1	1	5	3	..	3	1	2	..	..	..	1	1	2	2	..	4	32	
Bronchitis	235	132	9	10	87	361	319	47	74	40	37	71	83	54	68	35	54	53	33	81	76	55	73	62	51	106	1153	
Pneumonia	113	145	25	25	102	121	53	37	39	28	14	16	35	12	30	11	23	26	15	35	40	33	31	37	33	89	584	
Pleurisy	1	7	..	4	10	8	3	2	2	..	2	..	2	1	1	1	..	..	1	..	1	..	..	4	1	15	33	
Other Diseases of Respiratory System	15	17	1	1	25	27	13	5	12	4	3	5	2	2	4	4	8	6	5	3	4	8	3	5	8	8	99	
5.—DISEASES OF DIGESTIVE SYSTEM.																												
Dentition	53	27	..	..	..	..	..	6	7	4	1	4	8	..	6	2	1	2	2	4	5	3	4	14	7	..	80	
Sore Throat, Quinsy	3	2	1	..	..	..	..	1	2	..	..	..	..	..	1	..	..	..	..	..	1	..	1	..	..	..	6	
Diseases of Stomach	59	16	..	7	13	16	15	9	3	5	3	6	6	1	4	3	2	16	1	12	6	7	10	10	5	17	126	
Enteritis	203	38	11	10	10	7	3	16	17	15	3	14	21	14	29	6	8	18	4	25	20	..	11	23	12	26	282	
Obstructive Diseases of Intestines	6	2	1	1	9	6	8	2	..	3	1	2	1	..	3	..	2	..	2	2	1	..	..	1	1	12	33	
Hernia	7	..	..	2	8	12	7	2	1	..	..	..	..	..	..	1	.	1	3	1	1	..	2	..	..	24	36	
Peritonitis	9	4	9	10	9	3	3	3	4	2	2	2	6	..	2	2	2	2	..	3	3	1	2	3	3	5	47	
Ascites	..	..	..	..	..	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	
Cirrhosis of Liver	..	..	..	..	19	54	13	4	3	3	4	2	4	3	4	3	2	5	7	1	4	8	9	6	5	9	86	
Jaundice, and other Diseases of Liver	6	1	..	2	6	21	9	3	3	4	..	1	1	..	2	1	2	3	4	1	5	1	4	1	..	9	45	
Other Diseases of Digestive System	10	5	2	.	3	4	5	3	2	..	..	..	..	2	1	..	..	..	2	1	3	5	1	2	2	5	29	
6 & 7.—DISEASES OF LYMPHATIC SYSTEM AND OF DUCTLESS GLANDS.																												
Diseases of Lymphatic System	2	2	1	..	.	2	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	2	..	2	7	
Diseases of Spleen	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2	3	
Bronchocele, Addison's Disease	..	1	..	2	..	2	1	..	..	..	..	..	1	..	..	..	..	..	2	..	..	..	..	..	..	3	6	
8.—DISEASES OF URINARY SYSTEM.																												
Acute Nephritis	1	4	7	1	6	12	11	..	3	1	1	..	2	..	3	..	4	..	1	3	3	2	5	..	3	11	42	
Bright's Disease, Albuminuria	..	..	6	5	23	56	22	7	8	3	3	4	10	3	4	2	2	4	10	4	9	1	3	4	2	29	112	
Disease of Bladder or of Prostate	..	1	1	1	..	7	15	1	1	..	..	1	..	1	1	2	..	..	..	..	1	1	..	3	..	13	25	
Other Diseases of the Urinary System	2	1	1	2	10	9	3	..	1	2	..	1	1	..	2	1	1	1	4	..	..	3	2	..	..	9	28	
9.—DISEASES OF REPRODUCTIVE SYSTEM. (A) Of Organs of Generation.																												
Male Organs	..	..	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	.	..	..	2	3	
Female Organs	..	.	..	1	18	7	..	..	..	5	3	..	1	1	1	..	..	1	3	1	2	1	..	1	..	6	26	
	a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*i*	*j*	*k*	*l*	*m*	*n*	*o*	*p*	*q*	*r*	*s*	*t*	*u*	*v*	*w*	*x*	*y*	*z*	*	

	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	*
(B) Of Parturition.																											
Abortion, Miscarriage	..	..	..	1	5	..	..	..	1	..	1	.	..	..	..	..	..	..	..	..	1	..	2	..	..	1	6
Puerperal Convulsions	..	..	..	4	3	..	..	..	1	..	..	.	..	..	3	..	..	1	..	1	1	..	..	..	..	..	7
Placenta Prævia, Flooding	..	..	..	..	11	2	..	1	1	.	1	1	..	1	..	..	1	..	..	1	1	2	..	..	3	..	13
Other Accidents of Child-birth	..	..	..	5	12	..	..	1	2	2	1	..	2	1	1	..	..	..	2	..	4	..	1	..	..	..	17
10.—Diseases of Bones and Joints.																											
Caries, Necrosis	1	2	2	3	..	..	1	..	2	..	..	..	..	1	..	..	..	..	..	..	1	..	2	..	..	3	9
Arthritis, Ostitis, Periostitis	1	2	1	..	..	5	..	..	..	1	..	1	..	..	..	..	..	..	..	..	2	..	..	..	..	5	9
Other Diseases of Bones and Joints	2	5	2	1	6	3	1	1	2	..	..	..	2	2	1	..	..	1	.	1	2	2	1	1	..	4	20
11.—Diseases of Integumentary System.																											
Carbuncle, Phlegmon	.	..	..	..	..	1	3	..	..	..	..	..	..	1	..	..	1	..	..	..	..	1	..	..	..	1	4
Other Diseases of Integumentary System	9	2	..	..	2	4	17	2	3	1	1	1	..	..	2	..	2	..	1	..	1	..	..	2	4	14	34
VII.—Deaths from Violence.																											
1.—Accident or Negligence.																											
Fractures and Contusions	..	7	5	6	23	31	11	4	..	3	1	..	..	1	3	2	2	4	2	2	5	3	1	1	..	49	83
Gunshot Wounds	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Cut, Stab	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Burn, Scald	6	33	27	6	11	9	1	1	..	..	1	..	..	..	2	..	..	..	..	..	..	..	1	..	..	88	93
Poison	1	..	..	2	4	5	1	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	3	..	8	13
Drowning	..	3	11	2	5	8	1	4	4	1	..	..	..	..	2	..	2	..	4	1	..	1	2	1	7	1	30
Suffocation	74	2	..	..	3	2	..	4	3	4	3	4	9	5	7	1	2	9	2	1	4	6	5	4	5	3	81
Otherwise	7	2	2	2	2	9	4	3	1	..	2	1	1	1	1	..	..	2	1	3	..	..	2	1	2	7	28
2.—Homicide.																											
Manslaughter	1	..	..	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3
Murder	1	..	..	1	1	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	2	4
3.—Suicide.																											
Gunshot Wounds	..	..	..	4	2	1	..	..	..	1	1	..	..	..	..	2	..	1	..	..	1	..	..	..	..	1	7
Cut, Stab	..	..	..	..	..	1	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2
Poison	..	..	..	1	8	8	2	5	..	..	1	..	1	..	..	..	..	..	..	..	1	..	..	..	..	11	19
Drowning	..	..	..	..	4	4	..	3	..	1	..	..	..	1	1	..	..	..	..	1	..	..	..	..	..	1	8
Hanging	..	..	..	..	1	8	1	1	1	..	..	..	1	1	..	1	1	..	2	..	..	..	..	..	2	..	10
Otherwise	..	..	..	2	..	2	2	1	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	2	6
4.—Execution.																											
Hanging	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
VIII.—Deaths from Ill-defined and not Specified Causes.																											
Dropsy	1	..	..	..	..	5	1	..	..	1	1	..	.	..	1	..	1	1	..	..	1	..	..	..	..	1	7
Debility, Atrophy, Inanition, Marasmus	584	69	3	1	..	1	..	40	59	31	25	32	60	30	28	9	31	37	24	32	26	48	70	29	22	25	658
Mortification	1	1	..	..	..	..	1	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	3
Tumour	..	1	..	1	5	2	4	1	2	..	..	..	1	1	1	..	..	..	..	..	2	..	..	.	..	5	13
Abscess	5	..	..	1	3	1	..	1	..	1	..	1	..	..	1	..	2	..	..	..	1	..	..	..	..	3	10
Hæmorrhage	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Causes Ill-defined or not Specified	9	5	..	..	3	2	1	1	3	..	1	..	1	..	3	..	..	1	..	1	..	4	..	..	1	4	20

METEOROLOGY AND MORTALITY.

Meteorology.

The weather of 1895 presented some very extraordinary features. Perhaps the most remarkable of them was the severe and long continued frost experienced in January and February. This commenced on January 26th and lasted till February 22nd, a period of 28 days. During this time the temperature at 9 a.m. never exceeded 33°, and one morning it fell to 9°, or 23 degrees below freezing point. The lowest night temperature recorded was 8°, being nearly three degrees below the previous minimum. The great discomfort attending this severe weather was aggravated by the fact that in many places the water in the mains became frozen, and no water could be obtained beyond what was delivered by means of water carts. Out-door water-closets were rendered useless, and in many cases closets situated inside the houses were also blocked by the frost Notwithstanding all this, however, the health of the town remained good, the weekly Death-rates recorded in January and February giving an average of 21·2. But early in March a great change took place. The weather became warm and wet, and as a result, perhaps, of the sudden transition, the Death-rate rose to a much higher level, Influenza making its appearance, and being accompanied by a large mortality from Respiratory diseases. These movements in the Death-rate and the corresponding variation in temperature may be seen by glancing at the chart at the beginning of my report.

Another unusual feature is found in the fact that September, not July or August, was the warmest month of the year, its mean temperature being no less than 5°·2 above the average. I have pointed out, in another part of this report, that in spite of this condition the heaviest Diarrhœal mortality occurred in July and August, a curious exception to the general rule that the greatest prevalence of Diarrhœa corresponds with the highest thermometric readings recorded in the air, and still more notably with those of the ground.

I have already stated that the lowest temperature observed during the year was 8°·0, the minimum in the previous eight years having been 10°·8. The highest temperature was 81°·8, and it occurred as late as September 24th. In the previous eight years the maximum temperature was 85°·6, and was observed on August 18th, 1893. The mean temperature for the year was 46°·7, or 0°·5 below the average. Of the individual months September was exceptionally warm, and May and November were also considerably warmer than usual. February was the coldest month, its mean temperature being no less than 10°·4 below the average. January also was very cold, being 5°·9 below the average.

The total amount of sunshine recorded was 1,240 hours, or 147 hours in excess of the average. September, May, and June were responsible for this excess, all three months being favoured with a great deal more sunshine than usual.

The rainfall for the year was just a trifle above the average. January was exceptionally wet, the amount of rain being more than double the ordinary quantity. The smallest rainfall was in February, when less than one-third of an inch was measured.

The following table shows the mean temperature and total rainfall for each month of the year:—

MONTHS.	TEMPERATURE.			RAINFALL.		
	Mean Temperature in Degrees and Parts.	Average for 8 years, 1887–1894 inclusive.	Above or below the average.	Rainfall for Month in Inches and Parts.	Average for 8 years, 1887–1894 inclusive.	Above or below the average.
January	30°6	36°5	— 5°9	3·92	1·53	+ 2·39
February	27·5	37·9	—10·4	0·32	1·20	— 0·88
March	40·4	39·9	+ 0·5	1·91	1·44	+ 0·47
April	45·5	44·6	+ 0·9	2·37	1·53	+ 0·84
May	53·9	51·1	+ 2·8	0·82	2·27	— 1·45
June	58·0	57·5	+ 0·5	0·89	1·96	— 1·07
July	58·5	59·0	— 0·5	3·25	2·45	+ 0·80
August	59·2	58·7	+ 0·5	2·75	3·00	— 0·25
September	59·9	54·7	+ 5·2	0·45	1·87	— 1·42
October	44·8	47·0	— 2·2	2·81	2·66	+ 0·15
November	44·6	42·7	+ 1·9	3·41	2·35	+ 1·06
December	38·0	37·3	+ 0·7	1·99	2·03	— 0·04
Year	46·7	47·2	— 0·5	24·89	24·29	+ 0·60

On the next page will be found a table giving certain weekly meteorological data, side by side with the mortality statistics for the same period, and at the beginning of my Report there is a chart showing the relations of the number of Deaths to the principal meteorological conditions on each day of the year. Further particulars as to the temperature of the air and the ground, the degree of humidity, the amount of wind, and the quantity of bright sunshine are given in Table VI. in the appendix.

Meteorology, Births, Deaths, and Mortality from certain Prevalent Diseases for each Week of 1895.

Week.		Temperature of the Air.			Temperature of the Ground.		Hours of Sunshine.	Horizontal Movement of Air in Miles.	Mean Humidity, complete Saturation = 100.	Rainfall in inches and parts.	Births.	Deaths at				Deaths from								
Number.	Date of Ending.	Highest during week.	Lowest during week.	Mean Temperature.	1 foot deep.	4 feet deep.						All Ages.	Under 1 year.	1 to 5 years.	Over 65.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Wh'ping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.
	1895.																							
1	Jan. 5	39·9	25·6	31·3	37·1	45·9	12·7	3053	...	0·160	347	193	60	25	29	2	...	2	5	2	...	2	8	39
2	„ 12	35·1	13·9	26·1	35·7	44·6	0·3	1385	...	0·560	309	174	41	20	28	...	...	3	2	3	...	5	19	39
3	„ 19	42·8	25·6	35·9	35·5	43·5	4·0	2049	96	1·580	350	260	64	33	54	2	...	1	5	5	1	6	23	66
4	„ 26	41·1	22·6	33·1	36·4	42·7	5·0	3045	85	1·430	312	180	37	23	37	2	...	...	4	2	3	2	13	51
5	Feb. 2	34·0	19·8	26·1	34·5	42·2	8·8	2363	...	0·360	322	148	35	15	33	...	...	...	3	4	...	2	11	34
6	„ 9	34·0	8·0	21·1	33·4	41·7	15·4	1691	...	0·000	361	211	44	26	46	...	...	...	4	9	2	1	23	56
7	„ 16	36·2	15·7	24·2	31·6	41·0	26·7	2409	...	0·000	323	238	53	27	51	1	...	1	3	8	2	4	16	63
8	„ 23	41·0	23·2	31·8	32·4	40·3	3·1	1334	...	0·010	292	207	44	28	55	...	...	1	2	8	1	6	12	58
9	Mar. 2	45·3	27·8	35·0	33·1	39·9	20·7	2435	...	0·140	319	210	47	25	40	...	...	..	2	6	2	2	17	48
10	„ 9	44·6	24·0	34·3	34·2	39·7	8·1	2076	89	0·625	327	203	49	32	32	...	...	...	2	9	3	1	16	54
11	„ 16	53·3	31·1	41·4	38·0	39·9	19·2	1627	88	0·135	303	288	61	36	63	...	...	1	2	8	2	...	17	68
12	„ 23	58·1	30·4	45·5	42·5	41·0	20·8	2090	90	0·260	307	297	61	33	60	...	...	...	4	3	3	3	21	91
13	„ 30	53·1	33·8	41·3	41·9	42·2	15·9	3091	89	0·890	303	252	58	23	69	...	...	...	2	4	2	5	10	68
14	April 6	49·0	28·4	39·1	40·2	42·4	11·2	2133	78	0·065	313	253	59	21	56	...	...	...	5	1	...	...	22	67
15	„ 13	60·2	32·6	45·4	43·8	42·7	34·5	2116	75	0·100	291	237	50	28	64	1	...	1	5	1	3	...	21	52
16	„ 20	59·5	32·2	45·9	45·4	43·6	41·3	2186	79	0·390	298	170	40	21	35	...	...	2	...	7	...	...	14	32
17	„ 27	60·5	40·0	48·9	48·0	44·7	10·7	2292	87	1·795	334	159	32	16	32	...	...	...	2	2	1	1	20	39
18	May 4	61·0	37·1	48·8	47·7	45·2	41·2	1762	74	0·425	353	159	37	18	30	...	...	...	3	3	2	2	9	28
19	„ 11	70·8	36·0	54·4	51·6	46·1	78·7	2000	67	0·030	359	181	43	32	31	...	...	4	4	1	1	2	14	25
20	„ 18	70·8	36·4	52·2	52·9	47·5	25·0	2868	68	0·000	329	161	43	20	30	...	...	...	2	4	3	...	14	24
21	„ 25	67·0	41·2	52·1	50·1	47·8	19·0	1281	75	0·135	340	141	42	13	25	...	...	...	3	3	1	2	14	19
22	June 1	77·6	46.0	60·6	57·1	48·4	51·4	1325	66	0·375	266	163	52	21	23	...	1	1	1	7	2	3	12	27
23	„ 8	75·5	43·2	57·3	55·6	49·6	36·8	1585	80	0·000	256	133	39	17	24	...	...	3	3	...	1	7	11	16
24	„ 15	71·0	38·9	54·7	56·5	50·4	55·7	1898	64	0·120	306	161	38	14	17	...	...	2	4	2	1	4	12	13
25	„ 22	75·0	42·2	56·5	56·5	50·8	46·3	1362	65	0·005	332	125	50	16	26	...	...	2	4	1	...	8	21	23
26	„ 29	80·0	50·0	64·2	61·0	51·6	39·1	1574	68	0·485	301	153	46	20	27	...	...	2	2	4	...	10	13	19
27	July 6	71·4	49·2	57·4	56·3	52·3	31·7	2009	78	1·180	318	149	51	13	17	...	...	...	...	2	...	16	14	16
28	„ 13	75·5	47·5	60·3	59·8	52·6	61·8	2156	62	0·310	318	169	68	20	20	...	...	4	...	...	...	28	13	16
29	„ 20	72·0	49·5	57·3	57·4	53·0	9·9	2090	81	1·140	289	164	59	23	22	...	...	1	4	1	4	32	9	18
30	„ 27	73·1	49·3	60·0	57·4	53·0	22·6	2174	81	0·750	307	191	88	31	18	..	...	5	2	...	...	50	7	22
31	Aug. 3	65·3	46·2	56·6	57·0	53·4	13·8	1556	74	0·295	304	190	90	22	25	...	...	2	1	2	1	50	13	16
32	„ 10	69·0	46·6	57·3	56·7	53·5	29·0	1841	77	1·255	279	190	79	25	27	...	...	1	2	4	5	38	11	15
33	„ 17	75·0	49.6	59·4	57·2	53·8	26·7	1718	84	0·785	290	181	65	15	25	...	...	3	3	2	2	29	21	15
34	„ 24	75·0	50·0	62·7	60·4	54·4	49·3	1545	75	0·070	298	151	51	15	29	...	1	4	...	...	3	29	10	11
35	„ 31	68·5	44·7	58·4	57·6	55·0	35·3	2512	79	0·345	289	158	61	22	23	...	...	5	4	2	1	27	10	10
36	Sept. 7	73·9	45·2	60·2	58·5	55·1	39·4	1491	80	0·195	334	156	52	20	18	...	...	1	4	1	4	19	17	11
37	„ 14	80·0	45·0	58·2	57·9	55·4	40·1	1955	78	0·210	296	178	59	31	26	...	...	7	2	3	2	26	11	14
38	„ 21	72·8	43·4	56·0	55·2	55·1	41·3	1369	86	0·030	314	190	67	33	20	...	1	4	3	6	1	34	13	22
39	„ 28	81·8	40·4	64·5	56·8	54·9	59·3	1104	74	0·030	300	197	80	31	23	...	1	3	3	...	2	32	16	22
40	Oct. 5	75·3	37·6	54·0	54·9	55·1	28·7	2279	81	1·180	278	209	79	32	35	...	...	7	3	3	2	21	15	23
41	„ 12	56·5	41·6	49·6	50·6	54·3	9·1	2143	83	0·790	300	205	92	27	20	...	3	4	6	4	1	27	13	26
42	„ 19	55·0	33·6	47·2	49·2	53·1	11·9	1284	86	0·145	342	194	75	26	19	...	2	4	...	1	4	19	8	29
43	„ 26	50·0	28·6	39·1	44·7	52·0	14·4	1699	81	0·540	309	190	77	31	18	...	4	3	3	3	3	12	12	32
44	Nov. 2	50·1	29·8	39·1	41·8	50·3	7·8	1831	86	0·165	368	194	68	37	16	...	4	3	8	6	3	8	12	44
45	„ 9	55·7	34·3	46·6	46·2	49·3	4·6	1992	93	1·095	311	198	73	26	32	...	8	2	1	2	1	4	10	49
46	„ 16	59·4	37·4	47·0	45·8	49·5	18·7	3442	86	1·370	318	192	54	38	29	...	6	4	3	2	1	8	10	32
47	„ 23	54·0	33·5	42·6	44·5	49·0	12·7	2280	91	0·335	325	186	56	38	30	...	12	6	7	3	2	5	13	37
48	„ 30	49·8	34·8	42·0	43·8	48·5	0·8	2677	91	0·615	265	186	41	41	21	...	19	4	6	3	...	3	16	31
49	Dec. 7	53·8	31·3	41·9	43·4	48·0	13·1	3632	83	0·210	287	171	48	36	23	...	11	7	4	2	1	1	8	30
50	„ 14	48·0	30·5	37·8	39·8	47·4	6·7	2596	88	0·695	274	190	44	62	18	...	23	14	3	5	...	4	14	28
51	„ 21	49·4	26.2	36·2	39·9	46·5	4·7	1993	87	0·300	283	214	52	53	31	..	20	7	5	5	3	3	10	41
52	„ 28	44·5	25·9	32·3	37·0	45·5	1·2	2935	...	0·450	165	213	56	47	26	...	17	2	8	4	2	2	9	41

II. SANITATION.

i.—*Influences affecting or threatening to affect injuriously the public health.*

During 1895 I made representations to you under Part II. of the Housing of the Working Classes Act, that the following houses were in a state so dangerous to health as to be unfit for human habitation :— Housing of the Working Classes Act.

3 houses in front, and 5 houses in 36 Court, Camden Street.
5 houses in 1 Court, Graham Street.
11 houses in 9 Court, St. Martin's Street.
6 houses at the back of 121, Moseley Street.
5 houses known as Camp Hill Cottages, Camp Hill.
2 houses in 14 Court, Bishopsgate Street.
5 houses in 13 Court, Bishopsgate Street.
6 houses at the back of 44-49, Richard Street.

Generally speaking these houses were small, damp and old. Most of them were dirty and had been allowed to fall into a bad state of repair. In the case of the property in *Camden Street* the necessary repairs were not attempted, and a closing order was therefore obtained from the Magistrates. At the time of writing the houses remain unoccupied.

The property in *Graham Street* consisted of five houses. Four of these were back-to-back with each other. They have now been so altered as to form two houses of double the original size, with through ventilation. Damp courses have been put in all the walls, and the brickwork has been pointed; between the end of one house and the ground in the higher part of the yard a cavity has been made to prevent the absorption of moisture from the earth. The roofs have been re-slated, the chimneys have been re-built, and new spouting has been provided. The woodwork has been repaired, and as a matter of course the walls have been cleansed and re-papered. The yard has been paved all over, gully traps have been put in, and the outhouses have been repaired. The houses are now in good condition, though I regret that number 5, which is an obstructive building, was not pulled down.

In *9 Court, St. Martin's Street*, the roofs have been stripped, the chimneys re-built, and spouting provided. The walls have been plastered inside and pointed outside, and damp courses have been introduced. The floor quarries have been relaid in cement, and the houses have been limewashed, painted and papered throughout. The yard has been paved, and the six pan privies have been replaced by water-closets. The houses are now in fairly good condition, and permission has been given to re-open them.

Housing of the Working Classes Act (*continued*).

At *Back 121, Moseley Street,* the roofs and spouts have been repaired. Damp courses have been put in, and the wall has been doubled in thickness between Number 5 and the disused shopping at the back of it. A cavity wall has also been built at the back of Number 6, and the floors have been relaid in cement, all these alterations being necessary to ensure dryness. The houses have also been cleansed throughout. An ashplace has been provided, the privies have been repaired, and the property is now in a sufficiently good condition to allow of its being re-occupied.

At *Camp Hill Cottages* the necessary work was not done until summonses had been taken out against the owner. Before the hearing of the case, however, the roofs and spouts were put in order, the floors were relaid, damp courses were put in, the lower parts of the walls were cemented, and cavity walls were built in two of the houses to obviate direct contact with the soil of the high ground adjoining. The houses were cleansed, and the necessary internal repairs were carried out. In view of these alterations the Magistrates, on my representation, allowed the summonses to be withdrawn on the owner paying the costs.

The two houses in *14 Court, Bishopsgate Street,* were furnished with damp courses, the floors were relaid, chimneys re-built, and roofs put in order. The gable end of one house, which was badly bulged, was re-built. The yard was paved, and the outhouses repaired.

At *18 Court, Bishopsgate Street,* the gable end of one house which was badly bulged has been repaired, and the houses have been limewashed. This work is altogether insufficient to make the property fit for habitation, and application will accordingly be made for a closing order.

At *Back of 44-49, Richard Street,* the houses have been cleansed, two gully traps have been substituted for bells, and the privies and wash-houses have been repaired. The property requires a great deal more alteration to make it habitable, and the owner has asked for an extension of the time allowed him by the Act, in which he promises to make such improvements in the houses as will make them fit for occupation.

Unhealthy area in Milk Street.

On February 21st a Local Government Board Inquiry was held as to the proposal to declare a certain site in Milk Street to be an unhealthy area. I had previously made an official representation to this effect under Part I. of the Housing of the Working Classes Act. I attended the inquiry and gave evidence to the effect that while the property was not all in an equally bad state, none of it was in good condition, and in dealing with the worst property it would be necessary to include all the area.

Unhealthy area in Milk Street (*continued*).

I summarised the defects as follows :—

1. Bad arrangement or distribution of the buildings over the area, causing the dwellings in most cases to be crowded, and yet resulting in some places in waste of land surface.

2. Houses back-to-back ; dark, owing partly to obstructive buildings ; damp, and ill-ventilated ; having low ceilings ; windows with broken panes, in some cases stopped up with paper or rags ; woodwork of window frames broken, and occasionally a sash altogether wanting.

3. Yards either unpaved and sodden with filth, or with pavement and gutters defective. In several of the entrances to courts the pavement is so sloping and defective as to be unsafe to walk over.

4. Houses and wash-houses more or less dilapidated as to roofs, walls, floors, and sinks, some of the houses and some shopping being actually in ruins.

5. Walls and floors damp from defective spouting or from the total absence of spouting, from want of damp-courses in the walls, and from the floors being of porous quarries laid in direct contact with the damp ground ; also from defective roofs admitting rain.

6. Obstructive buildings ; viz., No. 1 in 9 court, and No. 1 in 10 court, Milk Street, which are only 7 feet and 9 feet respectively from other dwellings.

The results of these conditions were deficiency of air, ventilation, and light ; together with much dampness and organic impurity. I therefore expressed the opinion that the narrowness, closeness, bad arrangement and bad condition of the houses ; the want of light, air, and ventilation ; with the other sanitary defects described ; were dangerous to the health of the people living on the area, and could not be effectually remedied otherwise than by an improvement scheme for the re-arrangement and re-construction of the streets and houses within such area.

On Saturday, February 16th, I had a census taken of the population on the area. From the number of Deaths which occurred there during the last three years I estimated the Death-rate, and found it to be 38·5 per 1,000 per annum, or nearly twice as much as the Death-rate for the whole City for the same period, which was 19·9 per 1,000. I may add that owing to the character of the population of this area compared with that of the City generally, I have reason to believe that the estimate was somewhat below the actual truth.

The average number of persons per inhabited house was five (4·85), so that there was no personal overcrowding.

Sanitary Work.

In addition to the work done under the Housing of the Working Classes Act, I examined a considerable number of houses which were not so bad as to require closing. A very large number of minor sanitary improvements, such as were required at these houses, were made during the year. They are specified in Table V. In order to prevent the emission of objectionable gases in proximity to houses, 1,699 yard drains were efficiently trapped; while 3,961 drains which had become obstructed were opened and cleansed. As many as 107 drain openings in cellars were either cut off from the sewer or altogether abolished, making a great improvement in the healthiness of the houses concerned. One hundred and sixty sink pipes which discharged directly into the drains were disconnected, and proper glazed bendpipes were fitted to 458 sinks to prevent the fouling of the brickwork around the outlet. In addition to 2,392 houses which were disinfected after infectious disease, 1,427 were cleansed and whitewashed on account of their filthiness, while 1,621 houses were made more healthy and comfortable by various repairs. Twenty cases of overcrowding were found and remedied; in one of these a case of Typhoid Fever had occurred at a house in which it was found that two families, comprising two adults and ten children, were living in three rooms. Offensive urinals to the number of 735 were put in order. The paving of 449 back yards was improved, in my opinion a very necessary work, and one which ought to be greatly extended. Nuisances from fowls were abated in 241 instances, and from swine in 119. No less than 796 accumulations of offensive matter, such as manure, pig wash, etc., were removed.

Nuisance from ashpits and privies in Upper Highgate Street.

During the year notices were served upon the owner of a property in Upper Highgate Street to abate the nuisance arising from 7 midden ashpits, with 20 privies attached to them.

The first ashpit was highly offensive; liquid filth ran through the privy walls on to the surface of the yards, and also saturated the risers of the privy seats. Rain water drained into the ashpit from the privy roof, the pit being uncovered. The back wall of the privies was bulged and "tied," the mortar was out of the joints and some of the bricks were loose. The back wall of the ashpit was also the back wall of two wash-houses, and had two furnaces built against it, which by their heat aggravated the nuisance arising from the pit.

The second ashpit was in a similar condition. Urine soaked through the risers on to the privy floors, the back wall was bulged, the mortar was bad, and the bricks were loose.

In the privies connected with the third ashpit three of the risers allowed urine to soak on to the floors, where it lodged owing to defective paving. The mortar was out of the joints, and the bricks were loose in the back walls. Rain water drained into the ashpit, which was uncovered.

In the privies connected with the fourth ashpit the risers were defective, allowing urine to escape on to the floors, and the back wall of the privies had defective joints and loose bricks. The ashpit was not covered. Nuisance from ashpits and privies in Upper Highgate Street (*continued*).

The back wall of the fifth ashpit was bulged, some of the bricks had fallen out and others were loose. The privy risers were saturated with urine, which was soaking through one of them. The pit had no cover to keep out the rain.

The sixth ashpit contained liquid filth, and adjoined the wall of the playground of Highgate Board School, which was discoloured right through. The pit was uncovered.

The seventh contained liquid filth; the back wall was defective, the bricks being loose and the mortar out of the joints. Urine soaked through the privy risers. The pit had no cover over it.

These seven ashpits, with the twenty privies attached to them, were used by 273 persons living in 46 houses. As the owner did not comply with the notices served on him he was summoned, and was ordered by the Magistrates to do the necessary work to the satisfaction of the Sanitary Authority. He appealed against this decision, and his appeal was heard by the Recorder at the Quarter Sessions. The hearing occupied the Court for the whole of one day, a considerable number of witnesses being called on either side. In the end the decision of the Magistrates was upheld, the appeal being dismissed with costs against the appellant.

The substitution of the water-carriage for the conservancy system is being gradually proceeded with. Last year 1,083 privies attached to 678 midden ashpits were converted into water-closets; 248 pan privies were also re-constructed. The total number of water-closets put in at the instance of your officers, including a large number of additional ones provided for Public Houses, was 1,485, of which 59 were of the waste-water pattern. The amount of work done in maintaining privies of the older type is still very large. Last year 1,810,443 pans were emptied, and 70,033 loads of ashes were collected at the same time. As many as 45,291 loads of night soil were dealt with in emptying 25,533 ashpits. The loads of dry ashes collected from places where water-closets are in use was 37,559. Abolition of Conservancy system. Nightsoil and Refuse disposal

During the year I received a number of complaints of smell from sewer openings in various parts of the town. These I forwarded to the City Surveyor, who took whatever steps were possible to obviate the nuisance. Sewer-Openings, complaints of smell from.

In May I received a letter from the Secretary of the Birmingham Exchange complaining of the nuisance arising from a drain which had been opened in the carrying out of some alterations at King Edward's School, New Street. It was found to be impossible to complete the work of relaying for at least a week, and the contractor was therefore asked to cover up the opening as far as possible with boards and tarpaulin so as to prevent the escape of objectionable gases.

Impure Building Site.

In August my opinion was asked upon the suitability for building purposes of a site in Taunton Road, which had formerly been used as a night soil tip. I visited the site referred to and found that the ground was very impure, being charged with materials which were only very slightly rotted. I took a sample of the soil, which had a slightly fæcal smell and evolved ammonia on heating; it contained particles of straw, paper, rag, etc. I therefore expressed the opinion that the land ought not to be built upon unless the impurities deposited there were first removed, and that concreting the surface without such removal would not be sufficient protection against danger to health.

Nuisance from gas lime.

During the year my attention was again called to the disused claypit in Couchman Road, Saltley, to which I referred in my Annual Report for 1894. In that report I pointed out that the nuisance was due to the tipping of gas lime in the pit. This practice was subsequently discontinued, but when I visited in April, 1895, it had been resumed and was being actively carried on again. I recommended that steps be taken to prevent the deposit of gas lime in the pit as the only practicable way of dealing with the matter. My opinion was asked as to the possibility of deodorizing the water collected in the pit. After experimenting with the samples forwarded to me, I concluded that deodorization would be best effected by the addition of crystallized sulphate of iron (copperas) to the water. It was estimated, however, that there were 1,800,000 gallons of water to be dealt with, a quantity which I calculated would need 44 tons of sulphate for its purification.

ii.—*Examination of and action in regard to Suspected, Diseased, and Unwholesome Food.*

Unwholesome Food.

The returns made by the Superintendent of Markets, Mr. Edwards, show that 1,589 surrenders and 17 seizures of bad meat were made during the year. The total quantity destroyed weighed 181 tons. Three persons were fined for offering bad meat for sale, the penalties amounting to £22.

The number of surrenders of fish, game, poultry, rabbits, etc., amounted to 587, and the seizures to 7. Four dealers were summoned, and fines amounting to £15 10s. were imposed on them.

Over thirty-one tons of bad fruit was either handed over to the Inspectors or was seized by them.

iii.—*Duties under Special Sanitary Bye-laws and Regulations.*

LODGING HOUSES.

Lodging Houses.

In accordance with the provisions of the Public Health Act a register is kept of all Lodging Houses in the City. During 1895 the number of Common Lodging Houses fell from 79 to 78. These 78 houses can accommodate 1,777 lodgers.

Lodging Houses (*continued*).

The houses let in lodgings fell from 83 to 80; they are registered to hold 457 lodgers. To enforce the bye-laws respecting these houses they are frequently inspected by the Lodging House Inspector and by the District Inspectors. Last year 13,234 visits were paid to them by day and 1,665 by night. Four serious breaches of the Regulations were discovered. They comprised: (1) Failure to keep the floors, etc., in a clean condition; (2) neglecting to open windows before 10 a.m.; (3) overcrowding, and allowing two males over 10 years old to occupy the same bed; (4) neglecting to sweep rooms and empty chamber utensils before 10 a.m. For these offences the fines inflicted were 10s. and 9s. costs in the first two cases, 40s. and 11s. costs in the third case, and 10s. and 8s. costs in the fourth.

Slaughterhouses.

Slaughter Houses.

The officers of the Markets and Fairs Committee are responsible for the inspection of Slaughterhouses. They paid 9,586 visits to them last year, and ordered 27 to be cleansed.

Five persons were summoned for infringements of the regulations. They were all convicted, and were ordered to pay fines amounting to £8.

Dairies, Cowsheds, and Milkshops.

Dairies, Milkshops, and Cowsheds.

At the end of 1895 there were on the register 23 dairies, 71 cowsheds, 2,016 milkshops, and 75 purveyors of milk. During the year 291 applications for permission to open milkshops were received, of which 204 were granted and 87 refused. The visits paid to dairies numbered 185, to cowsheds 2,294, and to milkshops 4,185. Orders were given to limewash 46 shops, 69 cellars, and 7 pantries in which milk was kept. The sale of lamp oil was stopped in 28 instances, of tripe in 16, of fish in 5, and of vinegar and pickles in 59 instances. Dirty vessels for holding milk were found in 4 cases. No case of Pleuro-pneumonia in cattle was found.

Pleuro-Pneumonia

One case of Smallpox, 11 of Scarlet Fever, 2 of Typhoid Fever, 3 of Diphtheria, and 2 of Erysipelas occurred at places connected with the milk trade. In each case the stock of milk was destroyed, and the business was suspended till disinfection had been carried out.

Bakehouses.

Bakehouses

The visits paid to Bakehouses numbered 1,154. In 130 instances limewashing was ordered. Notice was sent to H.M. Inspector of Factories of the employment of 79 youths in bakehouses. The bakehouses were generally in good order, none of them having drain openings inside, nor closets in direct communication. No accumulations of refuse were found, nor any animals inside the bakehouses. No bakehouse was used

Bakehouses (*continued*).

for any other purpose, and none communicated directly with any sleeping room. By Section 27 Sub-section 3 of the Factory and Workshop Act, 1895, it is enacted that "a place under ground shall not be used as a bakehouse unless it is so used at the commencement of this Act." There are about 32 underground bakehouses in Birmingham, of which 10 were not in use at the time of the passing of the Act. In these cases I have sent notice to the owners that they must not be opened again as bakehouses.

Workshops.

Workshops.

The visits paid to Workshops numbered 8,911, and they resulted in 1,146 improvements being made. These included the cleansing of 891 shops, the provision of 57 extra water-closets for females, the putting in order of 48 defective water-closets, the conversion into water-closets of 26 ashpits and privies, as well as of 7 pan privies, the provision of 16 urinals and 8 lavatories, and various improvements in drainage and ventilation. These alterations must, I think, materially affect the health and comfort of the workers. Two hundred and thirty-seven workshops were fumigated after the occurrence of Smallpox amongst the workpeople.

Smoke Nuisances.

Smoke Nuisances.

In a manufacturing town like Birmingham there is need to take special precautions to prevent as far as possible the emission of dense smoke from factory chimneys. Last year 4,526 observations were made, with the result that 122 persons were reported for breaking the regulations. Letters of caution were sent to 79 of them, and the remaining 43, having been previously cautioned, were prosecuted. Three of the summonses were withdrawn; in the other 40 cases convictions were obtained, the fines amounting to £18 10s. and the costs to £20 7s.

Canal Boats.

Canal Boats.

At the end of the year there were 398 boats on the register of your Authority, 35 having been registered during the year and 36 certificates of registration having been cancelled.

The number of inspections made was 738. The boats inspected had on them 1,177 men, 386 women, and 456 children. Eighty-seven notices issued in respect of infringements of the regulations were complied with. Of these, 10 were in reference to want of registration, 19 to absence of certificates, 21 to the proper marking of the names and numbers of the boats, 8 to overcrowding, 10 to provision for separating sexes, 2 to want of cleanliness and ventilation, 6 to painting and repairing, 11 to the provision of a sufficient quantity of drinking water, and 1 to the removal of bilge water. Three boats were fumigated and cleansed after the occurrence of Infectious Disease in them.

iv.—*Offensive Trades.*

Offensive Trades.

At the request of your Committee I visited and inspected the premises adjoining 81, Bracebridge Street, in regard to which an application had been made for permission to carry on an offensive trade. The trade in question was that of the manufacture of lubricating grease. The materials used were animal and vegetable fats, together with lime. The process had only been carried on to a small extent, though there was ample room for large extension. Complaints had been made by neighbours of nuisance arising from it, and that the operation was not free from danger was proved by the fact that a fire had previously occurred on the premises, owing to the ignition of the material during manufacture. The business had formerly been carried on outside the City, but had been conducted on the site in Bracebridge Street for about two years. As it came under the head of offensive trades, I recommended your Committee to adopt the usual course of discouraging any increase of such establishments within the boundaries of the City, and the sanction of your Committee was withheld.

I was also asked to inspect some premises in Banbury Street, where it was proposed to carry on the business of artificial manure making. I visited the works and made enquiries as to the materials used, the processes carried on there, and the character of the manure which was the final product. The materials employed were principally bones, hair, fish offal, and blood. The blood was being dried on the premises, but the drying was carried on to a comparatively small extent. The means of heating, however, were very crude, causing the blood to be burned to some extent and to give off very objectionable odours. Fish offal must of course be extremely offensive, and there was a pit of drainage water on the premises which was a great nuisance. In case any extensive development of the manufacture should take place there, I felt no doubt that a considerable nuisance would be created in the neighbourhood, and I could not therefore recommend that permission be given to carry on such a business as was suggested. Your permission was accordingly refused.

During the year I received complaints of the effluvia arising from some brass-casting works in Water Street. The day I visited fumes were escaping in large volumes, and driving directly into the windows of the complainant's premises, causing a great nuisance. Subsequently the Inspector of Nuisances saw the owner, who in consequence raised his chimney considerably, since when I have received no complaint.

v.—*Fortnightly Reports of the Medical Officer of Health to the Health Committee.*

Fortnightly Reports of the Medical Officer of Health.

I have from time to time reported to your Committee on various questions, including the following:—

1. The general health of the City, as shown by the total Death-rate, Zymotic Death-rate, and Mortality from special diseases.

Fortnightly Reports of the Medical Officer of Health (*continued*).

2. The occurrence of Infectious Disease, and the results of the investigations of certain of the most dangerous cases.
3. The Waters supplied by the Corporation, and from other sources.
4. Articles of Food, Drink, and Drugs, obtained for analysis, and the analysis of articles of a miscellaneous character.
5. Diseased and unwholesome food.
6. Reports on special questions in pursuance of resolutions, instructions, and otherwise.

vi.—*Prevention of Infectious Diseases.*

Prevention of Smallpox and Scarlet Fever.

In all cases of Smallpox and Scarlet Fever efforts were made to obtain the removal of the patient to the hospital, unless there was good means of isolation at home. After the removal of the patient, or the termination of the illness, the rooms considered to be infected were fumigated with sulphur, stripped of wall paper, limewashed, and cleansed; 2,392 houses were thus disinfected during 1895. Infected bedding, clothing, etc., was sent to the Bacchus Road Station for disinfection. No children were allowed to attend school until a week in the case of Scarlet Fever, and a fortnight in the case of Smallpox, had elapsed since the disinfection of the house. In Smallpox cases members of the household were kept away from work till the necessary disinfection had been carried out.

Of the 100 cases of Smallpox reported last year, 98 were removed to the

CITY HOSPITAL,

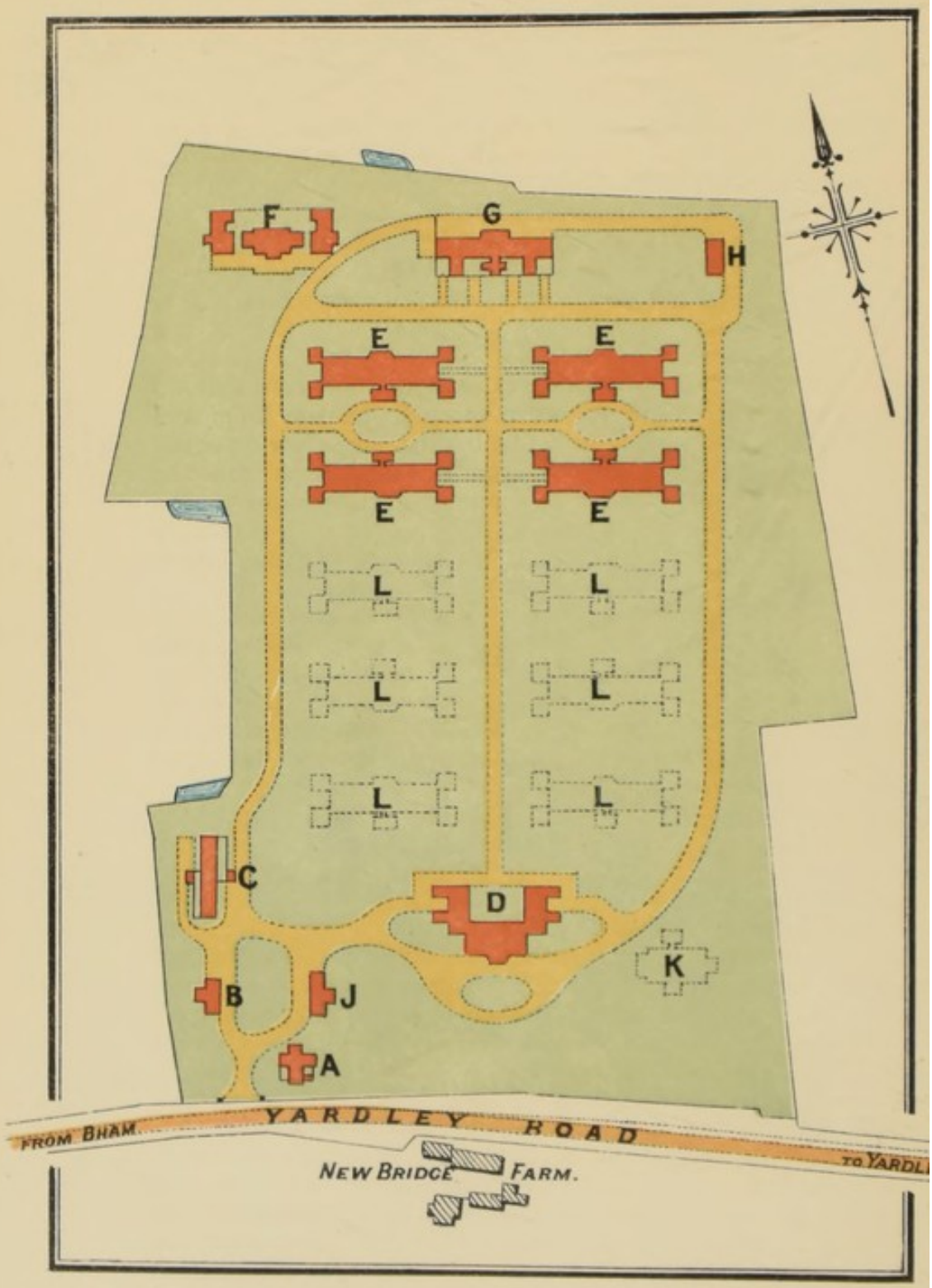
City Hospital.

to which 2,595 cases of Scarlet Fever were also sent.

The cases removed to the Hospital in each year since its inauguration are shown below:—

Year.	Smallpox.	Scarlet Fever.	Total Cases.
1874 ...	194	—	194
(2nd of November to the end of the year.)			
1875 ...	420	20	440
1876 ...	11	38	49
1877 ...	38	43	81
1878 ...	20	424	444
1879* ...	4	184	188
1880 ...	16	170	186
1881 ...	17	333	350
1882 ...	105	627	732
1883 ...	1090	638	1728
1884* ...	437	360	797
1885 ...	81	204	285
1886 ...	2	428	430
1887 ...	10	438	448
1888 ...	18	528	546
1889 ...	0	1801	1801
1890* ...	0	2525	2525
1891 ...	44	1225	1269
1892 ...	24	1131	1155
1893 ...	963	1339	2302
1894 ...	2050	1539	3589
1895 ...	98	2595	2693

* 53 weeks.



A. Entrance Lodge
B. Receiving Ward
C. Isolation Pavilion
D. Administrative Block
E. Pavilions
F. Servants' Quarters
G. Laundry
H. Mortuary
J. Discharging Block
K. Nurses' Home
L. Sites for Additional Pavilions

New Smallpox Hospital in Yardley Road.

It is with much satisfaction that I record the completion during the year of a portion of the new Smallpox Hospital in Yardley Road, Little Bromwich. It is situated on a site containing about 24 acres, at a distance of over three miles from the centre of the City, though within its boundary, and in a thinly populated, in fact, quite a rural district, which in the case of a Smallpox Hospital is a great advantage.

The plan on the opposite page shows the buildings which have been erected, as well as the proposed positions of others which may be built at some future time. At present there are four pavilions, each accommodating 24 beds, and consisting of two wards 72 feet long by 30 feet wide. The amount of air space allowed per patient is over 2,000 cubic feet. Between the two wards of each pavilion are the entrance hall, pantry, linen and coal stores, and the nurses' room, which has a window on either side so as to command both the wards. Projecting from the corners of the wards are the bath rooms and water closets. The wards are heated by open down-draught stoves, and are amply ventilated. The dotted blocks marked L show the positions of the six additional pavilions to be erected as required.

The Receiving Ward consists of one room with a bath room attached to it, in which the patients can be examined, stripped of their clothing, which is immediately disinfected, and then sent into one of the pavilions for treatment, or, if any doubt exists as to the true nature of the case, into the Isolation Pavilion, which consists of a number of small wards, arranged to accommodate both males and females.

The Discharging Ward is a small building with the necessary dressing-rooms and bath-rooms, together with a clothes store where disinfected clothes are kept till required again for use.

In addition to the buildings already mentioned, there is an Administrative Block containing apartments for the Medical Officers, Matron, and Steward, together with the store-room, mess-room, recreation room, kitchen, etc.; a steam laundry with a disinfecting yard, containing a Washington Lyon's Steam Disinfector and an Incinerator; also servants' quarters, and cottages for the outdoor officials. The Nurses' Home, marked K on the plan, has not yet been erected.

The number of Scarlet Fever cases requiring removal in the latter half of 1895 was so great that in July the old Smallpox Wards in Western Road had to be opened for the reception of some of them. Even then the accommodation soon became insufficient, and in October the new Hospital at Little Bromwich was brought into use, over 200 convalescent cases being provided for there.

Disinfecting Station.

Disinfecting Station.

The articles sent to the Disinfecting Station in Bacchus Road numbered 33,302. They comprised 3,197 beds, 1.026 mattresses, 2,096 counterpanes, 2,985 blankets, 2,490 sheets, 1,821 bolsters, 4,645 pillows, 732 carpets, 12,487 garments, and 1,823 miscellaneous articles.

Unrecognised Smallpox.

At the beginning of the year a case came to light that must have proved a serious danger to the district in which it occurred. From information received from a School Board Officer it was found that a boy living in Windsor Street had had an attack of Smallpox. No doctor had been called in, and he was said to have been treated for Measles and Chickenpox. There seems, however, to have been a strong suspicion, if nothing more, on the part of the lad's relatives as to the real nature of the case, for both his sister and his mother had been re-vaccinated at the time, and two rooms in the house had been stripped of wall paper. Moreover a friend of the family stated that she advised the mother to have the boy removed to the City Hospital, as she believed from her own experience that the disease was Smallpox. Dr. Richards examined the patient and found he had had a severe attack of the disease, which had left his face badly pitted. At first it was intended to prosecute the householder for concealing the illness, but this course was afterwards given up owing to the difficulty of proving that the real nature of the disease was known. The occupier of the house was, however, seen by your Chairman, and was severely reprimanded for his carelessness. The case was made much more serious by the fact that the premises were in the occupation of a dairyman and cowkeeper. The whole of the house, as well as the dairy and the cowsheds, underwent thorough disinfection, every possible means being taken to guard against the retention in them of the Smallpox virus.

Prevention of Diphtheria and Typhoid Fever.

In cases of Diphtheria, Croup, Typhoid Fever, and Puerperal Fever, a special examination was made of the houses infected, with a view of discovering any sanitary defects. Enquiry was also made as to the probability of the disease having been caught from any known case at school or in the neighbourhood. Children from houses invaded by Diphtheria or Croup were kept away from school, and in cases of Puerperal Fever I had an interview with the nurse or midwife respecting the precautions she would have to take to prevent the spread of infection.

I am strongly of opinion that the conservancy system of refuse disposal greatly facilitates the spread of Typhoid Fever. In my last annual report I pointed out that secondary cases of Typhoid Fever occurred at 1 out of 7 houses using ashpit privies, 1 out of 14 where pans were in use, and 1 out of 22 where there were water-closets. During 1895 several instances came to my notice in which the privy accommodation appeared to cause the spread of infection. One of these was in

Typhoid Fever in Brunswick Road.

Brunswick Road, where two cases occurred at a front house and three at the house in the rear. For the use of these houses there were two midden ashpits, and within 15 feet of one of them was a well supplying the houses with drinking water. The water in the well was turbid and contained floating particles; there seems every probability that the soakage from the ashpit found its way into it. I analysed a sample of the

water, which was of distinctly bad quality, as I expected. The well has since been closed, and the ashpit privies have been converted into water-closets. Typhoid Fever in Brunswick Road (*continued*).

Towards the end of 1894 and at the beginning of 1895 eleven cases of Typhoid Fever occurred in a court in Bellbarn Road. The disease was first introduced by a family who had been to Scarborough and had had two of their number ill there. From this family the disease spread to four other houses in the court, and I could discover nothing to account for this except the use of the pan privies in the yard. I strongly recommended the conversion of these privies to water-closets, but this recommendation was not acted upon. Typhoid Fever in Bellbarn Road

In my last annual report I recorded that an outbreak of Typhoid Fever had occurred at Warstone Terrace, Warstone Lane, and that I had recommended the conversion of the pan privies into water-closets, but without effect. Last year attention was again called to the same terrace by the House Governor of the General Hospital, who had received into that institution several cases of Typhoid Fever which had occurred there. I again expressed the opinion that the continued existence of the disease was due to the system of privy accommodation, but I regret to say that no steps have been taken to enforce the reconstruction of the privies. Typhoid Fever in Warstone Lane

From what I have said it must be evident that the amount of preventive work devolving on the inspectorial staff has been enormously increased by the adoption of the Infectious Disease (Notification) Act. Up till 1890 the number of voluntarily notified cases was but small; since that date the number compulsorily reported has averaged 4,073 per annum. The amount of clerical work has also greatly increased. A record is kept of the condition of every house in which a case of infectious disease occurs, and circulars are sent to the schools attended in all cases of Smallpox, Scarlet Fever, Diphtheria, and Membranous Croup. The cases are also entered in a ledger kept for the purpose of verifying accounts sent in for notification fees, and finally are allotted to the wards they belong to and tabulated according to ages and localities, so as to show what parts of the town and what periods of life suffer the greatest incidence. These latter statistics have already proved of great interest, and will I think be found to be more and more valuable as the period over which they extend becomes longer.

Mortuaries.

From returns supplied me by Mr. Farndale, Chief Constable, I learn that 156 bodies were placed in these sanitary adjuncts during the year, 28 being taken to Moor Street, 19 to Ladywood Road, 45 to Kenyon Street, 37 to Duke Street, and 27 to Moseley Street. Mortuaries.

Public Baths.

Public Baths.

Mr. Cox has supplied me with the following figures, showing the number of persons using the Corporation Baths in each of the last ten years.

	Men.	Women.	Total.
1886	320,303	18,712	339,015
1887	337,802	18,830	356,632
1888	284,173	16,669	300,842
1889	328,577	18,676	347,253
1890	327,936	18,816	346,752
1891	321,530	19,681	341,211
1892	311,527	20,367	331,894
1893	406,433	23,842	430,275
1894	307,536	21,065	328,601
1895	298,328	20,536	318,864

Sewerage Works.

Sewerage Works.

I am informed by the City Surveyor that on March 31st, 1895, the sewers under the charge of the City Council measured 265 miles, and that the total length of

Streets and Roads

Streets and Roads.

was 260 miles; comprising 254¼ miles of declared highways, and 5¾ miles of undeclared highways, private roads, and passages.

Water Supply.

Water Supply.

As usual I made an analysis every month of the water supplied by the Corporation. The average results given in Table X. show that the organic matter was higher than in previous years, and that a further increase has taken place in the hardness of the water. There was also an increase in the amount of chlorine.

Analyses for Water Committee.

For the Water Committee I examined 159 samples of water taken from the various streams and deep wells from which the Corporation Water Supply is obtained, and reported the results to the Committee.

Well Water.

I also analysed samples of water obtained from 1 deep well and 8 shallow wells; all the shallow wells were seriously polluted. During the year 8 wells were closed, some of which had been examined in 1894. One of these supplied Number 188 and the three next houses in Mary Street, Balsall Heath; in this case legal proceedings had to be taken. I gave evidence that I had analysed the water of this well on three different occasions, viz., on the 27th December, 1894, the 7th June, 1895, and the 4th July, 1895. The samples were pretty clear, but contained suspended particles floating in them. The results of analysis showed that the total solid matter was very large,

giving the water an excessive amount of hardness. Another feature of the water from this well was its variability of composition, as seen by a comparison of the results of analysis of the three samples examined. This variation referred more particularly to the ammonia, the nitrates, and the unchanged organic impurities. The larger amount of unchanged organic matter under the heading of organic ammonia, as well as the larger amount of free ammonia contained in the last sample examined, was no doubt the result of recent rains washing into the well the contents of two privy-middens, which I inspected together with the premises generally. The two middens in question were each situated 10 feet from the well, and I should expect under these circumstances that the well could not possibly remain unpolluted. Well water (*continued*).

My attention was first called to this well in December, 1894, by a notification of a case of blood poisoning at 188, which the medical attendant attributed to the well water. The chemical analysis, supplemented by the medical opinion, led me to the conclusion that the water of this well was injurious to health, and unfit for domestic use, and that therefore the well should be closed.

The result of the hearing of the case was that the owner was ordered to close the well and to pay the costs of the proceedings, which amounted to £2.

Miscellaneous Analyses.

During the year I analysed the following articles, which were sent to me from various Corporation Departments :— Miscellaneous Analyses.

Water or Sewage	48 samples.
Poudrette	8 ,,
Chicory	7 ,,
Cloth	7 ,,
Coffee Berries	6 ,,
Mortar	5 ,,
Other Articles	20 ,,

Reports upon the results of analysis were made to the different Committees concerned.

I remain,

Mr. Chairman and Gentlemen,

Your obedient Servant,

ALFRED HILL, M.D.,

Medical Officer of Health.

III. APPENDIX.

(TABLES, MAP, AND CHART).

TABLE I.

Population, Births, and Deaths in the Ten Years 1886–1895.

Year.	Estimated Population.	Births.	Total Deaths.	Deaths.			
				Of Infants under One Year old.	Of Children under Five Years old.	From Seven chief Zymotic Diseases.	In Public Institutions.
1886 ...	458,110	15,622	9,182	2,712	4,244	1,462	1,239
1887 ...	462,251	15,315	9,225	2,670	4,137	1,424	1,259
1888 ...	466,430	15,076	8,465	2,293	3,652	924	1,195
1889 ...	470,646	15,357	9,035	2,579	4,096	1,270	1,320
1890 ...	474,900	15,487*	10,329*	2,798*	4,504*	1,391*	1,600*
1891 ...	479,193	16,166	10,077	2,673	4,015	976	1,650
1892 ...	483,526	16,026	9,642	2,664	4,234	1,244	1,411
1893 ...	487,897	15,881	10,445	3,146	4,452	1,480	1,631
1894 ...	492,301	15,505	8,946	2,539	3,980	1,196	1,549
1895 ...	496,751	16,014	9,863	2,910	4,308	1,299	1,656
Average of 9 years prior to 1895.	475,028	15,604	9,483	2,675	4,146	1,263	1,428

* 53 weeks.

1.—Population at Census 1891, 478,116.
2.—Number of Inhabited Houses at Census 1891, 95,516.
3.—Average number of Persons in each House at Census 1891, 5·0.
4.—Area of the City, in acres, 12,705.

TABLE II.

Birth-rates and Death-rates in the Ten Years 1886–1895.

Year.	Birth-rate per 1,000 persons living.	Death-rate per 1,000 persons living.	Death-rate in Infants under One Year per 1,000 Births.	Death-rate in Children under Five Years per 1,000 Children living.	Death-rate from Seven chief Zymotic Diseases.	Deaths in Public Institutions; Percentage on total deaths.
1886	34·2	20·1	174	70	3·2	13·5
1887	33·2	20·0	174	69	3·1	13·6
1888	32·4	18·2	152	61	2·0	14·1
1889	32·7	19·2	168	69	2·7	14·6
1890	32·1	21·4	181	75	2·9	15·5
1891	33·8	21·1	165	69	2·0	16·4
1892	33·2	20·0	166	73	2·6	14·6
1893	32·6	21·5	198	77	3·0	15·6
1894	31·6	18·2	164	70	2·4	17·3
1895	32·3	19·9	182	76	2·6	16·8
Average of 9 Years prior to 1895.	32·9	20·0	171	70	2·6	15·0

TABLE III.

SHOWING THE NUMBER OF DEATHS IN THE NINE YEARS, 1886 TO 1894, FROM THE SEVEN PRINCIPAL ZYMOTIC DISEASES, AND THE NUMBER IN 1895.

	1886.	1887.	1888.	1889.	1890.*	1891.	1892.	1893.	1894.	1895.	Annual Average of 9 years, prior to 1895.
Smallpox	0	2	0	0	0	7	0	70	171	8	28
Measles	402	251	202	214	354	107	340	48	316	133	248
Scarlet Fever	42	37	40	162	218	95	68	68	75	133	89
Diphtheria	80	67	48	59	66	43	67	43	50	163	58
Whooping Cough	99	403	248	297	224	303	285	321	219	173	267
Fever — Typhus	0	0	0	0	0	0	0	0	0	0	0
Fever — Typhoid or Enteric ...	63	77	64	45	64	80	39	94	105	82	70
Fever — Continued	6	8	5	4	2	1	2	8	4	2	5
Diarrhœa	770	579	317	489	463	340	443	828	256	605	498
TOTAL	1,462	1,424	924	1,270	1,391*	976	1,244	1,480	1,196	1,299	1,263

* 53 weeks.

TABLE IV.

Deaths from certain causes in the years 1891–1895.

DEATHS FROM	1891	1892	1893	1894	1895
Cancer	324	293	313	303	332
Phthisis	815	716	775	630	718
Other Tubercular Diseases ...	266	265	270	229	287
Premature Birth	295	345	359	346	376
Old Age	435	348	541	388	510
Bronchitis, Pneumonia, and Pleurisy	2,469	2,100	2,188	1,811	1,770
Diseases of Nervous System ...	902	864	915	861	931
Diseases of Heart	673	684	584	586	613
Diseases of Digestive System	570	597	712	582	772
Diseases of Urinary System	222	225	256	215	207
Accident or Negligence ...	356	292	296	280	329
Debility, Atrophy, Inanition, and Marasmus	593	592	750	615	658

TABLE V.

HEALTH DEPARTMENT.

SUMMARY OF NUISANCES ABATED AND OTHER WORK DONE DURING THE YEAR 1895.

(RETURN MADE BY MR. PARKER, *Inspector of Nuisances.*)

No of Drains opened and cleared from obstruction	3,961
,, Drains efficiently trapped	1,699
,, Drains in cellars disconnected from the sewer or removed...	107
,, Drains removed from under Dwelling Houses	10
,, Sink Drains disconnected from the sewer	160
,, Sink Bend Pipes repaired or affixed	458
,, Overflow Pipes from Water Cisterns disconnected	25
,, Premises supplied with drains	200
,, Houses disinfected, cleansed, and purified, after infectious disease	2,392
,, Houses cleansed and whitewashed	1,427
,, Houses repaired	1,621
,, Houses supplied with wholesome water	7
,, Houses rendered fit for human habitation or closed ...	63
,, Houses provided with efficient ventilation	11
,, Cases of overcrowding of houses remedied	20
,, Accumulations of water in cellars removed	295
,, Spouts repaired	344
,, Soilpipes removed from inside dwelling houses	31
,, Privies cleansed	477
,, Ashpit Privies converted to water closets	1,122
,, Pan Privies converted to water closets	248
,, Additional Water Closets provided	473
,, Ashpits and Privies repaired	1,703
,, Urinals cleansed, repaired, or re-constructed	735
,, Back Yards paved or repaired...	449
,, Premises from which fowls have been removed	241
,, Nuisances from swine and swine styes abated	119
,, Accumulations of wash, manure, etc., removed	796
,, Premises reported to the City Surveyor's Department as dangerous, and rendered safe	1,066
,, Defective Water Fittings reported to the Water Department, and repaired	925
Total	21,185

Number of Prosecutions	31
,, Withdrawals	8
,, Convictions	18
,, Adjournments	5
Amount of Costs	£3 15s. 6d.
,, Penalties	£1 0s. 0d.

SMOKE NUISANCES.

No. of Observations made by the Inspectors	4,526
,, Manufacturers Reported for the emission of dense smoke ...	122
,, ,, Cautioned	79
,, ,, Summoned	43
,, Prosecutions Withdrawn	3
Amount of Penalties	£18 10 0
,, Costs	£20 7 0

WORKSHOPS.

No. of Visits to Workshops	8,911
,, Sanitary Defects and Contraventions of Regulations Remedied	1,146

DAIRIES, COW SHEDS, AND MILKSHOPS.

No. of Visits to Cow Sheds	2,294
,, Visits to Dairies	185
,, Visits to Milk Shops and Milk Stores	4,185
,, Sanitary Defects and Contraventions of Regulations Remedied	234

BAKEHOUSES.

No. of Visits to Bakehouses	1,154
,, Sanitary Defects and Contraventions of Regulations Remedied	130

COMMON LODGING HOUSES.

No. of Registered Common Lodging Houses	78
,, Lodgers allowed	1,777
,, Houses Registered under the Public Health Act, 1875 ...	80
, Lodgers allowed	457
,, Visits by day	13,234
,, Visits by night	1,665
,, Lodgers found occupying the Houses	28,771
,, Persons Summoned	4

THE CANAL BOATS ACTS, 1877 AND 1884.

No. of Canal Boats inspected	738
,, Canal Boats registered	35
,, Contraventions of Regulations Remedied	87
,, Persons Summoned	0

SLAUGHTER HOUSES.

(Return made by MR. EDWARDS, *Superintendent of the Markets.)*

No. of Visits	9,586
Voluntary Surrenders of Meat	1,589
Seizures of Bad Meat...	17
Weight Destroyed	181 tons
Voluntary Surrenders of Fish, &c.	587
Seizures of Fish, &c.	7

CONTAGIOUS DISEASES (ANIMALS) ACT.

(Return made by MR. EDWARDS, *Superintendent of the Markets.)*

No. of Visits to Railway Stations	833
No. of Visits to Cow Houses	96

TABLE VI.

Meteorological Condition of the Air, Temperature of the Ground, Hours of Sunshine, and Amount of Rainfall for the Year ending December 31st, 1895.

Observed at the Birmingham and Midland Institute Observatory, Edgbaston, by Mr. Alfred Cresswell.

	Pressure of Air.	TEMPERATURE					Degree of Humidity. Complete Saturation=100	Horizontal Movement of the air in miles.	Hours of Sun-shine.	RAINFALL.	
	Barometer	OF THE AIR.			OF THE GROUND.						
	Mean Weekly Reading, reduced to 32° F. and sea level.	Highest in Shade.	Lowest in Shade.	Mean Temperature in the Week.	1 foot deep.	4 feet deep.				Amount deposited in inches.	Number of Days on which Rain fell.
1895.											
January ...	29·675	42·8	13·9	30·6	35·8	43·7	—	10,204	25·3	3·92	21
February ...	30·091	43·6	8·0	27·5	32·7	40·9	—	7,653	58·2	0·32	5
March ...	29·679	58·1	24·0	40·4	38·8	40·7	89	9,948	75·2	1·91	17
April ...	29·888	60·5	28·4	45·5	44·8	43·5	79	9,130	107·2	2·37	12
May ...	30·113	77·6	36·0	53·9	52·1	47·1	70	8,387	201·3	0·82	5
June ...	30·095	80·0	38·9	58·0	57·4	50·6	70	6,906	186·2	0·89	6
July ...	29·863	75·5	46·2	58·5	57·6	52·8	75	8,958	128·5	3·25	18
August ...	29·893	75·0	44·7	59·2	57·9	54·1	78	8,357	144·4	2·75	20
September...	30·155	81·8	40·4	59·9	57·2	55·1	80	6,278	194·7	0·45	6
October ...	29·828	70·0	28·6	44·8	47·8	53·0	83	8,272	56·2	2·81	15
November ...	29·846	59·4	33·5	44·6	45·0	49·1	90	10,996	37·8	3·41	23
December ...	29·770	53·8	25·9	38·0	40·2	46·7	86	11,823	26·2	1·99	20

PRICES OF COAL, FLOUR, POTATOES, AND BUTCHERS' MEAT, AND THE NUMBER OF PAUPERS RELIEVED IN THE PARISH OF BIRMINGHAM DURING EACH OF THE FIVE YEARS ENDED MICHAELMAS, 1891-1895.

Years.	Average Prices of Food and Fuel.				Pauperism. Weekly Average of Paupers relieved during the Year.	
	Coal per ton.	Flour per 224lbs.	Potatoes per ton.	Butchers' Meat per lb.	In-door.	Out-door.
1895	8/6	14/–	70/–	Beef -/4¼ Mut'n -/7¼	2,854	946
1894	9/–	14/–	60/–	Beef -/4½ Mut'n -/6¾	2,716	893
1893	9/3	16/9	60/–	Beef -/4¼ Mut'n -/6¾	2,652	725
1892	9/2	22/3	75/–	Beef -/4⅛ Mut'n -/7	2,627	834
1891	9/7	22/9	80/–	Beef -/4½ Mut'n -/7¼	2,688	1,058

TABLE VII.

Temperature and Rainfall in each Month and Year from 1887 to 1895.

MONTH.	TEMPERATURE.										RAINFALL.									
	1887	1888	1889	1890	1891	1892	1893	1894	Average for eight years 1887-1894.	1895	1887	1888	1889	1890	1891	1892	1893	1894	Average for eight years 1887-1894.	1895
	°	°	°	°	°	°	°	°	°	°										
January ...	35·2	37·2	36·8	41·1	34·4	35·2	35·1	36·7	36·5	30·6	1·19	0·50	0·59	2·80	1·92	1·98	1·75	1·61	1·53	3·92
February	38·3	34·8	36·5	36·8	40·2	37·3	39·2	39·9	37·9	27·5	0·62	0·11	1·66	0·52	0·69	1·41	2·56	2·05	1·20	0·32
March ...	37·6	36·9	39·5	42·6	38·8	35·6	45·3	42·6	39·9	40·4	1·38	2·41	2·64	1·47	1·22	0·85	0·50	1·05	1·44	1·91
April ...	41·6	42·1	43·7	44·0	42·4	44·9	49·6	48·5	44·6	45·5	1·47	1·89	2·91	0·69	2·13	1·23	0·33	1·62	1·53	2·37
May ...	47·6	51·1	54·3	52·7	48·4	53·2	54·5	47·1	51·1	53·9	1·88	0·83	4·00	2·12	3·38	1·85	2·08	2·01	2·27	0·82
June ...	59·9	55·2	59·0	57·1	57·4	56·5	59·0	55·6	57·5	58·0	2·17	2·16	0·49	1·62	3·27	2·74	1·08	2·16	1·96	0·89
July ...	63·9	55·9	59·0	57·6	58·0	56·8	61·0	59·8	59·0	58·5	0·93	5·11	1·53	2·39	2·08	2·52	1·64	3·36	2·45	3·25
August ...	60·2	57·4	58·6	57·5	56·9	59·2	63·2	56·4	58·7	59·2	2·38	3·27	2·92	3·74	3·56	3·73	2·25	2·12	3·00	2·75
September	52·5	53·7	55·1	58·6	57·2	54·0	54·8	52·1	54·7	59·9	2·31	1·20	2·17	1·26	1·63	2·97	1·72	1·70	1·87	0·45
October ...	44·4	46·6	46·8	49·2	48·4	44·5	48·8	47·2	47·0	44·8	2·11	0·32	3·19	1·56	5·36	2·84	2·45	3·48	2·66	2·81
November	40·1	45·5	44·0	42·5	41·3	43·2	39·9	45·1	42·7	44·6	1·78	4·41	1·04	3·22	2·74	1·79	1·38	2·48	2·35	3·41
December	37·3	40·3	37·9	29·8	39·2	34·7	39·5	40·1	37·3	38·0	1·58	2·41	1·80	0·71	3·16	1·69	3·02	1·88	2·03	1·99
Year ...	46·5	46·4	47·6	47·5	46·9	46·3	49·2	47·6	47·2	46·7	19·80	24·62	24·94	22·10	31·14	25·60	20·76	25·52	24·29	24·89

TABLE VIII.

Number of Cases Reported under the Infectious Disease (Notification) Act, 1889, during each Week of the Year 1895.

Number.	Week. Date of ending.	Smallpox.	Scarlet Fever.	Diphtheria.	Membranous Croup.	Typhus Fever	Typhoid Fever.	Simple Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Total.
	1895.												
1	January 5th	13	31	12	2	...	9	...	...	1	...	16	84
2	,, 12th	18	31	13	2	...	9	1	...	1	...	19	94
3	,, 19th	15	19	10	1	...	10	...	...	...	...	25	80
4	,, 26th	6	19	17	3	...	14	...	..	1	...	19	79
5	February 2nd	5	22	11	1	...	13	...	...	...	...	21	73
6	,, 9th	12	20	11	3	...	6	...	...	...	...	17	69
7	,, 16th	6	32	12	6	...	7	...	..	...	...	27	90
8	,, 23rd	2	48	4	3	...	9	..	...	...	...	24	90
9	March 2nd	4	39	7	...	...	9	..	...	...	...	20	79
10	,, 9th	5	24	5	2	...	7	...	...	...	...	23	66
11	,, 16th	7	38	5	4	...	9	...	...	...	...	19	82
12	,, 23rd	1	23	11	4	...	4	...	...	..	...	12	55
13	,, 30th	3	25	3	1	...	7	...	...	...	...	9	48
14	April 6th	1	26	15	1	...	11	...	...	2	...	20	76
15	,, 13th	1	27	5	...	...	4	...	...	...	...	7	44
16	,, 20th	...	28	5	2	...	4	...	...	2	...	14	55
17	,, 27th	...	29	10	2	...	5	...	...	1	...	10	57
18	May 4th	...	21	7	3	...	2	...	...	...	...	13	46
19	,, 11th	...	53	11	2	...	12	...	...	1	...	9	88
20	,, 18th	..	48	13	..	...	9	...	...	...	...	13	83
21	,, 25th	...	48	7	...	...	9	...	...	...	...	17	81
22	June 1st	...	35	8	1	...	7	..	...	...	...	9	60
23	,, 8th	...	39	8	3	...	7	...	...	1	...	13	71
24	,, 15th	...	39	9	...	...	4	...	...	...	...	16	68
25	,, 22nd	...	45	12	1	...	4	...	...	...	...	7	69
26	,, 29th	1	77	14	1	...	3	...	...	1	...	8	105
27	July 6th	..	56	13	1	...	3	...	...	...	...	8	81
28	,, 13th	...	68	10	2	...	4	...	...	...	...	15	99
29	,, 20th	...	74	18	3	...	3	...	...	...	...	11	109
30	,, 27th	...	70	8	1	...	4	..	...	1	..	15	99
31	August 3rd	...	57	16	2	...	4	...	...	...	...	12	91
32	,, 10th	...	79	6	2	...	7	1	...	...	...	15	110
33	,, 17th	...	75	9	...	...	6	...	...	...	...	14	104
34	,, 24th	...	88	7	2	...	8	...	...	...	...	12	117
35	,, 31st	...	63	14	2	...	12	...	...	1	...	14	106
36	September 7th	...	63	14	2	...	12	...	...	1	...	8	100
37	,, 14th	...	94	14	2	...	13	1	...	1	...	14	139
38	,, 21st	...	108	15	1	...	10	...	...	...	...	16	150
39	,, 28th	...	102	15	...	...	9	...	...	1	...	19	146
40	October 5th	...	103	18	2	...	19	...	...	2	...	15	159
41	,, 12th	...	67	12	2	...	13	...	...	...	...	17	111
42	,, 19th	...	86	15	...	...	6	...	...	1	...	16	124
43	,, 26th	...	111	28	2	...	5	...	...	1	...	19	166
44	November 2nd	...	104	17	2	...	19	...	...	1	...	13	156
45	,, 9th	...	79	18	4	...	14	...	...	1	...	23	139
46	,, 16th	...	90	20	4	...	7	...	...	...	...	19	140
47	,, 23rd	...	83	18	...	...	7	...	...	1	...	29	138
48	,, 30th	...	90	16	2	...	15	...	...	...	..	22	145
49	December 7th	...	89	20	6	...	17	...	...	...	...	12	144
50	,, 14th	...	60	18	2	...	9	...	...	1	...	21	111
51	,, 21st	...	62	19	2	...	13	1	...	...	...	16	113
52	,, 28th	...	57	17	5	...	3	...	...	...	...	16	98
	Totals ...	100	2964	640	101	...	436	4	...	24	...	818	5087

Cases of Infectious Disease Notified during the Year ending December 28th, 1895.

Classified according to ages, wards, and institutions.

DISEASES.	AGES.							WARDS.																		Institutions.	CITY.
	0 to 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 and up.	Rotton Park.	All Saints'.	Ladywood.	St. Paul's.	St. George's.	St. Stephen's.	St. Mary's.	St. Bartholomew's.	Market Hall.	St. Thomas's.	St. Martin's.	Edgbaston and Harborne.	Deritend.	Bordesley.	Duddeston.	Nechells.	Balsall Heath.	Saltley		
SMALLPOX	..	8	18	31	37	6	..	14	14	4	12	12	4	..	7	1	1	..	4	6	6	3	4	1	3	4	100
SCARLET FEVER ..	38	937	1664	263	59	3	..	312	228	179	56	96	117	115	113	39	123	126	153	160	301	103	210	302	186	45	2964
DIPHTHERIA	9	182	249	102	86	12	..	61	151	51	31	24	24	23	21	9	19	18	47	14	21	21	29	27	39	10	640
MEMBRANOUS CROUP.	6	70	24	1	..	..	..	14	13	7	10	3	4	3	6	1	1	1	2	3	5	3	6	6	12	1	101
TYPHUS FEVER.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.	..	..	..	..	.	..	..	..	..	..
TYPHOID FEVER ..	..	37	147	130	96	23	3	38	28	30	25	14	16	7	24	12	25	34	10	42	17	19	25	35	30	5	436
SIMPLE CONTINUED FEVER	..	1	1	..	1	1	..	2	.	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	4
RELAPSING FEVER ..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
PUERPERAL FEVER ..	..	..	..	9	15	..	..	2	2	1	..	..	2	1	..	..	..	1	2	4	1	1	2	4	1	..	24
CHOLERA..	..	..	..	..	..	..	..	..	.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
ERYSIPELAS	38	49	109	119	255	190	58	80	50	47	31	29	40	29	72	14	50	41	31	45	72	32	44	48	43	20	818
TOTALS .	91	1284	2212	655	549	235	61	523	486	319	165	178	207	178	244	76	219	221	249	274	423	182	320	423	315	85	5087

TABLE X.—WATER: RESULTS OF ANALYSES

Date of Receipt of Samples.	DESCRIPTION.	Temp. C.	Total Solid Impurity	Organic Carbon.	Organic Nitrogen.
1895.	**CORPORATION SUPPLY.**				
Jan. 9th	8 Court, Rea Street	2·8	28·7	·250	·050
Feb. 12th	Rear of 196, Warstone Lane	2·8	35·0	·270	·045
Mar. 18th	Gem Terrace, Icknield Port Road	6·1	32·8	·275	·055
April 10th	3 Court, Northumberland Street	7·8	26·5	·200	·035
May 8th	Rear of 15 and 16, St. Mary's Row	13·9	32·3	·355	·090
June 13th	1 Court, York Street, Harborne	15·5	32·4	·130	·040
July 3rd	3 Court, Bromsgrove Street	17·8	33·0	·240	·035
Aug. 12th	Bradgate Place, Vincent Street	15·0	32·8	·155	·030
Sept. 3rd	Rear of 45 and 47, Foundry Road	16·7	31·6	·200	·075
Oct. 8th	4 Court, Smith Street, Bloomsbury	10·0	27·9	·210	·050
Nov. 6th	4 Court, Cregoe Street	8·3	38·1	·110	·045
Dec. 11th	46 Court, Grosvenor Street West	7·2	31·8	·230	·040
	Average Results ... 1895...	10·3	31·9	·219	·049
	,, ,, ... 1894...	10·9	30·3	·174	·046
	,, ,, ... 1893...	10·6	30·1	·186	·037
	,, ,, ... 1892...	10·1	28·1	·185	·028
	,, ,, ... 1891...	10·2	29·3	·195	·028
	WELL WATER.				
Jan. 7th	Four Dwellings, Ward End	...	144·0	...	...
Feb. 25th	Grand Hotel, Colmore Row	...	17·0	...	...
Mar. 14th	*117, 119, and 121, Brunswick Road	...	125·0	...	...
,, 22nd	†135, 136, 137, and 138, Edwardes Street	...	150·0	...	...
April 10th	2, May Cottages, Ward End	...	178·0	...	...
,, 10th	Back 63, Belgrave Street	...	175·0	...	...
Dec. 3rd	†137 and 139, High Street, Harborne	...	90·0	...	...
,, 3rd	†116, High Street, Harborne	...	108·0	...	...
,, 5th	†"Cross Farm," Metchley Lane	...	69·0	...	...

* Typhoid Fever.
† Diphtheria.

XPRESSED IN PARTS PER 100,000.

mmonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contamination. (Estimated.)	Chlorine.	Hardness.			REMARKS
					Temporary.	Permanent.	Total.	
·001	·130	·181	990	1·8	7°7	11°6	19°3	Very slightly turbid; yellowish green
·001	·310	·356	2,790	2·1	13·7	14·4	28·1	Very slightly turbid ; green
·001	·180	·236	1,490	1·8	8·5	16·6	25·1	Very slightly turbid ; greyish green.
none	·170	·205	1,380	1·7	6·7	12·7	19·4	Slightly turbid ; greyish green
none	·260	·350	2,280	3·0	6·3	13·8	20·1	Very turbid ; greenish grey
none	·190	·230	1,580	2·2	13·4	12·6	26·0	Clear ; pale green
·001	·100	·136	690	2·0	11·4	15·8	27·2	Clear ; pale green
·001	·250	·280	2,190	3·1	10·7	11·2	21·9	Clear ; pale green
none	·180	·255	1,480	2·2	8·0	12·6	20·6	Clear ; pale green
none	·100	·150	680	1·9	7·6	13·6	21·2	Clear ; green
·001	·440	·486	4,090	3·3	9·9	14·0	23·9	Very slightly turbid ; pale green
none	·330	·370	2,980	2·2	6·4	15·7	22·1	Clear ; green
none	·220	·270	1,890	2·3	9·2	13·7	22·9	
none	·214	·251	1,820	2·2	7·0	13·1	20·1	
·001	·267	·304	2,350	2·1	7·5	13·2	20·7	
·001	·263	·291	2,320	1·9	8·0	12·2	20·2	
·001	·214	·243	1,820	2·0	6·2	14·4	20·6	
·001	5·7	...	57,400	14·2	...	...	...	Clear ; pale green
·001	trace	...	...	1·0	...	...	...	Opalescent
none	4·4	...	43,700	5·5	...	...	...	Very slightly turbid
none	3·3	...	32,700	10·6	...	...	...	Bright ; with suspended particles
·001	7·1	...	71,200	16·3	...	...	...	Almost clear ; fine floating particles
none	6·6	...	65,700	10·0	...	...	...	Almost clear ; fine floating particles
·007	4·2	...	42,000	14·1	...	...	...	Very slightly turbid
·003	7·0	...	70,000	10·8	...	...	...	Very slightly turbid
·001	2·7	...	27,000	5·1	...	...	...	Clear ; with minute fibrous particles

TABLE XI.

RETURN FOR THE PERIOD 1ST JULY, 1894, TO 30TH JUNE, 1895, RESPECTING THE VACCINATION OF CHILDREN WHOSE BIRTHS WERE REGISTERED IN THE CITY DURING THE SAID PERIOD.

	Number of Births returned in the "Birth List Sheets" as Registered.	Number of these Births duly entered in Columns 10, 11, and 13 of the "Vaccination Register" (Birth List Sheets), viz.:				Number of these Births which remained unentered in the "Vaccination Register" on account (as shown by Report Book) of			Number of these Births remaining neither duly entered in the "Vaccination Register" (cols. 3, 4, 5, and 6 of this Return) nor temporarily accounted for in the "Report Book" (cols. 8, 9, and 10 of this Return).
		Col. 10.	Col. 11.		Col. 13.				
		"Successfully Vaccinated."	"Insusceptible of Vaccination."	"Had Smallpox."	"Dead, Unvaccinated."	Postponement by Medical Certificate.	Removal to Districts the Vaccination Officer of which has been duly apprised.	Removal to places unknown or which cannot be reached; and cases not having been found.	
1	2	3	4	5	6	8	9	10	11
Birmingham Parish ...	7,954	6,169	51	1	990	86	67	496	94
Aston Union (within the City)	6,203	4,278	54	—	783	102	33	645	308
King's Norton Union (within the City) ...	1,692	1,174	16	—	159	29	21	89	204
Total	15,849	11,621	121	1	1,932	217	121	1,230	606

Table of the Number of Deaths occurring in each Street in the City of Birmingham during the Year 1895.

STREETS.	Zymotic Diseases.	Other Diseases.
A		
A B Row		
Abberley Street ..		1
Abbey Street, All Saints'	2	7
Abbey Street, Harborne		
Aberdeen Street ..	5	16
Ada Street		2
Adams Street	4	27
Adderley Road ..	5	13
Adderley Street ..		9
Addison Road ..		1
Adelaide Street ..		11
Albany Road		
Albert Road		
Albert Street		1
Albion Street		6
Alcester Street ..	2	16
Alder Drive		
Alder Road		
Alexandra Road ..		3
Alexandra Street ..	3	2
Alfred St., Balsall Heath	1	7
Alfred Street, St. Paul's	2	1
Algernon Road ..		3
Allcock Street ..	1	8
Allen's Road	1	3
Allesley Street ..	2	10
Allison Street	2	7
Allport Street		
All Saints' Road ..		2
All Saints' Street ..		2
Alma Crescent ..	1	3
Alma Street		
Alston Street	3	11
Alum Rock Road ..	1	19
Ampton Road ..		2
Anderton Road ..	1	8
Anderton Street ..	1	14
Andover Street ..		
Angelina Street ..	3	25
Anthony Road ..	1	1
Arden Road	1	7
Argyle Street	4	8
Armoury Road ..		2
Arsenal Street ..		4
Arthur Road, Edgbaston		1
Arthur Road, Saltley ..	2	5
Arthur Street	2	31
Artillery Street ..	2	6
Ashford Street ..		2
Ashley Street	5	16
Ashted Row	4	17
Aston Road	3	16
Aston Street		3
Aston Brook Street ..		12
Aston Church Road ..		
Asylum Road	2	6
Athole Street		1
Atlas Road		1
Auckland Road ..	1	12
Augusta Street ..		2
Augustus Road ..		3
Austin Street		1
Avenue Road		
B		
Bacchus Road .. .	1	11
Bagot Street . ..	2	12
Bailey Street	1	
Baker Street		5
Balsall Heath Road ..	1	25
Banbury Street ..	1	2
Banks Road	1	
Barford Road	3	3
Barford Street ..	7	34
Barker Street		7
Barlow's Road ..		
Barn Street	4	8
Barnsley Road ..		
Barr Street	2	19
Barrack Street ..	1	
Bartholomew Row ..	2	6
Bartholomew Street ..	1	11
Barwell Road		3
Barwick Street ..		1
Baskerville Passage ..		
Baskerville Place ..		
Bath Passage		3
Bath Row		7
Bath Street	1	6
Beach Street	3	9
Beak Street		3
Beaufort Road ..		4
Bedford Road		5
Beech Lanes		
Beechfield Road ..		5
Belcher Lane		2
Belgrave Road ..	1	4
Belgrave Street ..	1	16
Bell Street		
Bell Barn Road ..	5	34
Bellefield Road ..		7
Bellis Street		2
Belmont Passage ..		
Belmont Row	1	7
Benacre Street ..	4	20
Bennett's Hill ..		
Benson Road		6
Berkley Street ..		3
Berners Street ..	1	2
Berry Street ..	1	1
Bertram Road ..		
Betholom Row ..		
Birchall Street ..	1	4
Birchwood Road ..		4
Bird Lane		1
Bishop Street	3	12
Bishop Street South ..		
Bishopsgate Street ..	4	12
Bissell Street	6	9
Black Pit Lane ..		
Blake Lane		2
Blakeland Street ..		7
Blews Street	4	7
Blews Street West ..		9
Bloomsbury Street ..	2	19
Blucher Street ..		11
Blythe Street	2	15
Bolton Road	4	37
Bolton Street		
Bond Street		
Bordesley Green ..	1	9
Bordesley Green Road	2	2
Bordesley Park Road ..	2	16
Bordesley Street ..	4	13
Bow Street	2	8
Bowyer Street ..		4
Bowyer Road		
Bracebridge Street ..	3	26
Bradford Street ..	2	23
Braithwaite Road ..		1
Branston Street ..	1	10
Brass Street		3
Brasshouse Passage ..		1
Bread Street		2
Brearley Street ..	8	55
Brewery Street ..	1	4
Brickiln Street ..		
Bridge Road	1	1
Bridge Street		1
Bridge Street West ..	9	36
Brighton Road ..	1	6
Bristol Road	1	12
Bristol Street	1	11
Broad Street	2	14
Bromford Lane ..		
Bromsgrove Street ..	2	14
Brook Road		
Brook Street		
Brookfield Road ..	1	6
Broom Street		5
Browning Street ..	3	12
Brueton Street ..		
Brunswick Road ..	3	15
Buck Street	1	5
Buckingham Street ..	3	11
Bull Ring		2
Bull Street, Harborne ..		5
Bull Street, Market Hall		3
Bullock Street		4
Burbury Street ..	2	14
Burlington Passage ..		
Burney Lane		
Butler Street		3
Butler Street South ..		1
Butlin Street	2	4
Byron Road		
C		
Calthorpe Road ..		1
Cambridge Crescent ..		
Cambridge Street ..		4
Camden Drive ..	1	1
Camden Grove ..		1
Camden Street ..	7	43
Camp Hill		9
Camp Street		5
Canal Street	3	1
Cannon Street ..		
Cannon Hill Road ..		
Cape Lane		
Cape Street		2
Cardigan Street ..	4	13
Carlisle Street ..	1	3
Carlton Road		7
Carlyle Road		2
Carnarvon Road ..		
Caroline Street ..	1	4
Carpenter Road ..		3
Carrington Road ..	1	7
Carr's Lane		
Cartland Road ..		3
Carver Street		15
Castle Street		1
Cathcart Street ..		7
Cato Street	4	14
Cato Street North ..	2	4
Cattell Road	1	17
Cattell Grove ..		6
Cavendish Road ..		2
Cecil Street	1	18
Chad Road		2
Chandos Road ..		2
Chapel Street		3
Chapel House Street ..		
Chapman Road ..		5
Charles Road		7
Charles Arthur Street ..	1	13
Charles Henry Street ..	7	28
Charlotte Road ..		3
Charlotte Street ..		3
Chattaway Street ..		3

STREETS.	Zymotic Diseases.	Other Diseases.
Cheapside .. .	2	43
Cheatham Street ..		4
Chequers Walk ..	1	2
Cherry Street		
Cherry Wood Road ..	2	9
Chester Street.. ..	3	14
Chesterton Road ..	2	12
Cheston Road ..		
Chicheley Street ..	1	1
Chiswell Road ..		3
Christ Church Passage		
Church Lane		
Church Road, Edgbaston		1
Church Road, Harborne		
Church Road, Nechells..		2
Church Road, Saltley ..		7
Church Street.. ..		2
City Road		4
Claremont Road ..		
Clarence Road ..		3
Clarendon Road ..		3
Clark Street	2	16
Claverdon Street ..		2
Claybrook Street ..		1
Clayton Road		4
Clement Street ..		2
Cleve Terrace ..	1	1
Clevedon Road ..	1	11
Clifton Road	3	23
Clissold Street ..	2	4
Clive Passage.. ..		
Cliveland Street ..		4
Clyde Street ..		3
Coleman Street ..	2	8
Coleshill Street ..	3	14
College Road		
College Street	1	4
Colmore Row		2
Colville Road.. ..	3	8
Commercial Street ..		1
Common Lane.. .		
Communication Row ..	1	2
Congreve Street ..		
Constance Road ..		
Constitution Hill ..		6
Conybere Street ..	4	19
Cook Street		7
Cooksey Road ..	3	20
Cope Street	2	5
Coplow Street ..	2	11
Coralie Street ..		7
Cornwall Street ..		
Corporation Street ..		3
Cotterill's Lane ..		1
Couchman Road ..	1	
Court Road		
Court Oak Road ..		
Coventry Road ..	4	34
Coventry Street ..	1	12
Cowper Street ..	1	16
Cox Street	2	6
Cox Street West ..		3
Coxwell Road ..	1	4
Crabtree Road ..	1	4
Cranemore Lane ..		
Cranemore Street ..		2
Cregoe Street	2	12
Crescent		11
Crompton Road ..		5
Cromwell Passage ..		
Cromwell Street ..	12	28
Crooked Lane		
Cuckoo Road		13
Cumberland Street ..		1
Curzon Street	2	7
Cuthbert Road ..		7
Cyril Road		5

STREETS.	Zymotic Diseases.	Other Diseases.
D		
Daisy Road		3
Dale End		6
Dalton Street		2
Darnley Road ..	1	
Dart Street	1	
Dartmouth Street ..	1	13
Darwin Street ..	2	31
Dawson Street ..		1
Dean Street		2
Dearman Road		1
Defford Road		1
Denbigh Street ..	1	3
Derby Street . ..	3	7
Devon Street	4	20
Devonshire Street ..	5	17
Digbeth		9
Digby Street		4
Dixon Road		6
Doe Street	1	4
Dolman Street ..	2	23
Dolobran Road ..	1	3
Don Street	2	6
Dora Road		
Dorset Road		
Dover Street		1
Dr. Johnson Passage ..		
Drayton Road.. ..		2
Drury Lane	1	1
Dryden Road		
Duchess Road.. ..		2
Duddeston Row ..		10
Duddeston Mill Road ..	2	13
Dudley Road	4	17
Dudley Street		1
Dugdale Street ..	1	13
Duke Street		10
Dymoke Street ..	5	21
E		
Earl Street		
Eastern Road		
Easy Row		2
Eden Place		
Edgbaston Road ..		
Edgbaston Park Road..		1
Edgbaston Street ..		4
Edmond Road.. ..		
Edmund Street ..		3
Edward Road		
Edward Street ..	2	15
Edwardes Street ..	3	19
Eldon Road		
Elkington Street ..		2
Ellen Street	2	18
Ellis Street		1
Elvetham Road ..	1	1
Emily Street	2	13
Emmeline Street ..		1
Enfield Road		
Erasmus Road ..		6
Ernest Street		
Erskine Street.. ..	1	4
Essex Street		7
Essington Street ..		5
Ethel Road		
Ethel Street		
Eva Road		8
Eversley Road ..	1	8
Exeter Street		
Eyre Street		2
F		
Factory Road	1	1
Falconer Road ..		1

STREETS	Zymotic Diseases.	Other Diseases.
Farm Road		
Farm Street	9	53
Farquhar Road ..		1
Farquhar Road East ..		
Fazeley Street ..		6
Fellows Lane		
Fisher Street	1	8
Fleet Street		
Floodgate Street ..	1	5
Florence Street ..	2	5
Ford Street	7	15
Fordrough Lane ..		
Fordrough Street ..		
Fordroughs		
Forge Street		
Forster Street.. ..		2
Foundry Road ..		2
Fowler Street		
Fox Street		2
Francis Road		6
Francis Street ..	5	25
Frank Street	1	2
Frankfort Street ..	2	11
Franklin Street ..		2
Frederick Road ..		3
Frederick Street ..		5
Freeman Road ..	2	5
Freeman Street ..		
Freeth Street	5	9
Friston Street ..	1	7
Fulham Road		
G		
Galton Street	2	5
Garbett Street ..	2	14
Garrison Lane ..	3	26
Garrison Street ..	3	20
Gas Street		1
Gate Street		2
Geach Street	1	6
Gee Street	1	7
Gem Street		3
George Road	1	3
George St., Balsall H'th		7
George Street, St. Paul's		2
George Street West ..	4	19
Gibb Street	1	
Gillhurst Lane ..		
Gillott Road		10
Gladstone Road ..	1	3
Glebe Street	1	2
Gloucester Street ..		1
Glover Road ..		4
Glover Street ..	3	14
Godwin Street.. ..		4
Golden Hillock Road ..		13
Gooch Street	5	16
Goode Street		6
Goodman Street ..		
Goodrick Street ..		2
Gopsall Street ..	1	7
Gordon Road		
Gordon Street	3	2
Gosta Green		2
Gough Road	1	7
Gough Street		5
Grace Road		9
Grafton Road		2
Graham Street ..		3
Grange Rd., Bordesley	1	15
Grange Rd., Harborne		1
Grant Street		4
Grantham Road ..		1
Granville Street ..	3	9
Gray Street		
Gray's Road	2	3
Great Barr Street ..	2	17
Great Brook Street ..	4	23
Great Charles Street .	2	4

STREETS.	Zymotic Diseases	Other Diseases
Great Colmore Street ..	2	26
Great Francis Street ..	6	36
Great Hampton Row ..	2	16
Great Hampton Street..	1	10
Great King Street ..	8	27
Great Lister Street ..	6	24
Great Russell Street ..	8	28
Great Tindal Street ..	1	7
Green Lane	2	19
Green St., Deritend ..	1	3
Green Street, Saltley ..		
Greenfield Crescent ..		2
Greenfield Road ..	2	11
Greenway Street ..	1	21
Grosvenor Road ..		1
Grosvenor Row .		
Grosvenor Street ..		
Grosvenor Street West	5	17
Grove Lane		
Grove Street ..		
Guest Street ..	2	4
Guildford Street ..	1	13
Guthrie Street ..		
H		
Haden Street		1
Hadley Street.. ..		5
Hagley Road	1	10
Halberton Street ..	3	6
Hall Road		
Hall Street	1	2
Hampden Street ..		1
Hampton Street ..	2	8
Handsworth New Road		1
Hanley Street ..		8
Hanover Street ..		1
Harborne Lane ..		1
Harborne Road ..		
Harding Street ..		3
Harford Street ..		3
Harold Road		2
Harrison's Road ..		
Hart's Road		3
Hatchett Street ..	1	17
Havelock Road ..		8
Hawkes Street ..	2	10
Hawthorn Road ..		
Heath St., All Saints ..	9	26
Heath St., Balsall H'th	1	12
Heath Street South ..	1	2
Heath Green Road ..		1
Heath Mill Lane ..		16
Heaton Street	8	16
Helena Street.. ..		
Heneage Street ..	10	35
Henley Street		12
Henn's Walk		
Henrietta Street ..	1	1
Henry St., Balsall H'h..		
Henry St., Duddeston..	2	16
Henshaw Road		5
Herbert Road	2	14
Hermitage Road ..		
Hertford Street ..		4
Hick Square		
Hick Street	3	13
Hickman Road ..		1
High Street		4
High Street, Bordesley..		
High Street, Deritend ..	3	27
High St., Harborne ..	6	14
High St., Saltley ..	1	2
Highfield Rd., Edgb'n..		
Highfield Rd., H'borne..		2
Highfield Rd., Saltley..		5
Highgate Place ..		3
Highgate Road ..	5	13
Highgate Square ..		
Highgate Street ..	4	23
High Park Street ..		3

STREETS.	Zymotic Diseases	Other Diseases
Hill Street	1	3
Hinckley Street ..		
Hingeston Street .	9	24
Hobmoor Road .		1
Hockley Hill		8
Hockley Street ..		8
Holborn Hill		10
Holland Street ..	1	1
Holliday Street ..		4
Hollier Street		8
Holloway Head ..	2	10
Holly Road		1
Holt Street	4	6
Homer Street	1	2
Hooper Street.. ..	1	4
Hope Street	3	26
Horse Fair		2
Hospital Street ..	12	48
Howard Street ..	1	1
Howe Street	5	11
Hubert Street ..		3
Hugh Road		1
Humpage Road ..		6
Hunter's Road ..		
Hunter's Vale		1
Hurst Street		8
Hutton Road		
Hutton Street		5
Hyde Road	1	8
Hylton Street		
I		
Icknield Square ..		14
Icknield Street ..	4	26
Icknield Port Road ..	7	43
Inge Street	3	9
Ingleby Street ..	2	13
Inkerman Street ..	3	11
Irving Street	12	35
Islington Row.. ..		3
Ivy Lane		2
J		
Jakeman's Road ..		3
Jakeman's Walk ..	1	5
Jamaica Row		2
James Street		2
James Turner Street ..	1	3
James Watt Street ..		2
Jenkins Street ..		4
Jennens Row		2
John Bright Street ..		
John's Road		1
Johnson Street ..	1	3
Johnstone Street ..	1	3
K		
Keeley Street		4
Kelynge Street ..	2	13
Kendall Road		
Kent Street		16
Kent Street North ..	2	6
Kenyon Street ..	2	6
Key Hill	1	8
King St., Balsall Heath		1
King Street, Bordesley..		1
King Alfred's Place ..		
King Edward's Place ..		1
King Edward's Road ..	2	18
Kingscote Road.. ..		5
Kingsley Road ..		2
Kingston Road ..		1
Kingswood Road ..		1
Knutsford Street ..		5
Kyott's Lake Road ..		3

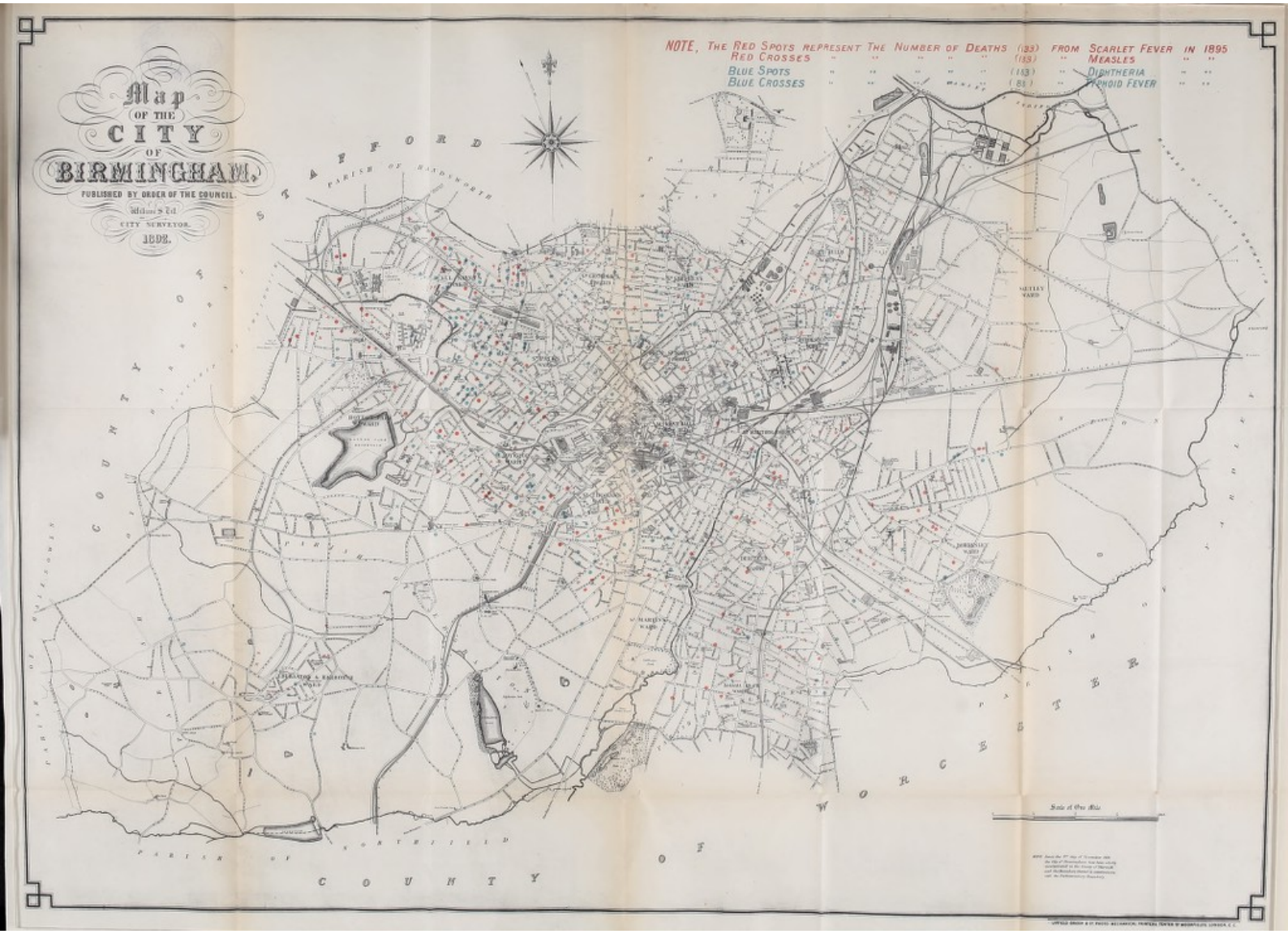
STREETS.	Zymotic Diseases	Other Diseases
Kyrwick's Lane ..		13
L		
Ladypool Road ..	1	22
Ladywell Passage ..		
Ladywell Walk ..		2
Ladywood Road ..	4	13
Lancaster Street ..	1	13
Landor Street		10
Langley Road ..		4
Lansdowne Street ..	1	6
Larches Street ..	1	12
Latimer Street ..	6	26
Lawden Road ..	2	6
Lawley Street ..	4	13
Lawrence Street ..		7
Leach Street		1
Leamington Road ..	1	7
Lease Lane	1	2
Ledsam Street ..	2	9
Lee Bank Road ..	4	22
Lee Crescent .. .		2
Lee Mount		1
Leek Street		2
Lees Street		7
Legge Lane		1
Legge Street	1	6
Leigh Road	1	
Lench Street		2
Lennox Street ..	1	17
Leonard Street ..	2	
Leopold Street ..	2	10
Leslie Road		
Lilly Green		
Lime Grove		2
Lingard Street ..	4	13
Link Road		2
Lionel Street	1	3
Lister Street		6
Little Ann Street ..	1	5
Little Barr Street ..	2	5
Little Bow Street ..		1
Little Broom Street ..		
Little Edward Street ..	1	3
Little Francis Street ..		
Little Green Lane ..	2	15
Little King Street ..	1	6
Little Shadwell Street..		2
Liverpool Street ..	1	6
Livery Street		3
Lloyd Street	1	
Lodge Rd., All Saints ..	5	27
Lodge Road, Harborne..		8
Lombard Street ..		7
Long Acre	6	28
Long Street	2	10
Longbridge Road ..		3
Longmore Street ..	1	15
Lonsdale Road ..		
Lord Street	2	8
Lordswood Road ..	4	4
Louisa Street		
Love Lane		
Loveday Street ..	1	3
Lowe Street		2
Lower Dartmouth Street	1	4
Lower Darwin Street ..		1
Lower Edwardes Street	1	3
Lower Essex Street ..	5	13
Lower Fazeley Street ..		7
Lower Hurst Street ..		10
Lower Hurst Street East		1
Lower Loveday Street..		1
Lower Priory.. ..		
Lower Temple Street ..	1	
Lower Tower Street ..	2	22
Lower Trinity Street ..		3
Loxton Street.. ..	1	2
Ludgate Hill	1	3

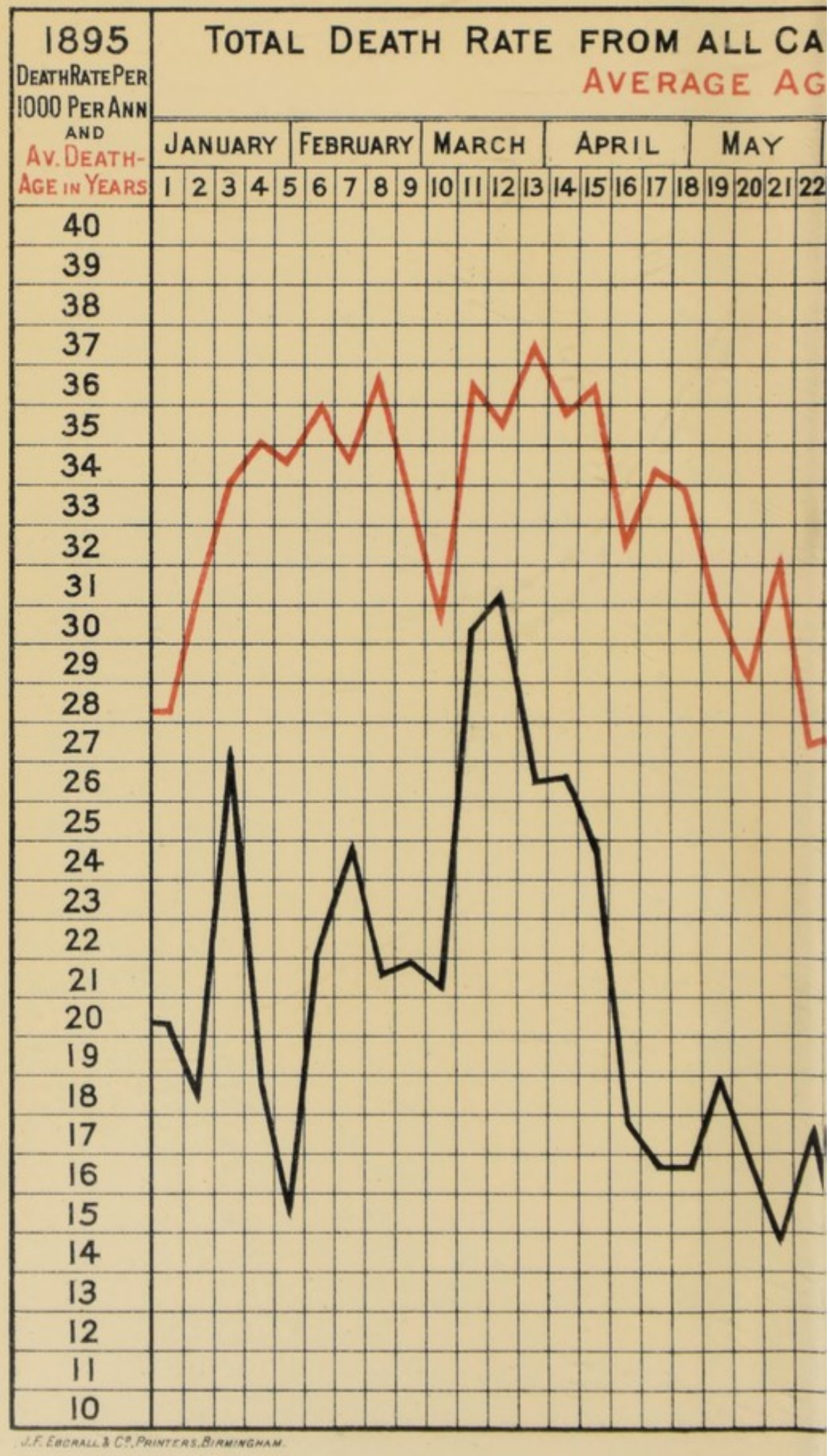
STREETS.	Zymotic Diseases	Other Diseases
Ludgate Hill Passage ..		
Lupin Street	5	22
Lyttelton Road ..		
M		
Macdonald Street ..	4	7
Main Street	1	7
Malthouse Lane ..	1	4
Malvern Street ..	1	5
Malvern Hill Road ..		1
Manchester Street ..		3
Manor Road		
Margaret Road ..		
Margaret Street ..		
Mark Lane		
Market Street	1	2
Marroway Street ..		8
Marshall Street ..		9
Marshall Street South ..		5
Martineau Street ..		
Mary St., Balsall Heath	2	22
Mary Street, St. Paul's		1
Mary Ann Street ..		1
Masshouse Lane ..		
Maxstoke Street ..		
Meadow Road		
Medlicott Road ..	1	
Melville Road		
Meriden Street ..	1	7
Metchley Lane ..	1	9
Metchley Park Road ..		
Metropolitan Road ..		
Midland Street ..		11
Miles Street	1	14
Milk Street	1	3
Mill Lane, Harborne ..	1	3
Mill Lane, St. Martin's		3
Mill Lane, Saltley ..		7
Mill Lane, Ward End ..		2
Mill Street		2
Miller Street	2	24
Mills Lane		
Milton Street		5
Milward Street ..		2
Minories		
Moat Lane		
Moat Row		
Moilliett Street ..		6
Moland Street	3	17
Mole Street	1	13
Mona Road		2
Montague Road ..		
Montague Street ..		6
Montgomery Street ..	1	8
Montpellier Street ..	1	3
Monument Road ..	2	26
Moor Street	2	4
Moore's Row		1
Moorsom Street ..	3	20
Moreton Street ..		3
Morville Street ..	5	17
Moseley Road	2	26
Moseley Street ..	5	22
Mostyn Road	1	
Mott Street	2	6
Mount Pleasant, B H'th		2
Mount Pleasant, B'ley ..		4
Mount Street	1	10
Muntz Street	1	11
Musgrave Road ..		2
N		
Navigation Street ..	1	7
Nechells Park Road ..	1	25
Nechells Place ..	2	5
Needham Street ..		2
Needless Alley ..		
Nelson Street ..	3	16
New Street		5
New Bartholomew St. ..		3
New Bond Street .	1	
New Brunswick Road ..		
New Canal Street ..	3	1
Newdegate Street ..	1	3
Newhall Hill	1	6
Newhall Street ..		15
New Clifton Road ..		2
New John Street ..		23
New John Street West ..	12	53
New Market Street ..		1
New Meeting Street ..		1
Newport Road ..		2
New Spring Street ..	6	20
New Summer Street ..	4	16
Newton Road		
Newton Street ..		2
Newtown Row ..	6	25
Nile Street		2
Nineveh Road		
Noel Road		2
Norfolk Road		
Norman Street ..	2	7
Northampton Street ..		2
North Road	1	8
Northbrook Street ..		3
Northfield Road ..		5
Northumberland Street		10
North Warwick Street ..		
Northwood Street ..		10
Norton St., All Saints	1	4
Norton St., Balsall H'th		8
Norwood Road ..	1	2
Nova Scotia Street ..		3
Nursery Road	1	1
O		
Oakfield Road ..		3
Oakley Road		4
Old Square		1
Old Church Road ..		
Old Cross Street ..	1	3
Oldfield Road	2	22
Old Meeting Street ..		
Oliver Road		3
Oliver Street .. .	1	5
Ombersley Road ..	1	12
Oozells Street		1
Oozells Street North ..		1
Orchard Road	3	3
Orford Road	1	2
Ormond Street ..	2	14
Osler Street	2	13
Oughton Place ..		3
Owen Street		7
Oxford Street	2	4
Oxygen Street	1	1
P		
Paddington Street ..		11
Pakenham Road ..		
Palmer Street	2	9
Palmerston Road ..		
Parade		
Paradise Street ..		1
Park Lane		3
Park Road, All Saints	4	43
Park Road, Harborne ..		6
Park Road, Saltley ..		
Park Street	1	8
Park Hill Road ..		1
Parker Street	2	7
Parliament Street ..	1	5
Paternoster Row ..		
Paxton Road		5
Pebble Mill Road ..		
Peel Street	1	4
Pembroke Road ..		
Penn Street, Deritend ..		2
Penn Street, Duddeston	1	3
Perrot Street		4
Pershore Road ..	1	11
Pershore Street ..	7	11
Phillip Street .		
Pickford Street ..		5
Piddock Street ..		3
Pigott Street		3
Pinfold Street		
Pitney Street		
Pitsford Street ..		3
Pitt Street		
Plough & Harrow Road		
Plume Street		
Pope Street	3	16
Poplar Avenue ..		2
Poplar Road		2
Porchester Street ..		1
Porthope Road ..	1	3
Portland Road ..		2
Potter Street	1	3
Powell Street		3
Prescott Street ..	4	18
Price Street	1	5
Priestley Road ..		6
Prince Albert Street ..	1	4
Princes Row		2
Princes Street		2
Princess Road		4
Princess Street ..		1
Princip Street	1	9
Priory Road, B'lsll H'th		3
Priory Road, Edgbaston		3
Pritchatt's Road ..		
Pritchett Street ..	7	25
Proctor Street	2	6
Prospect Row		1
Q		
Queen Street	3	8
R		
Radnor Street		4
Raglan Road		
Railway Ter., Duddeston	1	5
Railway Ter., Nechells ..	1	7
Ralph Road		
Rann Street		11
Ravenhurst Road ..	2	3
Ravenhurst Street ..		9
Rawlins Street ..		5
Rea Street		11
Rea Street South ..		2
Regent Parade ..		
Regent Place		3
Regent Road		1
Regent Row		3
Regent Street	1	
Regent Park Road ..	1	1
Reginald Road ..	1	9
Reservoir Retreat ..		2
Reservoir Road ..		5
Richard Street ..	4	18
Richmond Hill Road ..		1
Ridley Street .. .	2	5
River St., Balsall Heath		6
River St., St. Barthol'w's	1	2
Robert Road		6
Rocky Lane	1	11
Rodway Street ..		1
Rope Walk .. .		

STREETS.	Zymotic Diseases.	Other Diseases.
Rosalie Street		2
Roshven Street ..		
Rotton Park Road ..		1
Rotton Park Street ..		2
Rowland Street ..		1
Rupert Street	2	12
Russell Street		
Ruston Street	1	5
Ruston Street North ..	2	14
Rutland Road		3
Ryder Street	1	6
Ryland Road	6	8
Ryland Street.. .	4	7
S		
Salop Street		2
Saltley Road	4	6
Saltley Street	3	7
Sampson Road ..	1	11
Sampson Road North ..		3
Sand Pits	1	4
Sand Street		4
Sandon Road		1
Sandy Lane		14
Sarah Street		
St. Andrew's Road ..	3	25
St. Andrew's Street ..		
St. Augustine's Road ..		
St. Clement's Road ..		3
St. George's Place ..		2
St. George's Street ..	2	13
St. James' Place ..	1	2
St. James' Road ..		1
St. James' Street ..		11
St. John's Rd., B'll H'th		3
St. John's Rd., H'borne		
St. Luke's Road ..	3	16
St. Mark's Street ..		10
St. Martin's Lane ..		
St. Martin's Place ..		2
St. Martin's Row ..		1
St. Martin's Street ..	1	12
St. Mary's Road ..		
St. Mary's Row ..		1
St. Mary's Street ..		5
St. Oswald's Road ..		4
St. Paul's Road ..	2	14
St. Paul's Square ..		1
St. Peter's Place ..		1
St. Philip's Place ..		
St. Stephen's Street ..		1
St. Vincent Street ..	1	18
Scholefield Street ..	2	15
Scotland Street ..		2
Scott Street	1	1
Sefton Road		1
Serpentine Road ..		
Severn Street		1
Seymour St., B'sall H'th		4
Seymour St., St. Barth.		
Shadwell Street .	1	
Shakespeare Road .	2	11
Sheep Street	1	9
Sheepcote Lane ..	3	9
Sheepcote Street ..	3	9
Shefford Road ..	1	4
Shenstone Road ..		
Sherborne Street ..	5	17
Sherbourne Road ..	2	17
Sherlock Street ..	2	27
Sir Harry's Road ..		
Skinner Lane		5
Skinner Street .	1	5
Sladefield Lane ..		
Slaney Street	1	1
Sloane Street		1
Slough Lane		
Smallbrook Street ..		5
Smith Street, St. George's	5	11
Smith Street, Duddeston	1	1
Smithfield Passage ..		1
Smithfield Street ..		
Snow Hill		7
Soho Road		2
Somerset Road ..		
Somerset Street ..	2	1
Somerville Road ..		3
South Road		8
South Street		3
Southgate		
Spark Street		3
Speaking Stile Walk ..		1
Speedwell Road ..		2
Spencer Street ..		5
Spiceal Street		1
Spon Terrace		
Spooner Street ..	1	7
Spring Hill	4	11
Spring Hill Passage ..	1	4
Spring Road		4
Spring Street	1	2
Spring Vale		
Springfield Street ..	3	14
Stafford Street ..	1	2
Stanhope Street ..	1	3
Staniforth Street ..	2	12
Stanley Road		1
Stanmore Road ..		3
Station Road, Harborne		2
Station Road, Rotton Pk		
Station Street... ..		1
Stechford Lane ..		
Steelhouse Lane ..		5
Stella Street	1	3
Stephenson Place ..		
Stephenson Street ..		
Steward Street ..	5	11
Stirling Road ..	2	2
Stoke Street	2	7
Stone Yard		1
Stoney Lane		10
Stour Street	2	18
Stratford Place ..		1
Stratford Road ..		10
Stratford Street ..		1
Strensham Road ..		
Stuart Street		1
Suffolk Street.. ..		16
Summer Lane.. ..	5	27
Summer Road... ..	1	15
Summer Row .. .	1	1
Summer Street ..		
Summerfield Crescent..		4
Summerfield Road ..		
Summer Hill Road ..		2
Summer Hill Street ..	1	4
Sun Street	1	11
Sun Street West ..		2
Sutton Street	1	
Swallow Street ..		
Sydenham Road ..		4
Sydney Road		1
T		
Talbot Street	1	4
Talfourd Street ..		9
Taunton Road		
Taylor Street		2
Temple Row		
Temple Row West ..		
Temple Street.. ..		1
Templefield Street ..		5
Tenby Street		2
Tenby Street North ..	1	2
Tennal Road		1
Tennant Street ..	3	24
Tennyson Road ..		1
Theodore Street ..	1	4
Theresa Road	1	5
Thimble Mill Lane ..		8
Thomas St., B'sall H'th		3
Thomas St., Deritend ..		2
Thorp Street		1
Tillingham Street ..	1	3
Tindal St., Balsall H'th		6
Tower Street	6	22
Trafalgar Road ..		
Trent Street		6
Trevor Street		15
Trinity Terrace ..		1
Tudor Street		6
Turk's Lane		
Turner Street		3
U		
Unett Street ..	3	22
Union Passage ..		
Union Street		1
Union Terrace ..		
Upper Cox Street ..	1	8
Upper Dean Street ..		4
Upper Gough Street ..	2	11
Upper Highgate Street	1	9
Upper Marshall Street..		1
Upper Mary Street ..		
Upper Mill Lane ..		
Upper Priory		3
Upper Ryland Road ..	1	6
Upper Trinity Street ..		9
V		
Varna Road		5
Vaughton Street ..	1	15
Vaughton Street South		
Vauxhall Grove ..		3
Vauxhall Road ..	2	17
Vauxhall Street		4
Ventnor Road.. ..		6
Vere Street	1	7
Vernon Road		
Vesey Street		
Viaduct Street.. ..		
Vicarage Rd., Edgbaston		
Vicarage Rd., H'borne..		
Victoria Grove ..		1
Victoria Road ..		1
Victoria St., B'sall H'th	2	5
Victoria St., Bordesley		9
Villa Street		5
Villiers Street		3
Vincent Crescent ..		1
Vincent Parade ..		5
Vincent Street ..	1	11
Vine Street	1	1
Vittoria Street . ..		2
Vyse Street .		3

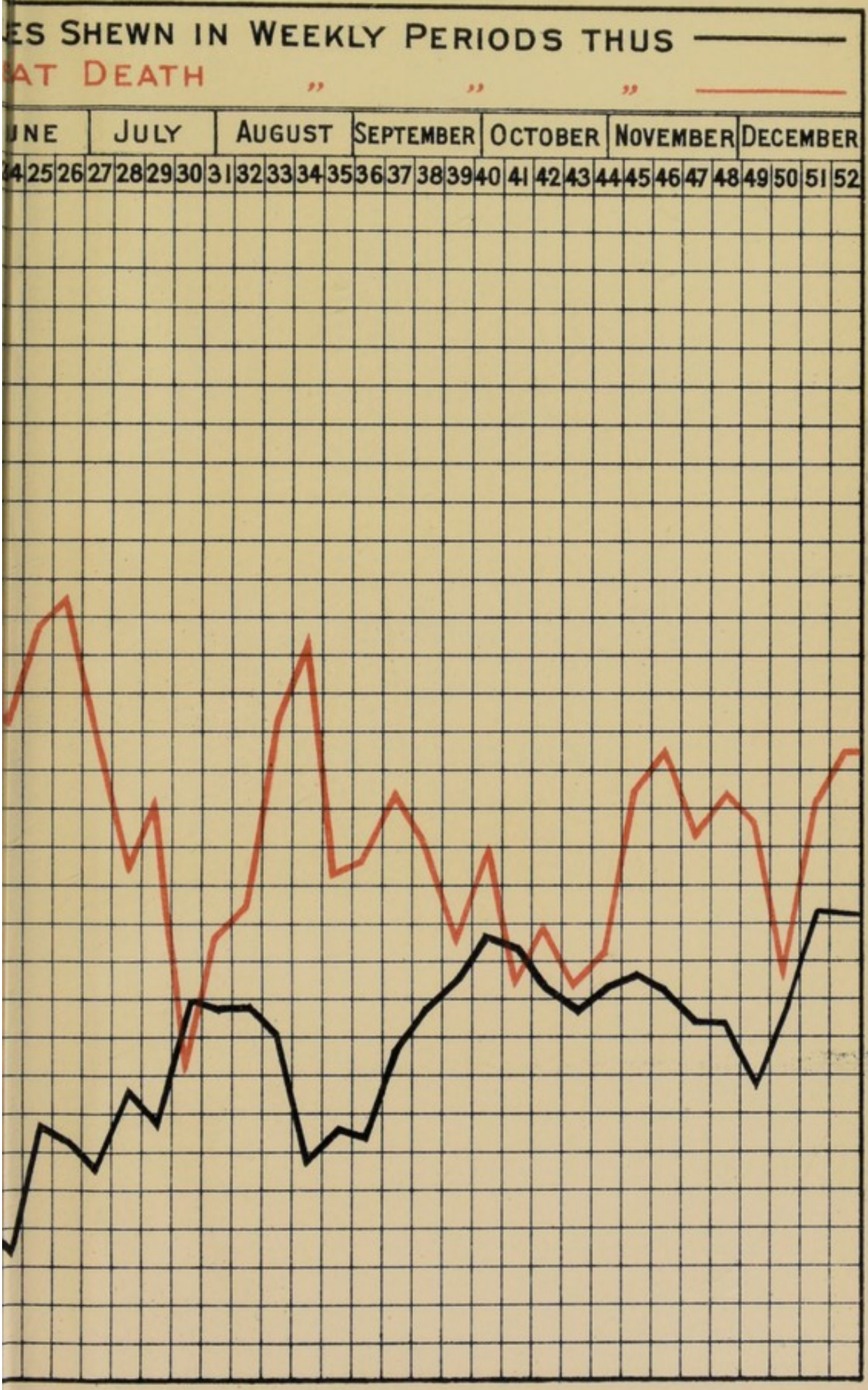
STREET.	Zymotic Diseases.	Other Diseases.
W		
Walter Street	1	4
War Lane		
Ward End		3
Ward Street	3	5
Warner Street.. ..		3
Warren Road		
Warstone Lane ..	1	10
Warstone Parade East..		1
Warwick Street ..	2	11
Washington Street ..		3
Washwood Heath Road		10
Water Street	1	1
Waterloo Street ..		5
Waterworks Road ..	1	10
Watery Lane	4	22
Watts Road		
Waverley Road ..		
Weaman Row		
Weaman Street ..		8
Well Lane		
Well Street	5	21
Wellesley Street ..		5
Wellington Rd., Edg'ton	1	2
Wellington Rd., H'borne		4
Wellington Street ..	2	10
Wenman Street ..	1	16
Westbourne Road ..		1
Western Road		
Westfield Road ..		3
Westley Street ..	2	5
Weston Street.. ..	1	2
Wharf Lane	2	
Wharf Street	1	7
Wharton Street ..		2
Wheeler Street ..		24
Wheeley's Lane ..	2	6
Wheeley's Road ..		1
Whitby Road		1
White Road		5
White Lion Passage ..		
White Street	2	8
Whitehall Road ..		9
Whitmore Road ..	1	10
Whitmore Street ..	1	9
Whittall Street ..	1	5
Wiggin Street ..		4
William Street, Deritend		
William St., St. Thomas'		19
William Street, Saltley	1	6
William Street North ..	1	8
William Edward Street	1	6
William Henry Street ..		2
Willis Street	3	11
Willow Avenue ..		
Willow Crescent ..		
Willow Road		2
Wilton Street	1	10
Windmill Street ..		
Windsor Street ..	2	24
Winson Green Road ..	2	15
Winson Street... ..	3	13
Witton Street	2	7
Wolseley Street ..	1	7
Wood Lane		1
Wood Street		3
Woodbourne Road ..		
Woodcock Street ..	2	10
Woodfield Road ..	2	3
Woodville Road ..		1
Worcester Street ..		
Wordsworth Road ..	1	3
Wrentham Street ..	5	22
Wright Road		4
Wright Street		17
Wrottesley Street ..		
Wyndcliffe Road ..		1
Wyndham Road ..		3
Wynn Street	3	11
X		
Y		
Yardley Road		3
Yateley Road		
Yew Tree Road ..		
York Passage		
York Road		6
York Street, Harborne		3
York Street, St. Mary's		
Z		
AT INSTITUTIONS.		
Children's Hospital ..	19	60
Queen's Hospital ..	6	181
General Hospital ..	44	362
City Hospital	123	2
Workhouse	15	701
City Asylum		110
St. Joseph's Home ..		31
Gaol		3
Eye Hospital ..		2
Blind Institution ..		
Homœopathic Hospital..	2	6
Orthopædic Hospital ..		
ADDENDA.		
Canals		27
Railways		7
Not located	1	8
TOTALS ..	1299	8564

Grand Total 9863


Map
OF THE
CITY
OF
BIRMINGHAM.
PUBLISHED BY ORDER OF THE COUNCIL.
Adkins & Ed
CITY SURVEYOR.
1892.
NOTE, THE RED SPOTS REPRESENT THE NUMBER OF DEATHS (133) FROM SCARLET FEVER IN 1895
RED CROSSES " " " " " (133) " MEASLES " "
BLUE SPOTS " " " " " (113) " DIPHTHERIA " "
BLUE CROSSES " " " " " (81) " TYPHOID FEVER " "
STAFFORD
COUNTY OF
PARISH OF HANDSWORTH
PARISH OF NORTHFIELD
COUNTY OF
WORCESTER
Scale of One Mile



J.F. Ebcrall & Co. Printers, Birmingham.


ES SHEWN IN WEEKLY PERIODS THUS
AT DEATH
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52

REPORT

ON

ADULTERATION.

CITY ANALYST'S LABORATORY,

THE COUNCIL HOUSE, BIRMINGHAM,

March 20th, 1896.

TO THE HEALTH COMMITTEE.

R. CHAIRMAN AND GENTLEMEN,

I beg to report that during the year 1895 I received 1,131 samples nalysis under the Sale of Food and Drugs Acts and the Margarine Act. e of them were submitted to me by private purchasers, the rest were ned by the Food Inspector, Police Sergeant H. I. Jones.

The following list shows the number of samples analysed, distinguishing found to be genuine from those which were adulterated :—

	No. of Samples Analysed.	No. found to be Genuine.	No. found to be Adulterated
Milk	325	265	60
Butter	203	174	29
Coffee	90	82	8
Pepper	67	67	0
Bread	63	63	0
Mustard	49	47	2
Oatmeal	48	46	2
Flour	47	47	0
Sugar Confectionery ...	45	45	0
Ale	35	31	4
Whiskey	24	19	5
Ground Ginger	23	21	2
Tincture of Iodine	14	7	7
Compound Tincture of Benzoin	13	11	2
Sugar	12	11	1
Vinegar	12	12	0
Tincture of Myrrh	11	8	3
Lard...	10	10	0
Compound Liquorice Powder	8	8	0
Tincture of Rhubarb ...	7	7	0
Tincture of Senna	5	3	2
Compound Tincture of Gentian	4	4	0
Tincture of Aloes	3	1	2
Syrup of Rhubarb	3	3	0
Glycerine Jujubes	3	3	0
Cheese	2	2	0
Paregoric	2	1	1
Precipitated Sulphur ...	1	1	0
Spirits of Nitrous Ether ...	1	1	0
Margarine	1	1	0
	1,131	1,001	130

Particulars are given in the subjoined statement of the samples which were adulterated :—

NO.	DATE.	ARTICLE.	REMARKS.
1—Jan.	1st	Milk	Adulterated with 28% of water. Fined 10s. and 8s. costs.
8— "	4th	Coffee	Adulterated with 90% of chicory. Fined £1 and 8s. costs.
10— "	4th	Butter	Adulterated with 85% of foreign fat. Fined £1 and 9s. costs.
28— "	4th	Milk	Adulterated with 7% of water. Cautioned by Health Sub-Committee.
51— "	15th	Milk	Adulterated with 5% of water. Cautioned by Health Sub-Committee.
52— "	15th	Milk	Deprived of 25% of its fat. Fined 5s. and 8s. costs.
53— "	15th	Milk	Adulterated with 16% of water. Fined 5s. and 8s. costs.
56— "	15th	Milk	Adulterated with 5% of water. Cautioned by Health Sub-Committee.
59— "	16th	Milk	Adulterated with 10% of water. Fined 1s. and 8s. costs.
68— "	18th	Coffee	Adulterated with 5% of chicory. Cautioned by Health Sub-Committee.
69— "	18th	Butter	Adulterated with 75% of foreign fat. Fined £2 and 9s. costs.
81— "	24th	Milk	Adulterated with 5% of water. Cautioned by Health Sub-Committee.
85— "	24th	Milk	Adulterated with 4% of water. Cautioned by Health Sub-Committee.
106— "	30th	Milk	Adulterated with 11% of water. Fined 5s. and 8s. costs.
110—Feb.	4th	"Separated" Milk	Adulterated with 11% of water. Fined 10s. and 8s. costs.
115— "	5th	Milk	Adulterated with 20% of water. Summons withdrawn ; same vendor as No. 116.
116— "	5th	Milk	Adulterated with 17% of water. Fined £1 and 9s. costs.
117— "	5th	Milk	Adulterated with 13% of water. No action taken ; same vendor as No. 116.
118— "	5th	Milk	Adulterated with 21% of water. No action taken ; same vendor as No. 116.
128— "	6th	Demerara Sugar	Dyed to resemble Demerara. Cautioned by Health Sub-Committee.
135— "	12th	Milk	Adulterated with 22% of water. Paid costs. amounting to 8s.
136— "	12th	Milk	Adulterated with 16% of water. Fined 5s. and 8s. costs.
137— "	12th	Milk	Adulterated with 13% of water. Fined 5s. and 8s. costs.
139— "	12th	Milk	Adulterated with 22% of water. Fined 5s. and 8s. costs.
142— "	18th	Milk	Adulterated with 5% of water. Cautioned by Health Sub-Committee.

NO.	DATE.	ARTICLE.	REMARKS.
159	Feb. 20th	Butter	Adulterated with 80% of foreign fat. Fined £2 and 8s. costs.
164	" 20th	Butter	Adulterated with 75% of foreign fat. Fined £2 and 8s. costs.
173	" 26th	Ground Ginger ...	Adulterated with 50% of exhausted ginger. Fined 10s. and 8s. costs.
204	Mar. 6th	Butter	Adulterated with 65% of foreign fat. Paid costs amounting to 7s.
218	" 7th	Milk	Adulterated with 5% of water. Cautioned by Health Sub-Committee.
238	" 14th	Margarine ...	Consisted of Margarine ; not labelled. No action taken.
255	" 20th	Paregoric	Deficient of 10% of proof spirit. Cautioned by Health Sub-Committee.
259	" 20th	Whiskey	Adulterated with 20% of water. Fined £5 and 10s. 6d. costs.
263	" 21st	Milk	Adulterated with 7% of water and deprived of 10% of its fat. Fined £5 and £1 1s. 6d. costs.
264	" 21st	Milk	Adulterated with 11% of water. Paid costs amounting to 6s 6d. Same vendor as No. 263.
265	" 21st	Milk	Adulterated with 13% of water. Paid costs amounting to 6s. 6d. Same vendor as No. 263.
266	" 21st	Milk	Adulterated with 5% of water and deprived of 10% of its fat. Paid costs amounting to 6s. 6d. Same vendor as No. 263.
271	" 21st	Milk	Deprived of 30% of its fat. Fined £2 and £2 13s. 6d. costs.
276	" 26th	Milk	Deprived of 30% of its fat. Fined £3 and 19s. costs.
283	" 28th	Milk	Adulterated with 11% of water. Fined £1 and 8s. costs.
296	" 29th	Butter	Adulterated with 75% of foreign fat. Fined £3 and 10s. costs.
316	April 3rd	Butter	Consisted entirely of foreign fat. Paid costs amounting to 7s.
317	" 3rd	Butter	Adulterated with 35% of foreign fat. Fined £3 and 17s. costs.
328	" 9th	Milk	Deprived of 15% of fat. Cautioned by Health Sub-Committee.
350	" 18th	Milk	Deprived of 40% of its fat. Fined 10s. and 8s. costs.
353	" 23rd	Milk	Adulterated with 19% of water. Fined £10 and 31s. costs.
355	" 23rd	Milk	Adulterated with 19% of water. Fined 5s. and 8s. costs.
356	" 23rd	Milk	Deprived of 16% of its fat. Fined 5s. and 9s. costs.
359	" 26th	Milk	Adulterated with 5% of water. Cautioned by Health Sub-Committee.
361	" 26th	Milk	Deprived of 29% of its fat. Fined £1 and 8s. costs.

NO.	DATE.	ARTICLE.	REMARKS.
385	May 1st	Whiskey	Adulterated with 16% of water, being 37 degrees under proof. Fined £5 and 10s. costs.
390	" 1st	Whiskey	Adulterated with 4½% of water, being 28·5 degrees under proof. Fined £1 and 8s. costs.
391	" 1st	Milk	Deprived of 17% of its fat. Fined 5s. and 8s. costs.
392	" 1st	Milk	Adulterated with 6% of water. Cautioned by Health Sub-Committee.
393	" 1st	Milk	Adulterated with 13% of water. Fined 5s. and 8s. costs.
396	" 1st	Milk	Deprived of 18% of its fat. Fined 10s. and 19s. 6d. costs.
422	" 8th	Milk	Adulterated with 5% of water. Cautioned by Health Sub-Committee.
428	" 10th	Milk	Adulterated with 10% of water and deprived of 38% of its fat. Fined 30s. and 8s. costs.
432	" 13th	Milk	Deprived of 21% of its fat. Dismissed on production of warranty.
442	" 16th	Coffee	Adulterated with 20% of chicory. Fined £1 and 11s. costs.
470	" 22nd	Milk	Adulterated with 5% of water. Cautioned by Health Sub-Committee.
471	" 22nd	Milk	Adulterated with 13% of water. Fined £2 and 8s. costs.
483	" 24th	Milk	Deprived of 24% of its fat. Fined 10s. and 8s. costs.
484	" 24th	Milk	Adulterated with 9% of water. Cautioned by Health Sub-Committee.
485	" 24th	Skimmed Milk ...	Adulterated with 10% of water. Fined £2 and 8s. costs.
491	" 28th	Milk	Adulterated with 10% of water and deprived of 28% of its fat. No action taken.
524	June 12th	Ground Ginger ...	Adulterated with 30% of exhausted ginger. No action taken.
532	" 12th	Mustard	Adulterated with 20% of starch and turmeric. No action taken.
538	" 12th	Mustard	Adulterated with 20% of starch and turmeric. No action taken.
552	" 27th	Milk	Adulterated with 6% of water. Private purchaser.
557	July 1st	Milk	Adulterated with 10% of water. Fined £1 and 8s. costs.
558	" 1st	Milk	Adulterated with 10% of water and deprived of 20% of its fat. Fined 10s. and 8s. costs.
559	" 1st	Milk	Adulterated with 9% of water and deprived of 12% of its fat. Fined £1 and 11s. costs.
560	" 1st	Milk	Adulterated with 21% of water. Fined £2 and 8s. costs.
567	" 1st	Milk	Adulterated with 24% of water. Fined £3 and 8s. costs.
568	" 1st	Milk	Adulterated with 7% of water. Cautioned by Health Sub-Committee.
600	" 18th	Ale	Contained an excess of salt.
602	" 18th	Ale	Contained an excess of salt.

NO.	DATE.	ARTICLE.	REMARKS.
605—	July 18th ...	Ale	Contained an excess of salt.
630—	" 19th ...	Oatmeal	Contained a little barley meal.
692—	Aug. 15th ...	Ale	Contained an excess of salt.
703—	" 19th ...	Milk	Deprived of 22% of its fat.
758—	Sept. 30th ...	Butter	Contained 60% of foreign fat. Fined 2s. 6d. and 9s. costs.
789—	Oct. 11th ...	Tincture of Senna	Deficient of 60% of the solid ingredients. Fined 2s. 6d. and 8s. costs.
792—	" 11th ...	Tincture of Senna	Deficient of half of the solid ingredients. Fined 2s. 6d. and 8s. costs.
794—	" 11th ...	Compound Tincture of Benzoin	Deficient of 20% of the solid ingredients. Fined 5s. costs.
796—	" 11th ...	Compound Tincture of Benzoin	Deficient of 25% of the solid ingredients. Fined 5s. costs.
823—	" 16th ...	Butter	Adulterated with 70% of foreign fat. Fined £3 and 8s. costs.
825—	" 16th ...	Butter	Adulterated with 80% of foreign fat. Fined £2 and 10s. costs.
826—	" 16th ...	Butter	Adulterated with 84% of foreign fat. Fined 10s. and 10s. costs.
829—	" 16th ...	Butter	Adulterated with 80% of foreign fat. Fined £1 and 9s. costs.
830—	" 16th ...	Butter	Adulterated with 83% of foreign fat. Fined 10s. and 9s. costs.
833—	" 16th ...	Butter	Consisted entirely of foreign fat. Fined £1 and 9s. costs.
871—	" 25th ...	Coffee	Adulterated with 65% of chicory. Fined £2 and 9s. costs.
873—	" 25th ...	Butter	Adulterated with 85% of foreign fat. Fined £3 and 9s. costs.
874—	" 25th ...	Coffee	Adulterated with 35% of chicory. Cautioned by Health Sub-Committee.
876—	" 25th ...	Butter	Consisted entirely of foreign fat. Fined 10s. and 8s. costs
877—	" 25th ...	Butter	Adulterated with 85% of foreign fat. Fined £2 and 9s. costs.
878—	" 25th ...	Coffee	Adulterated with 50% of chicory. Fined £1 and 10s. costs.
910—	" 25th ...	Oatmeal	Adulterated with 10% of barley meal. Cautioned by Health Sub-Committee.
921—	Nov. 1st ...	Butter	Adulterated with 80% of foreign fat. Fined 5s. and 9s. costs.
924—	" 1st ...	Butter	Adulterated with 85% of foreign fat. Fined £2 and 10s. costs.
940—	" 8th ...	Butter	Adulterated with 90% of foreign fat. Fined £5 and 10s. costs.
941—	" 8th ...	Butter	Adulterated with 90% of foreign fat. Fined £3 and 9s. costs.
944—	" 8th ...	Butter	Adulterated with 90% of foreign fat. Fined £5 and 9s. costs.
945—	" 8th ...	Butter	Adulterated with 75% of foreign fat. Fined £2 and 10s. costs.

NO.	DATE.	ARTICLE.	REMARKS.
946	Nov. 8th	Butter	Adulterated with 85% of foreign fat. Fined £5 and 9s. costs.
947	" 8th	Butter	Adulterated with 85% of foreign fat. Fined £2 and 9s. costs.
949	" 8th	Butter	Adulterated with 75% of foreign fat. Fined £5 and 11s. costs.
952	" 12th	Tincture of Iodine	Contained 99% of Iodine in excess. Fined £1 and 8s. costs.
955	" 12th	Tincture of Aloes	Contained 40% of solid ingredients and 50% of spirit in excess. Fined £1 and 11s. costs.
956	" 12th	Tincture of Iodine	Adulterated with 10% of glycerine and contained 150% of Iodine and 50% of Iodide of Potassium in excess. Fined £1 and 12s. costs.
959	" 12th	Tincture of Iodine	Contained 25% of Iodine in excess. Cautioned by Health Sub-Committee.
960	" 12th	Tincture of Aloes	Contained 40% of solid ingredients and 50% of spirit in excess. Prosecution withdrawn.
987	" 14th	Coffee	Adulterated with 5% of chicory. Cautioned by Health Sub-Committee.
989	" 14th	Coffee	Adulterated with 45% of chicory. Fined £1 and 9s. costs.
1002	" 21st	Milk	Adulterated with 10% of water. Cautioned by Health Sub-Committee.
1005	" 21st	Milk	Adulterated with 10% of water and deprived of 7% of its fat. Fined £2 and 9s. costs.
1023	" 30th	Whiskey	Adulterated with 4% of water. Cautioned by Health Sub-Committee.
1031	" 30th	Whiskey	Adulterated with 5½% of water. Fined £1 and 9s. costs.
1035	Dec. 2nd	Milk	Adulterated with 6% of water. Cautioned by Health Sub-Committee.
1057	" 6th	Tincture of Iodine	Deficient of 25% of Iodide of Potassium. Cautioned by Health Sub-Committee.
1060	" 6th	Tincture of Myrrh	Deficient of 25% of solid ingredients. Cautioned by Health Sub-Committee.
1062	" 6th	Tincture of Iodine	Deficient of 9% of Iodine and 50% of Iodide of Potassium. Cautioned by Health Sub-Committee.
1063	" 6th	Tincture of Iodine	Deficient of 10% of spirit and 8% of Iodide of Potassium. Cautioned by Health Sub-Committee.
1064	" 6th	Tincture of Myrrh	Deficient of 10% of spirit. Cautioned by Health Sub-Committee.
1066	" 6th	Tincture of Iodine	Contained 12% of Iodine and 12% of Iodide of Potassium in excess. Cautioned by Health Sub-Committee.
1099	" 17th	Tincture of Myrrh	Deficient of 30% of solid ingredients. Cautioned by Health Sub-Committee.
1102	" 17th	Milk	Deprived of 25% of its fat. Fined 5/- and 9/- costs.
1125	" 21st	Butter	Adulterated with 80% of foreign fat. Fined £2 and 9/- costs.
1129	" 21st	Butter	Adulterated with 75% of foreign fat. Fined £2 and 14/- costs.

Percentage of Adulteration.

Eleven per cent. of the samples analysed were not of the proper quality, this figure being identical with that for the previous year, which was rather lower than usual. The table below shows the total percentage of adulteration, and percentages in certain classes of articles, for the ten years 1873–82, and for each subsequent year. In drawing up the table I have not calculated the percentage unless at least twenty samples were analysed.

Years.	Number of Samples Analysed.	Total Percentage of Adulteration	Percentage of Adulteration of undermentioned Articles.								
			Milk.	Butter.	Lard and Cheese.	Bread and Flour.	Oatmeal, Arrowroot, Sago, Tapioca	Condiments and Spices	Tea, Coffee, Cocoa.	Beer and Spirits.	Drugs.
10 years 1873–82	1529	29	50	18	—	0	21	11	25	30	31
1883	151	38	47	—	—	—	—	25	—	—	—
1884	816	21	41	40	—	1	0	9	67	3	16
1885	914	15	24	40	—	0	0	11	—	2	30
1886	876	9	18	23	—	0	1	11	—	8	—
1887	818	12	15	52	—	0	1	20	18	1	0
1888	753	11	18	20	30	0	1	7	—	13	0
1889	873	16	19	32	—	2	2	11	48	6	17
1890	927	13	22	14	0	0	0	3	35	4	—
1891	811	11	18	23	—	0	0	0	0	12	6
1892	969	14	19	17	3	0	4	6	0	12	27
1893	1004	13	19	11	2	0	0	13	0	17	26
1894	1129	11	10	14	0	0	—	6	5	28	20
1895	1131	11	18	14	—	0	4	3	9	15	23

Milk.

Eighteen per cent. of the samples of *Milk* were adulterated. This figure was about equal to the average, though nearly twice as high as in 1894. Of the 60 adulterated samples 40 were watered, 13 were deprived of cream, and 7 were below the standard for pure cows' milk in both respects. If the samples submitted to me for analysis fairly represent the general quality of the Milk sold in Birmingham, it appears that about one-fifth of the total quantity is adulterated in one way or another. The vendors of 33 samples of Milk were prosecuted by your Committee, and the fines imposed, exclusive of costs, ranged from 1s. to £10, and gave an average of £1 6s. 0d. per case.

Butter.

Twenty-nine samples of *Butter*, or 14 per cent. of the total number examined, were found to be margarine: that is, they consisted either wholly or partly of foreign fat. The average amount of foreign material in them was 80 per cent., so that their sale in the guise of butter was a gross misrepresentation and a fraud. Twenty-seven vendors of adulterated butter were fined, the average amount of the fine being £2 4s. 0d.

Bread and Flour.

All the samples of *Bread* and *Flour*, 63 of the former and 47 of the latter, were genuine. So far as I can judge there has never been much adulteration of these two articles of food in Birmingham.

Oatmeal. Two samples of *Oatmeal* out of 48 contained some barley-meal.

Condiments. There was not much adulteration of the Condiments analysed. All the *Peppers* and all the *Vinegars* were genuine, but two *Mustards* out of 49 contained starch and tumeric, and two samples of *Ground Ginger* out of 23 were adulterated with "exhausted" ginger.

Coffee. Ninety samples of *Coffee* were examined, and chicory was found in 8 of them. One sample had 90 per cent. of the latter article in it, so that it might perhaps have reasonably been sold as chicory, but certainly not as coffee.

Ale. Whiskey. Four *Ales* out of 35 contained an excess of salt. Five *Whiskeys* had been watered to a lower strength than is allowed by law; in one instance 20 per cent. of added water was found, one-fifth of what was bought for whiskey being therefore added water.

Drugs. The Drugs came out badly, as they generally do, 23 per cent. of them being adulterated. Seven samples of *Tincture of Iodine* out of 14, two of *Tincture of Aloes* out of 3, two of *Tincture of Senna* out of 5, three of *Tincture of Myrrh* out of 11, two of *Compound Tincture of Benzoin* out of 13, and one of *Paregoric* out of 2, were not compounded as required by the Pharmacopœia.

Sugar. A sample of *Sugar* sold as Demerara consisted of white crystals which had been dyed to resemble the genuine and more expensive article.

Legal Proceedings. Your Committee cautioned 31 persons in respect of adulterated articles sold by them, and legal proceedings were taken in 87 instances. One case was dismissed on production of a warranty, and two summonses were withdrawn. In the remaining 84 cases convictions were obtained, the fines imposed amounting to £124 18s. 6d., and the costs to £41 6s. 6d.

I remain,

Mr. Chairman and Gentlemen,

Your obedient Servant,

ALFRED HILL, M.D., F.I.C.,
City Analyst.

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