[Report 1892] / Medical Officer of Health, Birmingham.

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REPORT

ON THE

HEALTH OF THE CITY

OF

BIRMINGHAM,

FOR THE YEAR 1892;

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.I.C.,

President of the Birmingham and Midland Branch of the Incorporated Society of Medical Officers of Health; Past-President of the Society of Medical Officers of Health; Past-President of the Society of Public Analysts; 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.

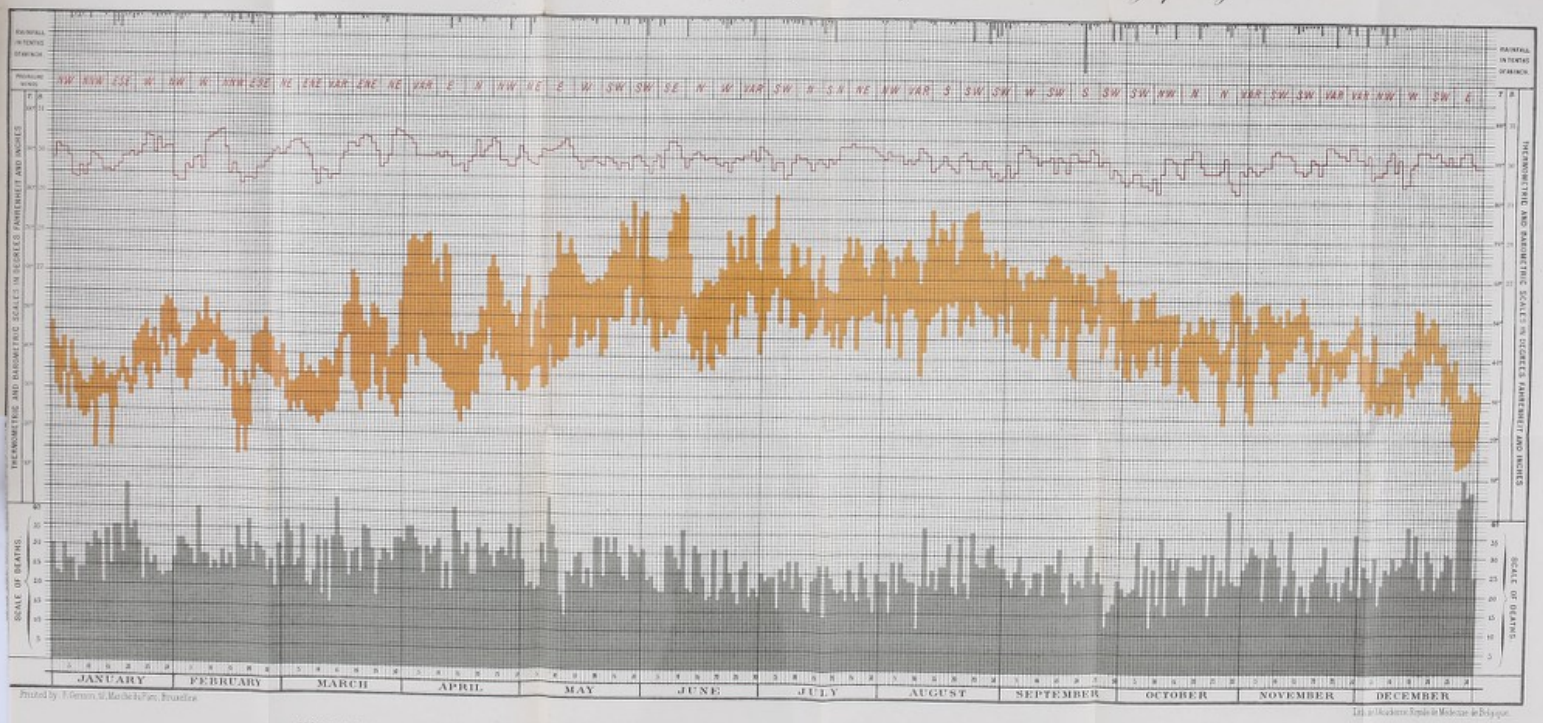
PRINTED BY ORDER OF THE HEALTH COMMITTEE.

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 1892.



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

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With the

Medical Officer of Health's Compliments.

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HEALTH DEPARTMENT,

THE COUNCIL HOUSE, BIRMINGHAM,

March 20th, 1893.

TO THE HEALTH COMMITTEE.

MR. CHAIRMAN AND GENTLEMEN,

I beg to present my Annual Report, as Medical Officer of Health for the City, and would take the opportunity of briefly calling attention to some of the points dealt with in more detail in the report itself. Introductory Remarks.

The Death-rate for the year was a fairly satisfactory one, being identical with the average of the rates for the previous six years. It was below the rate for the thirty-three largest English towns, and below that for the Metropolis. The infant mortality was rather smaller than usual.

The Zymotic Death-rate was a fairly normal one. A further reduction occurred in the mortality from Scarlet Fever. The Deaths from Diphtheria were more numerous than usual. Typhoid Fever, I am pleased to say, caused the smallest number of Deaths ever recorded from it. A slight outbreak of Smallpox occurred, fortunately without resulting in a single Death, though 27 cases were recorded, most of them connected with the invasion by the disease of a workshop in Ernest Street. The cases notified as Diphtheria were very numerous, but there seemed reason to doubt whether all of them were due to true Diphtheria. The cases of Typhoid Fever were comparatively few, but those of Erysipelas were numerous. Both the cases and Deaths from Puerperal Fever were more numerous than usual.

I. VITAL STATISTICS.

On November 9th, 1891, the City of Birmingham was so extended as to include within its limits the Local Government Districts of Balsall Heath, Saltley, and Harborne, and the Hamlet of Little Bromwich. At the census taken in April, 1891, the total population of these four localities was 48,945, and this added to the number of persons living in the old City, gives 478,116 as the census population for the enlarged Municipal area. At the previous census the number of inhabitants was 436,971, and from these figures it is estimated that at the middle of 1892 the population of the City was 483,526. Population.

Natural increase.

The natural increase of population, *i.e.*, the excess of births over deaths disregarding immigration and emigration, during 1892 was 6,384. The estimated increase in the population was 4,333.

Area.

Density.

The area of the City is now 12,365 acres. The mean density of population is 39·1 persons per acre. Of course, the density of population varies very much in different parts of the town. Thus, Edgbaston Registration Sub-District and the localities of Harborne, Saltley, and Little Bromwich, cover 6,118 acres, or about half the area of the whole City. On these 6,118 acres there is an estimated population of 43,618, giving on an average seven persons to an acre. Now on the other 6,247 acres, which make up the total area of the City, the estimated population is 439,908, or 70 persons to an acre. Thus the City can be divided into two parts, whose densities of population are 7 and 70 persons to an acre respectively. No doubt, if smaller portions of the more populous parts of the town could be taken, a much greater density of population than even 70 persons per acre would be found.

In the statement below, the estimated population of Birmingham and its mean density for each of the past seven years is given.

	Estimated Population at middle of each year.	Average Number of Persons per acre.
1886 ...	458,110 ...	37·0
1887 ...	462,251 ...	37·4
1888 ...	466,430 ...	37·7
1889 ...	470,646 ..	38·1
1890 ...	474,900 ...	38·4
1891 ...	479,193 ...	38·8
1892 ...	483,526 ..	39·1

Population and Density in certain large towns.

In the following statement will be found the mean density of population of each of the large towns with which I propose to compare Birmingham, in various parts of my report :—

	Estimated Population, 1892.	No. of Persons to an Acre.
33 Large Towns ...	10,188,449	34·8
London	4,263,294	57·1
Liverpool	513,790	98·6
Manchester	510,998	40·0
Birmingham ...	**483,526**	**39·1**
Leeds	375,540	17·4
Sheffield	329,585	16·8
Bristol	223,592	48·3
Bradford	219,262	20·3
West Ham	217,113	40·3
Nottingham	215,395	21·6

Elevation

Geological position.

Birmingham has the advantage of a high situation, its most elevated part being 679 feet, and its lowest 261 feet above sea level. It is, moreover, built on an undulating site, and stands for the most part on a porous soil, of a sandy or gravelly nature.

Statistics for enlarged City.

A somewhat unfortunate result of the recent extension of the City is that the statistics relating to the area now included within its boundary are, of course, not strictly comparable with those that apply to the smaller area of the old City, and hence a serious break unavoidably occurs in my statistical records. I have, however, obtained from the Medical Officers of Health for the annexed districts, sufficient information to enable me to calculate the Birth-rates, Death-rates, and Zymotic Death-rates recorded during the six years 1886-91, in the entire area which now forms the City; and these rates, with the figures upon which they are based, are given in the present report. I am unable, however, to give statistics relating to the enlarged City for any year prior to 1886.

MARRIAGES.

Marriages.

Marriage-rate.

The number of Marriages recorded in the city during 1892 was 4,322, equal to a marriage-rate of 17·9 per thousand persons living.

BIRTHS.

Births.

Birth-rate.

The Births registered during 1892 numbered 16,026, and comprised those of 8,074 males and 7,952 females. This is a rather smaller number than that for 1891, which was 16,166. The Birth-rate for the past year is 33·2 per 1,000 persons living, or ·6 lower than that for 1891. The Births and Birth-rates for the past seven years are as follows :—

	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

* 53 weeks.

Birth-rates in ten large towns.

The Birth-rates for the ten largest English towns during 1892 are as follows :—

33 large Towns	31·9
London	30·9
Liverpool	34·7
Manchester	33·7
Birmingham	**33·2**
Leeds	33·5
Sheffield	35·3
Bristol...	29·6
Bradford	27·2
West Ham	37·0
Nottingham	29·4

Birth-rate (*continued*).

The Birth-rate for Birmingham is higher than that for the thirty-three largest towns as a whole and higher than those for London, Bristol, Bradford, and Nottingham.

VACCINATION.

Vaccination

The returns supplied me by Messrs. Blanche, Knight, Stephens, and Johnson, Vaccination Officers, show that the births of 16,017 children were recorded during the year ended June 30th, 1892. Of these children, 1,731 died before Vaccination had been performed. Of the 14,286 survivors, 12,134, or 84·9 per cent., were successfully Vaccinated, while 47, or ·3 per cent., proved insusceptible of Vaccination, leaving 2,105 children, or 14·8 per cent., whose Vaccination was not recorded at the time the returns were made. Of these 2,105 children, 1,366, or 9·6 per cent., of the whole number surviving had been quite lost sight of, owing either to their removal to places unknown or to some other cause.

The following Table gives particulars of Vaccination for the year ending June 30th, 1892 :—

	Percentage of Surviving Children			
			Unaccounted for, from	
	Successfully Vaccinated.	Insusceptible of Vaccination or had Smallpox.	Removal to places unknown ; and not having been found.	Postponement by Medical Certificate ; Removal to other Vaccination Districts, etc.
Birmingham Parish	87·9	0·2	8·6	3·3
Aston Union (within the City) ..	81·3	0·5	12·3	5·9
King's Norton Union (within the City) ..	83·9	0·4	3·8	11·8
Whole City ..	84·9	0·3	9·6	5·2

Birmingham Parish.

It will be seen that a larger proportion of children were successfully Vaccinated in Birmingham Parish than in other parts of the City. The percentage of children not finally accounted for, owing either to the postponement of their Vaccination on medical grounds, to their removal to districts whose Vaccination Officers have been apprised, etc., is also better than in the other districts. In the City portion of Aston Union both the percentage of successful Vaccinations and the

Aston Union.

proportion of cases not yet accounted for are less satisfactory than in the other two districts. In King's Norton Union the successful Vaccinations are reduced very considerably by a large number of postponements on the ground of ill-health.

Vaccination (*continued*). King's Norton Union.

DEATHS.

The Deaths recorded during 1892 numbered 9,642—males 4,934, and females 4,708. The Death-rate for the year is 20·0 per thousand persons living. This is a higher rate than in 1888 and 1889, but lower than in 1886, 1890, and 1891, and identical with that for 1887. On the whole, the Death-rate must be considered fairly satisfactory. The Deaths and Death-rates for the past seven years have been as follows:—

Deaths.

Death-rate

	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

* 53 weeks.

The average of the seven Death-rates given above is identical with the rate for the year under review.

The Death-rate for Birmingham compares fairly well with those of other large towns. It is ·7 below the Death-rate for the thirty-three largest English towns, and also lower than those for London, Liverpool, Manchester, and Sheffield; but higher than in the rest of the ten largest towns. This will be seen from the figures below, which give the Death-rates in the ten largest towns in England, arranged in order of their populations.

Death-rates of Birmingham and large towns compared

	1892.	1891.	1890.	1889.	1888.
33 large Towns ...	20·7	—	—	—	—
London	20·6	21·4	21·5	18·3	19·3
Liverpool	24·7	27·0	27·8	25·0	23·1
Manchester	23·8	26·5	29·7	26·1	25·5
Birmingham	**20·0**	**21·1**	**21·4**	**19·2**	**18·2**
Leeds	19·8	22·9	22·7	22·1	20·6
Sheffield	20·8	23·9	25·8	21·5	21·1
Bristol	19·5	20·9	20·2	18·4	17·6
Bradford	18·0	22·2	22·8	21·2	18·7
West Ham	18·6	19·1	21·7	18·0	18·0
Nottingham	18·7	19·9	19·2	19·5	19·5

It appears that of the towns given in the above Table, there were 4 in 1892, 6 in 1891, 7 in 1890, 6 in 1889, and 7 in 1888, having higher Death-rates than Birmingham had.

Discrepancy between Registrar General's and own figures.

The Registrar General, in preparing his statistics, includes in the mortality for Birmingham the Deaths of paupers belonging to the City who die in the Aston and King's Norton Workhouses. Little objection would exist to this plan, supposing the Deaths of non-residents who die in Hospitals in the City could be eliminated from the mortality records. But to debit the town with deaths of residents who die outside, and not to deduct the deaths of non-residents who succumb within the City, seems to me to be calculated to intensify rather than correct any inaccuracy in the mortality records, and I consider that the Registrar General's statistics for Birmingham show the town as having a higher Death-rate than is actually the case.

Death-rate in each quarter of the year.

The variations in the Death-rate from quarter to quarter will be seen from the following figures, which state the number of Deaths, male and female, and the Death-rate in each of the four quarters of the past year:—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Year.
Total Deaths	2,563	2,497	2,185	2,397	9,642
Males ...	1,294	1,312	1,146	1,182	4,934
Females ...	1,269	1,185	1,039	1,215	4,708
Death-rate	21·3	20·7	18·1	19·9	20·0

In the first quarter the Death-rate was 21·3, a rate which compared favourably with those for previous years, and which was very much lower than that for the 33 large towns, viz., 25·8. The Death-rate for the second quarter was only a moderately good one, being 20·7 against 19·5 in the large towns. In the third quarter the Death-rate was satisfactory for the time of year, being 18·1 per 1,000. For the fourth quarter the Death-rate was 19·9; this is about a normal rate for the autumn quarter, and differs but little from that for the 33 large towns.

Chart.

On a chart appended to my Report will be found the Death-rate and average age at death for each week of the year. The chart exhibits no very unusual features. In the early part of the year the comparatively high Death-rates and Death-ages call attention to the large mortality which occurs at this period amongst elderly persons, who succumb to diseases of the respiratory organs. Owing to the somewhat small mortality from Diarrhœa, the Death-rates are lower and the Death-ages higher than usual in August and September.

Distribution of deaths among various localities.

The distribution of the Deaths over various localities is shown in the next statement. The Deaths in large institutions are not included in the districts in which they occurred, but are given separately.

Distribution of Deaths (*continued*).

	1892.	1891.	1890.*	1889.	1888.
Ladywood Registration Sub-District ...	956	962	1,017	930	864
St. Thomas' „ „ ..	566	575	648	561	504
St. Martin's „ „ ...	745	771	830	703	670
St. George's „ „ ...	1,173	1,283	1,378	1,120	1,120
All Saints' „ „ ...	823	800	859	805	746
Deritend „ „ ...	1,735	1,645	1,715	1,502	1,397
Duddeston „ „ ...	1,222	1,371	1,250	1,172	1,143
Edgbaston „ „ ...	294	289	292	262	220
Balsall Heath	476	470	467	432	387
Saltley and Little Bromwich ...	147	137	159	130	137
Harborne	94	124	114	98	82
Children's Hospital	76	84	80	65	78
Queen's „	173	160	174	151	137
General „	284	311	306	255	245
Birmingham Workhouse	711	862	735	627	606
Lunatic Asylum	85	127	104	86	82
City Hospital	61	77	173	113	23
St. Joseph's Home...	21	29	28	23	24

* 53 weeks.

Death-rates in various localities.

Assuming that the Deaths in institutions should be distributed *pro ratâ* over the different localities specified, the Death-rate in each of the latter would be as shown below. Of course, this assumption is not strictly accurate, as districts like Edgbaston and Harborne contribute but a trifling proportion of the Deaths in institutions. The Death-rates given can therefore only be considered approximate.

	Death-rate per 1,000.
Ladywood Registration Sub-District	19·8
St. Thomas' „ „	20·2
St. Martin's „ „	22·3
St. George's „ „	22·0
All Saints' „ „	17·7
Deritend „ „	20·6
Duddeston „ „	21·9
Edgbaston „ „	14·9
Balsall Heath	18·0
Saltley and Little Bromwich	16·5
Harborne	14·5
Whole City	**20·0**

It appears that the Death-rates in St. Martin's, St. George's, and Duddeston Sub-districts are notably higher than the Death-rate for the whole City. Edgbaston and Harborne compare very favourably with the other localities, the more so when it is remembered that by the even distribution over the City of Deaths in institutions, the Death-rates in these two localities are made to appear somewhat higher than they actually are.

Distribution of deaths among the Wards.

The next Table shows the number of Deaths in each ward of the City during the past year, Deaths in institutions being excluded :—

Rotton Park	549
All Saints	612
Ladywood	467
St. Paul	299
St. George...	372
St. Stephen	496
St. Mary	313
St. Bartholomew	588
Market Hall	203
St. Thomas	372
St. Martin...	426
Edgbaston and Harborne	381
Deritend	546
Bordesley	676
Duddeston	459
Nechells	615
Balsall Heath	476
Saltley	381

Unfortunately I do not know the populations of the wards, and cannot give their Death-rates, so that the figures have little or no comparative value. Moreover, as the ward boundaries were re-arranged at the time of the extension of the City in November, 1891, I cannot give the mortality in the present divisions for any previous years.

Distribution of Deaths among the ætal periods.

The Deaths have been distributed over seven ætal periods in the following manner :—

Under 1 year	2,664
Between 1 and 5 years	1,570
„ 5 „ 15 „	375
„ 15 „ 25 „	343
„ 25 „ 45 „	1,289
„ 45 „ 65 „	1,812
At 65 years and upwards	1,589

Average age at death.

The average age at Death during each quarter of the year is shown below :—

First Quarter	32 years and 6 months.
Second „	28 „ „ 10 „
Third „	23 „ „ 9 „
Fourth „	27 „ „ 8 „
Whole Year	28 „ „ 5 „

Chart

The weekly variations in the average age at Death will be seen on the chart in the appendix.

INFANT MORTALITY.

Infant Mortality.

The Infantile Death-rate for the year, *i.e.*, the proportion of Deaths under one year of age to 1,000 Births, was 166. This is a higher figure than in 1891 and 1888, but lower than in any other year with which I am able to make comparisons. The proportions of Infant Deaths per 1,000 Births in the ten largest English towns are shown below :—

Infant deaths per 1,000 births in large towns.

	1892.	1891.	1890.	1889.	1888.
33 large towns	164	—	—	—	—
London	155	154	163	141	146
Liverpool...	181	188	195	188	168
Manchester	179	192	187	176	176
Birmingham	**166**	**165**	**181**	**168**	**152**
Leeds	169	177	172	177	173
Sheffield	171	170	195	174	178
Bristol	147	146	151	146	123
Bradford	155	181	169	182	153
West Ham	153	150	161	130	132
Nottingham	167	169	159	182	151

Four towns in the above list, viz., London, Bristol, Bradford, and West Ham, had smaller Infantile Death-rates than Birmingham. The Infantile Mortality in the 33 large English towns as a whole was also lower than in Birmingham, but in Liverpool, Manchester, Leeds, and Sheffield it was higher.

Infant Mortality Enquiry.

During the past year an enquiry was instituted by the City Council into the Infantile Mortality of the year 1891. After a lengthy investigation of the subject, I made a report, of which the following is a copy :—

"In reference to Council Minute No. 15,870—'That the Report of the Health Committee be approved, and that the Health Committee be instructed to prepare and present a Report to the Council for the year 1891 on the distribution of the Births in the various wards; the distribution of Deaths under one year of age in wards; the proportion of Deaths to Births in the various wards; and also to report on the causes of the excessive Infant Mortality in Birmingham; the remedies, and also any information from other towns which may be useful for the sake of comparison'—I beg to report that an attempt has been made to investigate the circumstances of all Deaths of children under one year of age during 1891. Owing to the considerable time which had elapsed between the dates of Death on the one hand, and the passing of the resolution and prosecution of the enquiry on the other, conditions had much changed, with the result that it has been impossible, owing to incorrectness of addresses and removals to other places, to investigate more than a portion of the cases, and where enquiry could be made in many instances the information given was very meagre, and presumably not very reliable.

Infant Mortality Enquiry: (*continued*).

"The total number of Deaths of Infants under one year was 2,504; the number of Deaths investigated was only 1,222. The points as to which it appeared to me desirable to obtain particulars, and to which enquiry was therefore directed, were as follows:—age and occupation of the parents; the kind of food given; the number of children of the family alive and their ages; the number who had died, with their ages and causes of Death; the number of infants whose lives were insured; and the general condition of the homes, as regards ventilation, cleanliness, dryness, closet accommodation, and general sanitary surroundings.

"Before proceeding to the results of this enquiry, I would point out what must strike the mind as very remarkable, viz., that the improvement in the general sanitary condition of the town during the past nineteen years—which has had the effect of lowering the *general* Death-rate very considerably—has had no perceptible influence on the *Infantile* Death-rate (*i.e.*, the proportion of Deaths under one year of age to 1,000 Births). This is clearly seen from the following figures:—

Birmingham.	Infantile Death-rate.	General Death-rate.
Average of 9 years, 1873-81	169	23·5
Average of 10 years, 1882-91	169	20·6
Decrease	0	2·9

"It will be seen that while the general Death-rate was reduced by 2·9 per 1,000 persons living—a reduction equal to 12 per cent.—the Infantile Death-rate showed no reduction whatever. If the Infantile Death-rate had decreased at the same rate as the total Death-rate it would have fallen to 148 instead of remaining at 169.

"The figures for London and for England generally are similar, though they show some slight reduction in the Infantile Death-rate; thus in London in the same periods as I have taken for Birmingham the general Death-rate fell 8 per cent., while the Infantile Death-rate fell only 2 per cent. In the whole of England the total Death-rate decreased 8 per cent., while the Infantile Death-rate decreased only 1 per cent.

"It appears from these figures that in Birmingham the Infantile Death-rate has remained unaffected by the public measures taken to improve the health of the community; while in London and the whole of England sanitation has effected only a very slight reduction in the Infantile Mortality.

"In accordance with the instructions conveyed in the resolution of the Council, I obtained the number of Births, from which I have calculated the Infantile Mortality per 1,000 Births in each of the 16 wards of the old City. In making this calculation, I have excluded the Births and Deaths in the

Infant Mortality Enquiry (*continued*).

Workhouse, and the Deaths in the General, Children's, Queen's, and City Hospitals, and the Lunatic Asylum. The following Table gives the number of Births and of Infant Deaths, with the Infant Mortality Rate, in each of the sixteen Wards, which are arranged in order of Infantile Mortality, commencing with the highest rate, viz.: 240 in Market Hall, and ending with the lowest, viz.: 119 in Edgbaston :—

	No. of Births in 1891.	No. of Infant Deaths in 1891.	Infant Mortality rate per 1,000 Births, 1891.
Market Hall ...	267	64	240
St. Mary	554	128	231
St. Stephen ...	878	185	211
St. Bartholomew ...	1,022	205	201
Duddeston ...	921	180	195
Nechells	1,204	235	195
Deritend	882	161	183
Whole City ...	**14,683**	**2,504**	**171**
St. George ...	782	133	170
St. Martin... ...	728	123	169
Ladywood... ...	891	146	164
Rotton Park ...	1,305	200	153
St. Thomas ...	684	101	148
All Saints	1,387	194	140
St. Paul	527	66	125
Bordesley	2,029	251	124
Edgbaston ...	472	56	119

The results of the enquiry as to the employment of mothers from home, the suckling of the infants, and Infant Life Insurance are shown in the next Table. In the whole City in 157 cases, or 13 per cent., the mother was employed away from home; in 472 instances, or 39 per cent., the infant was not suckled; and in 435 cases, or 36 per cent., its life was insured. The figures for each Ward are as follows :—

WARD.	No. of cases enquired into.	Percentage of cases in which		
		Mother was employed from home.	Infant was not suckled.	Infant's life was insured.
Market Hall ...	34	12	38	35
St. Mary	50	18	32	44
St. Stephen ...	94	17	35	49
St. Bartholomew ...	88	19	27	30
Duddeston	78	12	21	33
Nechells	92	11	34	43
Deritend	95	16	41	41
Whole City ...	**1,222**	**13**	**39**	**36**
St. George	60	13	40	65
St. Martin	55	18	40	24
Ladywood	106	8	61	26
Rotton Park ...	114	14	41	33
St. Thomas... ...	38	5	50	24
All Saints	107	10	40	37
St. Paul	35	11	23	31
Bordesley	152	11	38	29
Edgbaston ...	24	0	58	8

Infant Mortality Enquiry (*continued*).

"The wards are arranged in the order of their Infantile Death-rate, commencing with the highest and terminating with the lowest. The figures are, to a certain extent, curious. They show that, looked at generally, the wards where the Infantile Death-rate is the higher are those in which a larger proportion of mothers of the children who died in infancy during 1891 worked away from home, and a larger number of such infants were insured. This is what might be expected. But they also show that these same wards are those in which the smallest percentages of infants were hand-fed, a condition of things which certainly would not have been anticipated. It would have been expected that the infants deprived of the natural and best food—the mothers' milk—and fed artificially, would have predominated in the wards having the highest Infantile Mortality, this being more in accordance with general experience, and the doubt naturally suggests itself that the information given on this point is inaccurate, for while milk is said to have formed a considerable proportion of the substituted food, my own experience, and that of others, is that very little milk—often none at all—enters into its composition.

"In the enquiry which has just been concluded, 1,937 houses in which Infant deaths had occurred were examined. The following Table contains a summary of the sanitary condition of these houses:—

WARDS.	No. of houses examined.	PERCENTAGE OF HOUSES HAVING								
		Front ventilation only.	Only 3 rooms, or less.	No cellar.	Partially-paved yards.	Ashpit privies.	Pan privies.	Water Closets.	Closets too near house, or in bad condition.	Nuisance from closets, drains, animals, etc.
Market Hall ...	53	49	64	23	36	9	68	28	9	19
St. Mary	96	65	76	30	29	9	74	19	15	36
St. Stephen ...	151	65	68	32	37	12	63	25	15	17
St. Bartholomew...	105	66	66	53	41	6	77	18	14	30
Duddeston ...	146	50	49	25	75	4	68	29	7	9
Nechells	207	46	48	40	71	5	63	32	15	17
Deritend	135	60	62	41	45	14	65	24	17	27
Whole City ...	**1,937**	**55**	**58**	**32**	**49**	**11**	**65**	**25**	**13**	**19**
St. George ...	116	69	78	14	37	21	64	18	14	21
St. Martin ...	98	77	80	31	48	3	65	35	18	35
Ladywood ...	136	66	66	24	4	10	67	24	1	7
Rotton Park ...	172	49	56	30	70	15	57	29	10	5
St. Thomas ...	38	71	66	32	66	8	63	29	11	11
All Saints ...	177	47	51	20	58	11	72	19	18	9
St. Paul	52	73	79	19	52	17	54	29	17	29
Bordesley ...	227	32	31	47	41	15	62	22	16	27
Edgbaston ..	28	46	54	11	75	7	36	57	7	4

"Only one conclusion can be drawn from the above figures. It is that the sanitary conditions to which attention has been directed cannot be shown to have had any evident

Infant Mortality Enquiry (*continued*).

connection with the Infantile Mortality. Thus, looking at the first of the columns of percentages, it is seen that the five wards, St. George's, St. Martin's, Ladywood, St. Thomas's, and Paul's, in which the largest proportions of houses examined had ventilation at the front only—a most undesirable condition—had each of them a lower Infantile Death-rate than the City as a whole. Again, it might be anticipated that the size of the home would affect the infant's chance of life, and doubtless it does to some extent; but two of the wards with higher Infantile Death-rates, viz., Duddeston and Nechells, have lower percentages of very small houses than the whole City has, and St. Paul's Ward, with a very low Infantile Death-rate, has almost the largest proportion of small houses. As regards the next two columns, the proportion of houses without cellars, or with partially-paved yards, shows no relation whatever to the Death-rate in infants. No special preponderance of any particular form of closet accommodation is found in either of the two classes of wards designated as healthy and unhealthy, and the existence of nuisances on the premises is not, in a very marked degree, more noticeable in the unhealthy than in the healthy wards.

"In addition to the points mentioned in the Table, enquiry was directed to the water supply, and the dryness or dampness and cleanliness of the houses. Only three of the houses were found to be supplied with pump-water, and only 70 and 47 respectively were reported as dirty and damp. These figures are too small to draw any conclusions from.

"From the foregoing remarks, it will be evident that the information obtained indicates that external sanitary conditions appear to have no well-marked influence on the rate of Mortality at the particular period of life under consideration. It may be that they affect health, as no doubt they do, at this period, but that their effect on life is not exerted until a later period.

"In order to ascertain the class incidence of Infant Mortality, I enquired into the social standing of the parents of the 1,222 infants whose Deaths have been the subject of enquiry, and found that while only 4 occurred in the Independent or Professional classes, 134 occurred in the Trading or Commercial class, and 1,084 in the class embracing Artisans and all others.

"Having considered the Infantile Deaths in connection with their distribution in the different wards of the City, the employment of the mothers, the kind of food of the infants, the sanitary conditions of the houses and premises, water supply, and incidence of the Mortality upon dfferent classes, it will be advisable to enquire into the character of the diseases which prove fatal in the first year of life.

Infant Mortality Enquiry (*continued*).

"The following statement shows this both in regard of the cases specially examined and of the whole Infantile Mortality of the City for the year, and it will be seen that the ratio of the Deaths enquired into to the total number of the same kind registered, namely, about 50 per cent., holds pretty nearly throughout the various classes of diseases specified:—

INFANT MORTALITY IN BIRMINGHAM IN 1891 FROM DIFFERENT DISEASES.

Deaths from	No. Registered.		No. Enquired into.	
Premature Birth	268		129	
Diarrhœa and Dysentery	245		128	
Stomach Diseases	51		13	
Enteritis	67		37	
Tabes Mesenterica	33		21	
Convulsions	127	1,072	64	505
Teething	38		21	
Want of Breast Milk, Starvation ...	22		5	
Debility, Atrophy, Inanition, Marasmus	489		216	
Suffocation	107		51	
Bronchitis	389		201	
Pneumonia	126		65	
Whooping Cough	115		60	
Measles	27		18	
Other causes	400		193	
Total ...	2,504		1,222	

"The total number of surviving children in the families embraced by the enquiry is 3,356, and the number of children of the same families deceased is 2,770; this is a mortality of over 45 per cent.

"A glance at the various groups of diseases shows at once that diseases of the digestive organs, numbering 1,072, greatly preponderate over those of any other organ, and constitute no less than 41 per cent. of the whole. This is pretty near, but lower than the figure for England and Wales, which is 43 per cent. That for France (but not for the corresponding year) was stated to be 40 per cent., while for Norway it was only 12·5 per cent. When we remember that in Norway mothers universally suckle their own children, while in France and England the case is very different, and not only so, but that the substituted food is frequently of the most innutritious and indigestible character, the difference in the mortality between Norway and the other two countries named is easy to understand.

"Undue exposure to cold is no doubt a prolific cause of infantile mortality, as is shown by the number of deaths from Bronchitis and Pneumonia; but this can be avoided with care. It is stated by Dr. Finkelnburg, of Bonn, that the rate of infant mortality in Norway is 106, and in the Faroe Islands only 86 per 1,000, against 171 in Birmingham. But in Ice-

land, with a similar climate but doubtless much less care, the infantile death-rate is 295. This difference appears strange, and must evidently depend on something independent of temperature. The explanation is that, while in Norway, as I have stated, children are universally, in Iceland they are rarely, suckled. Possibly this want of care in regard to feeding may extend also to the degree of protection from cold which is afforded to infants in the latter country. But I have no doubt that the difference in mortality results principally from the method of feeding, as an enormous array of facts goes to show the paramount influence which it exerts on infantile health and life. The improper feeding of children is practically slow starvation; it is the cause, in some cases, of the death of all the children of a family, and frequently of the greater proportion of them. Privation of breast milk and improper feeding are not only answerable for infantile sickness and death, but their effects are seen in after-life in imperfect development and inferior physique. Thus Dr. Finkelnburg states that at the Congress of Hygiene at Paris in 1873 it was asserted that in France the sons of wet-nurses were largely rejected as army recruits.

"That Infant Mortality is influenced to a pre-eminent degree by the method of feeding is shown by its diminution under some exceptional conditions of trade depression, and other causes of social misfortune. It was observed at the time of the Lancashire Cotton Famine, and has been frequently referred to, that while the adult death-rate was enormously increased, even doubled, that of infants was reduced in an almost inverse ratio. Dr. Finklenburg states that the Siege of Paris afforded a similar illustration. The statements appear paradoxical, but the explanation is very simple. In peace and prosperity mothers neglect their children in one way or another; in war or adversity they are able, though suffering more themselves, to give attention to, and more especially to suckle, their offspring.

"On the subject of Infant Life I made the following remarks in my Annual Report for 1877:—

"'Infants of the tenderest age are often deprived of the one special food which nature has provided for them, viz., the mother's own milk, and to make matters worse, instead of a good substitute being provided, like cow's milk, the most unwholesome, innutritious, indigestible messes are resorted to, milk often forming no part even of the diet. Common foods are sour milk out of dirty bottles, bread and water (a diet to be borne by adult prisoners only for a week), arrowroot—sometimes with milk but often with water only—corn flour, starch, and other similar substances, containing scarcely any nourishment, and certainly little that an infant can get out of them, because by infants they are indigestible. The result of the use of these artificial foods is that flatulence, pain, diarrhœa, and other disorders arise, and the child becomes uneasy and fretful. To relieve the child, but more frequently to relieve the mother of the necessity for attending to it, the child is dosed with Godfrey's

Infant Mortality Enquiry (*continued*).

cordial and other opiate soothing syrups, which certainly have the effect of allaying pain and forcing sleep, but only to aggravate the evil, and hasten the death of the child. Mothers have to learn how to feed their children, many of them being so ignorant that they have no idea of what is proper, and believe that anything eaten or drunk by an adult may be given to an infant. There can be no doubt that the majority of infants dying under one year old are sacrificed to the ignorance of their parents. Some are sacrificed to their carelessness or intemperance, for 4·3 per cent. of the deaths of these young children were due to suffocation from overlying, so that out of every 23 children who died last year in the first year of life in Birmingham, one died from being suffocated. A right-minded woman, in a proper and sober condition, can hardly be supposed capable of lying on an infant and stopping its breath, except as a rare accident, but there is reason to believe that the large sacrifice of infantile life from this cause is the result of insobriety and excess. When the children have grown stronger, and sleep partly or altogether away from their mothers, the fatality from this cause diminishes, and between one and five years only half one per cent., or 1 in 200, is killed in this way.'

"One of the causes of infantile mortality is considered to be the continuance of exhausting labour by pregnant women till within too short a period, even up to the time of confinement, and the resumption of such labour too soon afterwards. In Alsace and in some Swiss cantons employment of women in factories is forbidden by law for six weeks before and six weeks after delivery, only a partial deduction, or none at all, being made from their wages. In the case of one factory adopting this system, it was found that a reduction of 13 per cent. was effected in the infant mortality. It has been recently proposed to bring this question before Parliament in this country, with the view to obtain legal powers bearing on it.

"I think then it may be considered that social rather than sanitary agencies must be looked to for effecting the desired reduction in infantile mortality. The wards in which more mothers are employed away from home, in which more infants are insured, and in which the infantile mortality is highest, are the wards whose inhabitants are lower in the social scale, and it seems to me that the figures point to the social position as the most constant factor in the causation of infant mortality. It has indeed been estimated that the rate of infant mortality among the bulk of the English population is fully double that which prevails among the middle and upper classes of society. The chief causes of such mortality in Birmingham are Diarrhœa, Convulsions, Debility, etc., Suffocation, Bronchitis, Pneumonia, Whooping Cough, and Premature Birth. With the exception of the last one, all these causes of death may be considered to be largely due to neglect. This neglect may be of two kinds: the culpable neglect of those who know how to manage children

Infant Mortality Enquiry (*continued*).

properly, but fail to do so; and neglect arising from ignorance. As regards the former it is difficult to see what is to be done regarding it, except the infliction of punishment when discovered and proved, which is very difficult. To remedy the neglect arising from ignorance several means suggest themselves. Among them may be mentioned the teaching of the principles which should govern the management of young children, both in health and sickness, to girls in elementary schools; free lectures to women on the same subject; and the issue of a handbill giving concise directions as to feeding and nursing infants to persons who register births. Without question, also, everything which tends to raise the intelligence, the social condition, and the moral tone of the various classes of society will tend to extend the probabilities of infant life. There can be no doubt that the visitation of the homes of the poor by ladies who would interest themselves in this question, and would give simple advice and practical instruction upon the feeding and nursing of infants, would be of great benefit. It seems possible, too, that something might be done in the same direction by medical practitioners when advising other members of households. It is, I feel sure, only by such means as these—means calculated to dispel the ignorance and correct the erroneous ideas which so largely prevail—that a substantial diminution in the deplorable loss of infant life can be effected.

"The establishment of crèches, well conducted and properly regulated, would prove valuable, especially in proportion as they led to the diminution of those wretched nurseries where poor children are huddled together in impure air and fed with improper food. The regulation of infant life insurance might also be undertaken with advantage to infant health and life, as there can be no doubt that this class of insurance is subject to great abuse.

"An impression seems to have become prevalent that in respect to infant mortality, Birmingham occupies an exceptionally bad position. This is by no means an accurate appreciation of the facts. During the year under consideration the 28 large English towns as a whole had an infantile death-rate of 167, while that for Birmingham was 171, so that our City was but little worse than the large towns as a whole. Moreover, one of these towns, Preston, had an infantile death-rate of 227; another, Leicester, one of 214; and a third, Blackburn, one of 204; while 15 of the towns reached a higher figure than Birmingham. It appears therefore that while the mortality in infants is undoubtedly high in Birmingham, as in other towns, our City occupies a moderately good position in comparison with other large centres of population."

SPECIFIED CAUSES OF DEATH.

Specified causes of Deaths.

The Deaths recorded during 1892 were distributed among the principal classes of diseases as shown below :—

Class I.—Zymotic Diseases	...	1,510, or 15·7	per cent. of total mortality.
" II.—Parasitic Diseases	...	7, or 0·1	" "
" III.—Dietic Diseases	...	54, or 0·6	" "
" IV.—Constitutional Diseases		1,443, or 15·0	" "
" V.—Developmental Diseases		752, or 7·8	" "
" VI.—Local Diseases...	...	4,865, or 50·5	" "
" VII.—Violent Deaths	...	335, or 3·5	" "
" VIII.—Deaths from ill-defined and not specified causes		676, or 7·0	" "

CLASS 1.—*ZYMOTIC DISEASES.*

Zymotic Diseases.

This class of diseases includes those of a Miasmatic, Diarrhœal, Malarial, Zoogenous, Venereal and Septic nature. Such diseases had 1,510 deaths attributed to them, equal to a death-rate of 3·1 per 1,000 of the population. Most of the deaths were set down to the

Seven Principal Zymotic Diseases,

Zymotic Death-rate.

viz., Smallpox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever (Typhus, Typhoid, and Simple Continued) and Diarrhœa. The Deaths attributed to these diseases numbered 1,244, giving a Death-rate of 2·6 per 1,000, against 2·0 in 1891, 2·9 in 1890, and 2·7 in 1889. The Zymotic Death-rate is a fairly good one, being identical with the average of the rates for the preceding six years. It is, however, much higher than in 1891 and 1888. The Zymotic Death-rates for Birmingham and other towns during the past five years are given in the subjoined Table :—

Zymotic Death-rates in large towns.

	1892.	1891.	1890.	1889.	1888.
33 large towns	2·6	—	—	—	—
London	2·8	2·3	2·9	2·3	2·6
Liverpool	2·9	3·6	4·7	4·5	3·4
Manchester	3·0	3·1	4·0	4·0	3·1
Birmingham	**2·6**	**2·0**	**2·9**	**2·7**	**2·0**
Leeds	2·2	2·4	2·4	3·4	2·7
Sheffield	3·1	2·7	3·7	3·4	3·7
Bristol	2·1	1·9	2·1	2·2	1·3
Bradford	1·7	2·3	2·3	2·9	1·6
West Ham	2·9	2·3	4·1	1·9	2·6
Nottingham	2·3	2·5	1·9	2·6	2·1

It appears that the Zymotic Death-rate for Birmingham is identical with that for the thirty-three largest English towns, and lower than those recorded in London, Liverpool, Manchester, Sheffield, and West Ham. Birmingham holds a rather better position among the great towns in regard to its Zymotic Death-rate than in respect to its total Death-rate, five of the nine towns being above it in Zymotic Mortality, and four in general Mortality.

Diarrhœa

caused a large part of the Zymotic Mortality, having 443 deaths attributed to it, including 16 set down to Simple Cholera. The average number of Deaths in the five preceding years was 438, the yearly Mortality varying in the past seven years from 317 in 1888 to 579 in 1887. The Diarrhœal Death-rate for the year was 0·9 per 1,000. The highest Mortality was reached at the end of August, and the Death-rate for the whole of the third quarter was 2·4 per 1,000. Of the 443 Deaths from Diarrhœa 324 or 73 per cent. occurred in infants and 400 or 90 per cent. in children under five years old. The greater part of the remaining Deaths were in old people.

Diarrhœa.

Diarrhœal Death-rate.

Measles

caused 340 Deaths, more than half of which occurred in the second quarter of the year. In the preceding quinquennium the average number of Deaths was 225.

Measles.

The Local Government Board having called attention to the Mortality from Measles in the second quarter of the year, I made to you the following report upon the subject :—

Report on prevalence of Measles in second quarter.

"I beg to submit the following particulars in reference to the prevalence of Measles during the second quarter of the current year.

"I would point out at the commencement that it is impossible for me to report at all fully on the epidemic owing to the fact that Measles is not a notifiable disease in Birmingham, [and consequently the only method of estimating its prevalence is to assume that the deaths registered from the disease bear a fairly constant ratio to the cases, and to treat of deaths alone.

"According to the returns supplied to me by the local registrars, 172 deaths were caused by Measles during the second quarter of the present year. This number has been exceeded in two quarters during the past ten years, viz. :— in the fourth quarter of 1887, when 180 deaths were recorded; and in the second quarter of 1886, when 175 deaths occurred. Measles is indeed always present in the town, and the Mortality from it is subject to great variation, as seen from the figures below :—

	No. OF DEATHS FROM MEASLES.			
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
1882	67	52	18	13
1883	24	20	43	68
1884	77	123	94	39
1885	12	24	33	50
1886	133	175	38	37
1887	18	19	20	180
1888	91	22	24	54
1889	44	39	53	61
1890	88	140	75	26
1891	10	22	32	41
1892	*60	*172	—	—

* At the end of 1891 the area of the City was increased, and these figures relate to a population about 50,000 larger than in the previous year.

Report on prevalence of Measles in second quarter (*continued*).

"It will be seen from the above figures that the Mortality to which attention is directed by the Local Government Board, viz., that registered during the second quarter of 1892, though decidedly heavy is by no means unprecedented.

"During the first quarter of 1891 the town was practically free from Measles, that is to say the Mortality from the disease was almost as slight as it has ever been. Some increase took place during the next three quarters, most of the deaths occurring in Duddeston Registration Sub-District. In the first quarter of 1892 the disease became prevalent in Deritend, St. Martin's, and All Saints' Registration Sub-Districts, while in the second quarter of the same year it spread to all parts of the town except Duddeston Registration Sub-District, where it had already been very prevalent and had died out. Subsequently to the end of the second quarter the Mortality has decreased in a marked degree, only 41 deaths having been registered during the seven weeks ending August 20th.

"It appears therefore that the recrudescence of the disease during the second quarter of 1892 is only one of those which experience shows to occur from time to time, and that the Mortality from the disease for the whole year may not exceed that of some previous years. I am not aware of any exceptional circumstances influencing the prevalence of the disease; and as the Mortality varied most irregularly in the various weeks of the quarter, while attendance at school was almost continuous, it is hardly possible to discover the conditions of its extension.

"With a view to checking the spread of the disease, all houses in which it was known to have been present were fumigated with sulphur. Heads of Schools were asked to prohibit the attendance of children suffering from Measles, and enquiries were made at the public elementary schools as to the numbers of scholars suffering from the disease, but in no case was the number considered large enough to justify the closure of a school."

Map.

The Deaths from Measles during 1892 are shown by red crosses on the map at the end of my report.

Whooping Cough.

Whooping Cough.

The Deaths from Whooping Cough numbered 285, against an average of 295 in the five years 1887–91, and against 303 in the year 1891. It is worthy of note that Measles and Whooping Cough together caused 625 Deaths, or half the Mortality from all the seven chief Zymotic diseases. Up to the present time sanitation has had little effect on these two diseases, and the problem of how best to deal with them is a difficult one. It is notorious that both Measles and Whooping Cough are generally regarded with little concern amongst a large section of the

Prevention of Whooping Cough and Measles.

people, and no effective means are taken to keep healthy children from contact with those attacked by the diseases, nor is sufficient care exercised to prevent a fatal termination of cases which, if properly treated, would end in recovery. It seems possible that measures somewhat similar to those adopted with regard to Scarlet Fever will have to be taken before the gravity of attacks of Measles and Whooping Cough will be realised by the public. These measures would have to include the notification of all cases, the effective isolation of the patient, either at home or in hospital, and disinfection after the termination of the illness. There are, however, many difficulties in carrying out effectively any such scheme as this. In the first place, cases of Measles and Whooping Cough are commonly treated without medical assistance, and complete and accurate notification of cases would be difficult to obtain. Moreover both diseases are infectious at a very early stage, probably before their characteristic symptoms appear, thus rendering isolation during the whole period of infectiveness practically impossible. And finally, the very large number of cases which would have to be attended to in a serious outbreak presents an immense obstacle to the undertaking by Sanitary Authorities of such measures as I have mentioned.

Prevention of Whooping Cough and Measles. *(continued).*

Scarlet Fever.

I am pleased to say that a further large reduction has been recorded in the Mortality from Scarlet Fever, the Deaths having fallen from 95 in 1891 to 68 last year. The average number in the previous five years was 110. Of the 33 largest English towns 19 had higher Death-rates from Scarlet Fever than Birmingham had.

Scarlet Fever

The number of cases of Scarlet Fever notified during the year was 1,418, so that on an average one patient out of every twenty-one died. This is a smaller proportion than usual, and it appears therefore that the disease has been of a milder type.

The map at the end of my report is marked with red spots to show the distribution of the Deaths from Scarlet Fever.

Map.

Diphtheria.

I regret to say that the Deaths from Diphtheria have been more numerous than in the preceding year, numbering 67 against 43 in 1891, and 57, the average number for the quinquennium 1887–1891. The Death-rate from Diphtheria is ·14 per 1,000, and compares fairly well with those for recent years, as shown below :—

Diphtheria.

Diphtheria Death-rate.

Death-rate from Diphtheria per 1,000 Persons Living.						
1886	1887	1888	1889	1890	1891	1892
·17	·14	·10	·13	·14	·09	·14

In the thirty-three largest English towns the Death-rate from Diphtheria was ·27 per 1,000, or nearly twice as high as in

Birmingham, and 13 towns had higher Diphtheria Death-rates than that for Birmingham.

Map. The blue spots on the map indicate Deaths from Diphtheria.

Fever.

Fever. The deaths attributed to Fever were remarkably few, numbering only 41, of which 39 were due to Typhoid, and two to Simple Continued Fever. This is considerably the lowest Mortality from Fever ever recorded in the City; the average number of Deaths in the five years prior to 1892 was 70.

Fever Death-rate. The Fever Death-rates for the past seven years have been as follows:—

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

1886	1887	1888	1889	1890	1891	1892
·15	·18	·15	·10	·14	·17	·08

The above figures show clearly how well the Mortality from Fever during 1892 compares with that of other recent years. In the thirty-three large towns the Fever Death-rate was ·15, or nearly twice as great as in Birmingham, while no less than 26 of the towns had higher Death-rates from Fever than Birmingham had. The favourable position of the City, when compared with other towns, in relation to its Death-rates from Fever and Diphtheria is very gratifying.

Map. The Deaths from Typhoid Fever during the past year are marked on the map at the end of my report by blue crosses.

Smallpox.

Smallpox. No Death from Smallpox was recorded during 1892. In the preceding year there were 7, and the average number for the five years 1887–91 was 2. In the thirty-three large towns the Death-rate from Smallpox was ·01 per 1,000.

Disease Map.

Disease Map. Appended to my report will be found a map of the City, marked with spots and crosses to indicate the distribution of the Deaths attributed to Scarlet Fever, Measles, Diphtheria, and Typhoid Fever. In preparing the map I have, as far as possible, shown the Deaths which actually occurred in Public Institutions as having taken place at the patients' homes. The Deaths from Scarlet Fever will be seen to have been distributed fairly regularly over the City, though a slight aggregation may be noticed on St. George's Ward. Measles, too, has visited all the more populous parts of the City. The deaths from Diphtheria are most numerous in the vicinity of Stratford Road and of Beaufort Road Schools, which appear to have served as centres for local outbreaks of the disease. The south-eastern portion of All Saints' Ward, and the eastern part of St. Bartholomew's, have had a large proportion of the Deaths from Typhoid Fever.

II.—*PARASITIC,* AND III.—*DIETIC DISEASES.*

Parasitic and Dietic diseases.

To Parasitic and Dietic Diseases 61 Deaths were attributed, 48 of them being directly due to intemperance.

IV.—*CONSTITUTIONAL DISEASES.*

Constitutional diseases.

Diseases classed as Constitutional caused 1,443 Deaths, giving a Death-rate of 3·0 per 1,000. The Deaths from Cancer show some reduction, and those from Phthisis were much less numerous than in 1890 or 1891. Probably in the two latter years the prevalence of Influenza raised the Mortality from Phthisis by carrying off Phthisical subjects at an earlier age than would otherwise have happened.

V.—*DEVELOPMENTAL DISEASES.*

Developmental Diseases.

This class of diseases caused 752 Deaths, equal to a rate of 1·6 per 1,000. The Deaths from Premature Birth continue to increase. A similar increase is noted by the Registrar General who states that in the whole of England and Wales in 1881 there were 13·6 Deaths from Premature Birth, to every 1,000 Births registered; in 1891 the proportion had risen to 18·0 per 1,000 Births.

VI.—*LOCAL DISEASES.*

Local diseases.

Local Diseases caused 4,865 Deaths, giving a Death-rate of 10·1 per 1,000, or about half the total Mortality. The Deaths from Bronchitis show a marked reduction from the number in the preceding year.

VII.—*VIOLENT DEATHS.*

Violent deaths

The Deaths from Accident or Negligence, Suicide, and Homicide, numbered 335, equal to a Death-rate of 0·7 per 1,000.

VIII.—*DEATHS FROM ILL-DEFINED AND NOT SPECIFIED CAUSES.*

Deaths from ill-defined and not specified causes.

These Deaths numbered 676, giving a Death-rate of 1·4 per 1,000, and constituting 7 per cent. of the total Mortality. Almost the whole of these Deaths are probably due to mismanagement of children, 592 being set down to Marasmus, Inanition, Debility, and Atrophy, and 585 of these being in children under five years old.

CERTIFICATION OF CAUSES OF DEATH.

Certification of causes of death.

Of the Deaths recorded during the past year, the causes of 8,781 were certified by Registered Medical Practitioners; the causes of 335 by the City Coroner after inquests had been held; while the causes of the remaining 526 Deaths were not certified. The percentage of uncertified Deaths was 5·4; of inquest cases 3·5; and of Deaths certified by Medical Practitioners 91·1.

Table of Deaths Registered in the City of Birmingham during the Year ending December 31st, 1892.

1892.	Ages.							Registration Sub-Districts & Institutions.																			
	0—1	1—5	5—15	15—25	25—45	45—65	65 and up.	Ladywood.	Children's Hospital.	St. Thomas.	Queen's Hospital.	St. Martin.	St. George.	General Hospital.	All Saints.	Workhouse.	Lunatic Asylum.	City Hospital.	Deritend.	Duddeston.	Edgbaston.	Balsall Heath.	Saltley and L. Bromwich	Harborne.	St. Joseph's Home.	City.
ALL CAUSES	2664	1570	375	343	1289	1812	1589	956	76	566	173	745	1173	284	823	711	85	61	1735	1222	294	476	147	94	21	9642
I.—Specific Febrile or Zymotic Diseases.																										
1.—Miasmatic Diseases.																										
Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Measles	83	238	19	..	..	..	..	54	..	21	..	37	33	..	33	18	..	2	96	33	5	2	5	1	..	340
Scarlet Fever	5	38	21	4	..	..	..	..	..	..	..	1	3	..	1	..	..	55	5	1	1	1	..	..	..	68
Typhus Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough	114	162	8	..	1	..	..	24	1	18	1	33	43	2	22	6	..	..	71	40	6	13	5	..	..	285
Diphtheria	6	35	25	..	1	..	..	11	9	..	..	2	4	5	4	..	..	..	10	3	12	5	2	..	..	67
Membranous Croup	3	24	8	..	..	..	..	3	..	..	2	4	3	2	2	1	..	..	11	3	..	4	..	..	..	35
Simple Continued, or Ill-defined Fever	..	2	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	2
Enteric or Typhoid Fever	1	6	9	12	9	2	..	1	3	1	..	2	2	1	8	2	..	..	10	3	2	2	2	..	..	39
Influenza	4	2	3	7	21	34	17	11	..	8	1	10	10	..	9	3	..	..	11	11	8	4	..	2	..	88
Other Miasmatic Diseases	5	25	1	..	..	..	..	2	..	14	..	3	5	..	1	..	..	..	5	..	1	..	..	..	..	31
2.—Diarrhœal Diseases.																										
Simple Cholera	5	6	1	..	2	2	..	2	..	1	..	1	1	..	3	..	..	..	..	8	..	..	..	..	..	16
Diarrhœa, Dysentery	319	70	5	..	2	4	27	40	3	27	1	46	58	10	38	21	1	..	80	73	5	16	8	..	..	427
3.—Malarial Diseases.																										
Remittent Fever	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1
Ague	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
4.—Zoogenous Diseases																										
Cowpox and effects of Vaccination	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases (*e.g.*, Hydrophobia, Glanders, Splenic Fever)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5.—Venereal Diseases.																										
Syphilis	29	3	..	..	2	2	..	3	..	5	..	4	5	1	4	4	..	..	5	3	1	1	..	..	..	36
Gonorrhœa, Stricture of Urethra	.	..	..	..	2	5	1	1	..	..	2	..	1	3	..	1	..	..	..	..	..	..	..	..	..	8
6.—Septic Diseases.																										
Erysipelas	11	..	..	..	2	10	9	1	1	..	2	1	2	1	3	7	1	..	7	3	1	1	..	1	..	32
Pyæmia, Septicæmia	1	1	1	..	2	3	1	1	..	..	3	..	3	..	1	..	..	..	1	..	..	..	..	..	..	9
Puerperal Fever	..	..	..	9	16	..	..	2	..	..	..	4	1	..	5	..	..	..	5	1	..	6	1	..	..	25
II.—Parasitic Diseases.																										
Thrush, and other Vegetable Parasitic Diseases	5	..	..	..	..	..	..	1	..	..	..	..	1	..	..	1	..	..	2	..	..	..	..	..	..	5
Worms, Hydatids, and other Animal Parasitic Diseases	..	..	..	1	..	1	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..		2
	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.	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
Want of Breast Milk, Starvation	5	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	1	..	..	1	..	..	..	5
Scurvy	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1
Chronic Alcoholism, Delirium Tremens	..	..	..	2	26	18	2	2	..	6	..	11	6	..	4	2	..	..	9	3	4	1	..	..	..	48
IV.—Constitutional Diseases.																										
Rheumatic Fever, Rheumatism of the Heart	..	2	7	12	9	6	2	4	..	4	1	1	2	..	2	1	..	..	15	3	2	2	1	..	..	38
Rheumatism	..	..	1	1	..	3	6	2	..	..	..	1	1	..	..	1	..	..	2	2	..	1	1	..	..	11
Gout	..	..	..	..	1	7	7	2	..	1	..	..	4	..	2	..	..	..	2	1	3	..	..	..	..	15
Rickets	11	28	..	..	..	..	..	1	1	..	..	1	3	1	2	2	..	..	18	8	..	2	..	..	..	39
Cancer, Malignant Disease	..	..	..	1	52	164	76	37	..	13	9	16	31	17	29	25	..	..	41	33	20	16	4	2	..	293
Tabes Mesenterica	35	27	4	..	1	..	..	8	..	4	..	7	11	1	3	1	..	..	17	8	..	5	1	1	..	67
Tubercular Meningitis, Acute Hydrocephalus	32	28	10	2	3	..	..	11	1	2	..	3	7	1	8	1	..	1	20	9	3	5	2	1	..	75
Phthisis	14	18	14	90	369	188	23	62	3	29	5	63	80	9	53	132	9	..	110	87	15	41	11	7	..	716
Other forms of Tuberculosis, Scrofula	45	32	21	8	11	4	2	4	10	4	3	7	27	7	13	7	..	..	10	19	2	6	4	..	..	123
Purpura, Hæmorrhagic Diathesis	..	1	..	1	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2
Anæmia, Chlorosis, Leucocythœmia	3	4	4	5	3	6	1	2	1	2	1	1	2	2	2	1	..	..	6	1	1	2	..	2	..	26
Glycosuria, Diabetes Mellitus	..	1	2	5	9	8	9	2	..	..	2	..	..	3	5	2	..	..	5	5	7	2	..	1	..	34
Other Constitutional Diseases	..	..	..	1	1	2	..	..	..	..	..	..	1	..	..	1	..	..	1	1	..	..	..	..	..	4
V.—Developmental Diseases.																										
Premature Birth	344	1	..	..	..	..	..	48	..	19	..	18	52	1	49	5	..	..	62	40	9	27	8	7	..	345
Atelectasis	26	..	..	..	..	..	..	3	..	2	..	1	3	..	2	..	..	..	11	..	1	3	..	..	..	26
Congenital Malformations	30	1	..	..	2	..	..	2	1	..	2	1	2	4	3	..	..	..	7	5	1	4	..	1	..	33
Old Age	..	..	..	..	..	15	333	27	..	25	..	28	31	..	23	57	13	..	52	32	22	21	3	4	10	348
VI.—Local Diseases.																										
1.—Diseases of Nervous System.																										
Inflammation of Brain or Membranes	42	64	21	9	19	13	2	17	5	12	1	12	11	..	7	1	15	..	51	20	5	9	3	1	..	170
Apoplexy, Softening of Brain, Hemiplegia, Brain Paralysis	..	..	2	2	29	120	177	31	..	19	2	24	40	2	29	40	1	..	58	42	16	16	5	2	3	330
Insanity, General Paralysis of the Insane	..	..	1	2	23	11	4	..	..	1	..	..	3	1	1	4	23	..	3	1	..	..	1	..	..	41
Epilepsy	..	3	4	4	15	8	5	3	..	2	1	3	5	..	6	3	..	..	6	3	2	4	1	..	..	39
Convulsions	130	32	2	..	..	1	..	13	..	12	1	21	23	1	11	1	..	..	38	25	1	11	3	4	..	165
Laryngismus Stridulus (Spasm of Glottis)	11	5	..	..	..	..	..	1	1	2	..	..	3	..	2	1	..	..	3	2	..	..	1	..	..	16
Disease of Spinal Cord, Paraplegia, Paralysis Agitans	..	4	..	1	8	15	18	2	..	1	2	1	7	1	6	4	2	..	9	5	1	3	1	..	1	46
Other Diseases of Nervous System	14	8	3	4	9	14	5	6	..	4	2	10	3	1	4	4	..	..	9	10	3	1	..	..	..	57
2.—Diseases of Organs of Special Sense. (*e.g.*, of Ear, Eye, and Nose).	1	2	4	..	2	1	..	1	..	..	..	..	3	2	1	..	..	..	3	..	..	.	..	..	..	10
3.—Diseases of Circulatory System.																										
Pericarditis	1	2	3	1	..	1	..	..	2	..	..	..	1	1	..	..	..	..	..	3	..	..	1	..	..	8
Acute Endocarditis	..	..	1	..	1	1	..	..	..	..	..	..	..	1	..	1	..	..	1	..	..	..	..	..	..	3
Valvular Diseases of Heart	1	1	13	11	46	65	31	13	..	7	..	1	28	10	15	8	9	..	44	15	8	6	2	2	..	168
Other Diseases of Heart	14	2	14	22	71	210	172	52	..	37	17	42	55	8	37	51	..	..	78	62	16	33	7	9	1	505
Aneurism	..	..	..	..	4	12	1	..	..	1	1	1	2	1	1	2	..	..	4	1	1	..	2	..	..	17
Embolism, Thrombosis	..	3	1	..	3	3	4	1	1	2	..	..	..	1	1	1	..	..	5	2	..	..	..	..	..	14
Other Diseases of Blood Vessels	..	..	..	..	6	1	3	2	..	..	..	..	..	2	2	..	..	..	3	1	..	..	..	..	..	10

TABLE OF DEATHS REGISTERED IN THE CITY OF BIRMINGHAM DURING THE YEAR ENDING DEC. 31ST, 1892—(*continued*).

1892.	AGES.							REGISTRATION SUB-DISTRICTS & INSTITUTIONS.																City.
	0—1	1—5	5—15	15—25	25—45	45—65	65 and up.	Ladywood.	Children's Hospital.	St. Thomas.	Queen's Hospital.	St. Martin.	St. George.	General Hospital.	All Saints.	Workhouse.	Lunatic Asylum.	City Hospital.	Deritend.	Duddeston.	Edgbaston.	Balsall Heath.	Saltley and L. Bromwich	Harborne.	St. Joseph's Home.	
Local Diseases—*continued.*																									
4.—DISEASES OF RESPIRATORY SYSTEM.																									
Laryngitis	2	8	2	..	1	1	..	1	1	1	1	..	1	..	1	..	..	..	6	1	..	1	..	..	..	14
Croup	3	6	4	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	4	7	..	..	..	..	..	13
Emphysema, Asthma	..	1	1	..	8	15	16	5	1	2	..	2	5	..	3	4	..	..	4	9	2	3	1	..	..	41
Bronchitis	307	219	11	6	67	347	360	133	1	80	8	117	211	13	98	106	4	..	231	191	33	61	19	8	3	1317
Pneumonia	121	196	32	24	142	149	81	65	12	45	13	51	89	22	49	76	..	1	142	110	17	36	6	11	..	745
Pleurisy	1	3	3	1	6	16	8	5	1	2	3	1	3	2	1	8	..	..	2	8	2	..	..	..	..	38
Other Diseases of Respiratory System	17	15	7	5	15	26	15	8	..	14	2	..	18	1	11	4	1	..	26	9	3	1	2	..	..	100
5.—DISEASES OF DIGESTIVE SYSTEM.																									
Dentition	52	46	..	..	..	..	..	17	..	5	..	10	11	..	10	..	..	..	19	14	..	7	4	1	..	98
Sore Throat, Quinsy	1	6	1	..	..	1	..	1	..	..	..	..	1	1	1	..	..	..	3	2	..	..	..	..	..	9
Diseases of Stomach	57	10	5	8	12	29	13	11	..	8	1	18	17	2	10	1	..	..	26	20	7	9	3	..	1	134
Enteritis	64	19	7	3	4	4	3	7	1	8	1	12	17	2	5	1	..	..	27	5	3	11	1	3	..	104
Obstructive Diseases of Intestines	9	1	4	..	6	6	7	3	1	2	1	..	1	2	2	3	..	..	4	5	3	3	1	2	..	33
Hernia	2	2	1	..	1	6	2	2	1	1	2	1	..	4	..	1	..	..	1	..	..	..	..	1	..	14
Peritonitis	5	3	9	11	14	5	4	2	2	..	4	4	5	5	3	2	..	..	8	6	3	6	1	..	..	51
Ascites	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	2
Cirrhosis of Liver	..	..	..	1	19	42	9	6	..	7	5	4	5	5	4	2	..	..	12	14	2	2	1	2	..	71
Jaundice, and other Diseases of Liver	14	2	1	..	9	14	13	10	..	1	..	3	5	..	9	..	..	..	12	4	3	3	3	..	..	53
Other Diseases of Digestive System	8	11	2	2	1	3	1	2	2	..	1	2	1	7	1	3	..	..	4	1	..	3	1	..	..	28
6 & 7.—DISEASES OF LYMPHATIC SYSTEM AND OF DUCTLESS GLANDS.																									
Diseases of Lymphatic System	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2
Diseases of Spleen	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
Bronchocele, Addison's Disease	..	..	..	3	1	2	1	1	..	..	3	..	..	..	1	..	..	..	..	1	1	..	..	..	..	7
8.—DISEASES OF URINARY SYSTEM.																									
Acute Nephritis	1	5	1	3	13	12	7	5	1	3	3	4	1	4	4	7	..	..	6	2	2	..	..	..	..	42
Bright's Disease, Albuminuria	2	1	1	5	31	56	28	15	..	9	2	5	10	10	17	23	..	..	10	9	8	6	..	..	..	124
Disease of Bladder or of Prostate	..	1	..	1	1	8	15	3	1	1	5	1	..	1	2	5	..	..	3	..	3	..	..	1	..	26
Other Diseases of the Urinary System	2	4	3	2	14	8	..	2	1	2	4	2	4	3	3	4	..	..	4	2	1	..	1	..	..	33
9.—DISEASES OF REPRODUCTIVE SYSTEM.																									
(A) Of Organs of Generation.																									
Male Organs	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	.	..		1
Female Organs	..	..	..	6	23	5	1	16	..	1	3	2	2	2	2	1	..	..	3	2	..	1	..	..	..	35
	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	..	..	..	..	..	2	..	..	2	..	..	..	6
Puerperal Convulsions	..	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	2
Placenta Prævia, Flooding	..	..	..	2	4	1	..	1	..	..	..	..	2	..	1	..	..	..	2	..	..	1	..	..	..	7
Other Accidents of Child-birth	..	..	..	8	35	..	..	4	..	1	..	3	6	1	4	..	..	..	10	10	1	..	1	2	..	43
10.—Diseases of Bones and Joints.																										
Caries, Necrosis	..	1	1	5	2	3	..	..	..	..	2	..	1	3	2	3	..	..	..	..	..	1	..	..	..	12
Arthritis, Ostitis, Periostitis	1	1	2	..	2	2	2	..	2	..	1	..	..	..	..	6	..	..	..	1	..	..	..	..	..	10
Other Diseases of Bones and Joints	2	3	5	3	2	2	..	3	..	..	1	..	4	3	1	1	..	..	1	2	1	..	..	..	..	17
11.—Diseases of Integumentary System.																										
Carbuncle, Phlegmon	1	..	..	..	..	1	1	..	..	..	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	3
Other Diseases of Integumentary System	9	1	1	..	1	8	10	1	1	..	1	2	3	3	4	9	..	..	2	2	..	1	1	..	..	30
VII.—Deaths from Violence.																										
1.—Accident or Negligence.																										
Fractures and Contusions	..	11	11	4	11	11	17	2	..	1	11	2	6	25	5	3	1	..	4	3	2	..	..	..	..	65
Gunshot Wounds	..	..	1	3	..	..	..	..	..	1	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..	4
Cut, Stab	..	..	..	..	1	1	1	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	3
Burn, Scald	6	26	10	4	7	4	3	..	..	..	17	1	..	35	1	1	..	1	..	2	..	..	1	1	..	60
Poison	..	..	..	..	5	6	..	1	..	1	2	..	1	3	2	1	..	..	..	..	..	..	..	..	..	11
Drowning	1	1	4	3	3	3	2	4	..	1	..	1	..	..	4	..	..	..	2	1	1	..	3	..	..	17
Suffocation	83	1	1	3	2	2	1	9	..	6	..	16	14	..	12	..	1	..	16	12	2	2	2	1	..	93
Otherwise	3	4	2	1	5	14	10	2	..	2	7	3	3	6	2	1	1	..	3	5	..	2	1	1	..	39
2.—Homicide.																										
Manslaughter	..	1	..	1	4	1	..	..	..	..	..	3	1	2	..	..	..	..	..	1	..	..	..	..	..	7
Murder	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	2
3.—Suicide.																										
Gunshot Wounds	..	..	..	..	..	2	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	2
Cut, Stab	..	..	..	..	2	2	2	..	..	..	1	..	..	1	1	..	..	..	..	1	1	..	1	..	..	6
Poison	..	..	..	..	1	4	1	1	..	..	..	1	1	1	..	..	..	..	1	..	..	..	..	1	..	6
Drowning	..	..	..	1	3	4	..	1	..	..	..	..	..	..	1	..	..	..	3	1	1	..	..	1	..	8
Hanging	..	..	..	1	5	3	2	2	..	1	..	..	2	..	1	..	..	..	2	..	1	1	..	1	..	11
Otherwise	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
4.—Execution.																										
Hanging	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
VIII.—Deaths from Ill-defined and not Specified Causes.																										
Dropsy	..	..	..	..	..	1	3	..	..	..	..	2	..	..	1	..	..	..	..	1	..	..	..	..	..	4
Debility, Atrophy, Inanition, Marasmus	515	70	3	..	..	3	1	82	1	45	2	37	85	2	75	6	..	..	93	115	4	27	7	9	2	592
Mortification	..	..	..	..	..	1	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	2
Tumour	..	1	2	1	..	2	..	..	1	..	1	1	..	1	..	1	..	..	..	..	..	1	..	..	..	6
Abscess	2	1	..	1	1	1	1	1	..	..	1	1	..	..	1	1	..	..	1	1	..	..	..	..	..	7
Hæmorrhage	1	..	1	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	3
Causes Ill-defined or not Specified	22	6	3	3	10	10	8	3	1	6	..	8	9	..	7	2	..	..	9	8	2	6	1	..	..	62

METEOROLOGY AND MORTALITY.

Year.

Temperature.

Viewed from a Meteorological standpoint the year 1892 was a very peculiar one. Its mean temperature was only 46°·7, or 1°·2 below the average for the decade 1880-1889. Not one of the preceding twenty years had so low a temperature as this. Of the whole twelve months only April, May, and November had mean temperatures above the average, and, moreover, in the cases of both April and November the excess was a very slight one.

Rainfall.

The rainfall for the year was almost as extraordinary as the temperature, the amount being 22·61 inches, or 8·25 inches below the average for the decennium 1880-1889. Of the previous twenty years only one, viz., 1890, had a smaller rainfall.

January.

February.

March.

The first three months of the year were cold and generally unpleasant, although apparently not very detrimental to health. The early part of *January* was cold and dull, but the last ten days were milder, the mean temperature for the month being 1°·2 below the average. *February* had a temperature 1°·3 below the average, and was marked by unusually rapid alternations of heat and cold, frost and thaw. In *March* the mean temperature was as much as 3°·4 below the average. Throughout the first fifteen days the weather was cold and winterly, frost prevailing the whole time.

April.

May.

June.

The first eleven days of *April* were fine and warm, but afterwards cold weather set in with frequent snow showers and lasted for a week. The mean temperature for the month was 46°·0, or 0°·9 above the average. *May* was the only month throughout the year which was considerably warmer than usual, its mean temperature being 2°·2 above the average. During the first part of *June* the weather was bright and warm, but the latter portion was so cold as to make the temperature for the whole month 0°·7 below the average.

July, August, and September.

In the Summer quarter Meteorological conditions always exert a marked influence on Mortality, owing to the intimate connection between temperature and Diarrhœa. Last year *July*, *August*, and *September* all had temperatures below the average, the deficits being 3°·6, 0°·2, and 1°·3 respectively. Largely, no doubt, as a result of this the Deaths from Diarrhœal diseases were much fewer than usual.

October.

November.

The last quarter of the year was cold and rather dull and misty. *October* was chilly and uncomfortable; its mean temperature was 2°·5 below the average. For *November* the mean temperature was 43°·2, or 0·5 in excess of the average.

December was unusually cold, having a mean temperature 3°·8 below the average. Exceptionally severe frost prevailed from the 24th to the end of the month, the mean temperature for this period being only 23°·9. As a result of this severe weather the Mortality rose very considerably. December.

Only January and August had larger rainfalls than the averages for the decade 1880-1889, and in the case of January the excess was only 0·03 inch. On the other hand, February, March, April, July, October, and December had all rainfalls more than an inch in deficit.

MONTHS.	TEMPERATURE.			RAINFALL.		
	Mean Temperature in Degrees and Parts.	Average for 10 years, 1880–1889 inclusive	Above or below the average.	Rainfall for Month in Inches and Parts.	Average for 10 years 1880–1889 inclusive.	Above or below the average.
January	35°·3	36°·5	— 1°·2	1·97	1·94	+ 0·03
February.....	37·5	38·8	— 1·3	1·21	2·24	— 1·03
March	36·7	40·1	— 3·4	1·04	2·22	— 1·18
April	46·0	45·1	+ 0·9	0·95	2·17	— 1·22
May	53·9	51·7	+ 2·2	1·53	2·45	— 0·92
June	57·1	57·8	— 0·7	2·49	2·56	— 0·07
July.....	57·4	61·0	— 3·6	1·86	2·99	— 1·13
August	59·7	59·9	— 0·2	2·63	2·38	+ 0·25
September	54·3	55·6	— 1·3	2·68	2·76	— 0·08
October	44·5	47·0	— 2·5	2·29	3·47	— 1·18
November	43·2	42·7	+ 0·5	2·41	3·03	— 0·62
December	34·6	38·4	— 3·8	1·55	2·65	— 1·10
Year.....	46·7	47·9	— 1·2	22·61	30·86	— 8·25

In the Table on the following page figures relating to meteorological conditions and to mortality are given side by side. An inspection of the Table will show that the cold weather of the early part of the year was accompanied by a heavy total mortality, a large part of which was caused by Respiratory Diseases. The usual increase in the Diarrhœal Mortality will be noticed in August and September, and the age-period chiefly affected is clearly seen from the excessive number of Deaths in infants, the number being highest in the week in which Diarrhœa reached its maximum mortality.

Meteorology, Births, Deaths, and Mortality from certain Prevalent Diseases for each Week of 1892.

Week.		Temperature of the Air.			Temperature of the Ground.		Horizontal Movement of Air in Miles.	Mean Humidity, complete Saturation = 100.	Rainfall in inches.	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 60.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Wh'ping Cough.	Fever.	Diarrhœa.	Phthisis.	Respiratory Diseases.
	1892.	°	°	°	°	°																	
1	Jan. 9	43·0	22·5	32·4	36·4	40·7	2785	—	0·39	350	173	40	23	46	...	8	2	1	4	...	3	19	46
2	„ 16	37·5	15·0	29·7	35·2	39·9	1633	—	0·48	313	180	28	19	54	...	5	1	1	5	2	2	11	58
3	„ 23	44·0	25·0	34·5	35·1	39·1	1504	—	0·84	290	247	47	36	84	...	3	...	1	4	2	7	18	82
4	„ 30	53·5	30·0	41·7	38·1	39·1	2864	85	0·26	296	178	41	25	59	...	1	...	1	1	1	1	8	63
5	Feb. 6	52·5	30·0	40·8	39·9	40·6	3320	81	0·30	319	202	29	30	58	...	...	1	...	7	2	2	19	68
6	„ 13	53·5	37·0	43·9	41·0	41·0	2716	86	0·13	366	192	46	24	60	...	1	3	...	1	...	4	14	54
7	„ 20	43·5	14·0	29·3	37·5	40·9	2554	—	0·69	254	200	44	29	48	...	6	1	...	3	...	7	14	50
8	„ 27	48·5	31·0	38·7	37·9	40·0	1717	91	0·09	354	208	53	32	49	...	1	...	...	3	2	4	19	57
9	Mar. 5	42·0	25·0	33·7	37·6	40·2	2284	95	0·07	304	191	57	27	40	...	5	3	...	4	...	5	10	46
10	„ 12	39·5	22·0	30·9	35·6	39·2	2103	—	0·22	269	184	42	29	51	...	5	...	1	2	...	2	12	60
11	„ 19	61·0	25·0	40·8	37·3	38·7	2270	83	0·40	299	212	47	40	54	...	11	2	1	8	1	3	18	62
12	„ 26	59·0	25·5	41·0	40·1	39·9	1379	85	0·17	305	200	52	36	44	...	4	...	3	5	3	2	16	47
13	April 2	68·5	24·0	40 6	39·4	40·3	1687	73	0·18	322	196	57	35	38	...	9	1	2	4	2	3	12	64
14	„ 9	70·5	37·0	53·0	45·3	42·1	2045	76	0·00	276	238	52	36	60	...	9	1	2	9	2	5	16	64
15	„ 16	67·5	23·0	40·4	44·4	44·0	1666	74	0·46	265	192	47	37	45	...	13	2	1	6	...	3	13	45
16	„ 23	65·0	26·0	45·1	43·2	43·1	1873	69	0·12	315	208	55	34	47	...	8	2	1	9	...	2	17	51
17	„ 30	62·0	31·0	44·5	46·3	44·0	2350	75	0·37	296	218	47	45	53	...	20	1	3	1	...	1	15	58
18	May 7	60·0	31·0	44·1	44·2	44·1	2445	72	0·57	316	176	43	40	34	...	11	1	...	5	...	5	16	43
19	„ 14	71·0	37·0	56·1	50·1	45·4	1674	71	0·09	340	196	44	35	45	...	18	1	2	6	...	5	14	42
20	„ 21	63·0	40·0	51·8	50·4	47·2	3029	72	0·26	343	198	42	34	51	...	12	2	1	7	1	3	16	39
21	„ 28	74·0	42·0	59·9	54·5	48·6	1975	83	0·39	336	211	55	44	30	...	12	2	3	3	...	5	13	44
22	June 4	79·0	41·5	59·3	56·7	51·0	2702	74	0·87	312	183	44	38	33	...	14	1	2	5	2	4	15	31
23	„ 11	81·0	45·0	62·8	—	—	1565	72	0·62	297	182	21	38	48	...	11	1	2	5	1	1	20	35
24	„ 18	66·0	36·5	50·2	—	—	2054	74	0·08	375	176	53	31	30	...	20	3	...	3	1	9	14	22
25	„ 25	72·0	40·5	56·3	—	—	1754	75	0·71	329	178	51	28	40	...	15	2	1	5	...	4	21	23
26	July 2	76·0	41·0	60·9	—	—	2047	76	0·43	309	141	42	25	23	...	9	2	2	2	1	2	11	27
27	„ 9	81·0	48·0	60·3	—	—	2700	72	0·43	301	158	41	27	30	...	7	1	2	1	...	6	16	27
28	„ 16	68·0	45·0	55·5	—	—	2023	87	0·80	300	165	40	23	37	...	9	1	2	6	...	8	7	21
29	„ 23	70·5	42·5	54·8	—	—	2172	82	0·59	324	154	48	20	19	...	7	2	2	2	1	7	8	29
30	„ 30	70·5	42·5	57·1	—	—	2109	80	0·00	280	159	65	22	18	...	5	2	...	4	...	22	11	27
31	Aug. 6	69·0	40·5	57·6	—	—	2017	74	0·08	276	142	45	20	32	...	7	...	3	3	1	17	13	18
32	„ 13	77·5	36·0	58·2	—	—	1841	76	0·40	344	169	56	29	31	...	3	2	...	5	1	23	11	29
33	„ 20	74·5	46·0	61·2	—	—	1982	80	0·07	315	176	75	29	23	...	3	2	...	5	1	22	18	14
34	„ 27	77·5	48·5	62·8	—	—	1574	77	1·12	257	188	80	34	32	...	9	2	3	2	1	31	9	18
35	Sept. 3	67·5	44·0	56·9	—	—	2826	78	1·22	281	202	86	26	29	...	8	2	...	3	...	46	10	12
36	„ 10	62·5	40·5	53·4	—	—	1582	78	0·07	309	175	79	29	25	...	4	1	4	5	...	35	8	15
37	„ 17	66·5	38·0	56·8	—	—	2196	81	0·01	275	173	74	23	33	...	2	...	...	10	1	26	13	23
38	„ 24	62·0	35·5	54·1	—	—	2095	88	1·49	264	178	65	26	31	...	1	1	3	8	1	25	12	31
39	Oct. 1	64·5	36·0	51·2	—	—	2224	86	0·99	320	146	55	15	22	...	2	1	...	6	...	24	6	16
40	„ 8	57·5	35·0	46·9	—	—	1718	90	0·86	305	164	58	27	25	...	5	1	1	5	...	13	16	27
41	„ 15	52·0	32·0	45·2	—	—	2599	87	0·42	345	159	53	24	25	...	3	1	1	4	3	10	13	33
42	„ 22	51·5	30·0	42·0	—	—	2338	83	0·39	321	175	59	29	26	...	2	...	4	3	1	8	14	27
43	„ 29	58·0	24·0	43·6	—	—	2643	82	0·40	313	195	49	35	40	...	2	...	3	6	1	2	18	52
44	Nov. 5	57·0	24·5	44·6	—	—	1794	94	0·66	330	198	57	29	44	...	5	2	1	5	1	3	15	51
45	„ 12	54·5	31·0	44·5	—	—	1352	90	0·06	341	183	51	31	41	...	4	2	1	8	...	1	10	39
46	„ 19	56·5	32·0	44·6	—	—	1650	96	0·68	295	169	39	27	40	...	5	2	2	7	1	1	6	34
47	„ 26	46·0	29·0	39·0	—	—	1625	92	0·82	294	179	47	28	45	...	5	1	...	9	...	3	12	36
48	Dec. 3	52·0	27·5	40·7	—	—	2264	—	0·80	320	169	58	28	23	...	...	1	1	12	1	3	15	37
49	„ 10	47·0	26·5	32·9	—	—	2575	—	0·86	288	173	50	30	38	...	3	4	...	12	...	4	7	53
50	„ 17	53·5	27·5	40·7	—	—	2325	90	0·11	313	214	48	42	50	...	6	...	...	15	2	4	14	48
51	„ 24	51·5	28·0	40·6	—	—	1712	82	0·00	308	179	51	33	36	...	...	1	2	6	1	2	17	40
52	„ 31	41·0	13·0	23·9	—	—	1263	—	0·00	257	240	56	34	52	...	2	1	1	16	...	3	26	62

II.—SANITATION.

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

Ashpit Middens

The substitution of the water-carriage for the conservancy system of refuse disposal is being proceeded with, as shown by the following statement :—

Number of ashpits and privies still existing	8,306
Number of ashpits and privies removed during 1892	856
Number of pans abolished during 1892	172
Number of water-closets substituted	1,373
Number of waste-water flush closets substituted ...	19

Smoke.

Five thousand nine hundred and seventeen observations of factory chimneys were made during the year. Two hundred and fifty-two infringements of the regulations were found. One hundred and three persons were summoned, and fines amounting to £87, exclusive of £39 8s. 6d. costs, were inflicted.

Nuisance from Sewers.

During the year several complaints were made to me of nuisance arising from the sewers. I conferred with the City Surveyor on the subject, and understood from him that the Public Works Committee still had the matter under consideration.

Drainage of Farm at Harborne.

In consequence of a complaint I visited Mr. Pearman's farm at Harborne, and found that the drainage and soakage ran in a ditch down the lower half of the field complained of, spreading out into a dirty, stagnant, offensive area, while some of the liquid ran through and beyond the farm fence. Mr. Pearman had tried to induce the late Harborne Local Board to prolong the sewer, which terminates 190 yards from his house. After the inclusion of Harborne in the City boundary he made the same request of the City Council, and the question arose whether the sewer should be extended, or whether Mr. Pearman should be called on to distribute his sewage over the farm land. The Public Works Committee was approached on the subject, and arranged to lay a 9-inch drain from the end of the sewer to Mr. Pearman's house on condition that Mr. Pearman provided an approved interception trap to prevent solid matters passing into the sewer.

Harborne Churchyard.

The Inspector of Nuisances, having learned that a builder had received instructions to drain a grave in Harborne Churchyard into the public sewer, visited the churchyard, after conference with me, and intimated that the proposed work could not be sanctioned. It was found that the churchyard was already drained into a "grip," and a connection was made with the latter. Two wells which seemed likely to be contaminated by soakage from the burying ground were examined, found to be polluted, and closed. An application was received for permission to extend the churchyard, and, as the extension would not bring the burying ground within a less distance of dwelling houses, no opposition was offered.

Proceedings under the Housing of the Working Classes Act.

Under the Housing of the Working Classes Act the following properties were represented by me as "so dangerous . . . . . to health as to be unfit for human habitation":—

Eight Houses, numbered 1 to 8, in 9 Court, Bordesley Street.—The yard was only partially and defectively paved. The guttering was fair, but the spouting was defective. The windows were broken, and the wash-houses were wrecked. The supply pipe to the water closets had burst. All the houses were damp from the defective spouting and from the very defective roofs; they were back-to-back, and were all void. The ventilation of the court was insufficient, as opposite five of the houses, and only 6½ feet away from them, there were buildings one storey higher. All the eight houses were closed, and negotiations are now proceeding for such alterations and improvements to be effected as to make them fit for habitation again.

Four Houses, numbered 3, 4, 5, and 6, in 13 Court, Bordesley Street.—The pavement required relaying, and the yard traps were foul and caused obstruction of the drain. The spouting and roofs were defective, causing the houses to be very damp. The windows and frames were broken. The plastering of the walls and ceilings was broken away. There was no covering for the ashpit, and an accumulation of ashes, straw, and refuse at the side of No. 3. The four houses, two and two, were obstructive to each other, being only eight feet apart. Only one house was occupied. Statutory notice was sent to the owner to put the houses in order, and this not being complied with they were closed.

Eleven Houses, numbered 1 to 11, in 9 Court, Milk Street.—Only a small part of the yard was paved, and that very defectively, with bricks and pebbles. The remaining surface was foul, black soil. Opposite No. 4 was an untrapped drain, and there was a foul, obstructed urinal; the surface gutters were in bad condition. The spouting and roofs of several of the houses were defective, and all the houses were very damp. The windows were rather defective, and the wash-houses were in bad repair. There were numerous structural dilapidations; plastering, ceilings, floors, stairs, and sinks being defective. In several houses the ground floor was below the yard level. Five pan privies required risers, and the floors of six needed raising. The ash tubs were too few, and were not properly covered. The four houses Nos. 6, 7, 8, and 9 were made into two in 1890, but the doors provided in the dividing walls had since been boarded up and papered over. Nos. 3 and 4 had formerly been one house. All the houses but one were occupied; rent 2s. per week. Some improvements were made in these houses, but not such as to put them in satisfactory order, and further steps will have to be taken with respect to them.

Six Houses, numbered 1 to 6, in 5 Court, Fleet Street.—Only a passage 4½ feet wide was paved; the remainder of the yard was unpaved and filthy. The D trap was unset, and

was in a foul condition. The surface gutters were obstructed with filth. The spouting was defective. The windows were broken, and had no provision for ventilation. The plastering, walls, floors, ceilings, fireplaces, and cellar windows were dilapidated. Five of the six pan privies were filthy and dilapidated, with neither seats nor risers. There was no accommodation for ashes, and they were thrown about the yard and on the privy roofs. The house roofs were defective, causing dampness. The wash-houses and privies were unstable and very dangerous, they were also obstructive. There was an accumulation of rubbish in the cellar of No. 6. Four of the houses were occupied, but no rent was paid. These houses have now been demolished.

24, 25, and 26, in front, and twenty-one houses at the rear in 6 Court, Fleet Street.—The yard was partially paved with bricks and pebbles, and lodged filth. Three D traps were unset and in a foul condition. The gutters were foul and defective. The spouting on many of the houses was defective. The windows were generally in a ruinous state, sash cords, panes, etc., being broken. The wash-houses required repairing and lime washing. The houses were generally very dilapidated, plastering, ceilings, roofs, and floors requiring extensive repairs. The pan privies required thoroughly repairing and limewashing. More ash tubs were necessary, and the floor of the shed needed re-paving. A donkey, pigeons, and fowls were kept at No. 8. All the houses were damp, and 19 of them were occupied. There were accumulations of bricks and rubbish in the cellars of Nos. 6, 7, 8, and 9, and of ashes in one of the void houses, No. 5. At each end of the court there were high obstructive buildings. This property has also been taken down since my representation was made.

Six Houses, numbered 11, 12, 13, 14, 15, and 16, in White's Buildings, Key Hill.—The houses were all damp from want of damp-courses. The roofs of three of them were defective. Five of the houses had no spouting; the sixth had a defective wooden spout. The windows in the living rooms did not open; almost all the panes were broken, and the casement of one bedroom window had been destroyed. The floors, ceilings, and walls were generally defective; some cracks in the walls were large enough to admit light through them. In one house two steps of the stairs were broken. A portion of the yard was unpaved and filthy, and the D trap required re-setting. The wash-house roof had fallen in, and the boiler and sink had been broken down. The privies were totally dilapidated and could not be used, and there was no provision for ashes. Bricks and other rubbish lay about the yard. The water supply had been cut off. No. 16 was only four feet from No. 15, and was obstructive to it both as regards light and ventilation. These houses have now been closed.

Five Houses, numbered 90 and 92 in Lower Dartmouth Street, and 29, 30, and 31 in Saltley Street.—The houses were damp from want of damp-courses and from defective roofs and

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

spouting. The two houses in Lower Dartmouth Street had defective floors, walls, ceilings, stairs, and doors; the front wall of the three houses in Saltley Street was bulging outwards and was dangerous. The windows were quite defective; the sash cords, the woodwork, and 105 panes of glass in the five houses were broken. The greater part of the yard was unpaved; the gutters were defective, and one D trap was unset. The walls of the wash-house were in a dangerous condition, and the window, door, and sink had been destroyed. There was no flushing cistern to the water closet, and the water supply had been cut off. There was an accumulation of bricks and ashes. The houses in this property also have been closed since my representation of their condition.

Unhealthy Houses.

The following properties I reported on as unhealthy, but I did not make official representations with regard to them:—

Fourteen Houses, numbered 1 to 14 in 18 Court, Bordesley Street.—The greater part of the yard was unpaved, and consisted of offensive black soil. The portion in front of the houses was paved with bricks, but the paving was defective. There were three D traps; one of them was blocked and the two others were unset. The surface guttering was in bad condition. The spouting at all the houses except Nos. 1 and 2 was very defective. The windows were badly out of repair, much of the glass being broken, and some of the sashes having been removed. All the houses were damp, partly from want of damp-courses and partly from the defective roofs. At almost all the houses the wall plastering, ceilings, and floors were defective; at Nos. 1, 8, and 13 the brickwork was bad. Eight of the 14 houses were void. There was one wash-house, with brickwork, floor, and roof defective. There were 8 pan privies in a dilapidated state, with filthy, offensive approaches. The covering over the ash tubs was defective. The ground space covered by the houses was 555 square yards. The court was 108 feet long and 21 feet wide. It was approached by a narrow entry and was blocked at the other end by a school. In view of these conditions the houses were closed, and negotiations are now proceeding for putting them in satisfactory order.

32, 34, and 36 in front, and ten houses numbered 1, 2, 3, 4, 7, 8, 9, 10, 11, and 12 at the rear, in Hospital Street.—The houses were all damp, having no damp-courses and the roofs being defective. The plastering and woodwork and most of the ceilings and floors were also defective. The window frames and sashes required repair, and so also did the spouting. The yard was partially and defectively paved with bricks, the remainder being pebbles and black soil. The gutters were filthy, and badly laid. There was one wash-house, the floor of which required re-paving. The pan privies were dilapidated and indescribably filthy; four seats were missing, and the roofing, brickwork, woodwork, and flooring were in very bad

condition. Fowls were kept in the yard. Two of the houses, Nos. 5 and 6, had been demolished, the bricks lying in the yard. All the other houses were occupied. The houses Nos. 1, 2, 3, 7, and 8, at the back, have been closed, and No. 4 has been demolished. The other houses are void, and are to be put in repair. Unhealthy Houses (*continued*).

18, 20, 22, and 24 in front, and fourteen houses numbered 1 to 14 at the rear, in Hospital Street.—All the houses were damp, the roofs and spouting being defective. The casement windows did not open sufficiently. Some of the walls, ceilings, floors, and staircases were defective. The yard was only partially paved. The D traps and surface gutters were defective, and the wash-house furnace and sink were out of repair. There were two midden privies and three pan closets, all of which were filthy and defective; the ashes were thrown about the yard. Geese were kept by a dealer in one of the disused houses. Three of the houses were void. The front houses and Nos. 1 and 14 at the back were repaired; the others have been demolished.

Four Houses, numbered 1 to 4, at the back of 73 and 74, Livery Street.—All four houses were damp. The windows did not open effectively, and many of the panes were broken. The spouting was defective, as also were the ceilings and floors. The pan privies were filthy, and the wash-houses were structurally dangerous from dilapidation. The yard was only partially paved with blue bricks and pebbles, and the paving was defective. The drain traps and surface gutters were defective, and there was an accumulation of ashes and refuse in the tub shed. These houses have been demolished.

45, 46, 47, 48, and 49 in the front, and five houses numbered 1 to 5 at the rear, in Humpage Road.—All the houses were damp, having no damp-courses, and being in close proximity to a pool of filthy surface water. In heavy rains the overflow from this water flooded the yard. In some places the dampness of the walls extended as high as 18 courses of bricks from the ground level. The wall plastering was almost all defective; several houses had defective floors, sinks, and furnaces. The spouting of all the houses but one appeared to be defective. The living room windows did not open, in some cases by reason of their construction, and in others from the want of sash cords. Several of the back kitchen windows were nailed up, and some of the casements were broken. The yard was partially paved; the unpaved portion was either cultivated or consisted of filthy waste ground. Some of the surface gutters had not a proper fall. One D trap was blocked, two were unset, and one was pulled up, and the drain below was blocked. One ashpit, with two privies attached, contained liquid filth, and was only about 9 feet from one of the back houses; the other midden ashpit was dilapidated, and was within four feet of a front house. Nineteen pigeons and four fowls were kept on the property, and there was an accumulation of filth in one

Unhealthy Houses (*continued*).

fowl pen. There was a very foul and defective urinal at the gable end of one house. This property is now being put in sanitary order.

3, 4, 6, 7, and 8 in the front, No. 1 back of 3, and five houses, numbered 1 to 5, in 2 Court, Bow Street.—The walls of the houses were damp. The roofs of three of them were defective. Originally the five houses in the court were back-to-back with another set of similar houses. These latter had been removed, and good substantial houses, with through ventilation, well-paved yards, and let at a rent of 6s. per week, had been put in their place. This new property stood on a higher level than the five houses in 2 Court, Bow Street. In consequence of this the upper part only of the back walls of these houses was exposed to the air, the lower part being in contact with the soil below the yard of the new property. The exposed part of the wall had been cemented, but this had failed to remedy the dampness. At one of the houses the windows did not open. The plastering was crumbling, and the spouting required repair. In 2 Court the yard was only partially paved The D traps were unset and the gutters required re-laying. The wash-houses were filthy and defective. All the houses were occupied. The principal difficulty in dealing with these houses was to remedy their dampness, and I recommended that the opinion of the City Surveyor be taken on the subject. Four of these houses have been provided with cavity walls to prevent the absorption of liquid from the adjoining ground, and the roofs and spouting have been repaired.

House numbered 2, in 3 Court, Bow Street.—This was a cottage with front ventilation only, situated in a yard so small that light as well as air space was very insufficient. The back wall of the house was so wet that the paper on it was almost reduced to a pulp. In this house a cavity wall was put up, and other repairs executed.

Cholera Precautions.

The prevalence of Cholera in various continental towns caused considerable anxiety lest an outbreak should occur in England. Several cases were reported to me during the summer as having suspicious symptoms, but on investigation it was found that they could not be rightly said to be of a choleraic nature. A number of passengers from ports infected by Cholera arrived in Birmingham after passing a medical examination at the English port at which they landed. All such passengers were kept under daily observation, and none of them developed Cholera.

Fruit from Cholera-infected ports.

Having received a telegram from the Secretary of the Local Government Board in reference to fruit consigned to Birmingham from Hamburg, I conferred with the Town Clerk upon the legal aspect of the case, and he expressed the opinion that there was no power to seize the fruit unless I should condemn it. As the fruit arrived perfectly sound I was unable to condemn it on the ground of its condition, and it seemed to me inadvisable to seize and destroy it simply because it had

passed through the port of Hamburg, through which port food must have been arriving in England very frequently, while it appeared never to have been the means of introducing Cholera. **Fruit from Cholera-infected ports (*continued*).**

In answer to a question from the Smithfield Market Sub-Committee, I stated that it was impossible to prove that there was not "any danger of Cholera being conveyed from Hamburg by reason of the consignment of plums and other fruit from there to Birmingham for general consumption." There was no doubt that Cholera was transmissible from place to place by various materials and agencies, and there appeared no absolute reason why plums, fruit, and other kinds of food should be an exception. Everything depended on the conditions under which the articles had been placed. It was not very likely that fruit gathered and packed in the country, especially if in boxes, would become infected by merely passing through the port of an infected town; but on the other hand, it was not impossible that it might become infected while lying in the wharves awaiting shipment, or while at sea. The admission of water polluted with the Cholera germ seemed to me the most possible source of danger. Practically, however, the danger appeared to be very small, judging from the fact that although food was imported in enormous quantities from German, French, and Russian ports it had never yet been known to have conveyed the disease. If one case of Cholera should be shown to be due to such fruit it would be justifiable to prevent its importation, although I was advised that there existed at that time no legal power for this purpose.

In August the Local Government Board issued a circular and memoranda to Sanitary Authorities, upon which I made the following report to you:— **Local Government Board and Cholera precautions.**

> "In reference to Minute No. 2,146, I beg to make the following report on the Circular and Memoranda issued by the Local Government Board on the 26th August last. The circular suggests that the Authority should consult their Medical Officer of Health as to the action it may be desirable to take, and also suggests that they should call upon him to furnish them forthwith with a report upon the subject. The circular is accompanied by two memoranda for the information of the Sanitary Authority; one relates to 'Precautions to be taken against the infection of Cholera,' the other is a 'General memorandum on the proceedings which are advisable in places attacked or threatened by epidemic disease.'
>
> "'In view of the appearance of Cholera on the continent of Europe the Board are desirous that the attention of the Authority should be called to the question of taking such measures of precaution as the Sanitary condition of their district may demand.'
>
> "The memorandum upon Cholera prevention points out that the infective material which carries the disease consists of *those matters which the patient discharges*

Local Government Board and Cholera precautions (*continued*).

from the stomach and bowels, and that the infection is probably conveyed not directly, as in Scarlet Fever, Smallpox, Measles, etc., but indirectly by the tainting of food, water, or air by the matters mentioned.

"It is pointed out, first, that any choleraic discharge which has not been thoroughly disinfected before being cast into a cesspool or drain, or other depository, or conduit of filth, is able to infect the excrementitious matters with which it mingles there, and probably more or less the effluvia evolved from them; secondly, that infected bedding, clothing, towels, and the like things, may spread the disease in places to which they are sent for washing and other purposes; thirdly, that soakage of infected liquids, in however small quantity, from cesspools, drains, or the general surface can, by obtaining access to wells or other sources of drinking water, impart to enormous volumes of water the power of propagating the disease.

"The dangers to be guarded against are particularly of two kinds, arising from water and from air. Water supplies are dangerous when tainted with house refuse in any degree. The sources of such contamination are specifically named, and include out-flow or leakage from sewers, house drains, privies, cesspools, and the like into springs, streams, wells, or reservoirs, or into the soil in which wells are situate. The other dangerous medium is the air, which is dangerous when foul with effluvia from the same sources of impurity.

"It is remarked that, as the dangers from these conditions have now been recognised for so many years, the improved systems of refuse disposal and water supply, together with minor structural improvements in house construction, ought long ago to have come into general use. Where, however, this course has not been adopted certain measures of a temporary and palliative kind are recommended; these are:—

"(*a*) Where water is in any degree open to suspicion, an immediate and searching examination of sources and conduits should be made, and the water should be examined; and where pollution is discovered everything practicable should be done to prevent the pollution continuing, or, if this cannot be done, to prevent the drinking of the water.

"(*b*) Immediate thorough removal of every sort of house refuse and filth, and the prevention of accumulations of such matters; attention to defects of house drains and sinks from which offensive smells can reach houses.

Local Government Board and Cholera precautions (*continued*).

"While it is admitted that conditions favourable to Cholera are less abundant than formerly, as shown by the continuous decline of Typhoid Fever, a disease closely resembling Cholera, it is certain that in many places such conditions are present as would assist in the spread of Cholera if it were introduced; and a hope is expressed that Local Sanitary Authorities will do everything to put their districts into a wholesome state.

"It is finally pointed out that money and labour so spent are not wasted; even should Cholera not be imported, they would give ample remunerative results in the prevention of other diseases.

"The general memorandum referring to places attacked or threatened by epidemic disease relates to occasions of emergency; the measures are therefore largely of an extemporaneous kind, and this memorandum may be considered supplementary to that on Cholera. It embodies many of the points which I have referred to and quoted from the memorandum on Cholera, but, in addition, attention is specially directed to courts, alleys, labourers' cottages, and lodging-houses; to drain and soakage nuisances; the condition of sewers, drains, ditches, ponds, pipes, and overflows; scavenging; state of receptacles for excreta; ashpits and dustbins; slaughter-houses and places where animals are kept; to disinfection of filth during its removal, and to unpaved earth close to dwellings. Water open to suspicion and milk at all times are recommended to be boiled. Cleansing and limewashing of uncleanly or crowded premises, avoidance of overcrowding, and ventilation are urged, together with cleansing of impure articles and their disinfection without delay, also thorough disinfection of the discharges of the sick. Recommendations are made for the separation of the sick from the healthy, as regards houses and schools and similar establishments, and for the provision of a Hospital ready to receive cases. Reference is made to cases where it may be desirable to remove persons from a dangerous dwelling to a safer lodging.

"The importance of early and preventive measures, where available, is referred to, as, for instance, treatment of the 'Premonitary Diarrhœa" of Cholera and Vaccination and re-vaccination during the prevalence of Small-pox.

"Handbills are suggested for giving warning, precaution, and advice, as also is house-to-house visitation when likely to be of service, and some directions are given for the preparation and use of disinfectants under different circumstances.

"The sanitary condition of Birmingham has during the past twenty years been very much improved, as shown by the diminution in the general Death-rate

Local Government Board and Cholera precautions (*continued*).

between 1873 and 1881. Since that time, however, it has practically undergone no diminution of a permanent character. In the cases of Typhoid Fever and Diphtheria there has, however, been a gradual and almost continual decrease in the Mortality up to the present time, and as these two diseases are regarded as sensitive and trustworthy indicators of the character of general sanitary conditions, this fact must be considered, so far, satisfactory.

"I am of opinion, however, that with the great natural advantages which the town enjoys we may reasonably expect the general Death-rate to fall much lower, and in order to secure this result I would support the suggestions contained in the memoranda referring to improved systems of refuse removal, unpaved surfaces, water supply, etc.

"Of the various conditions favourable to the spread of Cholera, as well as some other diseases, there is a general concurrence of educated opinion that the retention in our midst of impurities of an excrementitious kind is the principal one. This view, or rather fact, is so clearly stated in the memoranda that I need not repeat it, but it brings us to a consideration of the actual measures necessary to be taken in order to place the town in a position to humanly defy the establishment of an epidemic of Cholera. I have on very many occasions given you my opinion on the subject, and I now take the opportunity to restate, as recommendations, what I consider are the great cardinal measures which it is necessary to thoroughly and completely carry out in order to secure immunity from Cholera and allied diseases, and to raise the general health of the community.

1st. The early completion of the abolition of all methods of fæcal interception, and the substitution of the only system by which excrementitious matters can be rapidly removed to an appropriate place at a distance—I mean the water-carriage system.

2nd. The closure of all surface wells which shall be proved to be polluted.

3rd. The paving with impervious material of all yards and courts, and their scavenging and flushing periodically where their peculiar circumstances render it necessary.

4th. Adequate provision for the prompt isolation and treatment of any cases which may occur.

"These principal measures constitute the true basis of protection from epidemic invasion, and of further sanitary improvements; and given these, all minor ones will naturally follow."

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

Unwholesome Food.

The returns made by the Superintendent of Markets show that 22 seizures and 1,517 surrenders of bad meat were made during the year, the total weight destroyed being over 146 tons. Three persons were summoned and convicted, the penalties and costs being £70. 17s.

The seizures of bad fish, game, and poultry amounted to 8, and the surrenders to 317. Altogether over 44 tons had to be destroyed. Five persons were summoned, and were ordered to pay £43 penalties and costs.

Some tons of bad fruit also had to be destroyed.

Tuberculosis in Cattle.

Having been asked by the Chairman of the Markets and Fairs Committee to express my opinion as to the fitness for food of the flesh of animals suffering from Tuberculosis, I stated that the view I had always taken was that such flesh was fit for food in cases where the affection was localised and existed to so limited an extent that the health of the living animal was not perceptibly affected, while the flesh possessed all the qualities of healthy meat and the morbid conditions discoverable after slaughtering were of trifling extent and confined to small portions of an internal organ like the lung. This is the principle which has been acted upon hitherto in Birmingham, and I have reason to believe that no ill effects have followed. It is the mode of proceeding also adopted in many other towns, and it is only on the theoretical views of certain bacteriologists that Glasgow has determined to stop the sale of any animal showing even the slightest departure from ideal health. As soon as it can be shown that the theoretical assumptions of the new school are justified I shall be prepared to join it, but up to the present time I believe that in no single instance has it been found that Tuberculosis has been caused in the human subject by eating such meat as I have described.

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

Lodging Houses.

Lodging Houses

At the end of the year there were 81 registered Common Lodging Houses, accommodating 1,892 lodgers, and 110 houses let in lodgings, with room for 597 occupants. The visits to these houses by day numbered 9,440, and those by night 1,046. One person was summoned for allowing overcrowding, and fined 10s. and 8s. costs.

Slaughter Houses.

Slaughter-houses.

At the end of the year there were 132 registered and 127 licensed Slaughter Houses. The Officers of the Markets and Fairs Committee paid 9,546 visits to them. Three persons were summoned for slaughtering on unlicensed premises, and were fined £3. 5s. 6d., including costs.

On several occasions I visited a building proposed to be used as a Slaughter House in Kyrwick's Lane, and after certain alterations had been made in it I recommended that its use for this purpose be allowed.

Dairies, Milkshops, and Cowsheds.

Dairies, Milkshops, and Cowsheds.

During the year 6,424 visits were paid to Milkshops, Dairies, and Cowsheds. Shops were cleansed and limewashed in 57 instances, cellars in 43 instances, and pantries in 31. The sale of lamp oil was stopped in 36 cases, of tripe in 6 cases, of fish in 14, and of vinegar, etc., in 86. Dirty vessels were found in 3 places.

Ten cases of Scarlet Fever, one of Smallpox, two of Diphtheria, and one of Erysipelas occurred. Except in the case of Erysipelas the business was suspended till disinfection had been carried out.

Pleuro-Pneumonia

No case of Pleuro-pneumonia was found.

Bakehouses.

Bakehouses.

The visits paid to Bakehouses numbered 1,319. Limewashing was required in 174 instances. Orders were given for the removal of filth in 20 cases, for the removal of drains in 5, and of animals in 1. The ventilation of 8 bakehouses was improved. Boys and youths were found to be employed in 87 instances, and women in 4 instances.

Workshops.

Workshops.

Under the provisions of the Factory and Workshop Act, 1891, the supervision of Workshops devolves upon Sanitary Authorities. In this City 5,265 visits were paid to them during the past year, records being kept of the conditions existing at each Workshop. The following is a statement of work done in connection with Workshops at the instance of your officers:—

Ashpits and Privies removed from under Workshops	44
Pan Privies removed from under Workshops	7
Ashpits and Privies reconstructed	40
Extra Water-closets for females provided	109
Water-closets cleansed and repaired	28
Soilpipe of Water-closet removed from interior	1
Urinals provided	56
Drains trapped	37
Drains removed from inside Workshops	16
Sink-drain disconnected	1
Improved Ventilation provided	30
Workshops limewashed	526
Workshops repaired	23
Overcrowding remedied	8
Workshops closed	7
Workshops reported to City Surveyor as dangerous	4

Pan Closets under Workshops.

On May 10th I reported to you that Major Roe, H.M. Inspector of Factories, had called my attention to the existence of pan closets under a workshop, and had expressed his

opinion that they should be removed. The Inspector of Nuisances had seen the occupiers of the workshop, who refused to remove the privies. I pointed out that the powers given to the Sanitary Authority under section 24 of the Public Health Acts Amendment Act, 1890, are as follows:—"(1) Where any portion of a room extends immediately over any privy (not being a water closet or earth closet), or immediately over any cesspool, midden, or ashpit, that room, whether built before or after the adoption of this part of this Act, shall not be occupied as a dwelling place, sleeping place, or work room, or place of habitual employment of any person in any manufacture, trade, or business during any portion of the day or night. (2) Any person, who after the adoption of this part of this Act, and after notice from the Local Authority of not less than seven days, so occupies, and any person who suffers to be so occupied, any such room, shall be liable to a penalty not exceeding forty shillings, and to a daily penalty not exceeding ten shillings." Pan Closets under Workshops *(continued)*.

I asked your instructions as to the procedure in this case more particularly as provision is made in the Factory and Workshop Act, 1891, Section 2. Sub-section (2), as follows:—"Where notice of an act, neglect, or default is given by an Inspector under the said Section 4, as amended by this Act, to a Sanitary Authority, and proceedings are not taken within a reasonable time for punishing or remedying the act, neglect, or default, the Inspector may take the like proceedings for punishing or remedying the same as the Sanitary Authority might have taken, and shall be entitled to recover from the Sanitary Authority all such expenses in or about the proceedings as the Inspector incurs and are not recovered from any other person, and have not been incurred in any unsuccessful proceedings."

The Chairman of your Committee had an interview with the owner of the privies in question, who eventually had them converted to water-closets.

Canal Boats Acts, 1877 and 1884.

The Assistant Inspector of Canal Boats made 794 inspections of boats and found 1,287 men, 442 women, and 597 children on the boats inspected. Eighty-one contraventions of the Acts and Regulations were discovered, and in each case a caution note was issued. Legal proceedings were taken in one case in which three men were allowed to sleep on board an ordinary open boat with a shelter cabin containing only 140 cubic feet of air space, and having a large stove in it. A fine of 5s. and 8s. 6d. costs was inflicted. Canal Boats Acts.

No case of infectious disease occurred on any Canal Boat within the City. In December, however, notice was received that a Wolverhampton boat had had a case of Erysipelas on it. Although at the time the boat was not within the Birmingham

district, it was thought desirable to disinfect it, and this was accordingly done. Thirty-eight boats were registered during 1892, and 35 certificates were cancelled, and 10 boats re-registered after structural alterations. The total number of boats on the register is now 383.

iv.—*Offensive Trades.*

Offensive Trades.

During the year an application was made for permission to carry on the trade of gut-cleaning in Smithfield Passage. Shortly afterwards, however, the applicants purchased a business already existing, and the application resolved itself into a request to be allowed to use the premises in Smithfield Passage merely for the storage of cleaned and salted "ropes." I saw no objection to this, and recommended your Committee to give your sanction to it.

Complaints having been made of an alleged nuisance from a varnish works in the City, observations were made with a view to discovering any such nuisance, but none was detected.

Fortnightly Reports of Medical Officer of Health.

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

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.

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.—*Outbreaks and prevalence of Infectious, Contagious, and Epidemic Disease.*

Prevalence and Distribution of Infectious Diseases.

The cases of Infectious Disease notified to me during the year numbered 2,853.

The cases reported and their rates per 1,000 of the populations in various localities are shown below:—

Prevalence and Distribution of Infectious Diseases. (*continued*).

	Total Notified Cases.	Total Case-rate per 1,000.	Case-rates from			
			Scarlet Fever.	Diph-theria.	Typhoid Fever.	Erysip-elas.
Ladywood Reg. Sub-Dist....	324	5·7	2·1	1·8	0·5	1·0
St. Thomas',, ,, ..	182	5·5	2·4	0·5	0·4	1·8
St. Martin's,, ,, ...	185	4·8	2 0	0·4	0·5	1·6
St. George's,, ,, ...	423	6·9	3·4	1·2	0·6	1·5
All Saints' ,, ,, ...	365	6·5	3·5	0·9	0·8	0·9
Deritend ,, ,, ...	611	6·2	3.1	0·9	0·6	1·2
Duddeston ,, ,, ...	284	4·4	2·7	0·3	0·5	0·8
Edgbaston ,, ,, ...	128	5·2	2·4	1·7	0·4	0·7
Balsall Heath	243	7·7	4·7	0·9	0·2	1·2
Saltley and Little Bromwich	79	7·3	3·1	1·2	1·0	1·3
Harborne	29	3·6	2·1	0·4	0·4	0·7
City	2,853	5·9	2·9	0·9	0·5	1·2

The highest case-rates were in Balsall Heath and Saltley. In the former a very large number of Scarlet Fever cases occurred, while in Saltley Typhoid Fever cases were very numerous. Harborne and St. Martin's and Duddeston Registration Sub-Districts seem to have suffered less from notifiable diseases than any other locality.

Smallpox.

A slight outbreak of *Smallpox* occurred, resulting altogether in 27 cases. From December 4th, 1891, to April 3rd, 1892, no case of Smallpox came to my knowledge, but on the latter date I was informed that a man engaged as a groom at Hengler's Circus was suffering from the disease. Subsequently his wife and child were attacked, and no source of infection could be discovered. But shortly afterwards a woman engaged at a workshop in Ernest Street, where a number of female workers were employed, contracted the disease. Enquiries were made and it was found that four persons engaged at the workshop had suffered from Smallpox without having been aware of it. Three of these cases had recovered before the nature of their illness was known. Mr. Manning, who investigated these cases, found the other patient, and also her father, to be still suffering from Smallpox, and they were admitted to the City Hospital. Now the first two unrecognised cases occurred at the house in which the groom I have referred to lodged, and hence the source of infection in his case was very unexpectedly discovered. The introduction of Smallpox into the workshop could not be accounted for, but possibly the infection was carried in textile materials which were being imported from Yorkshire, Lancashire, and the Continent, where Smallpox was prevalent.

The first 17 cases were traceable directly or indirectly to the outbreak at the workshop in Ernest Street; 6 of them were in persons actually at work there, and 7 were in houses to which the infection was carried from the workshop by

Smallpox (*continued*).

persons engaged there. The four other cases occurred in houses associated with those thus infected. On several occasions the workshop was fumigated, and on one the goods which had been exposed to infection were destroyed. After the end of May no case occurred which appeared to be connected with those at the workshop.

The source of infection of the remaining cases was not satisfactorily accounted for. One of the patients was, however, a tramp, who evidently contracted the disease before reaching the Birmingham Workhouse, and two others were of the vagrant class, one having been in the Casual Ward at the Workhouse shortly before his illness, and one being an inmate of a Common Lodging House.

The three patients whose illness was not recognised as Smallpox till after recovery were not of course removed to the City Hospital. All the other patients were admitted to that institution, and two of them were found to be unvaccinated, a girl aged 9, and a youth aged 18. After removal of the cases the houses were fumigated with sulphur, and the walls were stripped of paper and limewashed. Infected bedding and clothing were sent to the disinfecting station. Notice was sent to schools, prohibiting the attendance of children from infected houses, and inmates of such houses were kept from work when necessary. In some instances workplaces were fumigated, and in others neighbours' houses were similarly purified. One case occurred at a milkshop, and the stock of milk had to be destroyed and the shop closed until after disinfection. Another was at a Common Lodging House. All the rooms in the house were fumigated, those on the top storey were limewashed, twenty beds were sent to the disinfecting station, and the lodgers were kept from work till after disinfection was completed. In all cases of Smallpox efforts were made to get the inmates of houses invaded, vaccinated, but few of them were willing to undergo the operation.

Scarlet Fever.

Scarlet Fever was notified in 1,418 cases. The disease was most prevalent in Balsall Heath, where the cases gave a rate of 4·7 per 1,000 persons living; in St. Martin's Registration Sub-District the Scarlet Fever case-rate was only 2·0, the lowest in the town. Efforts were made to obtain the removal of cases to the City Hospital, and 1,131 were admitted there during the year. After the removal or termination of a case the infected rooms were disinfected by fumigation, stripped of wall paper, and lime-washed, and the beds and other articles used were sent to the disinfecting station. Children in houses invaded by the disease were prohibited from attending school till the danger of their carrying infection was past.

Diphtheria

Throughout almost the whole of the year the cases diagnosed as *Diphtheria* were numerous, the total number being 456. The deaths, however, were comparatively very few, numbering 67, or 1 to every 7 cases; in 1891 and 1890 one patient in every four succumbed. Moreover, a very large proportion of cases were in adults, many of them were of

short duration and of a mild type, and on the whole I think it probable that a certain number of the cases reported were not true Diphtheria. Diphtheria (*continued*).

A limited outbreak of Diphtheria in March appeared to be connected with the Stratford Road Board School, having been introduced into the school by a child whose illness was not recognised as Diphtheria for some days. Five other children in the same part of the school were attacked, and two others associated with the first case in the playground only. The schools were found to be in an insanitary condition. There were two valve water closets inside the school, close to the room in which the teachers take their meals, both of them defective, and said by the Head Master to cause a nuisance. In the cellar immediately under the children's cloak-room there was an unset D trap. The pan closets for the children were offensive. The ventilation of the drains was unsatisfactory, and the downspouts did not terminate above the ground. The state of the premises was reported to the School Board, and the teachers were asked to exercise special care in stopping the attendance of children suffering from Diphtheria or any form of sore throat, or coming from homes where such illness was present.

In May a large number of cases occurred in children attending St. George's Schools, Edgbaston, and I wrote to the Head Master, asking him to keep away any children found to be suffering from Sore Throat, in addition, of course, to those actually suffering from Diphtheria, or living in houses invaded by it. Cases, however, continued to occur, and after a thorough examination had resulted in the discovery of only very slight sanitary defects, I decided at the end of June to recommend the closure of the schools. This was at once done, and the schools were not used again till the second week in August, before which the rooms were thoroughly fumigated. No recurrence of the disease took place at the schools afterwards.

The houses in which Diphtheria cases occurred during the year were fumigated, and steps were taken to prevent children from them attending school. Of *Membranous Croup*, a disease closely allied to Diphtheria, there were 77 cases. Membranous Croup.

Typhoid Fever was notified in 260 cases, a comparatively small number, and accompanied, as I have already pointed out, by a very slight mortality. The largest number of cases occurred at Saltley, and the smallest at Balsall Heath. At the end of November three cases of Typhoid Fever occurred in and near Augustus Road. I made a special and full enquiry into the probable causes of them. The ages of the patients were 20, 22, and 30 years respectively, and their illnesses commenced almost simultaneously in the week ending November 27th. In neither case did there seem to have been communication with any previous case of Typhoid Fever, no antecedent case being known in the neighbourhood nor amongst the patients' friends. In the first two cases the patients had not recently been away from home, but in the third the patient had resided for short Typhoid Fever.

Typhoid Fever (*continued*).

periods at Mold and Liverpool. The three patients all complained of very offensive smells from the public sewer in Augustus Road, but as only three cases occurred, while any infection contained in the sewer emanations could hardly have failed to affect a much larger number of residents in the district, I cannot suppose it probable that the disease was traceable to the public sewer. Typhoid Fever is commonly associated with water and milk supplies, but in all three instances the water used was drawn from the Corporation mains, and since the same water was being drunk by a very large number of consumers, it cannot be supposed that the water supply was responsible for the occurrence of the cases. The milk supply, moreover, was derived from three entirely separate sources, and full enquiry led to the conclusion that it could not be the source of infection.

No suspicious article of food had been eaten, and no influence common to the three patients, and likely to affect their health, could be found. The only conclusion to be arrived at was therefore that, although the cases from their occurrence in the same locality, and at practically the same time, seemed likely to have had a common origin, yet such view was not supported by the facts of the case, the sources of infection being apparently distinct from each other, and of that indefinite nature so commonly found to appertain to cases of Typhoid Fever.

Simple Continued Fever.

Five cases of *Simple Continued Fever* were reported during the year.

Puerperal Fever.

The cases of *Puerperal Fever* numbered 40, and 25 Deaths were set down to the disease. In all cases the nurses in attendance were warned not to undertake similar cases till the danger of infection was over. In two instances I found it desirable to have personal interviews with midwives as to the precautions necessary for them to take.

Erysipelas.

The cases of *Erysipelas* have been numerous, amounting in all to 569. The cases were distributed with considerable regularity over the City, and were as usual more numerous in the fourth quarter than at any other time. This increased prevalence of Erysipelas in the latter part of the year has been observable ever since notification came into force at the beginning of 1890, as shown by the following figures :—

	NUMBER OF CASES OF ERYSIPELAS.			
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
1890 ...	54	73	112	156
1891 ...	89	61	70	149
1892 ...	98	120	155	196

The figures for 1890 and 1891 refer to the old City. It will be seen that throughout the period dealt with there has been a general and fairly continuous increase from the first to the last quarter of each year.

During the early part of the year the City suffered to some extent from Influenza, and at your request I drew up the following bill, which was circulated throughout the town :—

"INFLUENZA. Influenza.

"*Symptoms.*

"The most general symptoms of the attack are those of a 'common cold,' but with the addition of more or less fever; severe pains in different parts of the body, especially the head, loins, and limbs, and great mental depression, or low spirits.

"With proper treatment the attack will generally terminate in from three to ten days, but if neglected, or aggravated by exposure to cold, fatigue, and other unfavourable conditions, complications of a severe and probably of a fatal character may arise. The commonest and most fatal of these complications is inflammation of the chest of a special and unusually severe character.

"*Prevention.*

"The first thing to do is to avoid contact with persons suffering from the disease. Keep the health as good as possible by the avoidance of cold, fatigue, errors in diet, late hours, and all other lowering influences.

"*Cure.*

"As soon as the first symptoms of a 'cold' appear, stay at home to obtain complete rest, keep warm by going to bed if necessary, and employ a diet which is light but nutritious. Send for the doctor without delay.

"By order of the Health Committee,

"ALFRED HILL, M.D.,

"*Medical Officer of Health.*

"Council House, January 22nd, 1892."

CITY HOSPITAL. City Hospital.

Mr. Manning, the Medical Superintendent, has kindly supplied me with the following remarks on the City Hospital:—

"In the Scarlet Fever Department of the City Hospital the year has been one of steady work. The administration has been carried on with the same success which marked that of previous years; but it is to be regretted that the health of the staff has been far from satisfactory. No less than 405 days were lost through illness, which no doubt was due in a great measure to the faulty nature of the housing that is provided for the nurses and servants, and which was therefore, to a certain extent, preventable. It is a discredit to the City that such bad accommodation should have been allowed to exist for the past three years. Now that extra land has been obtained from the Asylums Committee it is to be hoped the extension of the Hospital will be

City Hospital (*continued*).

carried on with the utmost despatch. The following Table shows the particulars as to the number of patients admitted, discharged, etc., during the calendar year ending December 31st, 1892:—

In Hospital on the night of 31st December, 1891 ...	259
Admitted during the year 1892	1,138
Died " "	61
Discharged " "	1,045
Remaining in the Hospital on the night of 31st December, 1892	291

"The Death-rate was very satisfactory, viz., 5·35 per cent. of the admissions. During the first half of the year the admissions were less numerous than in the second, the numbers being 450 and 688 respectively; but the type of disease was much more severe in the half-year ending 30th June, as is seen by the number of Deaths for each period, that for the former being 31, or 6·88 per cent., of the admissions, and for the latter 30, or 4·35 per cent. More detailed information as to the variety of the cases treated, and the different complications which arose, will be found in the Annual Report of the Medical Superintendent.

"During the year there were 30 patients admitted to the Smallpox Hospital, 24 of whom actually had Smallpox, while 6, or 20 per cent., were found to be suffering from other diseases. Of the Smallpox patients 21 had been vaccinated in infancy, two had not been vaccinated, and one—a child 18 months old—was vaccinated while incubating Smallpox. The type of the disease was, on the whole, mild, there being only four confluent cases and no deaths."

The following Table shows the number of cases admitted to the City Hospital in each Registration Year (52 or 53 weeks) since the transfer of the Smallpox Wards from the Board of Guardians to the Town Council in 1874:—

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

* 53 weeks.

Disinfecting Station.

Disinfecting Station.

The articles disinfected at the Station in Bacchus Road numbered 18,549, and comprised 1,396 beds, 1,907 blankets, 1,098 sheets, 1,077 bolsters, 2,201 pillows, 657 mattresses, 1,118 counterpanes, 458 carpets, 7,174 garments, and 1,463 other articles.

Mortuaries.

Mortuaries.

From the returns supplied me by Mr. Farndale, Chief Constable, it appears that the number of bodies taken to the different Mortuaries was as follows:—Moor Street, 38; Ladywood Road, 19; Kenyon Street, 36; Duke Street, 40; Moseley Street, 28; Total 161.

Water Supply.

Water Supply.

The water supplied by the Corporation was of much the same quality as usual.

Well Waters.

During the year I analysed samples of water from 24 wells. Twelve wells were closed before the end of the year, and orders were given for the closure of most of the others.

Miscellaneous Analyses.

Miscellaneous Analyses.

The following articles were sent to me for analysis, most of them from various Corporation Departments:—

Water	13	samples.
Mortar	12	„
White Lead	6	„
Articles of Food	6	„
Poudrette	4	„
Oil	4	„
Sewage...	2	„
Beeswax	2	„
Other Articles	3	„
Total ...	52	

Public Baths.

Public Baths.

The number of bathers at the Corporation Baths was 331,894—311,527 men and 20,367 women. The numbers for the past ten years are as follows:—

	Men.	Women.	Total.
1883	366,801	18,670	385,471
1884	423,490	22,055	445,545
1885	328,825	19,519	348,344
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

Sewerage Works.

Sewerage.

From the Annual Report of the City Surveyor, made at the end of March, 1892, it appears that at that time there were 256 miles of sewers under the charge of the City Council.

Having had occasion to visit Butler Street South I found that it had no sewerage, the houses being drained into a small brook at one end of the street. I recommended that the attention of the Public Works Committee be called to the fact, and since then the work of sewering, kerbing, and paving the street has been put in hand.

Streets and Roads.

Streets and Roads.

The total length of Streets and Roads in the City on March 31st, 1892, was 256½ miles, consisting of 249 miles of declared highways, and 7½ miles of undeclared highways, private roads, and passages.

Nightsoil and Refuse Disposal.

Nightsoil and Refuse disposal.

During the year the contents of 1,813,765 pans were collected, and 72,062 loads of refuse were removed from ash-tubs in connection with pan privies. The loads of nightsoil removed in 24,312 emptyings of ashpit privies numbered 50,069. The ashes collected from water-closeted houses amounted to 24,838 loads.

Sanitary Work.

Sanitary Work.

A return made by Mr. Parker, Inspector of Nuisances, of sanitary work done during the year is given in Table V. The total number of sanitary defects remedied was 18,007. This total included the following:—5,187 drains made to act properly by being opened and cleansed; 1,666 drains efficiently trapped so as to prevent the escape of sewer gas; 146 drain openings removed from cellars, where their presence was naturally very undesirable, or, where removal was impossible, properly cut off from the sewer; 392 sink drains disconnected from the sewer; 236 premises supplied with drains. All these improvements were directed to removing drainage defects. Then 1,147 houses were purified after infectious disease; 644 houses were cleansed; 925 were repaired, and 127 which were not fit for habitation were either put in order or closed. In connection with the disposal of excreta, 979 privies were converted to water closets; 603 urinals were cleansed, repaired, or reconstructed; and 1,577 ashpits and privies were repaired.

In order to get the above work done, 17,393 notices had to be issued, but in no case were legal proceedings taken.

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 Seven Years 1886–1892.

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
Average of 6 years prior to 1892.	468,588	15,504	9,385	2,621	4,108	1,241	1,377

* 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, 12,365.

TABLE II.

Birth-rates and Death-rates in the Seven Years 1886–92.

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	63·9	3·2	13·5
1887	33·2	20·0	174	61·7	3·1	13·6
1888	32·4	18·2	152	54·0	2·0	14·1
1889	32·7	19·2	168	60·0	2·7	14·6
1890	32·1	21·4	181	64·3	2·9	15·5
1891	33·8	21·1	165	57·8	2·0	16·4
1892	33·2	20·0	166	60·4	2·6	14·6
Average of 6 Years prior to 1892.	33·1	20·0	169	60·3	2·7	14·6

TABLE III.

SHOWING THE NUMBER OF DEATHS IN THE SIX YEARS, 1886 TO 1891, FROM THE SEVEN PRINCIPAL ZYMOTIC DISEASES, AND THE NUMBER IN 1892.

	1886.	1887.	1888.	1889.	1890.*	1891.	Annual Average of 6 years, 1886-1891.	Proportion of deaths to 1,000 deaths in 6 years, 1886-1891.	1892.	Proportion of deaths to 1,000 deaths in 1892.
Smallpox	0	2	0	0	0	7	2	0·2	0	0·0
Measles	402	251	202	214	354	107	255	27·2	340	35·3
Scarlet Fever	42	37	40	162	218	95	99	10·5	68	7·1
Diphtheria	80	67	48	59	66	43	61	6·5	67	6·9
Whooping Cough ...	99	403	248	297	224	303	262	27·9	285	29·6
Fever — Typhus	0	0	0	0	0	0	0	0·0	0	0·0
Fever — Typhoid or Enteric ...	63	77	64	45	64	80	65	6·9	39	4·0
Fever — Continued	6	8	5	4	2	1	4	0·4	2	0·2
Diarrhœa	770	579	317	489	463	340	493	52·5	443	45·9
TOTAL	1,462	1,424	924	1,270	1,391*	976	1,241	132·2	1,244	129·0

* 53 weeks.

TABLE IV.

Deaths from certain causes in the years 1891 and 1892.

DEATHS FROM	1891	1892
Cancer	324	293
Phthisis	815	716
Other Tubercular Diseases ...	266	265
Bronchitis, Pneumonia, and Pleurisy	2,469	2,100
Diseases of Nervous System ...	902	864
Diseases of Heart	673	684
Diseases of Digestive System ...	570	597
Diseases of Urinary System ...	222	225
Accident or Negligence	356	292
Debility, Atrophy, Inanition, and Marasmus	593	592
Premature Birth	295	345

TABLE V.

HEALTH DEPARTMENT.

SUMMARY OF NUISANCES ABATED AND OTHER WORK DONE DURING THE YEAR 1892.

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

No of Drains opened and cleared from obstruction	5,187
,, Drains efficiently trapped	1,666
,, Drains in cellars disconnected from the sewer or removed	146
,, Drains removed from interiors of Slaughter Houses ...	17
,, Sink Drains disconnected from the sewer	392
,, Overflow Pipes from Water Cisterns disconnected	3
,, Premises supplied with drains	236
,, Houses disinfected, cleansed, and purified, after infectious disease	...1,147
,, Houses cleansed and whitewashed	644
,, Houses repaired	925
,, Houses supplied with wholesome water	4
,, Houses rendered fit for human habitation or closed ...	127
,, Houses provided with efficient ventilation	64
,, Cases of overcrowding of houses remedied	29
,, Accumulation of water in cellars removed	290
,, Spouts repaired	421
,, Soilpipes removed from the interiors of dwelling houses ...	54
,, Privies cleansed	238
,, Privies converted to water closets	979
,, Ashpits and Privies repaired	1,577
,, Urinals cleansed, repaired, or re-constructed	603
,, Back Yards paved or repaired...	373
,, Premises from which fowls have been removed	245
,, Nuisances from swine and swine styes abated	154
,, Accumulations of wash, manure, etc., removed	870
,, Premises reported to the City Surveyor's Department as dangerous, rendered safe	708
,, Defective Water Fittings reported to the Water Department, and repaired	908
Total	18,007

Number of Notices issued for the abatement of Nuisances	17,393	
Number of Cases Summoned	0	
,, Withdrawn		
,, Convicted		
Amount of Costs		
,, Penalties		

SMOKE NUISANCES.

No. of Observations made by the Inspectors	5,917		
,, Manufacturers Reported for the emission of dense smoke ...	252		
,, ,, Cautioned	149		
,, ,, Summoned	103		
Amount of Penalties	£87	0	0
,, Costs	£39	8	6

WORKSHOPS.

No. of Visits to Workshops	5,265
,, Sanitary Defects and Contraventions of Regulations Remedied	937

DAIRIES, COW SHEDS, AND MILKSHOPS.

No. of Visits to Cow Sheds	2,507
,, Visits to Dairies, Milk Shops, and Milk Stores	3,917

BAKEHOUSES.

No. of Visits to Bakehouses	1,319
,, Sanitary Defects and Contraventions of Regulations Remedied	208

COMMON LODGING HOUSES.

No. of Registered Common Lodging Houses	81
,, Lodgers allowed	1,892
,, Houses Registered under the Public Health Act, 1875 ...	110
,, Lodgers allowed	597
,, Visits by day	9,440
,, Visits by night	1,046
,, Lodgers found occupying the Houses	16,666
,, Persons Summoned	1

THE CANAL BOATS ACTS, 1877 AND 1884.

No. of Canal Boats inspected	794
,, Canal Boats registered	38
,, Persons Summoned	1

SLAUGHTER HOUSES.

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

No. of Visits	9,546
Voluntary Surrenders of Meat	1,517
Seizures of Bad Meat...	22
Weight Destroyed	327,972 lbs.
Voluntary Surrenders of Fish, &c.	317
Seizures of Fish, &c.	8

CONTAGIOUS DISEASES (ANIMALS) ACT.

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

No. of Visits to Railway Stations	760
No. of Visits to Cow Houses	298

TABLE VI.

Meteorological Condition of the Air, Temperature of the Ground, and Amount of Rainfall for the Year ending December 31st, 1892.

Observed at 9-0 a.m. at Oakwood, Acock's Green, by myself and my son, Mr. H. Grosvenor Hill.
The Instruments are about 430 feet above the mean level of the sea.

1892. Months.	Pressure of Air. Barometer. Mean Monthly Reading (corrected and reduced to 32 degrees Fahrenheit)	TEMPERATURE. Of the Air. Highest in Shade.	Lowest in Shade.	Mean Temperature in the Month.	Of the Ground. 1 foot deep.	4 feet deep.	Degree of Humidity. Complete Saturation = 100	RAINFALL. Gauge 1 foot diameter. Receiving Surface 1 foot above the ground. Depth of Rain deposited upon a square foot of surface, in inches and parts.	Number of Days on which Rain fell.
	In Parts.	Dg. Prts.	Dg. Prts.	Dg. Prts.	Dg. Prts.	Dg. Prts.		In Parts.	
January ...	29·403	53·5	15·0	35·3	36·5	39·8	...	1·97	19
February ...	29·326	53·5	14·0	37·5	38·9	40·6	87	1·21	15
March	29·579	61·0	22·0	36·7	37·9	39·6	...	1·04	11
April	29·566	70·5	23·0	46·0	44·5	43·1	72	0·95	7
May	29·526	79·0	31·0	53·9	50·5	46·7	74	1·53	13
June	29·542	81·0	36·5	57·1	...	...	75	2·49	16
July	29·584	81·0	42·5	57·4	...	...	80	1·86	14
August ...	29·470	77·5	36·0	59·7	...	...	77	2·63	14
September ...	29·515	66·5	35·5	54·3	...	...	83	2·68	15
October ...	29·289	58·0	24·0	44·5	...	...	86	2·29	16
November ...	29·581	56·5	24·5	43·2	...	...	93	2·41	17
December ...	29·534	53·5	13·0	34·6	...	...	...	1·55	9

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, 1888-1892.

Years.	Average Prices of Food and Fuel. Coal per ton.	Flour per 224lbs.	Potatoes per ton.	Butchers' Meat per lb.	Pauperism. Weekly Average of Paupers relieved during the Year. In-door.	Out-door.
1892	9/2	22/3	75/-	Beef -/4½ Mut'n -/7	2,627	834
1891	9/7	22/9	80/-	Beef -/4½ Mut'n -/7¼	2,688	1,058
1890	9/8	20/-	60/-	Beef -/4¾ Mut'n -/8	2,680	1,138
1889	9/3	20/-	70/-	Beef -/5 Mut'n -/8	2,876	1,591
1888	9/-	20/-	70/-	Beef -/4½ Mut'n -/6½	2,792	2,370

TABLE VII.

RAINFALL AND TEMPERATURE IN EACH MONTH AND YEAR FROM 1882 TO 1892.

MONTH.	1882.			1883.			1884.			1885.			1886.			1887.			1888.			1889.			1890.			1891.			Average for 10 yrs. 1882—1891.			1892.		
	Rainfall.	No. of days on which rain fell.	Temperature.	Rainfall.	No. of days on which rain fell.	Temperature.	Rainfall.	No. of days on which rain fell.	Temperature.	Rainfall.	No. of days on which rain fell.	Temperature.	Rainfall.	No. of days on which rain fell.	Temperature.	Rainfall.	No. of days on which rain fell.	Temperature.	Rainfall.	No. of days on which rain fell.	Temperature.	Rainfall.	No. of days on which rain fell.	Temperature.	Rainfall.	No. of days on which rain fell.	Temperature.	Rainfall.	No. of days on which rain fell.	Temperature.	Rainfall.	No. of days on which rain fell.	Temperature.	Rainfall.	No. of days on which rain fell.	Temperature.
January ...	2·41	11	40·5	4·21	19	40·3	3·04	17	43·2	1·98	14	35·9	1·95	16	35·2	2·43	14	34·1	0·90	11	37·0	0·80	8	36·4	3·07	24	40·7	2·44	11	33·2	2·32	14	37·6	1·97	19	35·3
February ...	2·15	13	41·9	3·53	14	42·4	1·66	17	40·8	3·40	16	42·2	1·21	7	33·2	0·85	7	38·3	0·91	14	35·1	2·17	17	37·1	0·70	8	36·9	0·12	2	38·8	1·67	12	38·7	1·21	15	37·5
March	2·57	13	45·6	1·44	11	35·1	2·74	13	43·1	1·02	11	40·2	3·26	15	38·7	1·99	15	37·9	2·96	20	37·6	3·32	12	40·0	1·74	19	43·3	1·62	19	39·5	2·27	15	40·1	1·04	11	36·7
April	4·18	19	47·0	0·98	6	47·1	1·62	12	44·2	2·99	14	45·8	2·20	15	45·7	1·33	9	43·7	1·75	16	43·1	3·41	23	44·3	1·11	15	44·8	2·15	15	42·9	2·17	14	44·9	0·95	7	46·0
May	3·19	17	52·9	1·38	14	51·5	1·06	11	52·8	2·60	19	48·3	6·31	20	51·3	1·96	19	48·6	1·03	7	52·5	3·92	19	55·2	2·54	12	53·9	3·99	18	49·5	2·80	16	51·6	1·53	13	53·9
June	4·00	17	55·7	3·63	17	57·0	2·29	11	57·4	3·97	11	58·5	1·99	11	56·6	2·45	4	61·3	2·31	14	56·0	0·65	6	61·0	1·59	18	57·8	2·09	12	58·9	2·50	12	58·0	2·49	16	57·1
July	3·83	23	60·0	3·95	20	58·4	2·67	22	61·7	0·51	4	62·3	3·49	19	62·0	1·28	6	65·4	5·58	25	56·9	2·15	16	60·6	2·00	15	59·5	2·54	15	59·0	2·80	16	60·6	1·86	14	57·4
August ...	2·48	16	59·2	0·64	10	60·5	1·74	8	64·1	3·31	12	56·9	2·17	10	61·1	1·91	10	61·3	2·63	15	58·8	2·94	15	59·1	3·11	20	58·8	3·47	17	58·1	2·44	13	59·8	2·63	14	59·7
September ...	3·03	17	53·7	5·89	20	55·9	1·19	13	58·5	1·94	14	54·5	3·38	15	57·1	2·45	17	53·5	1·84	10	54·1	2·52	12	55·6	0·91	9	59·6	1·44	12	58·2	2·46	14	56·1	2·68	15	54·3
October ...	6·61	27	48·9	2·64	21	49·2	1·44	9	48·7	4·61	21	44·9	3·97	20	51·7	2·35	11	44·5	0·46	7	46·3	3·11	24	46·5	1·53	13	49·4	6·33	23	48·8	3·30	18	47·9	2·29	16	44·5
November ...	4·56	24	42·0	4·47	23	41·9	1·61	13	41·8	3·46	17	41·1	2·08	23	43·6	2·49	17	39·6	4·95	20	45·8	1·27	11	43·7	3·49	22	42·5	3·14	15	41·2	3·15	18	42·3	2·41	17	43·2
December ...	4·59	23	37·8	1·02	15	40·4	2·48	18	39·5	0·65	7	37·9	4·58	20	35·0	1·78	15	36·9	2·31	16	39·8	2·29	17	37·2	0·65	8	29·2	3·41	19	38·5	2·38	16	37·2	1·55	9	34·6
Year	43·60	220	48·8	33·78	190	48·3	23·54	164	49·6	30·44	160	47·4	36·59	191	47·6	23·27	144	47·1	27·63	175	46·9	28·55	180	48·0	22·44	183	48·0	32·74	178	47·2	30·26	178	47·9	22·61	166	46·7

TABLE VIII.

Number of Cases Reported under the Infectious Disease (Notification) Act, 1889, during each Week of the Year 1892.

Week. 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.
	1892.												
1	January 9th	...	22	...	...	...	8	...	...	...	...	10	40
2	„ 16th	...	17	3	3	...	6	...	...	...	...	4	33
3	„ 23rd	...	19	3	1	...	5	...	...	...	...	10	38
4	„ 30th	...	17	2	1	...	6	...	..	...	...	11	37
5	February 6th	...	19	5	2	...	4	...	...	...	...	7	37
6	„ 13th	...	15	9	1	...	2	...	...	...	...	13	40
7	„ 20th	...	17	4	1	...	3	...	..	1	...	9	35
8	„ 27th	...	17	7	3	...	6	...	...	1	...	7	41
9	March 5th	...	16	2	1	...	3	...	...	...	...	4	26
10	„ 12th	...	15	10	1	...	...	...	...	1	...	7	34
11	„ 19th	...	20	7	...	...	3	1	...	...	...	1	32
12	„ 26th	...	17	8	1	...	6	...	...	...	...	6	38
13	April 2nd	..	36	3	...	...	4	...	...	1	...	9	53
14	„ 9th	2	19	7	2	...	1	...	...	1	...	12	44
15	„ 16th	1	29	6	3	...	3	...	...	...	...	8	50
16	„ 23rd	6	32	3	3	...	2	...	...	...	...	6	52
17	„ 30th	3	16	9	3	...	3	...	...	1	...	13	48
18	May 7th	2	26	8	4	...	3	...	...	2	...	8	53
19	„ 14th	1	24	5	1	...	2	...	...	2	...	6	41
20	„ 21st	...	31	8	...	...	1	...	...	3	...	10	53
21	„ 28th	4	27	7	...	...	4	...	...	...	...	8	50
22	June 4th	...	25	9	4	...	6	...	...	2	...	9	55
23	„ 11th	...	26	9	3	...	6	...	...	1	...	16	61
24	„ 18th	...	29	3	2	...	6	...	...	...	...	9	49
25	„ 25th	1	25	9	2	...	5	...	...	...	...	10	52
26	July 2nd	...	33	15	3	...	2	...	...	...	...	5	58
27	„ 9th	2	25	26	3	...	4	...	...	1	...	10	71
28	„ 16th	...	22	16	1	...	1	...	...	2	...	7	49
29	„ 23rd	...	32	13	1	...	4	...	...	...	...	17	67
30	„ 30th	2	27	10	...	...	3	1	...	1	..	10	54
31	August 6th	1	36	10	...	...	1	...	...	1	...	9	58
32	„ 13th	...	31	14	...	...	7	1	...	...	...	14	67
33	„ 20th	...	35	13	3	...	5	...	...	...	...	11	67
34	„ 27th	...	18	11	...	...	4	...	...	2	...	9	44
35	September 3rd	...	27	9	2	...	10	...	...	1	...	11	60
36	„ 10th	...	22	12	...	...	4	...	...	...	...	14	52
37	„ 17th	...	26	9	1	...	7	...	...	...	...	17	60
38	„ 24th	...	43	15	1	...	9	...	...	...	...	12	80
39	October 1st	...	35	10	...	...	11	...	...	1	...	14	71
40	„ 8th	...	39	8	1	...	10	...	...	...	...	15	73
41	„ 15th	...	39	14	1	...	9	...	...	3	...	17	83
42	„ 22nd	...	39	8	2	...	5	...	...	...	...	15	69
43	„ 29th	...	39	14	4	...	3	...	...	2	...	14	76
44	November 5th	...	46	15	...	...	10	...	1	2	...	13	87
45	„ 12th	...	37	9	...	...	5	2	...	...	...	15	68
46	„ 19th	...	32	16	3	...	4	...	...	...	...	19	74
47	„ 26th	...	47	10	1	...	6	...	...	2	...	15	81
48	December 3rd	...	23	11	...	...	7	...	...	2	..	11	54
49	„ 10th	...	28	9	2	...	10	...	...	1	...	17	67
50	„ 17th	2	39	8	2	...	4	...	...	1	...	18	74
51	„ 24th	...	26	4	3	...	12	...	...	1	...	17	63
52	„ 31st	...	16	1	1	...	5	...	...	1	...	10	34
	Totals ...	27	1418	456	77	...	260	5	1	40	...	569	2853

TABLE IX.

NUMBER OF CASES REPORTED UNDER THE "INFECTIOUS DISEASE (NOTIFICATION) ACT," IN REGISTRATION SUB-DISTRICTS AND OTHER LOCALITIES, DURING THE YEAR ENDING DECEMBER 31ST, 1892.

	Smallpox.			Scarlet Fever.			Diphtheria.			Membranous Croup.			Fevers.									Erysipelas.		
													Enteric or Typhoid.			Continued.			Puerperal.					
	Under 5 Years.	Over 5 Years.	Total.	Under 5 Years.	Over 5 Years.	Total.	Under 5 Years.	Over 5 Years.	Total.	Under 5 Years.	Over 5 Years.	Total.	Under 5 Years.	Over 5 Years.	Total.	Under 5 Years.	Over 5 Years.	Total.	Under 5 Years.	Over 5 Years.	Total.	Under 5 Years.	Over 5 Years.	Total.
Ladywood Reg. Sub-District ...	—	—	—	26	95	121	17	86	103	14	1	15	3	25	28	—	—	—	—	2	2	1	54	55
St. Thomas „ „ ...	1	5	6	18	62	80	3	12	15	3	1	4	3	10	13	—	2	2	—	2	2	4	56	60
St. Martin „ „ ...	—	1	1	34	42	76	2	14	16	2	1	3	4	15	19	1	—	1	—	6	6	6	57	63
St. George „ „ ...	—	1	1	72	134	206	12	62	74	6	5	11	1	33	34	—	—	—	—	3	3	9	85	94
All Saints „ „ ...	—	7	7	51	146	197	5	47	52	4	2	6	1	41	42	—	2	2	—	7	7	4	47	51
Deritend „ „ ...	—	2	2	56	250	306	22	64	86	17	7	24	6	55	61	—	—	—	—	10	10	11	111	122
Duddeston „ „ ...	—	1	1	54	119	173	2	20	22	3	1	4	2	30	32	—	—	—	—	3	3	6	43	49
Edgbaston „ „ ...	—	—	—	5	53	58	7	35	42	—	—	—	—	11	11	—	—	—	—	—	—	—	17	17
Balsall Heath	—	7	7	33	117	150	8	22	30	5	1	6	1	5	6	—	—	—	—	6	6	2	36	38
Saltley and Little Bromwich ...	—	2	2	13	21	34	2	11	13	2	2	4	5	6	11	—	—	—	—	1	1	1	13	14
Harborne	—	—	—	5	12	17	1	2	3	—	—	—	—	3	3	—	—	—	—	—	—	1	5	6
City	1	26	27	367	1051	1418	81	375	456	56	21	77	26	234	260	1	4	5	—	40	40	45	524	569

NOTE.—One case of Relapsing Fever, aged 27, occurred in All Saints. No case of Typhus Fever or Cholera occurred during the year.

TABLE X.

RETURN FOR THE PERIOD 1ST JULY, 1891, TO 30TH JUNE, 1892, 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 ...	8,264	6,444	16	—	933	92	51	631	97
Aston Union (within the City)	6,151	4,469	25	—	651	106	33	679	188
King's Norton Union (within the City) ...	1,602	1,221	6	—	147	64	24	56	84
Total	16,017	12,134	47	—	1,731	262	108	1,366	369

TABLE XI.—WATER: RESULTS OF ANALYSES

Date of Receipt of Samples.	DESCRIPTION.	Temp. C.	Total Solid Impurity	Organic Carbon.	Organic Nitrogen.
1892.	**CORPORATION SUPPLY.**				
Jan. 5th	7 Court, Bromsgrove Street	3·9	27·82	·251	·032
Feb. 8th	26 Court, Smith Street	6·1	30·38	·132	·016
Mar. 22nd	The Swan Inn, Harborne Road ...	5·6	27·96	·116	·013
April 11th	9 Court, Ormond Street.....	10·0	27·08	·180	·021
May 9th	Back 23, Parade	10·5	28·58	·099	·015
June 9th	Rhodes Place, Reservoir Road	15·0	28·26	·119	·027
July 4th	8 Court, Willis Street.....	16·7	27·86	·280	·045
Aug. 4th	Greaves Place, Moland Street	14·4	28·92	·178	·033
Sept. 6th	Rear of 127 and 129, Peel Street ...	13·6	29·02	·153	·027
Oct. 5th	2 Court, Great Barr Street	11·1	28·50	·316	·047
Nov. 8th	161, Cooksey Road.....	8·9	26·60	·212	·032
Dec. 6th	13, Betholom Row	5·5	26·80	·187	·023
	Average results ... 1892...	10·1	28·15	·185	·028
	,, ,, ... 1891...	10·2	29·26	·195	·028
	,, ,, ... 1890...	11·4	28·00	·164	·024
	,, ,, ... 1889..	11.1	29·38	·188	·034
	,, ,, ... 1888...	10·2	26·72	·155	·023
	WELL WATERS.				
Feb. 20th	Rear of 7, 9, and 11, Old Church Road, Harborne	...	87·4	...	...
,, 20th	Old Rectory House, Harborne	...	72·2	...	...
,, 23rd	Ward End Hall, Ward End§	...	58·4	...	...
Mar. 28th	11, Stoney Lane*	...	83·4	...	...
April 8th	Shakespeare Inn, Mill Lane, Saltley	...	113·6	...	...
,, 13th	9, 10, and 11, Stoney Lane*.....	...	87·2	...	...
May 11th	23½ and 25, Conybere Street†	...	126·4	...	...
,, 11th	32, Vincent Parade§	...	147·6	...	...
,, 30th	Portland Road Grounds*	...	30·2	...	...
Aug. 5th	19, Glover's Road	...	82·4	...	...
,, 9th	7 and 9, Wood Lane, Harborne	...	60·5	...	...
,, 9th	68, Serpentine Road, Harborne	...	74·3	...	...
,, 29th	89, Belgrave Street*	...	148·0	...	...
Sept. 29th	"Broadway House," Five Ways ...	...	50·0	...	...
Oct. 31st	3 Court, Pershore Street	...	77·0	..	...
,, 31st	6, Longbridge Road*	...	216·0	...	...
Nov. 21st	24, Edgbaston Road	...	57·0	...	...
,, 21st	65 and 67, Belgrave Street*	...	176·0	..	...
Dec. 7th	7, Gwyther Cottages, Ward End ...	...	38·0	...	...
,, 7th	16 and 17, Farm Road†.....	...	98·0	...	...
,, 7th	27, Brighton Road†	...	92·0	...	...
,, 7th	Mr. Tonks', Cotterill's Lane...	...	199·0	...	...
,, 7th	Back of 43, Norton Street†	...	127·0	...	...
,, 9th	Park Vale, Bristol Road§	...	25·0	...	...

§ Typhoid Fever. * Diphtheria.

EXPRESSED IN PARTS PER 100,000.

Ammonia	Nitrogen as Nitrates and Nitrites.	Total Combined Nitrogen.	Previous Sewage or Animal Contamination. (Estimated.)	Chlorine.	Hardness.			REMARKS
					Temporary.	Permanent.	Total.	
					°	°	°	
·001	·220	·253	1,890	1·5	5·0	15·2	20·2	Slightly turbid ; greenish yellow
·001	·451	·468	4,200	2·2	4·7	14·4	19·1	Clear ; bluish green
·001	·231	·245	2,000	2·1	11·3	12·9	24·2	Clear ; blue
none	·297	·318	2,650	1·7	12·1	9·6	21·7	Clear ; greenish blue
none	·308	·323	2,760	2·0	9·2	11·5	20·7	Clear ; greenish blue
none	·220	·247	1,880	2·1	9 0	10·3	19·3	Clear ; greenish blue
none	·110	·155	780	1·6	8·9	11·0	19·9	Slightly turbid ; greenish
·001	·264	·298	2,330	2·3	6·7	12·1	18·8	Slightly turbid ; yellowish green
·001	·264	·292	2,330	2·1	7·4	12·4	19·8	Clear ; green
·001	·110	·158	790	1·4	8·3	12·4	20·7	Slightly turbid ; greenish yellow
·001	·286	·319	2,550	2·1	5·2	12·7	17·9	Very slightly turbid ; green
none	·396	·419	3,640	1·8	7·8	12·1	19·9	Very slightly turbid ; green
·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	·234	·259	2,030	1·8	6·6	9·8	16·4	
·001	·219	·253	1,880	1·7	5·7	9·6	15·3	
·001	·229	·253	1,980	1·6	5·5	9·9	15·4	
·016	4·29	4·303	42,710	9·6	...	...	...	Bright, with suspended floculent particles
·003	1·43	1·432	14,000	5·5	...	...	...	Bright, with suspended floculent parcicles
·002	none	...	...	4·9	...	...	...	Slightly turbid, with floculent particles
·600	1·10	1·600	15,680	7·2	...	...	...	Slightly turbid
·001	6·38	6·381	63,490	10·1	...	...	...	Rather turbid ; many large fibrous particles
·800	1·21	1·870	18,380	6·8	...	...	...	
·002	2·31	...	22,790	9·4	...	...	...	Very slightly turbid
·001	2·86	..	28,290	10·2	...	...	...	Very slightly turbid
·025	·33	...	3,180	2·0	...	...	...	Turbid ; earthy odour
·005	2·75	...	27,220	7·5	...	...	...	Slightly turbid
·004	4·95	...	49,210	5·8	...	...	...	Slightly turbid
·018	4·95	...	49,330	10·6	...	...	...	Slightly turbid
·001	2·75	...	27,190	9·1	...	...	...	Very slightly turbid ; floating particles
·002	2 64	...	26,090	3·8	...	...	...	Very slightly turbid ; floculent particles
·001	1·23	...	12,010	9·0	...	...	...	Very slightly turbid
·100	2·64	...	26,900	18·4	...	...	...	Slightly turbid
·001	3·30	...	32,690	4·6	...	...	...	Slightly turbid
·002	6·60	...	65,690	12·1	..	...	...	Slightly turbid
·011	none	...	none	4·0	...	...	...	Slightly turbid
·008	1·32	...	12,940	6·2	...	...	...	Very turbid
·016	1·43	...	14,110	5·9	...	...	...	Slightly turbid
·001	12·65	...	126,190	16·3	...	...	...	Very slightly turbid
·016	3·30	...	32,800	9·1	...	...	...	Slightly turbid
·036	none	...	none	3·0	...	...	...	Slightly turbid

† Scarlet Fever.

Table of the Number of Deaths occurring in each Street in the City of Birmingham during the Year 1892.

STREETS.	Zymotic Diseases.	Other Diseases.
A		
A B Row		2
Abberley Street ..	1	2
Abbey Street, All Saints'	1	4
Abbey Street, Harborne		
Aberdeen Street ..	4	11
Ada Road	1	2
Adams Street	3	30
Adderley Road ..	1	15
Adderley Street ..	4	9
Addison Road ..		2
Adelaide Street ..	1	5
Albany Road		
Albert Road		
Albert Street		
Albion Street		3
Alcester Street ..	3	17
Alder Drive		
Alder Road		1
Alexandra Road ..	1	3
Alexandra Street ..		2
Alfred St., Balsall Heath		3
Alfred Street, St. Paul's	1	2
Algernon Road ..		
Allcock Street ..	2	12
Allen's Road	1	5
Allesley Street ..		11
Allison Street	1	10
Allport Street		
All Saints' Road ..		1
All Saints' Street ..		
Alma Crescent ..	2	4
Alma Street		
Alston Street	2	6
Alum Rock Road ..	1	14
Ampton Road ..		1
Anderton Road ..		7
Anderton Street ..	1	9
Andover Street ..	1	
Angelina Street ..	6	19
Anthony Road ..		3
Arden Road	1	4
Argyle Street	2	4
Armoury Road ..		
Arsenal Street ..	2	3
Arthur Road, Edgbaston		
Arthur Road, Saltley ..	3	6
Arthur Street	3	28
Artillery Street ..	1	2
Ashford Street ..		4
Ashley Street	1	19
Ashted Row ..	1	22
Aston Road	2	23
Aston Street		8
Aston Brook Street ..	1	4
Aston Church Road ..		
Asylum Road	2	10
Athole Street		
Atlas Road		4
Auckland Road ..	4	12
Augusta Street ..		4
Augustus Road ..	1	2
Austin Street	1	3
Avenue Road		
B		
Bacchus Road ..		8
Bagot Street		15
Bailey Street		6
Baker Street		10
Balsall Heath Road ..	1	33
Banbury Street ..	1	5
Barford Road	2	13
Barford Street ..	5	33
Barker Street	3	10
Barlow's Road ..		
Barn Street	3	14
Barnsley Road ..		
Barr Street		11
Barrack Street ..		3
Bartholomew Row ..		3
Bartholomew Street ..	2	16
Barwell Road	1	3
Barwick Street ..		
Baskerville Passage ..		
Baskerville Place ..		
Bath Passage		1
Bath Row		10
Bath Street		7
Beach Street	4	20
Beak Street		5
Beaufort Road ..		2
Bedford Road	1	2
Beech Lanes		1
Beechfield Road ..	1	5
Belcher Lane	1	3
Belgrave Road ..		8
Belgrave Street ..	5	18
Bell Street		1
Bell Barn Road ..	9	33
Bellefield Road ..		
Bellis Street	3	6
Belmont Passage ..		1
Belmont Row	1	3
Benacre Street ..	2	16
Bennett's Hill ..		1
Berkley Street ..	2	4
Berners Street ..	1	9
Bertram Road ..		
Betholom Row ..		
Birchall Street ..		5
Birchwood Road ..		4
Bishop Street	2	22
Bishop Street South ..		
Bishopsgate Street ..	3	27
Bissell Street	7	12
Black Pit Lane ..		
Blake Lane		
Blakeland Street ..	2	3
Blews Street	1	3
Blews Street West ..	2	4
Bloomsbury Street ..	3	28
Blucher Street ..	1	12
Blythe Street	4	11
Bolton Road	4	36
Bolton Street	1	1
Bond Street		
Bordesley Green ..	2	17
Bordesley Green Road	1	2
Bordesley Park Road ..	2	31
Bordesley Street ..	1	14
Bow Street	2	5
Bowyer Street ..	1	2
Bowyer Road		
Bracebridge Street ..	4	14
Bradford Street ..	2	19
Braithwaite Road ..		2
Branston Street ..	1	5
Brass Street		2
Brasshouse Passage ..		
Bread Street	1	14
Brearley Street ..	9	40
Brewery Street ..		4
Brickiln Street ..		
Bridge Road		2
Bridge Street		
Bridge Street West ..	5	31
Brighton Road ..	2	10
Bristol Road		16
Bristol Street	4	13
Broad Street		18
Bromford Lane ..		
Bromsgrove Street ..	6	18
Brook Road		1
Brook Street		
Brookfield Road ..		4
Broom Street		3
Brueton Street ..		1
Brunswick Road ..	2	12
Buck Street	2	5
Buckingham Street ..		14
Bull Ring		
Bull Street, Harborne ..		
Bull Street, Market Hall	1	
Bullock Street		4
Burbury Street ..	4	9
Burlington Passage ..		
Burney Lane		
Butler Street		4
Butler Street South ..	2	1
Butlin Street		3
Byron Road		
C		
Calthorpe Road ..		2
Cambridge Crescent ..		
Cambridge Street ..		5
Camden Drive ..	2	3
Camden Grove ..		1
Camden Street ..	9	39
Camp Hill		6
Camp Street	6	6
Canal Street		5
Cannon Street ..		
Cannon Hill Road ..		
Cape Lane		
Cape Street		1
Cardigan Street ..	2	10
Carlisle Street ..	1	2
Carlton Road	4	10
Carlyle Road	1	3
Carnarvon Road ..		
Caroline Street ..		3
Carpenter Road ..		1
Carrington Road ..	1	4
Carr's Lane		
Cartland Road ..		1
Carver Street	1	14
Castle Street		1
Cathcart Street ..	2	8
Cato Street		12
Cato Street North ..	2	9
Cattell Road	10	24
Cattell Grove ..	1	4
Cavendish Road ..	2	2
Cecil Street	4	17
Chad Road		
Chandos Road ..		2
Chapel Street	1	1
Chapel House Street ..		3
Chapman Road ..		4
Charles Road		1
Charles Arthur Street ..	3	10
Charles Henry Street ..	9	28
Charlotte Road ..		2
Charlotte Street ..		2
Chattaway Street ..		

STREETS.	Zymotic Diseases	Other Diseases
Cheapside .. .	9	43
Cheatham Street ..		3
Chequers Walk ..	1	3
Cherry Street		1
Cherry Wood Road ..	4	8
Chester Street.. ..	1	4
Chesterton Road ..		
Cheston Road ..	3	3
Chiswell Road ..		
Christ Church Passage		
Church Lane		1
Church Road, Edgbaston		1
Church Road, Harborne		
Church Road, Nechells..		8
Church Road, Saltley ..	1	4
Church Street.. ..		3
City Road		
Claremont Road ..		2
Clarence Road ..		2
Clarendon Road ..	1	2
Clark Street	1	16
Claverdon Street ..		10
Claybrook Street ..		4
Clayton Road		2
Clement Street ..	1	2
Cleve Terrace ..	1	1
Clevedon Road ..	3	12
Clifton Road		22
Clissold Street ..		3
Clive Passage.. ..		
Cliveland Street ..		8
Clyde Street ..	1	3
Coleman Street ..	1	9
Coleshill Street ..		13
College Road		
College Street	3	4
Colmore Row		1
Colville Road.. ..		2
Commercial Street ..		1
Common Lane.. .		
Communication Row ..	1	6
Congreve Street ..		
Constance Road ..		
Constitution Hill ..		6
Conybere Street ..	2	14
Cook Street	3	6
Cooksey Road ..	4	26
Cope Street	1	7
Coplow Street ..		11
Coralie Street ..		2
Cornwall Street ..		
Corporation Street ..		3
Cotterill's Lane ..		
Couchman Road ..		
Court Road		
Court Oak Road ..		1
Coventry Road ..	1	42
Coventry Street ..	1	10
Cowper Street ..		9
Cox Street	2	8
Cox Street West ..		8
Coxwell Road ..		1
Crabtree Road ..	1	7
Cranemore Lane ..		1
Cranemore Street ..	1	4
Cregoe Street	1	20
Crescent		26
Crompton Road ..		2
Cromwell Passage ..		
Cromwell Street ..	11	38
Crooked Lane		
Cuckoo Road	1	7
Cumberland Street ..		3
Curzon Street		4
Cuthbert Road ..		8

STREETS.	Zymotic Diseases	Other Diseases
D		
Dale End		5
Dalton Street		1
Darnley Road ..		
Dart Street	1	
Dartmouth Street ..	2	28
Darwin Street ..	6	37
Dawson Street ..		3
Dean Street		5
Dearman Road ..		2
Denbigh Street ..	1	1
Derby Street . ..		6
Devon Street	6	13
Devonshire Street ..	2	12
Digbeth	8	10
Digby Street		7
Dixon Road		2
Doe Street		4
Dolman Street ..	2	14
Dolobran Road ..		7
Don Street	2	5
Dora Road		2
Dorset Road		
Dover Street		
Dr. Johnson Passage ..		
Drury Lane		1
Dryden Road		
Duchess Road.. ..		3
Duddeston Row ..		4
Duddeston Mill Road ..	2	14
Dudley Road	1	19
Dudley Street		
Dugdale Street ..	1	10
Duke Street		14
Dymoke Street ..	3	21
E		
Earl Street		
Eastern Road		
Easy Row		3
Eden Place		
Edgbaston Road ..		3
Edgbaston Park Road..		
Edgbaston Street ..		3
Edmond Road.. ..		
Edmund Street ..		2
Edward Road		
Edward Street ..	1	9
Edwardes Street ..	1	17
Eldon Road		2
Elkington Street ..		2
Ellen Street	1	20
Ellis Street		4
Elvetham Road ..		2
Emily Street	4	21
Emmeline Street ..		
Enfield Road		
Erasmus Road ..	1	6
Ernest Street		
Erskine Street.. ..	1	6
Essex Street		6
Essington Street ..	3	7
Ethel Road		1
Ethel Street		
Eva Road	3	7
Eversley Road ..		8
Exeter Street		
Eyre Street		3
F		
Factory Road .. .		2
Falconer Road .	1	

STREETS	Zymotic Diseases	Other Diseases
Farm Road	1	2
Farm Street	17	45
Farquhar Road ..		1
Farquhar Road East ..		
Fazeley Street ..		10
Fellows Lane		
Fisher Street		9
Fleet Street		5
Floodgate Street ..	7	14
Florence Street ..	1	13
Ford Street	6	17
Fordrough Lane ..		
Fordrough Street ..		
Fordroughs		
Forge Street		
Forster Street.. ..		1
Foundry Road ..	1	6
Fowler Street		
Fox Street		5
Francis Road		6
Francis Street ..	3	18
Frank Street	1	3
Frankfort Street ..	4	12
Franklin Street ..	1	5
Frederick Road ..		5
Frederick Street ..		1
Freeman Road ..		4
Freeman Street ..		1
Freeth Street	2	8
Friston Street ..	1	23
Fulham Road		1
G		
Galton Street		1
Garbett Street ..	4	20
Garrison Lane ..	9	32
Garrison Street ..	2	20
Gas Street		3
Gate Street	2	2
Geach Street		6
Gee Street		4
Gem Street		4
George Road		
George St., Balsall H'th	1	11
George Street, St. Paul's		4
George Street West ..	1	16
Gibb Street		4
Gillhurst Lane ..		
Gillott Road		5
Gladstone Road ..	2	
Glebe Street		4
Gloucester Street ..		1
Glover Road ..		1
Glover Street ..	5	9
Godwin Street.. ..		5
Golden Hillock Road ..		2
Gooch Street	3	19
Goode Street		3
Goodman Street ..		
Goodrick Street ..		4
Gopsall Street ..		6
Gordon Road		1
Gordon Street	3	2
Gosta Green		2
Gough Road	1	8
Gough Street		2
Grace Road	1	4
Grafton Road		1
Graham Street ..	1	6
Grange Rd., Bordesley	2	12
Grange Rd., Harborne		
Grant Street	1	5
Grantham Road ..	1	5
Granville Street ..	3	13
Gray's Road		
Great Barr Street ..	3	15
Great Brook Street ..	4	19
Great Charles Street .		3
Great Colmore Street ..	3	30

STREETS.	Zymotic Diseases	Other Diseases
Great Francis Street ..	7	38
Great Hampton Row ..	2	27
Great Hampton Street..	2	7
Great King Street ..	1	20
Great Lister Street ..	3	36
Great Russell Street ..	2	16
Great Tindal Street ..	1	16
Green Lane	5	32
Green St., Deritend ..	1	4
Green Street, Saltley ..	1	
Greenfield Crescent ..		
Greenfield Road ..		9
Greenway Street ..	4	24
Grosvenor Road ...		1
Grosvenor Row .		1
Grosvenor Street ..		1
Grosvenor Street West	4	19
Grove Lane		
Grove Street ..		
Guest Street ..		3
Guildford Street ..		11
H		
Haden Street		3
Hadley Street.. ..	1	1
Hagley Road		16
Halberton Street ..		2
Hall Road	1	
Hall Street		4
Hampden Street ..		1
Hampton Street ..	2	8
Handsworth New Road		
Hanley Street ..		5
Hanover Street ..		1
Harborne Lane ..		
Harborne Road ..	2	5
Harding Street ..		
Harford Street ..		5
Harold Road		
Harrison's Road ..		
Hatchett Street ..	1	16
Havelock Road ..		5
Hawkes Street ..	3	10
Hawthorn Road ..		
Heath St., All Saints ..	8	31
Heath St., Balsall H'th		5
Heath Street South ..		2
Heath Mill Lane ..	2	11
Heaton Street	4	7
Helena Street		
Heneage Street ..	5	36
Henley Street	2	11
Henn's Walk		1
Henrietta Street ..		
Henry St., Balsall H'h..	3	5
Henry St., Duddeston..	1	8
Herbert Road	7	26
Hermitage Road ..		
Hertford Street ..	1	3
Hick Square	1	
Hick Street	3	17
Hickman Road ..		4
High Street		5
High Street, Bordesley..		3
High Street, Deritend ..	5	16
High St., Harborne ..		14
High St., Saltley ..		9
Highfield Rd., Edgb'n..		1
Highfield Rd., H'borne		
Highfield Rd., Saltley..	1	3
Highgate Place ..		3
Highgate Road ..		27
Highgate Square ..		
Highgate Street ..	3	24
High Park Street ..	1	5
Hill Street		2
Hinckley Street ..		
Hingeston Street ..	4	23
Hobmoor Road .		
Hockley Hill	1	4
Hockley Street ..	1	6
Holborn Hill		6
Holland Street ..		5
Holliday Street ..	1	7
Hollier Street		4
Holloway Head ..	2	8
Holly Road	1	
Holt Street	2	9
Homer Street		2
Hooper Street.. ..		1
Hope Street	3	18
Horse Fair		4
Hospital Street ..	7	47
Howard Street ..	1	1
Howe Street	1	14
Hubert Street ..		2
Humpage Road ..		7
Hunter's Road ..		
Hunter's Vale		
Hurst Street	3	14
Hutton Road		1
Hutton Street		3
Hyde Road	1	6
Hylton Street		1
I		
Icknield Square ..	4	16
Icknield Street ..	3	23
Icknield Port Road ..	9	47
Inge Street	2	10
Ingleby Street ..	1	6
Inkerman Street ..	3	11
Irving Street	4	36
Islington Row..		1
Ivy Lane	1	3
J		
Jakeman's Road ..		2
Jakeman's Walk ..		5
Jamaica Row		1
James Street		1
James Turner Street ..	2	11
James Watt Street ..		
Jenkins Street ..	2	2
Jennens Row	1	2
John Bright Street ..		2
John's Road		1
Johnson Street ..	1	3
Johnstone Street ..		6
K		
Keeley Street	1	2
Kelynge Street ..	5	19
Kendall Road		1
Kent Street	1	4
Kent Street North ..		5
Kenyon Street ..	1	2
Key Hill		22
King St., Balsall Heath		2
King Street, Bordesley..		1
King Alfred's Place ..		2
King Edward's Road ..	1	21
Kingscote Road.. ..	1	3
Kingsley Road ..		1
Kingston Road ..		2
Kingswood Road ..		
Knutsford Street .		1
Kyott's Lake Road ..		3
Kyrwick's Lane ..	1	12
L		
Ladypool Road ..	3	17
Ladywell Passage ..		2
Ladywell Walk ..		3
Ladywood Road ..	6	21
Lancaster Street ..	4	14
Landor Street	2	10
Langley Road ..		1
Lansdowne Street ..	3	4
Larches Street ..		10
Latimer Street ..		1
Latimer Street South ..	5	25
Lawden Road ..	1	9
Lawley Street ..	8	18
Lawrence Street ..	1	4
Leach Street		
Lease Lane		3
Ledsam Street ..		8
Lee Bank Road ..	2	19
Lee Crescent .. .		1
Lee Mount		1
Leek Street		4
Lees Street	1	2
Legge Lane		
Legge Street	1	12
Leigh Road		
Lench Street		
Lennox Street ..	3	10
Leopold Street ..		16
Lilly Green		
Lime Grove		1
Lingard Street ..	2	5
Link Road		1
Lionel Street		9
Lister Street		5
Little Ann Street ..	2	3
Little Barr Street ..		3
Little Bow Street ..	1	2
Little Broom Street ..		
Little Edward Street ..		5
Little Francis Street ..		2
Little Green Lane ..	6	12
Little King Street ..		6
Little Shadwell Street..		
Liverpool Street ..	1	2
Livery Street		3
Lloyd Street		
Lodge Rd., All Saints ..	1	19
Lodge Road, Harborne..	1	11
Lombard Street ..	2	12
Long Acre	9	34
Long Street	1	7
Longbridge Road ..	1	4
Longmore Street ..		8
Lonsdale Road ..		2
Lord Street		7
Lordswood Road ..		4
Louisa Street		3
Love Lane		3
Loveday Street ..		5
Lowe Street		1
Lower Dartmouth Street	1	4
Lower Darwin Street ..	1	1
Lower Edwardes Street		4
Lower Essex Street ..		9
Lower Fazeley Street ..	2	5
Lower Hurst Street ..		9
Lower Hurst Street East		
Lower Lawrence Street		
Lower Loveday Street..		
Lower Priory.. ..		
Lower Temple Street ..		
Lower Tower Street ..	5	20
Lower Trinity Street ..		5
Loxton Street.. ..	1	1
Ludgate Hill		2

STREETS.	Zymotic Diseases	Other Diseases
Ludgate Hill Passage ..		
Lupin Street	1	18
Lyttelton Road ..		
M		
Macdonald Street ..	2	10
Main Street	4	9
Malthouse Lane ..	2	1
Malvern Street ..		2
Malvern Hill Road ..		3
Manchester Street ..		2
Manor Road		
Margaret Road ..		
Margaret Street ..		
Mark Lane		1
Market Street		
Marroway Street ..	1	8
Marshall Street ..		7
Marshall Street South ..		3
Martineau Street ..		
Mary St., Balsall Heath	1	26
Mary Street, St. Paul's		
Mary Ann Street ..		3
MasshouseLane ..	1	
Maxstoke Street ..		1
Meadow Road		
Melville Road		
Meriden Street ..	3	8
Metchley Lane ..		6
Metchley Park Road ..		
Metropolitan Road ..		1
Midland Street ..		1
Miles Street	4	12
Milk Street	8	11
Mill Lane, St. Martin's		
Mill Lane, Harborne ..		1
Mill Lane, Ward End ..		
Mill Street		2
Miller Street	1	13
Mills Lane		
Milton Street	2	9
Milward Street ..		5
Minories		1
Moat Lane		1
Moat Row		
Moilliett Street ..		5
Moland Street	3	11
Mole Street	2	13
Mona Road		1
Montague Road ..		
Montague Street ..		5
Montgomery Street ..	1	4
Montpellier Street ..		1
Monument Road ..	5	34
Moor Street	1	7
Moore's Row	1	
Moorsom Street ..	1	9
Moreton Street ..	1	4
Morville Street ..	4	15
Moseley Road	6	28
Moseley Street ..	6	27
Mostyn Road		
Mott Street		7
Mount Pleasant, B H'th		1
Mount Pleasant, B'ley ..		2
Mount Street	1	6
Muntz Street	2	12
Musgrave Road ..	1	3
N		
Navigation Street ..		5
Nechells Park Road ..	4	29
Nechells Place ..	2	5
Needham Street ..		
Needless Alley ..		
Nelson Street ..	3	11
New Street		1
New Bartholomew St. ..		
New Bond Street .	1	2
New Canal Street ..	6	10
Newdegate Street ..		3
Newhall Hill		4
Newhall Street ..	1	10
New John Street ..	5	25
New John Street West ..	12	65
New Market Street ..		
New Meeting Street ..		
Newport Road ..		4
New Spring Street ..	4	14
New Summer Street ..	3	22
Newton Street ..		5
Newtown Row ..	5	32
Nile Street		
Nineveh Road		
Noel Road		1
Norfolk Road		
Norman Street ..	2	7
Northampton Street ..		1
North Road		7
Northbrook Street ..	1	5
Northfield Road ..		5
Northumberland Street	1	4
North Warwick Street ..		
Northwood Street ..	1	8
Norton St., All Saints		11
Norton St., Balsall H'th		6
Norwood Road ..		2
Nova Scotia Street ..	1	7
Nursery Road		2
O		
Oakfield Road ..		2
Oakley Road		6
Old Square		
Old Church Road ..		
Old Cross Street ..		1
Oldfield Road		3
Old Meeting Street ..		1
Oliver Road		1
Oliver Street .. .	2	7
Ombersley Road ..	2	12
Oozells Street		1
Oozells Street North ..		5
Orchard Road	1	4
Ormond Street ..		11
Osler Street	6	23
Oughton Place ..	1	2
Owen Street	1	6
Oxford Street	1	4
Oxygen Street		2
P		
Paddington Street ..		8
Pakenham Road ..		1
Palmer Street	1	5
Palmerston Road ..		2
Parade	1	3
Paradise Street ..		2
Park Lane		2
Park Hill Road ..		1
Park Road, All Saints	3	43
Park Road, Harborne ..		7
Park Road, Saltley ..		
Park Street	1	7
Parker Street	1	10
Parliament Street ..	1	3
Paternoster Row ..		
Paxton Road		4
Pebble Mill Road ..		
Peel Street	2	15
Pembroke Road ..		1
Penn Street, Deritend ..		3
Penn Street, Duddeston	1	8
Perrot Street	1	2
Pershore Road ..	1	13
Pershore Street ..	2	11
Phillip Street .		
Pickford Street ..	2	2
Piddock Street ..	1	2
Pigott Street		4
Pinfold Street		
Pitney Street		
Pitsford Street ..	2	3
Pitt Street		2
Plough & Harrow Road		1
Plume Street		
Pope Street		7
Poplar Avenue ..		
Porchester Street ..		5
Porthope Road ..		
Portland Road ..		1
Potter Street		3
Powell Street		1
Prescott Street ..	2	15
Price Street	1	8
Priestley Road ..		8
Prince Albert Street ..		6
Princes Row		
Princes Street	1	2
Princess Road		4
Princess Street ..		2
Princip Street		5
Priory Road, B'lsll H'th		2
Priory Road, Edgbaston		2
Pritchatt's Road ..		
Pritchett Street ..	1	28
Proctor Street	1	6
Prospect Row		1
Q		
Queen Street		3
R		
Radnor Street		3
Raglan Road		
Railway Ter., Duddeston	1	6
Railway Ter., Nechells ..	5	5
Ralph Road		1
Rann Street		8
Ravenhurst Road ..		4
Ravenhurst Street ..	1	18
Rawlins Street ..		9
Rea Street	3	11
Rea Street South ..		3
Regent Parade ..		
Regent Place		4
Regent Road		
Regent Row		4
Regent Street		
Regent Park Road ..	1	5
Reginald Road ..		
Reservoir Retreat ..		
Reservoir Road ..		5
Richard Street ..	3	17
Richmond Hill Road ..		1
River St., Balsall Heath	1	6
River St., St. Barthol'w's		1
Robert Road		6
Rocky Lane	3	12
Rodway Street ..	1	3
Rope Walk	1	1

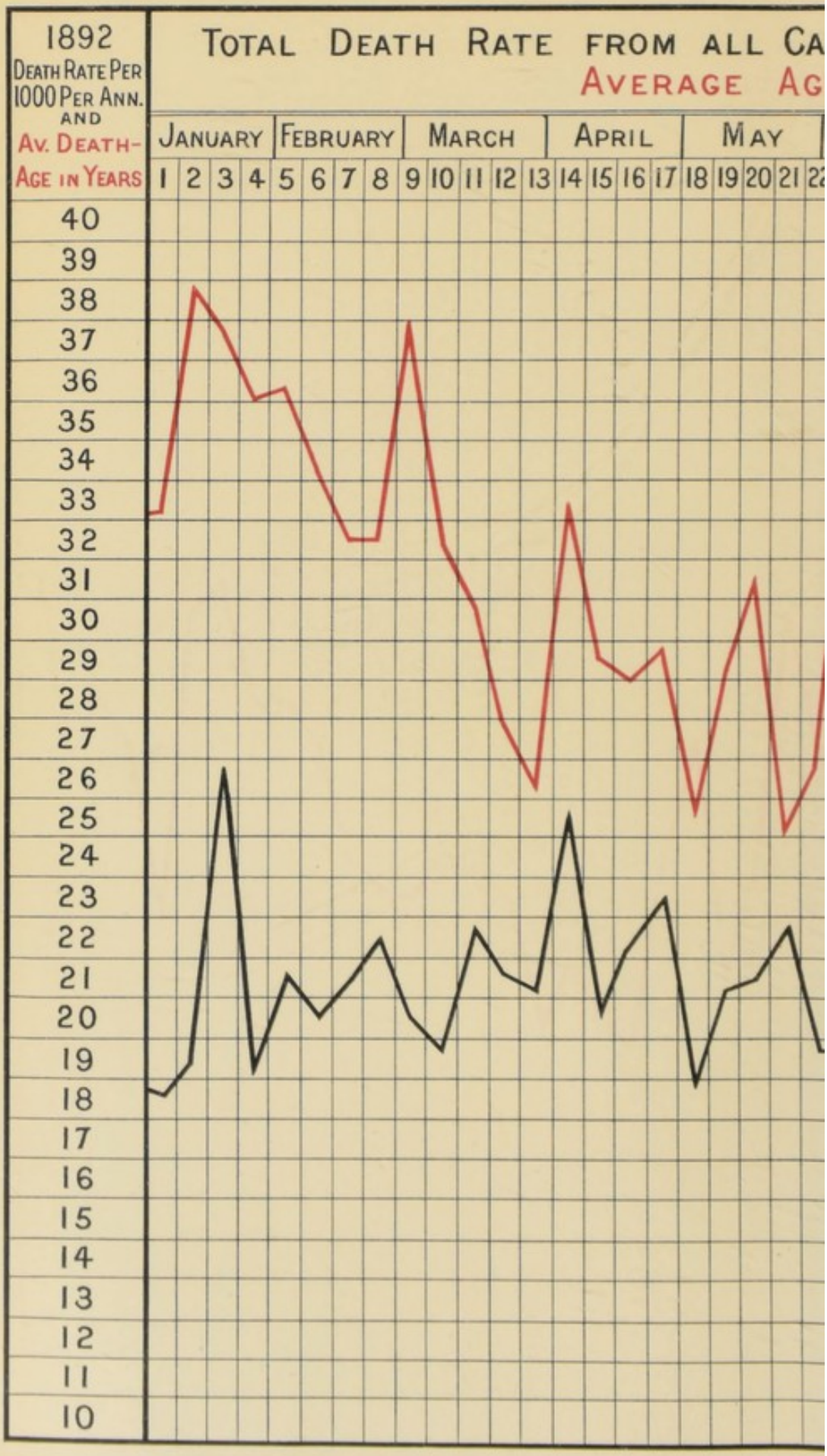
STREETS.	Zymotic Diseases.	Other Diseases.
Rosalie Street		
Roshven Street ..		
Rotton Park Road ..		4
Rotton Park Street ..		
Rowland Street ..		2
Rupert Street	1	22
Russell Street		
Ruston Street		2
Ruston Street North ..	2	11
Rutland Road		1
Ryder Street		3
Ryland Road	4	10
Ryland Street .. .		6
S		
Salop Street		2
Saltley Road	4	9
Saltley Street		4
Sampson Road ..		4
Sampson Road North ..		2
Sand Pits		2
Sand Street		1
Sandon Road		1
Sandy Lane	1	7
Sarah Street		
St. Andrew's Road ..	3	14
St. Andrew's Street ..		
St. Augustine's Road ..		6
St. Clement's Road ..	1	4
St. George's Place ..		2
St. George's Street ..	2	10
St. James' Place ..		3
St. James' Road ..		
St. James' Street ..		11
St. John's Rd., B'll H'th	1	1
St. John's Rd., H'borne		
St. Luke's Road ..	3	15
St. Mark's Street ..	4	27
St. Martin's Lane ..		
St. Martin's Place ..		3
St. Martin's Row ..		2
St. Martin's Street ..		6
St. Mary's Road ..		
St. Mary's Row ..		1
St. Mary's Street ..	1	2
St. Oswald's Road ..		
St. Paul's Road ..	3	9
St. Paul's Square ..		1
St. Peter's Place ..		
St. Philip's Place ..		
St. Stephen's Street ..		2
St. Vincent Street ..	6	21
Scholefield Street ..	5	15
Scotland Street ..		2
Scott Street		1
Sefton Road		
Serpentine Road ..		1
Severn Street		7
Seymour St., B'sall H'th		
Seymour St, St. Barth.		
Shadwell Street ..	2	2
Shakespeare Road ..	2	21
Sheep Street		9
Sheepcote Lane ..	3	5
Sheepcote Street ..	2	9
Shefford Road ..		4
Shenstone Road ..		
Sherborne Street ..	7	10
Sherbourne Road ..	3	25
Sherlock Street ..	5	20
Sir Harry's Road ..		2
Skinner Lane		9
Skinner Street .		2
Sladefield Lane ..		
Slaney Street		2
Slough Lane		
Smallbrook Street ..	1	5
Smith Street, St. George's	4	15
Smith Street, Duddeston	1	6
Smithfield Passage ..		1
Smithfield Street ..		3
Snow Hill	1	9
Soho Road	1	7
Somerset Road ..		4
Somerset Street ..	1	5
South Road	3	11
South Street		3
Southgate		
Spark Street	2	1
Speaking Stile Walk ..		1
Speedwell Road ..		2
Spencer Street ..	1	4
Spiceal Street		1
Spon Terrace		1
Spooner Street ..		5
Spring Hill	1	8
Spring Hill Passage ..	2	1
Spring Road		1
Spring Street		3
Spring Vale		1
Springfield Street ...	2	8
Stafford Street ..		3
Stanhope Street ..	1	6
Staniforth Street ..		12
Stanley Road		1
Stanmore Road ..		
Station Road, Harborne		1
Station Road, Rotton Pk		
Station Street		
Stechford Lane ..		
Steelhouse Lane ..	1	10
Stella Street		2
Stephenson Place ..		
Stephenson Street ..		
Steward Street ..	1	19
Stirling Road ..		3
Stoke Street		8
Stone Yard		1
Stoney Lane	1	4
Stour Street	3	12
Stratford Place ..		1
Stratford Road ..		6
Stratford Street ..		5
Strensham Road ..		
Stuart Street	2	3
Suffolk Street	1	12
Summer Lane	6	51
Summer Road	3	8
Summer Row .. .		
Summer Street ..		
Summerfield Crescent ..	1	3
Summerfield Road ..		
Summer Hill Road ..		3
Summer Hill Street ..	2	12
Summer Hill Terrace .		4
Summerville Road ..		
Sun Street	2	11
Sun Street West ..		1
Sutton Street		1
Swallow Street ..		
Sydenham Road ..		
Sydney Road	1	2
T		
Talbot Street	1	9
Talfourd Street ..	4	8
Taunton Road		
Taylor Street		5
Temple Row		1
Temple Row West ..		
Temple Street		
Templefield Street ..	2	5
Tenby Street		1
Tenby Street North ..		2
Tennal Road		
Tennant Street ..	4	14
Tennyson Road ..		
Theodore Street ..	2	12
Theresa Road		5
Thimble Mill Lane ..	1	9
Thomas St., B'sall H'th	1	9
Thomas St., Deritend ..		7
Thorp Street		7
Tillingham Street ..	2	4
Tilton Road		
Tindal St., Balsall H'th		6
Tindal St., Ladywood ..	1	8
Tower Street	1	21
Trafalgar Road ..		
Trent Street	1	6
Trevor Street		7
Trinity Terrace ..		1
Tudor Street	3	5
Turk's Lane		
Turner Street	3	7
Tyndall Street		12
U		
Unett Street ..	2	20
Union Passage ..		
Union Street		
Union Terrace ..		
Upper Cox Street ..		4
Upper Dean Street ..		3
Upper Gough Street ..		5
Upper Highgate Street	2	13
Upper Marshall Street ..		4
Upper Mary Street ..		7
Upper Mill Lane ..		
Upper Priory		1
Upper Ryland Road ..		9
Upper Trinity Street ..	2	5
V		
Varna Road		10
Vaughton Street ..	5	11
Vaughton Street South		2
Vauxhall Grove ..		
Vauxhall Road ..	1	15
Vauxhall Street ..		2
Ventnor Road	1	6
Vere Street		5
Vernon Road		
Vesey Street		
Viaduct Street		
Vicarage Rd., Edgbaston		
Vicarage Rd., H'borne ..		
Victoria Grove ..		2
Victoria Road ..		2
Victoria St., B'sall H'th	1	2
Victoria St., Bordesley	1	6
Villa Street	2	6
Villiers Street		3
Vincent Crescent ..		2
Vincent Parade ..	1	9
Vincent Street ..	1	7
Vine Street	1	3
Vittoria Street		3
Vyse Street .		2

STREET.	Zymotic Diseases	Other Diseases.
W		
Walter Street	2	10
War Lane		
Ward End		3
Ward Street	1	6
Warner Street.. ..		3
Warren Road		
Warstone Lane ..	2	20
Warstone Parade East..		2
Warwick Street ..	1	15
Washington Street ..		9
Washwood Heath Road	1	6
Water Street	1	1
Waterloo Street ..		
Waterworks Road ..	1	6
Watery Lane	6	24
Watts Road		
Waverley Road ..		
Weaman Row		
Weaman Street ..	1	11
Well Lane		
Well Street	4	25
Wellesley Street ..		4
Wellington Rd., Edg'ton		4
Wellington Rd., H'borne		6
Wellington Street ..	5	8
Wenman Street ..		11
Westbourne Road ..	1	2
Western Road		
Westfield Roan ..		
Westley Street ..	2	9
Weston Street.. ..		3
Wharf Lane		4
Wharf Street		6
Wharton Street ..	1	3
Wheeler Street ..	2	13
Wheeley's Lane ..	2	2
Wheeley's Road ..		4
Whitby Road		
White Road	4	10
White Lion Passage ..		
White Street		2
Whitehall Road ..	1	6
Whitmore Road ..		3
Whitmore Street ..	1	7
Whittall Street ..	1	3
Wiggin Street ..	1	
William Street, Deritend		2
William St., St. Thomas'	6	18
William Street, Saltley	1	7
William Street North ...	1	2
William Edward Street		8
William Henry Street ..		2
Willis Street		11
Willow Avenue ..		1
Willow Crescent ..		
Willow Road		8
Wilton Street	1	8
Windmill Street ..		1
Windsor Street ..	1	19
Winson Green Road ..	3	13
Winson Street... ..	1	7
Witton Street	2	8
Wolseley Street ..	1	6
Wood Lane		
Wood Street		3
Woodbourne Road ..		
Woodcock Street ..	1	11
Woodfield Road ..		
Woodville Road ..		
Worcester Street ..		1
Wordsworth Road ..		4
Wrentham Street ..	1	18
Wright Road	1	3
Wright Street	1	10
Wrottesley Street ..		2
Wyndcliffe Road ..		3
Wyndham Road ..		1
Wynn Street	2	14
X		
Y		
Yardley Road		3
Yateley Road		
Yew Tree Road ..		2
York Passage		
York Road		1
York Street, Harborne		
York Street, St. Mary's		1
Z		

AT INSTITUTIONS.	Zymotic Diseases.	Other Diseases.
Children's Hospital ..	16	60
Queen's Hospital ..	2	171
General Hospital ..	18	266
City Hospital	57	4
Workhouse	47	664
City Asylum	1	84
St. Joseph's Home ..		21
Gaol		3
Eye Hospital ..		4
Blind Institution ..		
Homœopathic Hospital..		10
Orthopædic Hospital ..		1

ADDENDA.	Zymotic Diseases.	Other Diseases.
Canals		15
Railways		2
Not located		14
Totals ..	1244	8398

Grand Total ... 9,642


1892
Death Rate Per 1000 Per Ann. and
Av. Death-Age in Years
Total Death Rate from all Ca
Average Ag
January
February
March
April
May
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22
40
39
38
37
36
35
34
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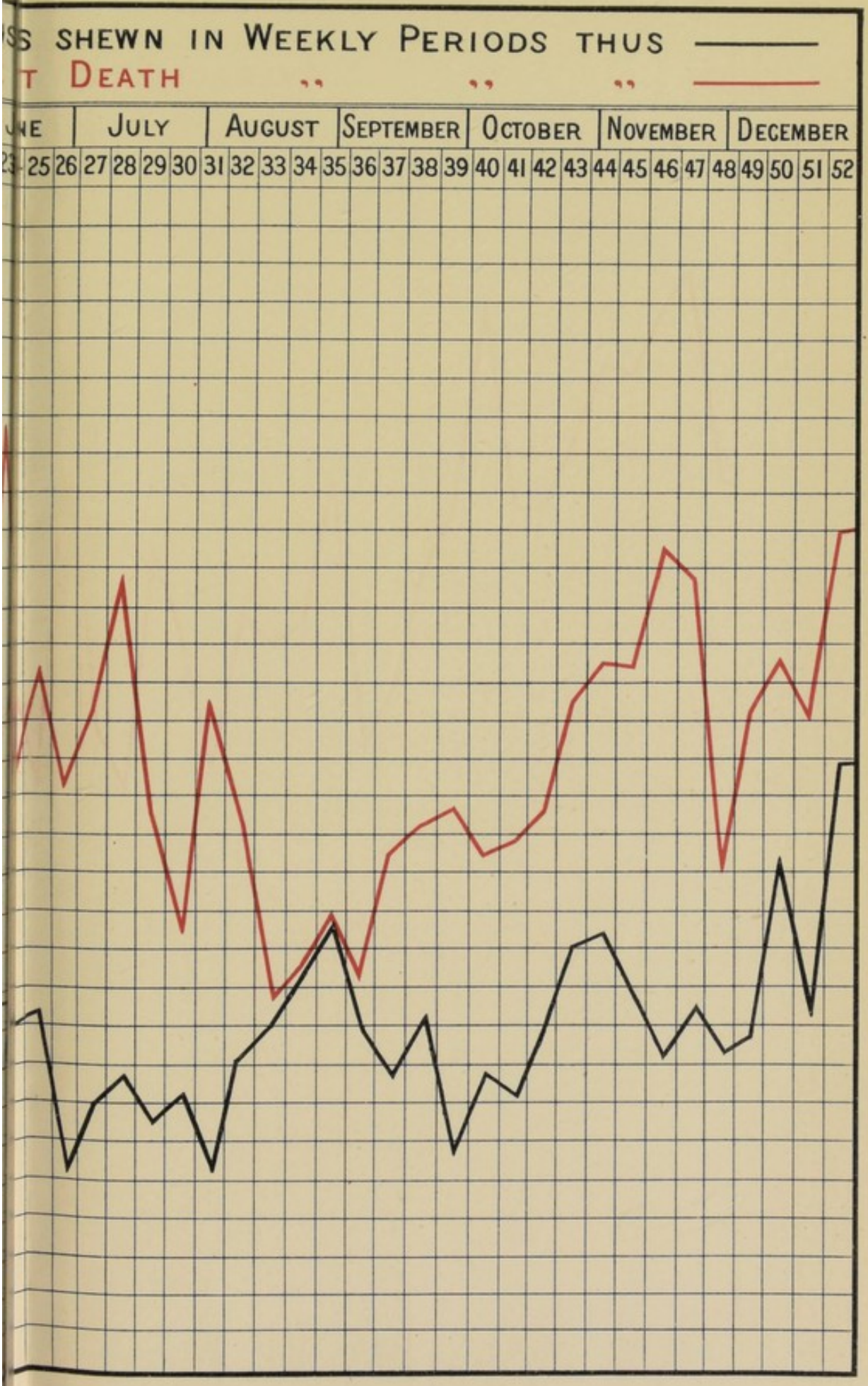
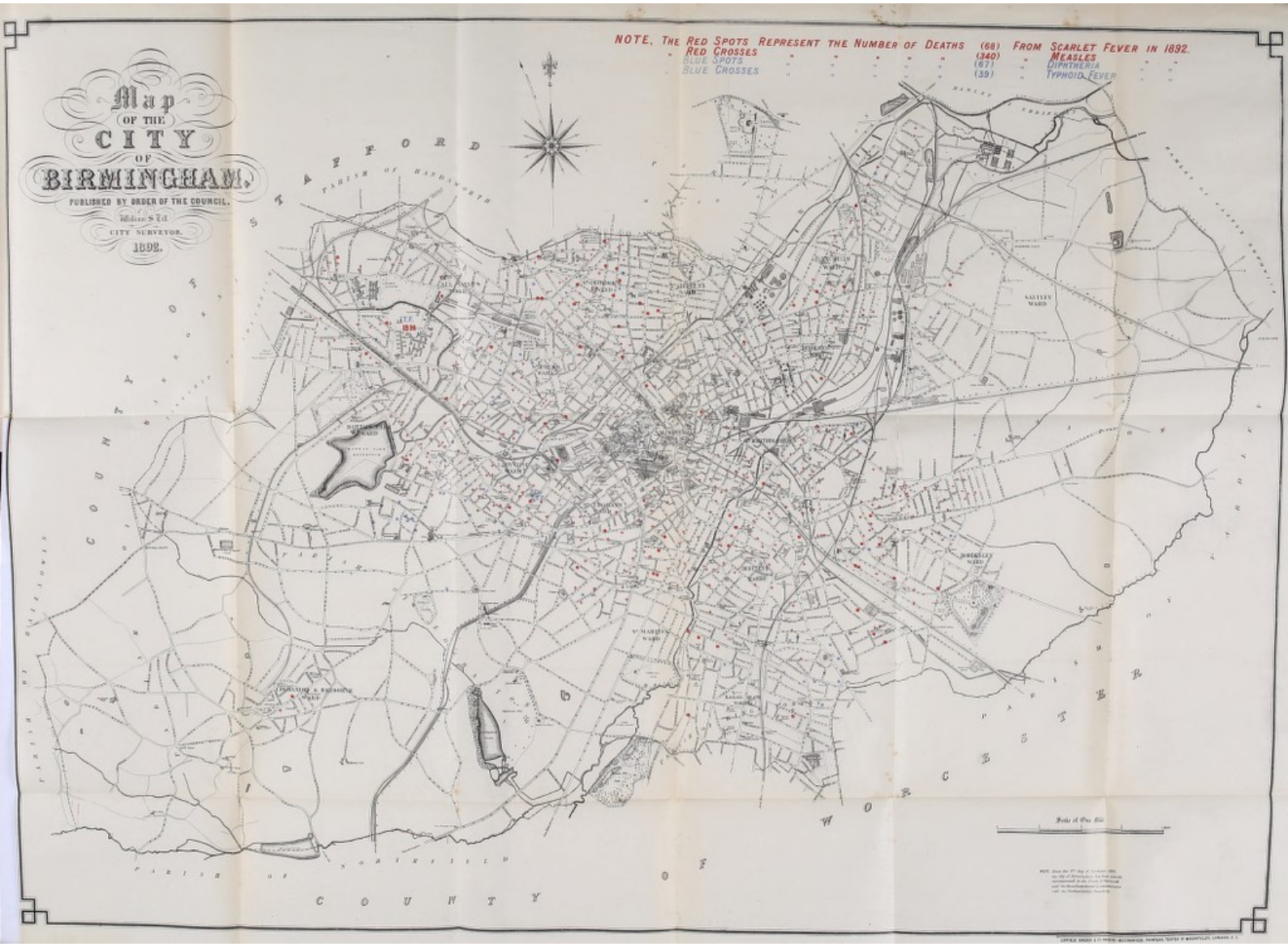

SS SHEWN IN WEEKLY PERIODS THUS
T DEATH " " "
JNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
23 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52


NOTE. The Red Spots Represent the Number of Deaths (68) From Scarlet Fever in 1892.
Red Crosses " " " " " (340) " Measles " "
Blue Spots " " " " " (67) " Diphtheria " "
Blue Crosses " " " " " (39) " Typhoid Fever " "
Map
OF THE
CITY
OF
BIRMINGHAM.
PUBLISHED BY ORDER OF THE COUNCIL.
CITY SURVEYOR.
1892.
STAFFORD
COUNTY OF
WORCESTER
COUNTY OF
PARISH OF HANDSWORTH
PARISH OF ASTON
PARISH OF NECHELLS
PARISH OF SALTLEY
PARISH OF KINGS NORTON
PARISH OF NORTHFIELD
PARISH OF HARBORNE
PARISH OF EDGBASTON
PARISH OF ALDRIDGE
PARISH OF SUTTON COLDFIELD
PARISH OF ERDINGTON
PARISH OF ACOCKS GREEN
PARISH OF YARDLEY
PARISH OF QUINTON
PARISH OF HALESOWEN
PARISH OF OLDBURY
PARISH OF SMETHWICK
PARISH OF HARBORNE
PARISH OF EDGBASTON
PARISH OF ALDRIDGE
PARISH OF SUTTON COLDFIELD
PARISH OF ERDINGTON
PARISH OF ACOCKS GREEN
PARISH OF YARDLEY
PARISH OF QUINTON
PARISH OF HALESOWEN
PARISH OF OLDBURY
PARISH OF SMETHWICK

MAP
OF THE
CITY
OF
MELBOURNE

PUBLISHED BY ORDER OF THE COUNCIL

William S. Gill
CITY SURVEYOR.

1855.

REPORT

ON

ADULTERATION.

City Analyst's Laboratory,

The Council House,

March 20th, 1893.

TO THE HEALTH COMMITTEE.

Mr. Chairman and Gentlemen,

I beg to report that during the past year I analysed 969 samples of food and drugs. With the exception of six submitted to me privately, they were purchased by Mr. Davis, Inspector under the Sale of Food and Drugs Act.

The following is a list of the articles analysed :—

Milk	308	samples.
Butter	119	,,
Flour	54	,,
Bread	50	,,
Oatmeal	45	,,
Pepper	38	,,
Coffee	36	,,
Ale	34	,,
Lard	29	,,
Mustard	28	,,
Vinegar	28	,,
Cream of Tartar	22	,,
Sal Volatile	19	,,
Ground Ginger	14	,,
Arrowroot	11	,,
Linseed Meal	11	,,
Yellow Wax	10	,,
Saffron	9	,,
Tartaric Acid	8	,,
Gin	8	,,
Rum	8	,,
Whiskey	8	,,
Precipitated Sulphur	7	,,
Cayenne	6	,,
Bicarbonate of Soda	6	,,
Seidlitz Powder	6	,,
Tinned Meat	5	,,

Sweet Spirits of Nitre ...	5 samples.
Tincture of Rhubarb	5 ,,
Tincture of Senna	5 ,,
Cheese	4 ,,
Jalap	4 ,,
Chicory	3 ,,
Calcined Magnesia	3 ,,
Powdered Rhubarb	3 ,,
Margarine	2 ,,
Borax	2 ,,
Paregoric	2 ,,
Apricot Jam	1 ,,
Tinned Green Peas	1 ,,
Artificial Human Milk... ...	1 ,,
Claret	1 ,,
Total	969

In the subjoined list will be found particulars of the adulterated samples, as well as of two samples of unlabelled Margarine :—

NO.	DATE.	ARTICLE.	REMARKS.
28—	Jan. 19th ...	Milk	Adulterated with 9·5 % of water. Cautioned by Health Sub-Committee.
35—	,, 20th ...	Butter	Consisted of margarine. Cautioned by Health Sub-Committee.
44—	,, 26th ...	Milk	Deprived of 26 % of its fat. Fined 5/- and costs.
67—	Feb. 4th ...	Spirit of Nitrous Ether	Deficient of 74 % of Ethyl Nitrite of the minimum Pharmacopœia strength. Fined 40/- and costs.
68—	,, 4th ...	Margarine	Consisted of margarine ; not labelled. Cautioned by Health Sub-Committee.
75—	,, 4th ...	Butter	Consisted of margarine. Fined 10/- and costs.
77—	,, 9th ...	Milk	Adulterated with 20 % of water. Fined 5/- and costs.
82—	,, 9th ...	Milk	Adulterated with 17 % of water. Fined 1/- and costs.
94—	,, 12th ..	Milk	Adulterated with 2 % of water, and deprived of 30 % of its fat. Fined 10/- and costs.
98—	,, 12th ...	Milk	Adulterated with 3 % of water, and deprived of 7 % of its fat.
103—	,, 16th ...	Milk	Adulterated with 12 % of water. Fined 1/- and costs.
110—	,, 17th ...	White Pepper ...	Contained 2 % of sand.
121—	,, 18th ...	Milk	Adulterated with 9 % of water. Cautioned by Health Sub-Committee.
133—	,, 24th ...	Mustard	Contained 2 % of starch.

NO.	DATE.	ARTICLE.	REMARKS.
134—	Feb. 24th ...	Margarine	Consisted of margarine ; not labelled. Summons dismissed.
136—	" 26th ...	Butter	Consisted of margarine.
142—	" 26th ...	Oatmeal	Contained 10 % of barley meal. Cautioned by Health Sub-Committee.
144—	" 26th ...	Mustard	Contained 5 % of starch.
145—	Mar. 1st ...	Milk	Deprived of 22 % of its fat. Fined £5 and costs.
148—	" 1st ...	Milk	Adulterated with 8 % of water. Cautioned by Health Sub-Committee.
152—	" 2nd ...	Milk	Deprived of 14½ % of its fat. Cautioned by Health Sub-Committee.
153—	" 2nd ..	Milk	Adulterated with 7 % of water. Cautioned by Health Sub-Committee.
161—	" 3rd ...	Milk	Deprived of 32 % of its fat. Fined £5 and costs.
162—	" 3rd ...	Milk	Adulterated with 6 % of water, and deprived of 18 % of its fat. Fined 40/- and costs.
167—	" 3rd ...	Milk	Adulterated with 36 % of water. Private purchaser.
169—	" 7th ...	Milk	Adulterated with 3 % of water, and deprived of 13 % of its fat. Cautioned by Health Sub-Committee.
174—	" 7th ...	Milk	Deprived of 23 % of its fat. Fined 10/- and costs.
184—	" 29th ...	Butter	Consisted of margarine. Fined 40/- and costs.
190—	Apr. 11th ...	Milk	Deprived of 15 % of its fat. Cautioned by Health Sub-Committee.
191—	" 11th ...	Milk	Deprived of 12 % of its fat. Cautioned by Health Sub-Committee.
192—	" 11th ...	Milk	Deprived of 11 % of its fat. Cautioned by Health Sub-Committee.
193—	" 12th ...	Milk	Adulterated with 6 % of water and deprived of 12 % of its fat. Fined 20/- and costs.
195—	" 12th ...	Milk	Deprived of 12 % of its fat. Cautioned by Health Sub-Committee.
217—	" 21st ...	Saffron	Adulterated with 70 % of foreign vegetable and mineral matter. Fined £3 and costs.
234—	" 22nd ...	Oatmeal	Contained 10 % of Barley Meal. Cautioned by Health Sub-Committee.
236—	" 23rd ...	Tinned Lunch Beef	Contained a trace of tin.
237—	" 23rd ...	Tinned Pressed Beef	Contained a trace of tin.
267—	May 3rd ...	Saffron	Adulterated with 60 % of foreign vegetable matter, and 10 % of colourless Saffron. Fined 20/- and costs.
270—	" 3rd ...	Paregoric	Deficient of 20 % of Proof Spirit. Cautioned by Health Sub-Committee.
278—	" 4th ...	Milk	Adulterated with 15 % of water, and deprived of 11 % of its fat. Fined 5/- and costs.
280—	" 4th ..	Milk	Adulterated with 5 % of water. Cautioned by Health Sub-Committee.
281—	" 4th ...	Milk	Deprived of 11 % of its fat. Cautioned by Health Sub-Committee.

NO.	DATE.	ARTICLE.	REMARKS.
292—	May10th ...	Milk	Deprived of 23 % of its fat. Fined 10/- and costs.
294—	„ 10th ..	Milk	Adulterated with 3 % of water, and deprived of 38 % of its fat. Fined 10/- and costs.
295—	„ 10th ...	Milk	Adulterated with 6 % of water, and deprived of 19 % of its fat. Fined 5/- and costs.
303—	„ 12th ...	Butter	Consisted of Margarine. Fined 10/- and costs.
305—	„ 12th ...	Butter ..	Consisted of Margarine. Paid costs.
312—	„ 13th ...	Milk	Adulterated with 5 % of water, and deprived of 6 % of its fat. Cautioned by Health Sub-Committee.
315—	„ 18th ...	Butter	Consisted of Margarine. Paid costs.
317—	„ 18th ...	Butter	Consisted of Margarine. Fined 5/- and costs.
321—	„ 18th ...	Sal Volatile ...	Deficient in Carbonate of Ammonia. Cautioned by Health Sub-Committee.
322—	„ 18th ..	Butter	Consisted of Margarine. Fined 5/- and costs.
323—	„ 18th ...	Milk	Adulterated with 4 % of water, and deprived of 7 % of its fat. Cautioned by Health Sub-Committee.
341—	„ 21st ...	Milk	Deprived of 15 % of its fat. Paid costs.
343—	„ 26th ...	Milk	Deprived of 11 % of its fat. Cautioned by Health Sub-Committee.
345—	„ 26th ...	Milk	Adulterated with 4 % of water, and deprived of 13 % of its fat. Fined 2/6 and costs.
378—	„ 31st ..	Milk	Deprived of 19 % of its fat. Fined 5/- and costs.
380—	„ 31st ...	Milk	Adulterated with 2 % of water, and deprived of 37 % of its fat. Fined 20/- and costs.
381—	„ 31st ...	Milk	Adulterated with 13 % of water, and deprived of 17 % of its fat. Fined 10/- and costs.
388—	Jun. 2nd ..	Sal Volatile ...	Deficient of 15 % of Carbonate of Ammonia. Cautioned by Health Sub-Committee.
390—	„ 2nd ...	Sal Volatile ..	Deficient of 10 % of its strength. Cautioned by Health Sub-Committee.
391—	„ 2nd ...	Sal Volatile ...	Deficient of 10 % of Carbonate of Ammonia. Cautioned by Health Sub-Committee.
394—	„ 2nd ...	Sal Volatile ...	Deficient of 10 % of its strength. Cautioned by Health Sub-Committee.
396—	„ 2nd ...	Sal Volatile ...	Deficient of 15 % of Carbonate of Ammonia. Cautioned by Health Sub-Committee.
402—	„ 2nd ...	Milk	Deprived of 12 % of its fat. Cautioned by Health Sub-Committee.
413—	„ 10th ...	Butter	Consisted of Margarine. Fined £2 and costs.
416—	„ 10th ...	Linseed Meal ...	Contained a little Starch.
419—	„ 10th ...	Seidlitz Powder ...	Deficient in Rochelle Salt and Tartaric Acid, and contained an excess of Carbonate of Soda. Cautioned by Health Sub-Committee.
420—	„ 10th ...	Seidlitz Powder ...	Deficient in Rochelle Salt, and contained an excess of Carbonate of Soda. Cautioned by Health Sub-Committee.

NO.	DATE.	ARTICLE.	REMARKS.
421—	Jun. 10th ...	Seidlitz Powder ...	Deficient in Rochelle Salt, and contained an excess of Carbonate of Soda. Cautioned by Health Sub-Committee.
422—	„ 10th ...	Seidlitz Powder ...	Deficient in Rochelle Salt and Tartaric Acid. Cautioned by Health Sub-Committee.
423—	„ 10th ...	Seidlitz Powder .	Deficient in Tartaric Acid, and contained an excess of Carbonate of Soda and no Rochelle Salt. Cautioned by Health Sub-Committee.
424—	„ 10th ...	Seidlitz Powder ...	Deficient in Tartaric Acid and Rochelle Salt. Cautioned by Health Sub-Committee.
425—	„ 10th ...	Linseed Meal ...	Contained a little Starch.
426—	„ 10th ...	Linseed Meal ...	Contained a little Starch.
438—	„ 17th ...	Yellow Wax ...	Contained 27 % of Paraffin and not more than 40 % of Bees' Wax. Cautioned by Health Sub-Committee.
443—	„ 17th ...	Yellow Wax ...	Contained 5 % of Paraffin and not more than 80 % of Bees' Wax. Cautioned by Health Sub-Committee.
446—	„ 22nd ...	Butter	Consisted of Margarine. Fined 10/- and costs.
453—	„ 22nd ...	Butter	Consisted of Margarine. Fined 10/- and costs.
457—	„ 22nd ...	Milk	Deprived of 34 % of its fat. Fined £2 and costs.
462—	„ 23rd ...	Yellow Wax ...	Contained 30 % of Paraffin, and not more than 5 % of Bees' Wax. Cautioned by Health Sub-Committee.
463—	„ 23rd ...	Cayenne	Contained a trace of Red Lead. Cautioned by Health Sub-Committee.
464—	„ 23rd ...	Yellow Wax ...	Contained 30 % of Paraffin, and not more than 5 % of Bees' Wax. Cautioned by Health Sub-Committee.
465—	„ 23rd ...	Cayenne	Contained a trace of Red Lead. Cautioned by Health Sub-Committee.
466—	„ 23rd ...	Yellow Wax ...	Contained 10 % of Paraffin, and not more than 30 % of Bees' Wax. Cautioned by Health Sub-Committee.
469—	„ 23rd ...	Cayenne	Contained a trace of Red Lead. Cautioned by Health Sub-Committee.
471—	„ 23rd ...	Cayenne	Contained a trace of Red Lead. Cautioned by Health Sub-Committee.
521—	July 6th ...	Ale	Contained 77 grains of salt per gallon.
555—	Aug. 11th ...	Claret	Contained 169 grains of salt per gallon. Private purchaser.
557—	„ 12th ...	Ale	Contained 62 grains of salt per gallon.
558—	„ 12th ...	Ale	Contained 58 grains of salt per gallon.
561—	„ 12th ...	Ale	Contained 69 grains of salt per gallon.
604—	„ 25th ...	Milk	Deprived of 6 % of its fat. Private purchaser.
629—	„ 31st ...	Milk	Deprived of 10 % of its fat.
631—	„ 31st ...	Milk	Adulterated with 19 % of water, and deprived of 8 % of its fat.
633—	„ 31st ...	Milk	Adulterated with 4 % of water, and deprived of 10 % of its fat.

NO.	DATE.	ARTICLE.	REMARKS.
634	Aug. 31st	Milk	Adulterated with 8 % of water, and deprived of 12 % of its fat.
635	" 31st	Milk	Adulterated with 10 % of water.
636	" 31st	Milk	Adulterated with 8 % of water, and deprived of 12 % of its fat.
640	" 31st	Milk	Deprived of 15 % of its fat.
661	Sep. 7th	Ale	Contained 69 grains of salt per gallon.
664	" 7th	Ale	Contained 56 grains of salt per gallon.
678	" 24th	Butter	Consisted of Margarine. Fined 20/- and costs.
682	" 24th	Butter	Consisted of Margarine. Fined 5/- and costs.
690	Oct. 1st	Linseed Meal	Adulterated with 15 % of starch. Cautioned by Health Sub-Committee.
695	" 1st	Linseed Meal	Adulterated with 20 % of starch. Cautioned by Health Sub-Committee.
700	" 1st	Butter	Consisted of Margarine. Summons dismissed.
719	" 7th	Butter	Consisted of Margarine. Fined 5/- and costs.
720	" 7th	Lard	Adulterated with 3 % of water. Cautioned by Health Sub-Committee.
725	" 14th	Cream of Tartar	Contained a trace of lead.
730	" 14th	Cream of Tartar	Contained over 1 grain of lead per pound. Cautioned by Health Sub-Committee.
735	" 14th	Cream of Tartar	Contained a trace of lead.
739	" 14th	Cream of Tartar	Contained a trace of lead.
744	" 14th	Cream of Tartar	Contained a trace of lead.
745	" 14th	Cream of Tartar	Contained a trace of lead.
774	" 26th	Milk	Adulterated with 12 % of water. Fined 10/- and costs.
777	" 26th	Milk	Adulterated with 7 % of water. Cautioned by Health Sub-Committee.
822	Nov. 12th	Milk	Adulterated with 12 % of water. Fined £5 and costs.
830	" 16th	Milk	Deprived of 14 % of its fat. Cautioned by Health Sub-Committee.
832	" 16th	Milk	Adulterated with 11 % of water. Fined 2/6 and costs.
880	Dec. 1st	Tincture of Senna	Total solid contents only 40 % of the quantity specified in the British Pharmacopœia and proof spirit deficient by 15 %. Cautioned by Health Sub-Committee.
882	" 1st	Tincture of Rhubarb	Deficient of 10 % of proof spirit and destitute of saffron. Cautioned by Health Sub-Committee.
884	" 6th	Milk	Adulterated with 13 % of water and deprived of 12 % of its fat. Fined 5/- and costs.
908	" 8th	Milk	Adulterated with 31 % of water. Fined 10/- and costs.
909	" 8th	Milk	Adulterated with 18 % of water. Fined 5/- and costs.
912	" 8th	Milk	Adulterated with 29 % of water. Fined 5/- and and costs.

NO.	DATE.	ARTICLE.	REMARKS.
915	Dec. 13th ...	Butter	Consisted of margarine. Summons dismissed.
917	" 13th ...	Butter	Consisted of margarine. Summons dismissed.
920	" 13th ...	Milk	Adulterated with 14 % of water. Fined 5/- and costs.
922	" 13th ...	Milk	Adulterated with 22 % of water. Fined 5/- and costs.
923	" 13th ...	Milk	Adulterated with 12 % of water. Fined 5/- and costs.
924	Nov. 13th ..	Milk	Adulterated with 12 % of water. Fined 5/- and costs.
925	" 13th ...	Milk	Deprived of 24 % of its fat. Summons dismissed
936	" 16th ...	Rum	Adulterated, being 29°·5 under proof strength. Cautioned by Health Sub-Committee.
962	" 31st ...	Butter	Consisted of margarine. Fined 40/- and costs.
963	" 31st ..	Butter	Consisted of margarine. Fined 40/- and costs.

The following Table shows the number of samples analysed and certain percentages of adulteration in each of the last ten years. I have not calculated the percentage if less than twenty samples were analysed, as percentages on very small numbers are likely to give erroneous ideas.

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

Percentages of Adulteration.

Of the 969 samples analysed last year, excluding the two unlabelled Margarines there were 134 adulterated, or 14 per cent. of the whole number. This percentage does not vary greatly from those of other recent years.

Milk.

The samples of *Milk* analysed numbered 308, of which 60, or 19 per cent. were adulterated; 21 were deficient in total solid matter, having been watered; 21 had been deprived of a part of their cream, and 18 had been both watered and creamed. In addition to these samples, nine others were of suspiciously low quality.

Butter. Of the 119 samples of *Butter*, 20, or 17 per cent., contained foreign fat. This percentage is lower than in any recent year except 1890.

Lard. The samples of *Lard* numbered 29, of which one was adulterated with water. All the four samples of Cheese proved to be genuine.

Bread. The samples of *Bread*, 50 in number, and of *Flour*, 54 in number, were all genuine. It is very seldom that I find either of these important articles of food adulterated.

Starches. Of other starchy foods there were 56 samples—45 of *Oatmeal*, two of which were adulterated with Barley Meal, and 11 of *Arrowroot*—all genuine.

Condiments and Spices. Of Condiments and Spices 114 samples were examined, and 7, or 6 per cent., were adulterated. The adulterated samples included two of *Mustard* out of 28 examined, one of *Pepper* out of 38, and four of *Cayenne* out of six.

Coffee. The samples of *Coffee* numbered 36, all of which were genuine.

Ale. Wine. Spirits. Of the 34 samples of *Ale* six contained excessive amounts of salt. The single sample of *Claret* also had an excess of salt, while one of the eight samples of *Rum* had been diluted to below the authorised limit.

Drugs. The samples of Drugs numbered 127, and 34, or 27 per cent., were adulterated. This number included four *Sal Volatile* samples which were deficient in Carbonate of Ammonia, and two others which were not of the proper strength; five samples of *Yellow Wax*, all containing varying quantities of paraffin; two samples of *Saffron* containing foreign matter; six *Seidlitz Powders* which had not the proper quantities of carbonate of soda, tartaric acid, and Rochelle salt; five samples of *Linseed Meal* which contained starch; one of *Paregoric* deficient in spirit; one of *Tincture of Rhubarb* and one of *Tincture of Senna*, neither of which was of the Pharmacopœia standard; six samples of *Cream of Tartar* containing traces of lead; and one of *Sweet Spirits of Nitre* deficient in ethyl nitrite.

Tinned Meat. Five samples of *Tinned Meat* were examined, and in two of them traces of tin were found.

I remain, Mr. Chairman and Gentlemen,

Your obedient Servant,

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

City Analyst.

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