

## **Report on the public health of 1902.**

### **Contributors**

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Newman, George.

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THE  
METROPOLITAN BOROUGH OF FINSBURY.

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REPORT  
ON THE  
PUBLIC HEALTH OF FINSBURY  
1902.

*Including Special Report on Small-Pox, and Report on Factories and Workshops.*

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BY  
GEORGE NEWMAN, M.D.,  
*Medical Officer of Health of the Metropolitan Borough  
of Finsbury.*



LONDON:  
PRINTED BY THOMAS BEAN & SON, GOLDEN LANE, E.C.

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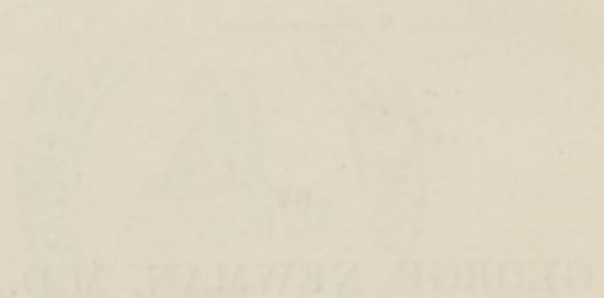
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Medical Officer of Health for the Metropolitan Borough  
of Finsbury.

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PUBLIC HEALTH COMMITTEE, 1902-3.

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COUNCILLOR EVAN JONES, M.R.C.S., L.R.C.P., D.P.H.

*Vice-Chairman :*

ALDERMAN WILLIAM HOWES.

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His Worship the Mayor (Mr. ALDERMAN JAS. GIBSON, J.P.).

ALDERMAN J. J. GOODE, J.P.

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COUNCILLOR GEORGE M. GILLETT.

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COUNCILLOR THE REV. J. E. WAKERLEY.

COUNCILLOR T. WILDBORE.

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WILLIAM GREEN (*Certificate, Sanitary Institute*).

### *Special Meat Inspector :*

GEORGE T. BILLING (*Certificate, Sanitary Institute*).

### *Sanitary Inspectors :*

GEORGE E. J. DAVIS (*Certificate, Sanitary Institute*).

WILLIAM P. ENSOR (*Certificate, Sanitary Institute*).

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GEORGE PEVERETT (*Certificate, Sanitary Inspectors' Board,  
Factory and Workshop Inspector*).

ARTHUR E. POWELL (*Certificate, Sanitary Institute*).

### *Clerks in the Department :*

T. G. COLLINS.      A. A. JACKSON.

### *Mortuary Keepers :*

W. OLIVER and J. E. OAKLEY.

### *Disinfectors and Keepers of Reception Houses :*

W. OLIVER, T. STEGGLES, J. ALDER, G. VICKERS,  
J. E. OAKLEY.

### *Solicitor appointed to act for the Borough Council in all Public Health Prosecutions :*

MR. W. T. RICKETTS, 101-103, King's Cross Road.

### *Medical Officer of Health :*

GEORGE NEWMAN, M.D., F.R.S. EDIN., D.P.H. CAMB.



To the Mayor, Aldermen and Councillors of the  
Metropolitan Borough of Finsbury.

---

His Worship the Mayor : Mr. Alderman JAMES GIBSON, J.P.

---

Gentlemen,

I have the honour to submit herewith the Annual Report on the Public Health and Sanitary condition of the Borough of Finsbury for the year 1902. It is drawn up in accordance with the instructions of the Local Government Board and contains a record of the work of the Department, as carried out under the Public Health Committee. The Special Report on the Small-pox outbreak, required by the Local Government Board, and the Report on the Factories and Workshops, required by the Home Office, are incorporated. The Report is arranged, for convenience, in six sections, as follows :—

- A. VITAL STATISTICS.
- B. RECORDS OF DISEASE.
- C. THE PROTECTION OF THE FOOD SUPPLY.
- D. HOUSE PROPERTY AND OVERCROWDING.
- E. FACTORIES AND WORKSHOPS.
- F. GENERAL SANITARY ADMINISTRATION.

I desire to take the opportunity of expressing my grateful appreciation of the continued support and assistance I have received from the Chairman (Dr. Evan Jones) and the members of the Public Health Committee of the Council during what proved to be an exceptionally responsible and anxious year. I am glad also to acknowledge the loyal co-operation of the staff of the Department.

I have the honour to be,

Gentlemen,

Your obedient Servant,

GEORGE NEWMAN,

*Public Health Department,*

*Medical Officer of Health.*

*Town Hall, Rosebery Avenue, E.C.*

*January 27th, 1903*



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## VITAL STATISTICS.

The Metropolitan Borough of Finsbury was created in November 1900 under the London Local Government Act, 1899. It was formed by amalgamation of the following parishes and places, namely:—The Parish of the Vicary of Cuthbertwell, the Parish of the Vicary of St. Luke, Mark Lane, the Liberty of Cripplegate Yard, the Liberty of the Charterhouse, and the Parish of St. Andrew, Holborn.

The population of the Borough in 1901 was 101,453, and since that time has increased to 125,000. The area is 257 acres. The average value of the property is £100,000, and the average rateable value is £1,100,000. The Borough is bounded on the north by the Borough of Islington and Highbury, on the east by the Borough of Shoreditch, on the south by the City of London, and on the west by the Borough of Finsbury and the City of London.

### A.—VITAL STATISTICS.

Population.—The average number of the population of the Borough of Finsbury was 101,453, computed as follows:—

|                    |                |
|--------------------|----------------|
| North Cuthbertwell | 25,000         |
| South Cuthbertwell | 25,000         |
| Parish of St. Luke | 25,000         |
| St. Andrew         | 7,453          |
| <b>Total</b>       | <b>101,453</b> |

The Metropolitan Borough of Finsbury (Pop. 101,453) is now incorporated in the Metropolitan Borough of Finsbury, London. Finsbury (Pop. 101,453) is now incorporated in the Metropolitan Borough of Finsbury, London. At the census of 1901 the population was 101,453, and in 1901 it was 101,453. It will be seen that the district is one of the most densely populated areas in London, and that the population has increased very rapidly since 1901. The population was 101,453 in 1901, and 125,000 in 1901. The population was 101,453 in 1901, and 125,000 in 1901.





## VITAL STATISTICS.

The Metropolitan Borough of Finsbury was created in November, 1900, under the London Local Government Act, 1899. It was formed by amalgamation of the following constituent parts, namely:—The Parish of the Vestry of Clerkenwell, the Parish of the Vestry of St. Luke, Middlesex, the Liberty of Glasshouse Yard, the Liberty of the Charterhouse, and the Parish of St. Sepulchre Without.

The population of the Borough is 101,463, and there are 9,100 inhabited houses. The area is 589 acres. The rateable value is £963,775, and the gross assessable value £1,179,567. The Borough is bounded upon the north by the Boroughs of Islington and Shoreditch; on the east by the Borough of Shoreditch; on the south by the City of London; and on the west by the Boroughs of Holborn and St. Pancras.

**Population.**—The census return (1901) of the population of the Borough of Finsbury was 101,463, comprised as follows:—

|                     |     |     |     |         |
|---------------------|-----|-----|-----|---------|
| North Clerkenwell   | ... | ... | ... | 35,028  |
| South Clerkenwell   | ... | ... | ... | 28,676  |
| Finsbury (St. Luke) | ... | ... | ... | 36,116  |
| St. Sepulchre       | ... | ... | ... | 1,643   |
|                     |     |     |     | 101,463 |

The sub-registration district of Glasshouse Yard (pop. 741) is now incorporated in the sub-registration district of Finsbury, making Finsbury (St. Luke) 36,116. At the census of 1891 the population was 110,907, and in 1861 it was at its maximum of 129,031. Hence it will be seen that the district is one of those central metropolitan areas, forming an inner zone immediately around the City of London, which has shown during the last 40 years a steady decline in population. This decline was most marked between 1871 and 1881, and between 1891 and 1901. The estimated population in 1902 was 100,487.

The numbers of the population, of each sex and at various ages (at the Census, 1901), are as follows:—

|             | Totals at all ages. | Under 5. | 5-14.  | 15-19. | 20-54. | 55-75. | Above 75. |
|-------------|---------------------|----------|--------|--------|--------|--------|-----------|
| Males ...   | 49,910              | 6,158    | 10,371 | 5,182  | 24,467 | 3,477  | 255       |
| Females ... | 51,553              | 6,107    | 10,674 | 5,162  | 24,792 | 4,316  | 502       |
| Total ...   | 101,463             | 12,265   | 21,045 | 10,344 | 49,259 | 7,793  | 757       |

In regard to occupation and status of the Finsbury population it may be said that in the main it is industrial. The Borough is rapidly becoming more and more a centre of commerce and manufacture. With one or two exceptions the district is not a good residential one, most of the inhabitants merely living in the Borough to be near their work. Particularly is this so in the Finsbury (or St. Luke) Sub-registration District. Large factories abound, although the main street frontages are used, in considerable measure, for small shops, which however carry on a considerable trade. In North Clerkenwell there are some residential neighbourhoods. The Census (1901) shows that whereas 23 per cent. of the families or separate occupiers in London as a whole keep domestic servants, only 7·8 per cent. of the families in Finsbury do so.\* The Census also returns 59,654 persons as unmarried, 35,599 as married, and 6,210 as widowed. Finsbury and Holborn are further characterised by the comparatively large percentage of foreigners living within their boundaries. The question of the relationship between the population and housing will be considered at a later stage of the present report (see page 125).

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\* This test of domestic servants has been used by various authorities as indicative of the status of a population. The lowest percentages in London occur in Shoreditch 5·5, Bethnal Green 5·6, and Bermondsey 6·5. The highest occur in Hampstead, where 79·8 per cent. of occupiers keep domestic servants Kensington 74·9, and the City of Westminster, 53·3.



**Births.**—The total number of births registered in the district during 1902 was 3,624, as follows:—

| Sub-registration District. | Total Births. | Rate per 1,000 of the Population in 1902. |
|----------------------------|---------------|-------------------------------------------|
| North Clerkenwell ...      | 1,056         | 30·1                                      |
| South Clerkenwell ...      | 881           | 30·4                                      |
| Finsbury (St. Luke) ...    | 1,649         | 45·6                                      |
| St. Sepulchre ...          | 38            | 23·1                                      |
| The Borough ...            | 3,624         | 36·0                                      |

The birth rate for London was 28·5. The lowest rate was in the City of London, 13·1, and the highest was in Stepney, namely, 38·0. Of the 3,624 births in Finsbury 524 took place in the City of London Lying-in Hospital. Of this number only 91 rightly belonged to the Borough. Consequently, after correction, the total number of births belonging to the Borough was not 3,624, but 3,191, which gives a birth rate of 31·7 per 1,000 of the population.

Of the 3,624 births in Finsbury 1,860 were boys and 1,764 were girls.

**Deaths.**—The total number of deaths registered in the district was 2,318, but as 35 of these deaths were of persons who died in, but resided outside, the Borough, that number has been deducted, leaving the net number of Finsbury deaths at 2,283, which gives a total death rate of 22·7. The average rate for London as a whole was 17·2, and, in comparison with other districts, the Finsbury rate is this year the highest in the Metropolis. In 1900 Clerkenwell had a death rate of 21·1, and St. Luke 27. In 1899 Clerkenwell was 22·3, and St. Luke 28·4. Roughly speaking, the death rate for the Finsbury area in 1900 was about 24·4 per 1,000. In 1901 it was 21·3.

The total number of deaths, 2,283, includes 907 deaths of Finsbury persons who died in various institutions outside the district. (The

comparable figure for 1901 was 876). This leaves 1,376 intra-parochial deaths, which yields an *intra-parochial* death rate of 13·6, as compared with 12·6 in 1901. This figure of 13·6 has, of course, no value except for local comparative purposes.

The following table from the returns of the Registrar-General compares the death-rates of London, Finsbury, and the neighbouring central districts of the Metropolis for 1902 after distribution of deaths in public institutions. The rates for Hampstead, one of the healthiest districts in London, have also been added for purposes of comparison.

| Boroughs.              | Population.    | Birth Rate. | Death Rate. | Zymotic Death Rate. |
|------------------------|----------------|-------------|-------------|---------------------|
| County of London ...   | 4,579,110      | 28·5        | 17·2        | 2·2                 |
| <b>Finsbury</b> ... .. | <b>100,487</b> | <b>36 0</b> | <b>22·7</b> | <b>3·1</b>          |
| Islington ... ..       | 337,270        | 26·9        | 16·4        | 1·8                 |
| Shoreditch ... ..      | 118,004        | 33·9        | 20·7        | 3·5                 |
| City of London ... ..  | 25,598         | 13·1        | 20·4        | 1·3                 |
| Holborn ... ..         | 58,535         | 27·7        | 21·3        | 2·5                 |
| St. Pancras ... ..     | 235,521        | 27·0        | 18·6        | 2·5                 |
| Hampstead ... ..       | 83,743         | 18·2        | 10·8        | 0·8                 |



The following is a list of the outlying institutions and other places where 907 of the residents of the Borough died during the year 1902.

## I. GENERAL HOSPITALS.

|                       |     |     |
|-----------------------|-----|-----|
| St. Bartholomew's...  | ... | 151 |
| Royal Free ...        | ... | 39  |
| King's College ...    | ... | 3   |
| Middlesex ...         | ... | 6   |
| University ...        | ... | 6   |
| St. Thomas's ...      | ... | 1   |
| Great Northern ...    | ... | 3   |
| London Temperance ... | ... | 2   |
| London ...            | ... | 2   |
| St. George's...       | ... | 1   |

## II. SPECIAL HOSPITALS.

|                                      |     |    |
|--------------------------------------|-----|----|
| Royal Chest...                       | ... | 10 |
| Italian ...                          | ... | 3  |
| City of London Chest ...             | ... | 2  |
| Her Majesty's, Stepney Causeway ...  | ... | 1  |
| National ...                         | ... | 2  |
| Heart Hospital, Soho ...             | ... | 1  |
| Metropolitan ...                     | ... | 2  |
| Queen Charlotte's ...                | ... | 1  |
| Hospital for Women, Soho Square ...  | ... | 1  |
| Hospital for Women, Euston Road ...  | ... | 1  |
| German ...                           | ... | 3  |
| North Eastern (Children's) ...       | ... | 2  |
| Great Ormond Street (Children's) ... | ... | 27 |

## III. FEVER HOSPITALS.

|                           |     |    |
|---------------------------|-----|----|
| Eastern ...               | ... | 5  |
| Western ...               | ... | 2  |
| North Eastern ...         | ... | 11 |
| North Western ...         | ... | 29 |
| South Eastern ...         | ... | 1  |
| South Western ...         | ... | 1  |
| Long Reach ...            | ... | 13 |
| Hospital Ship "Atlas" ... | ... | 10 |
| " " "Castalia"...         | ... | 11 |

## IV. POOR LAW INSTITUTIONS.

|                                  |     |     |
|----------------------------------|-----|-----|
| Holborn Infirmary...             | ... | 284 |
| Holborn Workhouse, City Road ... | ... | 182 |

## Holborn Workhouse,

|                                       |     |    |
|---------------------------------------|-----|----|
| Mitcham ...                           | ... | 30 |
| Hampstead Infirmary ...               | ... | 1  |
| St. Pancras Infirmary ...             | ... | 1  |
| Shoreditch Infirmary ...              | ... | 1  |
| Union Workhouse, Robin Hood Court ... | ... | 1  |
| Hampstead Workhouse ...               | ... | 1  |
| Islington Infirmary ...               | ... | 1  |

## V. ASYLUMS.

|                         |     |   |
|-------------------------|-----|---|
| Caterham ...            | ... | 8 |
| Dartford ...            | ... | 4 |
| Hanwell ...             | ... | 2 |
| Colney Hatch ...        | ... | 9 |
| Claybury ...            | ... | 6 |
| Cane Hill ...           | ... | 1 |
| Leavesden ...           | ... | 1 |
| Banstead ...            | ... | 1 |
| City of London ...      | ... | 1 |
| Manor Asylum, Epsom ... | ... | 1 |

## VI. UNCLASSIFIABLE.

|                                                       |     |   |
|-------------------------------------------------------|-----|---|
| Freidenheim Home ...                                  | ... | 3 |
| Under Railway Bridge, River Lea ..                    | ... | 1 |
| Station House, Vincent Square ...                     | ... | 2 |
| Regent's Canal, Hoxton ...                            | ... | 1 |
| H.M. Prison, Parkhurst Road                           | ... | 1 |
| In street, on the way to St. Bartholomew Hospital ... | ... | 3 |
| 77, Lamb's Conduit Street                             | ... | 1 |
| "Spread Eagle," Theobalds Road ...                    | ... | 1 |
| St. Peter's House, Kennington ...                     | ... | 3 |
| St. Anne's House, Stoke Newington ...                 | ... | 2 |

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907

As regards their distribution, all the deaths belonging to Finsbury may be summarized briefly as follows :—

*Intra-Parochial—*

|                     |     |     |     |     |          |
|---------------------|-----|-----|-----|-----|----------|
| North Clerkenwell   | ... | ... | ... | 489 | } = 1376 |
| South Clerkenwell   | ... | ... | ... | 357 |          |
| Finsbury (St. Luke) | ... | ... | ... | 507 |          |
| St. Sepulchre       | ... | ... | ... | 23  |          |

*Extra-Parochial—*

|                               |     |     |     |       |         |
|-------------------------------|-----|-----|-----|-------|---------|
| 1. General Hospitals          | ... | ... | ... | 214   | } = 907 |
| 2. Special Hospitals          | ... | ... | ... | 56    |         |
| 3. Fever Hospitals            | ... | ... | ... | 83    |         |
| 4. Poor Law Institutions      | ... | ... | ... | 502   |         |
| 5. Asylums                    | ... | ... | ... | 34    |         |
| 6. Elsewhere (unclassifiable) | ... | ... | ... | 18    |         |
| Total                         | ... | ... | ... | 2,283 |         |

These figures are instructive as indicating in what portions of the Borough the death rate is highest. The death rate of the Borough is, as we have seen, 22·7. The death rates of the sub-registration districts, after distribution of the extra-parochial deaths, are as follows :—

|                     |     |     |     |      |
|---------------------|-----|-----|-----|------|
| North Clerkenwell   | ... | ... | ... | 22·5 |
| South Clerkenwell   | ... | ... | ... | 20·9 |
| Finsbury (St. Luke) | ... | ... | ... | 24·4 |
| St. Sepulchre       | ... | ... | ... | 20·8 |

As regards distribution according to age, the following table of total deaths (intra-parochial and extra-parochial) at subjoined ages gives the comparative returns from 1897 to 1902. It should be understood that for the years 1897–1900, the figures only include Clerkenwell and St. Luke :—



## Mortality from All Causes at Subjoined Ages, 1897-1902.

|                     | At all Ages. | Under 1 Year. | 1 and under 5. | 5 and under 15. | 15 and under 25. | 25 and under 65. | 65 and upwards. | Total Birth Rate. | Total Death Rate. |
|---------------------|--------------|---------------|----------------|-----------------|------------------|------------------|-----------------|-------------------|-------------------|
| 1897                | 2,498        | 663           | 424            | 99              | 98               | 821              | 393             | 34·6              | 24·6              |
| 1898                | 2,480        | 682           | 409            | 79              | 80               | 831              | 399             | 33·7              | 24·4              |
| 1899                | 2,629        | 662           | 363            | 87              | 84               | 940              | 493             | 32·9              | 25·8              |
| 1900                | 2,479        | 574           | 351            | 76              | 78               | 937              | 462             | 32·1              | 24·4              |
| 1901                | 2,161        | 533           | 290            | 82              | 94               | 764              | 398             | 37·3              | 21·3              |
| Average for 5 years | 2,449        | 623           | 367            | 85              | 87               | 859              | 429             | 34·1              | 24·1              |
| 1902                | 2,283        | 558           | 339            | 81              | 82               | 805              | 418             | 36·0              | 22·7              |

## INFANTILE MORTALITY.

The infantile mortality of a district is the annual number of deaths of children *under one year of age* to every thousand births during the same year. Such a return is of considerable value, as it is one of the most reliable tests of the health of a community and of the sanitary condition of a district. It has a characteristic value for two reasons, migration does not greatly affect the distribution of deaths at this early age, and life is very susceptible to its surroundings. Hence such a record of deaths affords a delicate index as to the prevalence of disease and the external circumstances of life affecting it.

During 1902, as we have seen, there were 3,624 births in Finsbury. This includes the births in the City Road Lying-in Hospital. The total deaths of infants under one year was 558, out of the whole total of deaths of 2,283. The infantile mortality rate



is therefore 154. The infant mortality percentage on total deaths is 24·9.

In the whole of London during 1902 there were deaths of infants (18,478) equal to a rate of 139 per thousand births. The mean rate for the last ten years in London is about 145. During the last ten years Clerkenwell infantile mortality rate has been about 180 per thousand births.

The distribution in the Borough of these deaths of infants may be set out as follows :—

| Districts.                          |     |     |     |     | Deaths of Infants<br>under 1 year of age. | Infant mortality<br>rates per 1,000<br>births. |
|-------------------------------------|-----|-----|-----|-----|-------------------------------------------|------------------------------------------------|
| North Clerkenwell                   | ... | ... | ... | ... | 143                                       | 135·4                                          |
| South Clerkenwell                   | ... | ... | ... | ... | 131                                       | 150·4                                          |
| Finsbury (St. Luke)                 | ... | ... | ... | ... | 198                                       | 120·1                                          |
| St. Sepulchre                       | ... | ... | ... | ... | 5                                         | 136·8                                          |
| Intra-parochial...                  | ... | ... | ... | ... | 477                                       | 131·6                                          |
| Extra-parochial and Intra-parochial |     |     |     |     | 558                                       | 153·9                                          |
| London ...                          | ... | ... | ... | ... | 18,478                                    | 138·7                                          |

As regards age distribution of infants' deaths, as a general rule, it may be said that they diminish from the first month onwards to the twelfth. The following table gives the age incidence in Finsbury for 1902.

| Months.              | 0-- | 1-- | 2-- | 3-- | 4-- | 5-- | 6-- | 7-- | 8-- | 9-- | 10-- | 11-- | Totals |
|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|--------|
| North Clerkenwell... | 55  | 16  | 12  | 13  | 9   | 11  | 15  | 10  | 12  | 12  | 8    | 10   | 183    |
| South Clerkenwell... | 44  | 15  | 10  | 17  | 11  | 10  | 10  | 4   | 10  | 6   | 6    | 9    | 152    |
| Finsbury (St. Luke)  | 64  | 21  | 13  | 21  | 7   | 12  | 17  | 13  | 13  | 12  | 12   | 12   | 217    |
| St. Sepulchre ...    | 1   | ... | 1   | 1   | 1   | ... | ... | ... | ... | ... | 1    | 1    | 6      |
| Totals ...           | 164 | 52  | 36  | 52  | 28  | 33  | 42  | 27  | 35  | 30  | 27   | 32   | 558    |

Turning now to the causes of death in these infants, we find the record is as follows :—

| Causes of Death.     | Diarrhoea. | Prematurity. | Malnutrition and Debility. | Bronchitis. | Pneumonia. | Convulsions. | Suffocated in Bed. | Measles. | Whooping Cough. | Accidents. | Tuberculosis. | Diphtheria, Erysipelas, Croup. | Miscellaneous. | Totals. |
|----------------------|------------|--------------|----------------------------|-------------|------------|--------------|--------------------|----------|-----------------|------------|---------------|--------------------------------|----------------|---------|
| North Clerkenwell... | 9          | 31           | 27                         | 20          | 19         | 7            | 8                  | 5        | 6               | 2          | 4             | 1                              | 44             | 183     |
| South Clerkenwell... | 8          | 17           | 25                         | 19          | 7          | 8            | 6                  | 7        | 14              | 1          | 6             | ...                            | 34             | 152     |
| Finsbury (St. Luke)  | 20         | 31           | 29                         | 20          | 28         | 11           | 16                 | 6        | 3               | 6          | 9             | 6                              | 32             | 228     |
| St. Sepulchre ...    | 2          | 1            | 1                          | ...         | ...        | ...          | ...                | 1        | ...             | ...        | ...           | ...                            | 1              | 6       |
| Totals, 1902 ...     | 39         | 80           | 82                         | 59          | 54         | 26           | 30                 | 19       | 23              | 9          | 19            | 7                              | 111            | 558     |
| Totals, 1901 ...     | 81         | 59           | 99                         | 57          | 22         | 25           | 20                 | 6        | 9               | 10         | 16            | 2                              | 55             | 461     |

Some of these figures are very striking. In 1901 there was evidence of some decline in the number of deaths due to Epidemic Diarrhoea. In 1902 this decline is still more marked. Further reference is made to this subject on a later page. With this exception there has been a rise in infant deaths. Particularly marked has been the rise in Whooping Cough, Measles, Suffocation in Bed, Pneumonia, and Prematurity. To the diseases named reference is made elsewhere. As regards Suffocation in Bed I have

to report that one-third of these cases occurred on Sunday mornings. They were in all probability due to Alcoholism. "Prematurity" and "Malnutrition and Debility" are more common causes of the death of infants in towns than in rural districts. It will have been noticed that nearly one quarter of the total number of deaths in the Borough are of infants under one year of age.

### SENILE MORTALITY.

The deaths of persons over 65 years were as follows :—

*Intra-Parochial—*

|                            |     |     |     |     |            |
|----------------------------|-----|-----|-----|-----|------------|
| North Clerkenwell          | ... | ... | ... | 83  | } = 208    |
| South Clerkenwell          | ... | ... | ... | 36  |            |
| Finsbury (St. Luke)        | ... | ... | ... | 77  |            |
| St. Sepulchre              | ... | ... | ... | 12  |            |
| <i>Extra-Parochial</i> ... | ... | ... | ... | ... | 210        |
| Total                      | ... | ... | ... | ... | <u>418</u> |

One hundred and eighty-two of these were men, and 236 were women.

Out of the total of 418, 112 were between 65-70 years of age.

|     |   |                  |   |
|-----|---|------------------|---|
| 209 | „ | 70-80            | „ |
| 89  | „ | 80-90            | „ |
| 7   | „ | 90-100           | „ |
| 1   | „ | 100 and upwards. |   |

The claims of death at the two extremes of life, and the effect of season, are shown in the following table of total deaths, intra-parochial and extra-parochial :—

|                       | Jan-March | April-June | July-Sept | Oct-Dec | Total |
|-----------------------|-----------|------------|-----------|---------|-------|
| Infants under 1 year  | 139       | 118        | 151       | 150     | 558   |
| Persons over 65 years | 159       | 71         | 79        | 109     | 418   |



The causes of death amongst aged persons will naturally be those attributable to strain and exhaustion. The number of deaths, over 65 per 1,000 of the population, will also depend to a considerable degree upon the social status of the majority of the population. In an industrial community there will naturally be fewer lives attaining old age. Senility, Heart Disease, Pneumonia, Cerebral Diseases, Paralysis, etc., are common causes of death.

### DEATHS FROM ZYMOTIC OR INFECTIOUS DISEASES.

The deaths from Zymotic Diseases occurring in the Borough (intra-parochial and extra-parochial) during the year numbered 337, and were caused as follows :—

|      | Small-pox | Scarlet Fever | Diphtheria and Membranous Croup | Enteric Fever | Puerperal Fever | Erysipelas | Measles | Whooping Cough | Diarrhoea | TOTAL |
|------|-----------|---------------|---------------------------------|---------------|-----------------|------------|---------|----------------|-----------|-------|
| 1901 | 10        | 19            | 36                              | 11            | 4               | 4          | 49      | 37             | 95        | 265   |
| 1902 | 30        | 15            | 37                              | 9             | 6               | 5          | 83      | 68             | 84        | 337   |

These returns yield a Zymotic death rate of 3·35 per 1000. The amount paid to Medical Practitioners for furnishing Notification Certificates was £175 16s. 6d. The Local Authority is recouped for this expenditure by the Metropolitan Asylums Board. The fees paid for Voluntary Notification of Phthisis amounted to £7 3s.

The causes of death amongst aged persons will naturally be those attributable to senile and extraneous. The number of deaths, even at per cent of the population, will also depend to a considerable degree upon the social status of the majority of the population. In an industrial community there will naturally be fewer deaths among old age. Deaths from heart disease, pneumonia, cerebral diseases, cancer, etc., are common causes of death.

## DEATHS FROM ZYMOTIC OR INFECTIOUS DISEASES.

The deaths from Zymotic Diseases occurring in the Borough (inter-hospital and extra-hospital) during the year numbered 337, and were caused as follows—

| Year | Scarlet fever | Diphtheria | Whooping cough | Measles | Smallpox | Polio | Infantile paralysis | Other zymotic diseases | Total |
|------|---------------|------------|----------------|---------|----------|-------|---------------------|------------------------|-------|
| 1901 | 10            | 10         | 11             | 1       | 1        | 1     | 1                   | 1                      | 36    |
| 1902 | 10            | 10         | 11             | 1       | 1        | 1     | 1                   | 1                      | 36    |

These returns give a Zymotic death-rate of 0.35 per 1000. The amount paid for Medical Examinations by Licensing Authorities was £15 15s 6d. The Local Authority is recognised for the purposes of the Metropolitan Asylums Board. The total paid for voluntary contribution of £1000 amounted to £1 15s 6d.

| Year | Smallpox | Scarlet fever | Diphtheria | Whooping cough | Measles | Polio | Infantile paralysis | Other zymotic diseases | Total |
|------|----------|---------------|------------|----------------|---------|-------|---------------------|------------------------|-------|
| 1901 | 10       | 10            | 11         | 1              | 1       | 1     | 1                   | 1                      | 36    |
| 1902 | 10       | 10            | 11         | 1              | 1       | 1     | 1                   | 1                      | 36    |

# THE INFECTIOUS DISEASES.

The principal infectious diseases are given in relation to their  
causes, symptoms, and mode of transmission, and the  
methods of treatment. The principal diseases of the Public  
Health Law of 1901 (Section 25-27), deal with smallpox,  
cholera, diphtheria, and scarlet fever, and the  
report of the Metropolitan Board of Health, 1901, is  
given in full. The following are the principal diseases  
which are reported to the Metropolitan Board of Health  
and the Registrar-General of Births and Deaths:

## B.—RECORDS OF DISEASE.

| B.—RECORDS OF DISEASE. |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |  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| Smallpox               | 1898 | 1899 | 1900 | 1901 | 1902 | 1903 | 1904 | 1905 | 1906 | 1907 | 1908 | 1909 | 1910 | 1911 | 1912 | 1913 | 1914 | 1915 | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 | 1937 | 1938 | 1939 | 1940 | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 | 1947 | 1948 | 1949 | 1950 | 1951 | 1952 | 1953 | 1954 | 1955 | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 | 2049 | 2050 | 2051 | 2052 | 2053 | 2054 | 2055 | 2056 | 2057 | 2058 | 2059 | 2060 | 2061 | 2062 | 2063 | 2064 | 2065 | 2066 | 2067 | 2068 | 2069 | 2070 | 2071 | 2072 | 2073 | 2074 | 2075 | 2076 | 2077 | 2078 | 2079 | 2080 | 2081 | 2082 | 2083 | 2084 | 2085 | 2086 | 2087 | 2088 | 2089 | 2090 | 2091 | 2092 | 2093 | 2094 | 2095 | 2096 | 2097 | 2098 | 2099 | 2100 | 2101 | 2102 | 2103 | 2104 | 2105 | 2106 | 2107 | 2108 | 2109 | 2110 | 2111 | 2112 | 2113 | 2114 | 2115 | 2116 | 2117 | 2118 | 2119 | 2120 | 2121 | 2122 | 2123 | 2124 | 2125 | 2126 | 2127 | 2128 | 2129 | 2130 | 2131 | 2132 | 2133 | 2134 | 2135 | 2136 | 2137 | 2138 | 2139 | 2140 | 2141 | 2142 | 2143 | 2144 | 2145 | 2146 | 2147 | 2148 | 2149 | 2150 | 2151 | 2152 | 2153 | 2154 | 2155 | 2156 | 2157 | 2158 | 2159 | 2160 | 2161 | 2162 | 2163 | 2164 | 2165 | 2166 | 2167 | 2168 | 2169 | 2170 | 2171 | 2172 | 2173 | 2174 | 2175 | 2176 | 2177 | 2178 | 2179 | 2180 | 2181 | 2182 | 2183 | 2184 | 2185 | 2186 | 2187 | 2188 | 2189 | 2190 | 2191 | 2192 | 2193 | 2194 | 2195 | 2196 | 2197 | 2198 | 2199 | 2200 | 2201 | 2202 | 2203 | 2204 | 2205 | 2206 | 2207 | 2208 | 2209 | 2210 | 2211 | 2212 | 2213 | 2214 | 2215 | 2216 | 2217 | 2218 | 2219 | 2220 | 2221 | 2222 | 2223 | 2224 | 2225 | 2226 | 2227 | 2228 | 2229 | 2230 | 2231 | 2232 | 2233 | 2234 | 2235 | 2236 | 2237 | 2238 | 2239 | 2240 | 2241 | 2242 | 2243 | 2244 | 2245 | 2246 | 2247 | 2248 | 2249 | 2250 | 2251 | 2252 | 2253 | 2254 | 2255 | 2256 | 2257 | 2258 | 2259 | 2260 | 2261 | 2262 | 2263 | 2264 | 2265 | 2266 | 2267 | 2268 | 2269 | 2270 | 2271 | 2272 | 2273 | 2274 | 2275 | 2276 | 2277 | 2278 | 2279 | 2280 | 2281 | 2282 | 2283 | 2284 | 2285 | 2286 | 2287 | 2288 | 2289 | 2290 | 2291 | 2292 | 2293 | 2294 | 2295 | 2296 | 2297 | 2298 | 2299 | 2300 | 2301 | 2302 | 2303 | 2304 | 2305 | 2306 | 2307 | 2308 | 2309 | 2310 | 2311 | 2312 | 2313 | 2314 | 2315 | 2316 | 2317 | 2318 | 2319 | 2320 | 2321 | 2322 | 2323 | 2324 | 2325 | 2326 | 2327 | 2328 | 2329 | 2330 | 2331 | 2332 | 2333 | 2334 | 2335 | 2336 | 2337 | 2338 | 2339 | 2340 | 2341 | 2342 | 2343 | 2344 | 2345 | 2346 | 2347 | 2348 | 2349 | 2350 | 2351 | 2352 | 2353 | 2354 | 2355 | 2356 | 2357 | 2358 | 2359 | 2360 | 2361 | 2362 | 2363 | 2364 | 2365 | 2366 | 2367 | 2368 | 2369 | 2370 | 2371 | 2372 | 2373 | 2374 | 2375 | 2376 | 2377 | 2378 | 2379 | 2380 | 2381 | 2382 | 2383 | 2384 | 2385 | 2386 | 2387 | 2388 | 2389 | 2390 | 2391 | 2392 | 2393 | 2394 | 2395 | 2396 | 2397 | 2398 | 2399 | 2400 | 2401 | 2402 | 2403 | 2404 | 2405 | 2406 | 2407 | 2408 | 2409 | 2410 | 2411 | 2412 | 2413 | 2414 | 2415 | 2416 | 2417 | 2418 | 2419 | 2420 | 2421 | 2422 | 2423 | 2424 | 2425 | 2426 | 2427 | 2428 | 2429 | 2430 | 2431 | 2432 | 2433 | 2434 | 2435 | 2436 | 2437 | 2438 | 2439 | 2440 | 2441 | 2442 | 2443 | 2444 | 2445 | 2446 | 2447 | 2448 | 2449 | 2450 | 2451 | 2452 | 2453 | 2454 | 2455 | 2456 | 2457 | 2458 | 2459 | 2460 | 2461 | 2462 | 2463 | 2464 | 2465 | 2466 | 2467 | 2468 | 2469 | 2470 | 2471 | 2472 | 2473 | 2474 | 2475 | 2476 | 2477 | 2478 | 2479 | 2480 | 2481 | 2482 | 2483 | 2484 | 2485 | 2486 | 2487 | 2488 | 2489 | 2490 | 2491 | 2492 | 2493 | 2494 | 2495 | 2496 | 2497 | 2498 | 2499 | 2500 | 2501 | 2502 | 2503 | 2504 | 2505 | 2506 | 2507 | 2508 | 2509 | 2510 | 2511 | 2512 | 2513 | 2514 | 2515 | 2516 | 2517 | 2518 | 2519 | 2520 | 2521 | 2522 | 2523 | 2524 | 2525 | 2526 | 2527 | 2528 | 2529 | 2530 | 2531 | 2532 | 2533 | 2534 | 2535 | 2536 | 2537 | 2538 | 2539 | 2540 | 2541 | 2542 | 2543 | 2544 | 2545 | 2546 | 2547 | 2548 | 2549 | 2550 | 2551 | 2552 | 2553 | 2554 | 2555 | 2556 | 2557 | 2558 | 2559 | 2560 | 2561 | 2562 | 2563 | 2564 | 2565 | 2566 | 2567 | 2568 | 2569 | 2570 | 2571 | 2572 | 2573 | 2574 | 2575 | 2576 | 2577 | 2578 | 2579 | 2580 | 2581 | 2582 | 2583 | 2584 | 2585 | 2586 | 2587 | 2588 | 2589 | 2590 | 2591 | 2592 | 2593 | 2594 | 2595 | 2596 | 2597 | 2598 | 2599 | 2600 | 2601 | 2602 | 2603 | 2604 | 2605 | 2606 | 2607 | 2608 | 2609 | 2610 | 2611 | 2612 | 2613 | 2614 | 2615 | 2616 | 2617 | 2618 | 2619 | 2620 | 2621 | 2622 | 2623 | 2624 | 2625 | 2626 | 2627 | 2628 | 2629 | 2630 | 2631 | 2632 | 2633 | 2634 | 2635 | 2636 | 2637 | 2638 | 2639 | 2640 | 2641 | 2642 | 2643 | 2644 | 2645 | 2646 | 2647 | 2648 | 2649 | 2650 | 2651 | 2652 | 2653 | 2654 | 2655 | 2656 | 2657 | 2658 | 2659 | 2660 | 2661 | 2662 | 2663 | 2664 | 2665 | 2666 | 2667 | 2668 | 2669 | 2670 | 2671 | 2672 | 2673 | 2674 | 2675 | 2676 | 2677 | 2678 | 2679 | 2680 | 2681 | 2682 | 2683 | 2684 | 2685 | 2686 | 2687 | 2688 | 2689 | 2690 | 2691 | 2692 | 2693 | 2694 | 2695 | 2696 | 2697 | 2698 | 2699 | 2700 | 2701 | 2702 | 2703 | 2704 | 2705 | 2706 | 2707 | 2708 | 2709 | 2710 | 2711 | 2712 | 2713 | 2714 | 2715 | 2716 | 2717 | 2718 | 2719 | 2720 | 2721 | 2722 | 2723 | 2724 | 2725 | 2726 | 2727 | 2728 | 2729 | 2730 | 2731 | 2732 | 2733 | 2734 | 2735 | 2736 | 2737 | 2738 | 2739 | 2740 | 2741 | 2742 | 2743 | 2744 | 2745 | 2746 | 2747 | 2748 | 2749 | 2750 | 2751 | 2752 | 2753 | 2754 | 2755 | 2756 | 2757 | 2758 | 2759 | 2760 | 2761 | 2762 | 2763 | 2764 | 2765 | 2766 | 2767 | 2768 | 2769 | 2770 | 2771 | 2772 | 2773 | 2774 | 2775 | 2776 | 2777 | 2778 | 2779 | 2780 | 2781 | 2782 | 2783 | 2784 | 2785 | 2786 | 2787 | 2788 | 2789 | 2790 | 2791 | 2792 | 2793 | 2794 | 2795 | 2796 | 2797 | 2798 | 2799 | 2800 | 2801 | 2802 | 2803 | 2804 | 2805 | 2806 | 2807 | 2808 | 2809 | 2810 | 2811 | 2812 | 2813 | 2814 | 2815 | 2816 | 2817 | 2818 | 2819 | 2820 | 2821 | 2822 | 2823 | 2824 | 2825 | 2826 | 2827 | 2828 | 2829 | 2830 | 2831 | 2832 | 2833 | 2834 | 2835 | 2836 | 2837 | 2838 | 2839 | 2840 | 2841 | 2842 | 2843 | 2844 | 2845 | 2846 | 2847 | 2848 | 2849 | 2850 | 2851 | 2852 | 2853 | 2854 | 2855 | 2856 | 2857 | 2858 | 2859 | 2860 | 2861 | 2862 | 2863 | 2864 | 2865 | 2866 | 2867 | 2868 | 2869 | 2870 | 2871 | 2872 | 2873 | 2874 | 2875 | 2876 | 2877 | 2878 | 2879 | 2880 | 2881 | 2882 | 2883 | 2884 | 2885 | 2886 | 2887 | 2888 | 2889 | 2890 | 2891 | 2892 | 2893 | 2894 | 2895 | 2896 | 2897 | 2898 | 2899 | 2900 | 2901 | 2902 | 2903 | 2904 | 2905 | 2906 | 2907 | 2908 | 2909 | 2910 | 2911 | 2912 | 2913 | 2914 | 2915 | 2916 | 2917 | 2918 | 2919 | 2920 | 2921 | 2922 | 2923 | 2924 | 2925 | 2926 | 2927 | 2928 | 2929 | 2930 | 2931 | 2932 | 2933 | 2934 | 2935 | 2936 | 2937 | 2938 | 2939 | 2940 | 2941 | 2942 | 2943 | 2944 | 2945 | 2946 | 2947 | 2948 | 2949 | 2950 | 2951 | 2952 | 2953 | 2954 | 2955 | 2956 | 2957 | 2958 | 2959 | 2960 | 2961 | 2962 | 2963 | 2964 | 2965 | 2966 | 2967 | 2968 | 2969 | 2970 | 2971 | 2972 | 2973 | 2974 | 2975 | 2976 | 2977 | 2978 | 2979 | 2980 | 2981 | 2982 | 2983 | 2984 | 2985 | 2986 | 2987 | 2988 | 2989 | 2990 | 2991 | 2992 | 2993 | 2994 | 2995 | 2996 | 2997 | 2998 | 2999 | 3000 | 3001 | 3002 | 3003 | 3004 | 3005 | 3006 | 3007 | 3008 | 3009 | 3010 | 3011 | 3012 | 3013 | 3014 | 3015 | 3016 | 3017 | 3018 | 3019 | 3020 | 3021 | 3022 | 3023 | 3024 | 3025 | 3026 | 3027 | 3028 | 3029 | 3030 | 3031 | 3032 | 3033 | 3034 | 3035 | 3036 | 3037 | 3038 | 3039 | 3040 | 3041 | 3042 | 3043 | 3044 | 3045 | 3046 | 3047 | 3048 | 3049 | 3050 | 3051 | 3052 | 3053 | 3054 | 3055 | 3056 | 3057 | 3058 | 3059 | 3060 | 3061 | 3062 | 3063 | 3064 | 3065 | 3066 | 3067 | 3068 | 3069 | 3070 | 3071 | 3072 | 3073 | 3074 | 3075 | 3076 | 3077 | 3078 | 3079 | 3080 | 3081 | 3082 | 3083 | 3084 | 3085 | 3086 | 3087 | 3088 | 3089 | 3090 | 3091 | 3092 | 3093 | 3094 | 3095 | 3096 | 3097 | 3098 | 3099 | 3100 | 3101 | 3102 | 3103 | 3104 | 3105 | 3106 | 3107 | 3108 | 3109 | 3110 | 3111 | 3112 | 3113 | 3114 | 3115 | 3116 | 3117 | 3118 | 3119 | 3120 | 3121 | 3122 | 3123 | 3124 | 3125 | 3126 | 3127 | 3128 | 3129 | 3130 | 3131 | 3132 | 3133 | 3134 | 3135 | 3136 | 3137 | 3138 | 3139 | 3140 | 3141 | 3142 | 3143 | 3144 | 3145 | 3146 | 3147 | 3148 | 3149 | 3150 | 3151 |



B-RECORDS OF DISEASE

## THE INFECTIOUS DISEASES.

The principal Infectious Diseases are seven in number, namely:— Smallpox, Scarlet Fever, Diphtheria, Fever (including typhus, typhoid or enteric, and simple or continued), Diarrhœa, Measles, and Whooping Cough. The notification clauses of the Public Health London Act, 1891 (Sections 55–57), deal with smallpox, cholera, diphtheria and membranous croup, erysipelas, scarlet fever, typhus, typhoid, relapsing, continued, and puerperal fevers. During 1902 there were 1,026 notifications. The returns according to the Metropolitan Asylums Board Reports are as follows :—\*

|                                          | First<br>Qtr. | Second<br>Qtr. | Third<br>Qtr. | Fourth<br>Qtr. | Total<br>for 1902 |
|------------------------------------------|---------------|----------------|---------------|----------------|-------------------|
| Smallpox ... ..                          | 122           | 23             | 39            | 2              | 186               |
| Scarlet Fever... ..                      | 85            | 96             | 122           | 78             | 381               |
| Diphtheria (including Membranous Croup)  | 60            | 49             | 60            | 47             | 216               |
| Fevers—                                  |               |                |               |                |                   |
| Enteric ... ..                           | 10            | 12             | 31            | 24             | 77                |
| Typhus ... ..                            | —             | —              | —             | —              | —                 |
| Continued ... ..                         | 1             | 2              | 1             | 1              | 5                 |
| Erysipelas ... ..                        | 27            | 31             | 42            | 55             | 155               |
| Puerperal Fever ... ..                   | 2             | 2              | —             | 2              | 6                 |
| Totals ... ..                            | 307           | 215            | 295           | 209            | 1026              |
| Chicken Pox (Temporary Notification) ... | 152           | 234            | 105           | 199            | 690               |

## SMALL-POX.

This disease had been entirely absent in Clerkenwell for ten years, and also, with a few exceptions, in the parish of St. Luke. But during 1901 there occurred in Finsbury as many as 88 cases and in 1902 there were 187 cases, making a total of 275 cases in all. This was part of the general prevalence of small-pox in London, and compares not unfavourably with many other districts.

There appears to be evidence that the London epidemic of small-pox in 1901 was derived from infection from the continent, particularly from Paris. The disease was practically absent from London in the first five months of the year. But in June several cases occurred indirectly related to a case returning from Paris, and single cases followed in various parts of London. From August 22nd and onwards the disease appeared to obtain a hold in certain districts of Marylebone and St. Pancras, and from that time began to spread.

According to the instructions of the Local Government Board I have now to report on the whole epidemic as it affected this Borough. That part of the epidemic which occurred in 1901 has already been reported upon (*See Report on the Public Health of Finsbury, 1901, pp. 28-56*) and it will only be necessary here to summarize the main facts. The particulars respecting each case throughout the epidemic will be found as an appendix to the present report.

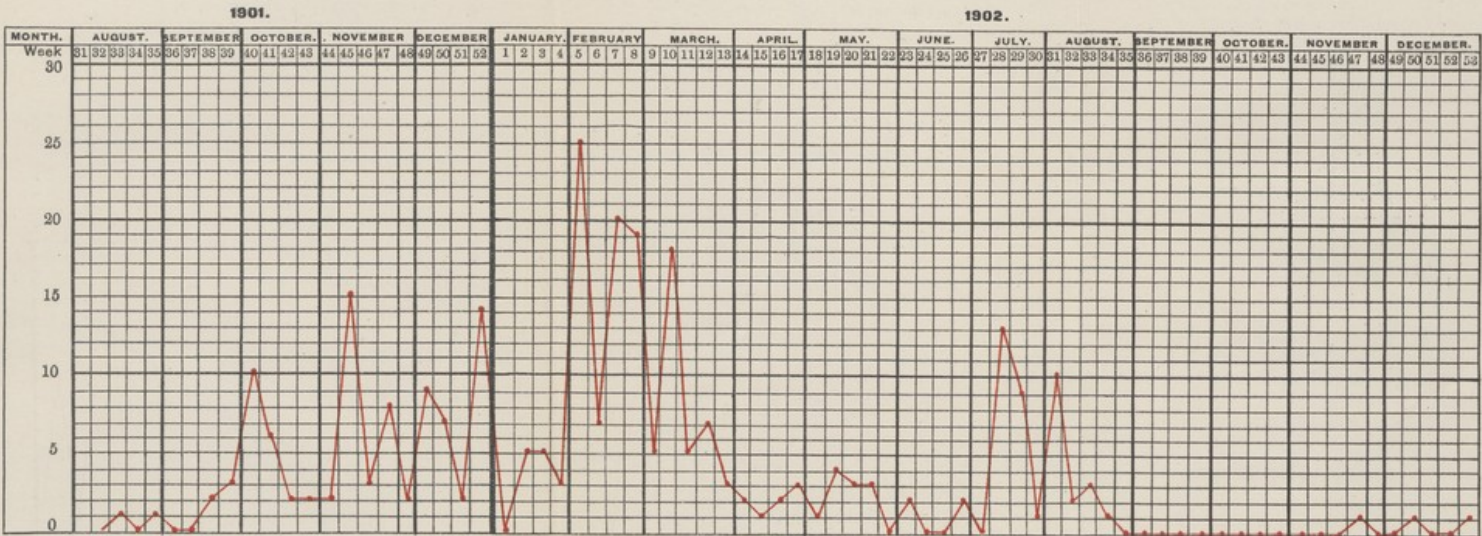
It will be necessary here to deal with several particulars respecting the outbreak, as it affected Finsbury. It is proposed to treat of the matter as briefly as possible under headings of Channels of Infection, Age and Sex Incidence, Vaccination, Mortality, and Preventive Methods :—

**I. Channels of Infection.**—In almost all cases the disease appears to have been spread by contact with previous cases or with infected materials or places. In more than one instance this has led to groups of cases. The record is as follows :—

No. 1 was occupied as a printer in the Strand. He belonged to the



Showing the Rise and Fall of SMALL-POX each week during 1901 and 1902.





Central Club in Clerkenwell Road, which is situated in the Borough of Holborn. But it was not till his return from the Ships that I learned, after further enquiry, that two or three of his comrades at the Club were removed with small-pox, and it was from them that he contracted it. No. 2 worked at Clipstone Street, in Tottenham Court Road. A fellow Workman—W. B.—had been removed from the same place with small-pox on August 22nd, and there is clear evidence to show that No. 2 contracted the disease from him. These two cases were the first introductions of small-pox into Finsbury. They were at once removed, and as far as can be judged gave rise to no further cases.

*First Group.*—The next case that occurred, arose, it appears, from an unrecognised case, which gave rise, directly and indirectly, to upwards of thirty cases. It will be necessary to consider this group in some detail. E. S. was a girl aged 14, belonging to Whiskin Street, but living for a time with Mrs. O. at 30, Thomas Street. Some time about the end of August she contracted a mild attack of small-pox, which remained unrecognised.

On September 1st, E. S. was taken by Mrs. O. to a hop-garden at Northlands, Bodiam, Sussex. On the same day a considerable number of persons (say 50 or 60) travelled from London to the farm in question for the purpose of hop-picking. The hop-pickers were accommodated in twelve "Hop-pickers Huts."

Amongst those who went down at the beginning of the month was this girl E. S., who arrived from Finsbury in company with Mrs. O. and family on September 1st. On or about September 10th she appears to have been out of health and suffering from headache. On September 13th, a rash appeared in the form of "spots" on her face. She then felt better, but was sent back to London on Sunday, September 15th on account of some trifling misbehaviour. On September 16th and 17th she was seen by a medical man in London, who, she says, stated that she was suffering from "chicken-pox." On September 18th I received the notification of Mrs. C., aged 21 (living in the same house) as suffering from small-pox. I have formed the opinion that Mrs. C. contracted her small-pox on or about the last day of August, and if, as has been suggested to me,



E. S. was suffering from mild small-pox and not chicken-pox, it would appear that she also contracted her complaint at or about the end of August. The ordinary incubation period of small-pox is 12-14 days, after which follow two or three days of premonitory symptoms—headache, back-ache, fever, and sometimes vomiting—which in their turn are immediately followed by the characteristic rash. From careful enquiry I should, therefore, expect that both these individuals came in the way of small-pox infection about the end of August, Mrs. C. severely so, and E. S. less severely so.

In any case, there is evidence to show that at the end of her visit to Bodiam, E. S. left behind in the hop-pickers' huts some kind of infection which had not existed on the farm before, and which it seems impossible to trace to any other source. For on Monday, September 23rd (a fortnight after the illness of E. S.), Mrs. P. reported to the manager of the farm that one of her children was ill, and on the following day her baby (16 months old) was similarly ill. The nearest medical man was consulted, and he formed the opinion that the complaint was "chicken-pox." A day or two later the baby became much worse and there appeared "a rash under its skin." A small boy (aged seven) was also taken seriously ill, and Mrs. P. decided to return at once to London with the sick children. This she did on Friday evening, September 27th. Being convinced that the illness was of a serious nature, she took the children direct to the Royal Free Hospital in Grays Inn Road, where they were found to be suffering from small-pox. (Nos. 5 and 6.) They were removed at midnight to the Small-pox Ships. Mrs. P. and her sister, M. H., then returned to their home in Vineyard Walk. On Saturday, September 28th, M. H. was taken ill and notified to me as suffering from small-pox (No. 7). I received the three notifications of the two children and of M. H., aged 19, at noon, on Saturday, and at once visited the house to make some preliminary investigations.

There I learned after careful enquiry that Mrs. P. had arrived the previous night from a farm in the Bodiam district, and there were several children at the same farm suffering from a similar complaint to her own children, that all the hop-pickers in that district were returning to London that night, and that the particular families affected would probably arrive in the evening at Cannon Street

Station. It seemed to me imperative that these persons should be waylaid and not allowed to enter London and create fresh centres of infection. As rapidly as possible arrangements were made and carried out for their medical inspection by which many hundreds of hop-pickers were examined as they arrived in London. As a result numbers 8, 9, 10, 11 and 12 were waylaid at Cannon Street Station and removed direct by the Metropolitan Asylums Board to the small-pox ships, and in that way were not brought into Finsbury at all.

Two further cases of small-pox appeared on September 29th: J. P. (No. 13) aged 37 years, the father of the two children E. P. and F. P., notified on Saturday. J. P. went to the infected hop-yard on September 14th and returned to London September 18th. H. B. (No. 14) aged 16 years, was the sister of Nos. 11 and 12, who were waylaid at Cannon Street Station. She had been to the farm for a week between September 15th and 22nd, and commenced to show signs of small-pox on September 27th.

In the enquiries necessitated by the above we had secured a list of about 80 persons who had been in contact with these cases and most of whom had returned to London. Notification of those belonging to other Boroughs were transmitted to the Medical Officers of such Boroughs, and those returning to Finsbury were kept under observation. We thus accounted for every case of small-pox at Bodiam, and for every person who returned to London from the infected hop-yard. It seemed inevitable, as I pointed out at the time, that we should get some cases of small-pox developing in a few days, and contact infection for some considerable time, because, although we had isolated the persons with the disease out upon them we had not of course been able to do the same for persons in whom the disease was at the time only incubating. So it proved. Nos. 21 and 22 were two children who had lived in the huts and contracted the disease there, or in the train returning to town. Nos. 17, 18 and 19 contracted the disease from E. S. directly, or indirectly from No. 3 or other infected person in 30, Thomas Street. Nos. 18 and 19 had such mild attacks that they continued to go about the district unrecognised until I saw them on October 7th. It will be readily understood that this amount of small-pox in a small street created



a centre of infection for fresh cases. So it proved to be, and from or near Thomas Street we have removed some twenty cases. Every house in the street was visited and vaccination advised. The small-pox limited itself to the houses and persons declining vaccination.

Nos. 16, 20, 25, 29, 30, 31, 32, 46, 47, 49, 62, 64 and 65, contracted the small-pox in or near Thomas Street, and were therefore *indirect* infections from the hop-picker group.

Nos. 4, 23 and 27 refer to three disinfectors in the employ of the Borough Council, who contracted the disease in the discharge of their duties in infected houses. It is interesting to note that when the small-pox commenced in September I advised the whole of the staff in the Public Health Department to be re-vaccinated. The inspectors and clerks (10) at once complied. The disinfectors (5) declined, and three of them contracted the small-pox. It should be added that the inspectors have, without exception, been engaged upon room disinfection in a way precisely similar to the disinfectors, and therefore open to the same risks, and in the removal of patients have frequently come into contact with the disease, and yet none of them have, up to the present, contracted the disease.

*Second Group*—This group commenced with No. 35, who believes that she contracted the disease from an infected house in Vineyard Walk at the end of September or the beginning of October. In about a fortnight's time spots appeared upon her, and she was ill with what was considered to be "chicken-pox." She was nursed at home, and her brother (No. 36) and her little sister (No. 37) contracted the disease from her. Then followed another sister (No. 38). All these lived in one house in Douglas Place. But a married sister living in Pine Street, who visited the house, contracted it next (No. 39), and she had a severe attack. These five cases were being nursed at home as "chicken-pox," and continuing with their avocations as much as possible. I learned of their condition by being called on November 5th to see No. 33, who was a deaf and dumb man, a friend of theirs. I found him to be suffering from "small-pox" although he considered it "chicken-pox." On enquiry I discovered that he contracted it from his friends in Douglas Place. I at once visited them, and found the



condition of affairs as above described. All six cases were sent that day to the small-pox ships. Nos. 50, 51, 76, 78 and 80 appear to have contracted small-pox from them, and there were four cases at least in Lambeth arising from this source.

*Third Group.*—No. 45 contracted the small-pox at his workshop in Clerkenwell Green. He was a jewel-case maker. In the shop there were employed ten men and six women or girls. Four cases of small-pox occurred in this shop. The first case was a man, H. C., living in a house in Westminster where there had recently been small-pox. We thoroughly disinfected the workshop and recommended vaccination. This advice was disregarded. F. H., of Islington, working beside H. C., took it next, and we again disinfected and advised re-vaccination, which was again disregarded. Then followed No. 45 and a fourth fellow workman, J. F., of Islington, and the place was once more disinfected. The remaining men and girls then submitted to vaccination, and there were no further cases.

*Fourth Group.*—When making enquiries respecting No. 66 I learned that at his workshop there was a girl, W. M., who had been away with "influenza" some time before but was "now quite well." After his removal I sent for this girl, who was employed in making leather toys in a small workshop with about 10 other girls and 2 men. When she reached the Town Hall I found she was recovering from a well-marked attack of small-pox (No. 69). On questioning her I learned that her mother was "not very well and thought she had influenza." Accordingly, I visited the house in Rodney Street, and found her mother in bed suffering from the acute stage of small-pox (No. 68). A daughter and son (Nos. 70 and 71), were also sickening with the same disease. I also saw a girl in the next street, employed at the same workshop as No. 69, and found she also was suffering from small-pox (No. 72). All these cases were, like the Douglas Place group, "unrecognised" until we met with them, when they were at once removed to the small-pox ships. Three or four other cases of the disease were also moved from the same workshop, but they did not belong to Finsbury. No. 85 also contracted the disease from this group.

Now all these cases arose from W. M., who had seen a medical man in the early stages of her sickness, but he did not then recognise it as small-pox. It is right to add that when the employer learned that the disease was small-pox, he rendered us every assistance in his power.

*Fifth Group.*—On January 28th, an infant, aged five weeks died at 27, Galway Street. On February 4th I was called to see the mother of this child and found her suffering from commencing small-pox. It now appears that the infant died of small-pox although it was not suspected at the time. The mother nursed it, and after death the body laid for seven days in the one small room inhabited by the family. As a consequence this family and their immediate relatives in Bartholomew Square contracted the disease. This group consists of Nos. 134, 135, 136, 137, 139, 140, 169 and 176.

*Sixth Group.*—On June 30th, I called to see a child of four years of age at 19, Mitchell Street which had been notified as a case of chicken-pox. I found the patient suffering from confluent small-pox. The child was unvaccinated and died at the small-pox ships on July 1st. Nos. 234, 236, 241, 242, 243, 250, 251, 254 and 255, all contracted the disease from this case.

*Seventh Group.*—No. 244 visited the small-pox ships in company with No. 232 who is his sister-in-law. They went to visit her brother who was removed from 18, Nelson Terrace, Shoreditch, at the end of May. They both declined vaccination and both contracted small-pox. The girl appears not to have spread the disease any further, but to the man may be traced ten cases, one of whom, his own child, died. The ten cases originally traceable to this man are Nos. 237, 238, 239, 240, 245, 246, 247, 248, 249 and 256. The Central Street cases commenced with the father, but were detected by me on making enquiries as to No. 238, who was notified from the Guardian Offices. The group was being concealed, and was only detected by the very strict system of investigation which we had adopted.

*Eighth Group.*—On July 15th I received notification of No. 252, a little boy living at the Public House, 37, Central Street. It



appears likely that he contracted his small-pox from the Mitchell Street infection. No. 257 nursed him during the early stage of his illness, and contracted the disease. Nos. 258 and 269 both contracted the small-pox from this source. Every effort was made to prevent the spread of infection from this public house. On two occasions I advised its closure, and everything was thoroughly disinfected. But from this source and from the Mitchell Street source infection unfortunately spread into Bastwick Street, the inhabitants of which street are constantly in and out of houses in Central Street, Mitchell Street and the immediate neighbourhood. In this way I think there is no doubt that Nos. 253-268 and Nos. 270-272 contracted the small-pox. Twelve cases occurred in Bastwick Street. Every possible effort was made and the most stringent precautions taken, and to this alone I attribute the fact that the outbreak was checked. The fresh cases, numbering 40 in all, were due to deliberate neglect of vaccination, and to deliberate concealment of the disease when it first appeared. Out of the 40 new cases there were eight deaths. Five of these deaths were due to confluent small-pox and three to hæmorrhagic small-pox. Six of these deaths were of patients who had never been vaccinated, and the other two had not been vaccinated during the last 10 years.

Whilst these were the eight chief groups of cases, it may be said at once that the vast majority of the cases were contracted from previous cases which had either been notified, or were so mild as to escape recognition, or be passing under other descriptions, such as "influenza" or "chicken-pox." Several cases were tramps, and many others were contracted in workshops or infected areas in other parts of London. Doubtless some cases in other Boroughs were contracted in Finsbury. Probably however, a Central Borough, and particularly one so overcrowded as Finsbury, is on that account all the more likely to extraneous infection than a Borough on the circumference of the Metropolitan area. A number of cases were contracted by persons visiting the small-pox ships and refusing vaccination. (*See Appendix.*)

**Conclusions.**—It will thus be seen that we have 88 cases of small-pox and 10 deaths in 1901, and 187 cases and 30 deaths in 1902. In old days there were not infrequently outbreaks of the



disease. The records are not sufficiently regular or explicit to allow a table to be drawn up to compare the decennial periods. In 1871 I find there were 740 cases in the Holborn Union, and in 1872, 923 cases. It will be remembered that this was an epidemic period. Then the disease declined. In 1877 and 1878 it again increased, and in 1881, 1883, 1884, and 1885, it was again prevalent. Since 1886 there has not been any extensive outbreak until the present time. The returns since notification became compulsory are as follows.—

|       | Clerkenwell. | St. Luke. | Total. | Deaths. |
|-------|--------------|-----------|--------|---------|
| 1890  | 2            | —         | 2      | —       |
| 1891  | —            | —         | —      | —       |
| 1892  | 4            | 8         | 12     | 4       |
| 1893  | 18           | 14        | 32     | 1       |
| 1894  | 5            | 13        | 18     | 1       |
| 1895  | 11           | 2         | 13     | —       |
| 1896  | 5            | —         | 5      | —       |
| 1897  | —            | —         | —      | —       |
| 1898  | —            | —         | —      | —       |
| 1899  | —            | —         | —      | —       |
| 1900  | —            | —         | —      | —       |
| 1901  | 77           | 11        | 88     | 8       |
| 1902  | 55           | 132       | 187    | 32      |
| Total | 177          | 180       | 357    | 46      |

In reference to the channels of infection, an examination of even the brief record stated above can lead to but one conclusion. It is, of course, that almost all of the cases have been derived by contact from previous cases. Food (including milk), contaminated water, defective drainage, and other sources to which epidemic disease is at times traceable have played apparently no part in the present outbreak. Attention has rather been directed to places where persons or things may have come into contact with recognised

or unrecognised cases of small-pox. Hence laundries, common lodging-houses, workshops, clubs, overcrowded tenements, and similar properties have provided the main opportunities for the spread of the disease.

The infection of small-pox is so subtle and so readily spread, and the disease is, in some cases, so mild and so readily concealed that no one can tell when he may be exposed to it and thus attacked by it unawares. It would appear that the infection is mainly given off (1) by the skin of persons suffering from small-pox, possibly during the incubation stage, certainly in the initial stage, but most virulently when the skin is pustular or scabbing; (2) from bodies of persons who have died from small-pox; (3) from infected articles and anything handled by the patient; (4) from healthy persons who have been in contact with the disease; (5) by the air from small-pox hospitals, houses or patients; hence the importance of rapid and total isolation of each case.

The question naturally arises, Why has there been such a marked increase in 1901 and 1902?

In my Annual Report for Clerkenwell, 1900 (pp. 24, 25) I pointed out that the prevalence or otherwise of small-pox depended on

- (a) The amount of small-pox in other districts of London.
- (b) The prompt recognition of any cases of small-pox and their early isolation to hospital.
- (c) The state of vaccination of the community.
- (d) General sanitation and freedom from overcrowding.

Now it happens that the present epidemic in Finsbury illustrates these four points, and it will be well to deal briefly with them—

(a) **Small-pox in other London Districts.**—As I have already pointed out, the first cases occurring in Finsbury derived their infection in other parts of London, and we have had perhaps half a dozen other similar cases. On the other hand we have been responsible for causing infection in persons not living in Finsbury. All over the Metropolitan area such cases have, of course, been numerous. Nor is this remarkable. The more remarkable fact is that, with small-pox prevalent in Islington (351 cases) and Shoreditch (456), and



extremely prevalent in St. Pancras (615) and Holborn (435)—all four Boroughs coterminous with our boundary—we have not suffered much more than has been the case.

(b) **Prompt Recognition and Early Isolation.**—In my Annual Report for Finsbury, 1901 (pp. 41-43), I have discussed the diagnosis of small-pox and chicken-pox, and the matter need not be further dealt with. What has been said respecting channels of infection speaks for the importance of prompt recognition and early isolation, and of the enormous and immediate effect that such circumstances have upon the spread of the disease. There can be no doubt that early recognition and isolation has been the secret of our success in Finsbury. If it had not been for this it is certain that the epidemic would have been more widespread.

The early diagnosis of small-pox is of the utmost importance, and *immediate* notification should follow its detection. For isolation to be of value must be prompt, and prompt isolation depends upon prompt recognition. Every case of small-pox unnotified, and, therefore, not removed to hospital, acts as a centre of infection, and, of course, the longer it remains so the greater is the opportunity of infection. Moreover, it should be borne in mind that the infectivity of small-pox increases daily after its commencement.

(c) **The State of Vaccination of the Community.**—It is a difficult matter to measure with any exactness the condition of the community as to vaccination, on account of private vaccination, and on account of there being no standard as to the number of marks. We can only arrive at an approximate opinion from the facts which we have, to which reference will now be made. The Vaccination Officer for the Holborn Union (Mr. T. J. Garstang) has furnished me with the following returns, showing the percentage of primary vaccinations on the registered births in decennial periods since 1870. The returns in the possession of the Holborn Guardians of the Poor are not, unfortunately, complete, and yet this is the only indication we have as to the state of the vaccination of the community. I select the figures at the decennial periods as illustrative of all the returns since 1870 :—



| Table of Primary Vaccinations in Holborn Union at Decennial Periods, from 1871-1900. |                  |             |              |                      |             |              |                   |             |              |
|--------------------------------------------------------------------------------------|------------------|-------------|--------------|----------------------|-------------|--------------|-------------------|-------------|--------------|
|                                                                                      | HOLBORN PORTION. |             |              | BOROUGH OF FINSBURY. |             |              |                   |             |              |
|                                                                                      |                  |             |              | CLERKENWELL DIVISION |             |              | ST. LUKE DIVISION |             |              |
|                                                                                      | Births.          | Vaccinated. | Per-centage. | Births.              | Vaccinated. | Per-centage. | Births.           | Vaccinated. | Per-centage. |
| 1871                                                                                 | 424              | 324         | 76.4         | 817                  | 680         | 83.2         | 919               | 818         | 89.0         |
| 1880                                                                                 | 1040             | 868         | 83.4         | 2452                 | 2040        | 83.3         | 2222              | 1862        | 83.8         |
| 1890                                                                                 | 919              | 705         | 76.7         | 2226                 | 1793        | 85.5         | 1945              | 1370        | 70.4         |
| 1900                                                                                 | 745              | 519         | 69.5         | 1977                 | 1244        | 62.9         | 1835              | 1002        | 54.6         |

It will be noted that immediately preceding the outbreak of small-pox, the Borough of Finsbury was less vaccinated than it had been for 30 years.\*

Mr. T. J. Garstang, has been good enough also to furnish me with the *primary* vaccination returns in children performed in 1901 and 1902.

|      | Clerkenwell. |               | St. Luke |               | Totals. |                       |
|------|--------------|---------------|----------|---------------|---------|-----------------------|
|      | Births.      | Vaccinations. | Births.  | Vaccinations. | Births. | Primary Vaccinations. |
| 1901 | 1,977        | 2,639         | 1,803    | 1,743         | 3,780   | 4,328                 |
| 1902 | 1,934        | 2,296         | 1,657    | 2,160         | 3,591   | 4,456                 |

\* The proportion of children born unaccounted for as to vaccination in the Metropolis as a whole in 1900 was 31.8 per cent. It had steadily risen ever since 1881, when it was only 5.7 per cent. The neighbouring Borough of St. Pancras had 43.9 per cent. unaccounted for in 1899, and 35.1 per cent. in 1900. These are undoubted signs of the fact that London was less vaccinated in 1901, when the epidemic began, than it had been for many years.

It is not possible to state these figures in percentages, as in both portions of the Borough there were a large number of "arrear" vaccinations.

Such returns do not, of course, give any indication as to the number of persons submitting to re-vaccination on account of the prevalence of small-pox. To obtain that figure it would be necessary to secure the returns from every private practitioner and the three Public Vaccinators. The latter part of this requirement is to hand, and by the kindness of the Vaccination Officer, I am at liberty to report that 5,015 vaccinations were performed by the three Public Vaccinators during the year 1902. From October 1st to December 31st, 1901, there were 2,499 vaccinations performed by the three Public Vaccinators. The certificates received by the Vaccination Officer may be tabulated thus :—

| Division.               | Population. | Primary Vaccination in Adults. | Re-vaccinations. | Total Vaccinations of Adults. |
|-------------------------|-------------|--------------------------------|------------------|-------------------------------|
| Finsbury [St. Luke] ... | 35,376      | 158                            | 1,731            | 1,889                         |
| Clerkenwell ...         | 63,715      | 268                            | 2,858            | 3,126                         |
| Total ...               | 99,091      | 426                            | 4,589            | 5,015                         |

It should be clearly understood that if it were possible to obtain returns from every medical man practising in the Borough, a large number (probably not less than 20,000) would have to be added to the 5,015 persons vaccinated by the Public Vaccinators.

There is one other available source from which facts may be obtained, throwing some light on this question, and that is the returns of unvaccinated children in the Public Elementary Schools. Amongst the preventive methods adopted in the present epidemic was vaccination of children. As a preliminary, the children in the schools were medically examined in 1901, except in cases of parental objection. The result was as follows :—



| Number of Schools examined. | Number of children on the Roll. | Number Un-vaccinated. | Number having only one mark of Vaccination. | Percentage of Un-vaccinated. | Percentage having one mark. |
|-----------------------------|---------------------------------|-----------------------|---------------------------------------------|------------------------------|-----------------------------|
| 16                          | 15,652                          | 2,617                 | 1,383                                       | 16.7                         | 8.8                         |

NOTE.--The figures in this table are only approximate, and in all probability the numbers of those unvaccinated, and of those having only one mark, are very considerably under the correct figure. The correct figures have not been obtainable owing, so the Vaccination Officer informs me, to the fact that *one-third* of the parents of the children "objected" (under the objection clause allowed by the School Board) to their children being examined. If this be taken into consideration, the percentages should be worked out on a basis of 10,435 instead of 15,652. This would give unvaccinated children 25 per cent. and one-marked children 13.2 per cent. Most of the unvaccinated children belonged to the infants' classes.

These figures assist us in forming some opinion as to the number of persons in the community who have been recently vaccinated or revaccinated. For example, it would appear that the total number of such persons (including infant vaccinations) in 1902 was approximately, 25,000 to 30,000. In 1901 the same total was about 15,000. We might therefore conclude that not less than 40,000 persons had been vaccinated or revaccinated in Finsbury in the two years. But even then we cannot form even an approximate opinion as to how many of the remaining 60,000 persons in the Borough had actually never been vaccinated at all. Yet this is an important figure to obtain, if possible. Some light may be thrown upon it by the following returns, for which I am again indebted to Mr. Garstang, the Vaccination Officer. This is a table of births and of infants unvaccinated, for one reason or another (the majority of whom do not reside at place of birth, viz., Lying-in Hospital) :—

| Years. | No. of Births. | No. of Infants Unvaccinated. |
|--------|----------------|------------------------------|
| 1897   | 3,979          | 770                          |
| 1898   | 3,949          | 779                          |
| 1899   | 3,864          | 509                          |
| 1900   | 3,812          | 425                          |
| 1901   | 3,792          | 413                          |
| TOTALS | 19,395         | 2,896                        |



Of the 19,396 infants born, fully *one-sixth*, although born in the Borough, now live outside the district, having been born in the Lying-in Hospital, City Road. This leaves about 16,164 infants resident.

Of the 2,896 infants unvaccinated at the time the above returns were made, at least 1,200 have since been vaccinated, owing to the prevalence of small-pox and the usual steps taken by the Vaccination Officer in arrear cases. This leaves 1,696 to be still accounted for, over the five years, or roughly 340 per annum. This works out at one-ninth of the infants born. Mr. Garstang writes: "I estimate "the number of unvaccinated children within the Borough to yield "a return of ten per cent. after allowing for removals in and out, "etc. This percentage cannot well be reduced until steps are taken "to ensure correct registration of births and facilities for tracing "those who wilfully avoid the visits of the Vaccination Officer by "false addresses, removals, etc."

From these returns, then, it would appear that about ten per cent. of the population, that is 10,000 persons, *started* life without vaccination. But many of those accepted vaccination later on in their lives when they came to think for themselves, or in times of small-pox prevalence, as for example in the early seventies and early nineties of last century. On the whole, therefore, it may be said that about five per cent. of the population of Finsbury (*i.e.*, about 5,000 persons) have *never* been vaccinated; 40 per cent. of the population of Finsbury (*i.e.*, about 40,000 persons) have been *recently vaccinated*; which leaves 55 per cent. of the Finsbury population as having been vaccinated at some time or other in their lives, but probably more than half of them not within the last ten years. Such are the main facts obtainable respecting the general state of vaccination in Finsbury at the present time. There can be little doubt that the increased prevalence of small-pox was in part due to the comparatively high percentage of susceptible persons in the community.

(d) **General Sanitation and Freedom from Overcrowding.**—The facts throwing any light upon the relationship of these matters to the spread of small-pox, in the past epidemic, are the following two:—

(i) Of the 197 houses in which the disease has occurred, 119 (or 61·4 per cent.) were clean houses of good sanitation to which exception could not be taken. Small-pox is not, therefore, a disease only of unclean people. (ii) In the four or five centres of infection where the disease spread most, there was a high density of population. The point does not require elaboration. It is evident that diseases which spread by contact will quickly respond to overcrowding or density of population.

**2. Age and Sex Incidence.**—Out of the total of 275, 158 (or 57 per cent.) were males, and 117 (or 43 per cent.) were females. There were of both sexes 79 cases (52 boys and 27 girls) occurring under 15 years. Between 15 years and 35 years there were 162 cases (88 males and 74 females). The following table sets forth these figures and illustrates that it is adolescence and young adult life which has suffered most:—

| Ages in }<br>Years }           | 0- | 1- | 5- | 10- | 15- | 20- | 25- | 30- | 35- | 40- | 45- | 50- | 55- | 60-<br>65 | TOTALS. |
|--------------------------------|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------|---------|
| <b>MALES.</b>                  |    |    |    |     |     |     |     |     |     |     |     |     |     |           |         |
| Cases ..                       | 5  | 17 | 15 | 15  | 22  | 19  | 17  | 21  | 9   | 9   | 6   | 2   | —   | 1         | 158     |
| Unvaccinated                   | 5  | 16 | 12 | 10  | 4   | 3   | 2   | 1   | 1   | —   | —   | —   | —   | —         | 54      |
| Deaths ...                     | 3  | 6  | 3  | 1   | 1   | 4   | 1   | 2   | 3   | 2   | —   | —   | —   | —         | 26      |
| <b>FEMALES</b>                 |    |    |    |     |     |     |     |     |     |     |     |     |     |           |         |
| Cases ...                      | —  | 5  | 8  | 14  | 23  | 23  | 20  | 2   | 6   | 8   | 4   | 3   | 1   | —         | 117     |
| Unvaccinated                   | —  | 5  | 5  | 3   | 6   | 2   | 1   | —   | —   | —   | —   | 1   | —   | —         | 23      |
| Deaths ...                     | —  | 2  | 2  | 2   | 4   | 1   | 2   | —   | —   | —   | —   | 1   | —   | —         | 14      |
| <b>TOTALS OF }<br/>CASES }</b> | 5  | 22 | 23 | 29  | 45  | 42  | 37  | 23  | 15  | 17  | 10  | 5   | 1   | 1         | 275     |



**3. Vaccination and Re-vaccination.**—Out of the 275 cases, 77 had not been vaccinated at any time in their lives; the 194 others had been vaccinated in infancy. *In no case did small-pox occur in any one who had been re-vaccinated.* In no case did small-pox occur in anyone who had been vaccinated within 10 years, except in the cases of seven young children, who had been in close contact with persons suffering acutely from the disease. In one case two children slept with their parents whilst the latter were suffering from the disease, and in another case two children were nursed by a mother having small-pox. The Royal Commission on Vaccination, 1896, concluded (p. 99) that the protection vaccination affords against small-pox may be stated as follows:—

- “(1) That it diminishes the liability to be attacked by the disease. (2) That it modifies the character of the disease and renders it less fatal and of a less severe type. (3) That the protection it affords against attacks of the disease is greatest during the years immediately succeeding the operation of vaccination. It is impossible to fix, with precision, the length of this period of highest protection. Though not in all cases the same, if a period is to be fixed, it might, we think, fairly be said to cover in general *a period of nine or ten years.* (4) That after the lapse of the period of highest protective potency, the efficacy of vaccination to protect against attack rapidly diminishes, but that it is still considerable in the next quinquennium, and possibly never altogether ceases. (5) That its power to modify the character of the disease is also greatest in the period in which its power to protect from attack is greatest, but that its power thus to modify the disease does not diminish as rapidly as its protective influence against attacks, and its efficacy during the later periods of life to modify the disease is still very considerable. (6) That re-vaccination restores the protection which lapse of time has diminished, but the evidence shows that this protection again diminishes, and that to ensure the highest degree of protection which vaccination can give, the operation should be at intervals repeated. (7) That the beneficial effects of vaccination are most experienced by those in whose case it has been most thorough. We think it may be fairly concluded that where *the vaccine matter is inserted in three or four places it is more effectual than when introduced into one or two places only*, and that if the vaccination marks are of an area of half a square inch they indicate a better state of protection than if their area be at all considerably below this.”

The following table sets out in detail the cases, deaths and mortality per cent. in relation to vaccination for the whole epidemic in the Borough of Finsbury:—



| Ages.                   | Vaccinated. |         |                     | Unknown. |         |                     | Unvaccinated. |         |                     | Total cases and deaths. |         |                     |
|-------------------------|-------------|---------|---------------------|----------|---------|---------------------|---------------|---------|---------------------|-------------------------|---------|---------------------|
|                         | Cases.      | Deaths. | Mortality per cent. | Cases.   | Deaths. | Mortality per cent. | Cases.        | Deaths. | Mortality per cent. | Cases.                  | Deaths. | Mortality per cent. |
| YEARS.                  |             |         |                     |          |         |                     |               |         |                     |                         |         |                     |
| Under 1 ...             | —           | —       | —                   | —        | —       | —                   | 5             | 3       | 60·0                | 5                       | 3       | 60·0                |
| 1 to 5 ...              | 1           | —       | —                   | —        | —       | —                   | 21            | 8       | 38·0                | 22                      | 8       | 36·3                |
| 5—10 ...                | 6           | —       | —                   | —        | —       | —                   | 17            | 5       | 29·4                | 23                      | 5       | 21·7                |
| 10—15 ...               | 15          | 1       | 6·6                 | 1        | 1       | 100                 | 13            | 1       | 7·6                 | 29                      | 3       | 10·3                |
| 15—20 ...               | 35          | —       | —                   | —        | —       | —                   | 10            | 5       | 50·0                | 45                      | 5       | 11·1                |
| Total under 20          | 57          | 1       | 1·7                 | 1        | 1       | 100                 | 66            | 22      | 33·3                | 124                     | 24      | 19·3                |
| 20—25 ...               | 37          | 4       | 10·8                | —        | —       | —                   | 5             | 1       | 20·0                | 42                      | 5       | 11·9                |
| 25—30 ...               | 33          | 1       | 3·0                 | 1        | 1       | 100                 | 3             | 1       | 33·3                | 37                      | 3       | 8·1                 |
| 30—35 ...               | 22          | 1       | 4·5                 | —        | —       | —                   | 1             | 1       | 100·0               | 23                      | 2       | 8·6                 |
| 35—40 ...               | 14          | 2       | 14·2                | —        | —       | —                   | 1             | 1       | 100·0               | 15                      | 3       | 20·0                |
| 40—50 ...               | 26          | 1       | 3·8                 | 1        | 1       | 100                 | —             | —       | —                   | 27                      | 2       | 7·4                 |
| 50—60 ...               | 4           | —       | —                   | 1        | 1       | 100                 | 1             | —       | —                   | 6                       | 1       | 1·5                 |
| 60—70 ...               | 1           | —       | —                   | —        | —       | —                   | —             | —       | —                   | 1                       | —       | —                   |
| 70—80 ...               | —           | —       | —                   | —        | —       | —                   | —             | —       | —                   | —                       | —       | —                   |
| Total between 20 and 80 | 137         | 9       | 6·5                 | 3        | 3       | 100                 | 11            | 4       | 36·3                | 151                     | 16      | 10·5                |
| Grand Total ...         | 194         | 10      | 5·1                 | 4        | 4       | 100                 | 77            | 26      | 33·7                | 275                     | 40      | 14·5                |

The cases have been divided into three groups, namely (1) *Vaccinated*, that is cases having visible signs of vaccination or about which there was no doubt that vaccination had been performed at some time during the life of the patient; (2) *Unknown*, including the four cases about which it was impossible to obtain information; and (3) *Unvaccinated*, that is cases admittedly unvaccinated or bearing no marks of the operation.

The Table speaks for itself and deserves careful study. It may, however, be useful to consider the statistics as grouped under age periods.

*Under Ten Years of Age.*—The vaccinated cases numbered seven, and there was no death. These seven children had come into close personal contact with cases of small-pox in the pustular stage. At the same age-period the number of unvaccinated cases was 43 and there were 16 deaths, yielding a mortality percentage of 37·2.

*Under Twenty Years of Age.*—There were 57 vaccinated cases of whom one died, a frail invalid child of eleven years old, one of a family of whom ten children had died in infancy of constitutional disease. The mortality rate per cent. was therefore 1·7. There were almost the same number of unvaccinated cases, namely 66. Out of this number 22 died, yielding a mortality percentage of 33·3.

*Over Twenty Years of Age.*—The vaccinated cases numbered 137, and there were nine deaths or 6·5 per centage. The unvaccinated cases numbered only eleven, but there were four deaths or 36·3 per centage. The larger number of vaccinated cases, from 20 to 70 years of age, is of course due to the fact that by far the larger part of the population at that age-period have, at some time or the other in their lives, been vaccinated. Not one of these 137 vaccinated cases had been vaccinated within 10 years.

It will be seen that the total mortality percentage of vaccinated cases was 5·1 and that of unvaccinated cases 33·7.

There are many things to be learned from a study of this Table by itself, and also in conjunction with the Table on sex and age incidence. There are three broad facts which stand out with clearness:—

(1) That small-pox among the vaccinated is now-a-days mainly a disease of adults, because children are protected by primary vaccination and adults are not protected by re-vaccination. (88 per cent. of the vaccinated cases were over 15 years of age).

(2) That among the unvaccinated, small-pox is still, in great measure, a disease of the young as it was in prevaccination days. (73 per cent. of the unvaccinated cases were under 15 years of age).

(3) That the mortality rate among the vaccinated is *at all ages* much less than among the unvaccinated and that this difference is very striking and complete in children because of their recent vaccination.

Those who advocate vaccination and re-vaccination as protective in a greater or lesser degree against small-pox do so upon three



main grounds. In the first place, they claim that, other things being equal, persons who have been vaccinated (especially within ten years) *are less liable to attack* from small-pox. This is abundantly established by the figures quoted above. In the second place, they claim that persons who have been vaccinated, and yet, on account of their greater number in the population, and, therefore, their consequent greater probability of infection, are attacked by small-pox, *do not die so readily from the disease* as those who have not been vaccinated. This claim also is more than proved in the returns quoted above. In the third place, they claim that persons who have been vaccinated, and yet who have been attacked, *do not suffer so greatly from the disease* as those who have not been vaccinated. Now the only method we have of measuring the severity of the disease in each case is by considering the number of days for which each case was detained in hospital, because it is evident that the more severe cases will be detained for treatment longer than the less severe cases. Eliminating the 40 deaths which occurred, as a rule, early in the attack, we have records of 176 cases out of 235, as to the number of days they were detained in hospital. The result at each age-period is as follows :—

| Age Period.                  | No. of Days in Hospital. |               |
|------------------------------|--------------------------|---------------|
|                              | Vaccinated.              | Unvaccinated. |
| 0—10 years    ...    ...     | 19 days                  | 49 days       |
| 10—20    "    ...    ...     | 24    "                  | 42    "       |
| 20—30    "    ...    ...     | 25    "                  | 61    "       |
| 30—40    "    ...    ...     | 29    "                  | 60    "       |
| 40—50    "    ...    ...     | 31    "                  | 48    "       |
| 50 and upwards    ...    ... | 23    "                  | 35    "       |
| Average Number of Days       | 25 days                  | 49 days       |

I do not assert that vaccination is the only method of prevention we have against small-pox. But I do assert that these returns are



a strong and unanswerable argument in favour of vaccination and particularly of re-vaccination as a protective agency against this disease. The Vaccination Officer estimates that upwards of 15,000 persons were *re-vaccinated* in Finsbury during 1901. Small-pox was generally distributed in the Borough. Not one single person out of this number contracted small-pox. During 1902 he estimates that at least another 25,000 persons were re-vaccinated. Small-pox was even more widely distributed in the Borough. Yet again, not a single person out of this 25,000 took small-pox. Many of them lived in infected areas and more than 2,000 of them lived in infected houses or worked in infected workshops, but not one of them contracted the disease. Small-pox visited every part of the Borough, it picked out rich and poor, men and women, adults and children, *but in no single case did it attack a re-vaccinated person.* In upwards of 80 cases it went into a family and selected only one member of the family leaving behind only those who had been re-vaccinated. On many occasions one or more members of the family declined re-vaccination, to which the rest of the family submitted; in a fortnight's time small-pox had picked out the person who had declined to be re-vaccinated, and left the others. The whole matter may be put very briefly in three simple propositions:—

1. A large percentage of the total population (say 40 per cent.) have been vaccinated (or re-vaccinated) in 1901 and 1902. Not one of these contracted small-pox.
2. Many of the population have been vaccinated (or re-vaccinated) within the last ten years. Seven of these took small-pox, being seven young children brought into close contact with the disease.
3. Subtracting these two totals of the population we have left the remainder, many of whom have not been vaccinated within the last ten years; of these, 194 took the small-pox. A very small remnant have never been vaccinated at all; 77 of these contracted the small-pox.

When we turn to the deaths the same evidence is forthcoming. Five per cent. of the vaccinated cases died; thirty-three per cent. of the unvaccinated cases died, which was therefore seven times more fatal. Of the vaccinated cases that died none had been vaccinated within 20 years, except an invalid boy. Under 20 years

of age small-pox was 33 times more fatal in unvaccinated persons than vaccinated persons. Even the experience of the Staff of the Public Health Department points in the same direction. Twenty-two men came into direct personal contact with small-pox, some of us being rarely out of infection for twelve months, yet small-pox only picked out the three men who had declined re-vaccination, although all worked under exactly the same conditions.\*

**4. Mortality.**—Forty of the small-pox patients died, yielding a mortality percentage on the total cases of 14·5 and a death rate of 0·39 per 1000. The following are the particulars of each death in Finsbury:—

In 1902 there were in the whole of London 1,314 deaths due to small-pox which yields a death rate of 0·28 per 1000. In 1901 there were 247 deaths which gave a mortality per centage of 24·2.

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\* The recent experience of Glasgow is further evidence in support of re-vaccination as protective against small-pox. The population of persons above 5 years of age is 675,887. During 1901 and 1902, 404,855 persons were re-vaccinated. During the same period there was an epidemic of small-pox involving 1,858 persons, and distributed in every part of the City and among all classes and conditions of persons. Not a single one of those cases occurred amongst the 404,855 people who had been re-vaccinated. The epidemic limited itself absolutely to the 271,032 persons who had not been re-vaccinated.



| Date of Death. | Hospital.         |     |     | Age and Sex. | Address.                     |
|----------------|-------------------|-----|-----|--------------|------------------------------|
|                |                   |     |     | Years.       |                              |
| 22nd Oct.      | Atlas             | ... | ... | F. 15        | 9, Tilney Court ...          |
| 5th Nov.       | Castalia          | ... | ... | M. 26        | 9, Malta Street ...          |
| 11th "         | Atlas             | ... | ... | M. 6         | 3A, Lloyd's Row ...          |
| 10th "         | Castalia          | ... | ... | M. 10 4/12   | 92, St. John Street ...      |
| 21st "         | Atlas             | ... | ... | F. 26        | 22, Green Terrace ...        |
| 5th Dec.       | Castalia          | ... | ... | M. 36        | 13, St. James' Gardens ...   |
| 12th "         | Atlas             | ... | ... | F. 29        | 6, Thomas Street ...         |
| 22nd "         | Gore Farm         | ... | ... | M. 41        | 35, Myddelton Street ...     |
| 2nd Jan.       | Castalia          | ... | ... | M. 32        | 68, St. John Street ...      |
| 3rd "          | Castalia          | ... | ... | M. 31        | 38, Wharton Street ...       |
| 6th "          | Atlas             | ... | ... | F. 16        | 8, Jay's Buildings ...       |
| 11th "         | Castalia          | ... | ... | M. 38        | 6, Wharton Street ...        |
| 29th "         | Atlas             | ... | ... | F. 17        | 15, Southampton Street ...   |
| 1st Feb.       | Atlas             | ... | ... | F. 6         | 22 W, Guest Street ...       |
| 3rd "          | Atlas             | ... | ... | M. 7/12      | 132 F, Guinness Buildings... |
| 4th "          | Castalia          | ... | ... | M. 23        | 17, Ironmonger Street ...    |
| 14th "         | Atlas             | ... | ... | F. 13        | 45, Galway Street ...        |
| 16th "         | At home           | ... | ... | M. 4/12      | 149 G, Guinness Buildings... |
| 18th "         | Atlas             | ... | ... | M. 5         | 16, Bartholomew Square ...   |
| 19th "         | Atlas             | ... | ... | F. 3         | 27, Galway Street ...        |
| 19th "         | Atlas             | ... | ... | M. 3         | 7, Seabrook Place ...        |
| 20th "         | Atlas             | ... | ... | F. 1 3/12    | 34, Baldwin Street ...       |
| 22nd "         | N. E. Fever Hosp. |     |     | M. 24        | 3, Union Place ...           |
| 24th "         | Castalia          | ... | ... | M. 32        | 47, Radnor Street ...        |
| 24th "         | Atlas             | ... | ... | M. 3         | 25, Clement's Buildings ...  |
| 1st Mar.       | At home           | ... | ..  | F. 52        | 60, Baldwin Street ...       |
| 8th "          | Atlas             | ... | ... | M. 2½        | 4, Baldwin Street ...        |
| 8th "          | Castalia          | ... | ... | M. 24        | 28, Wilmington Square ...    |
| 11th "         | Long Reach Hosp.  |     |     | F. 23        | 73, Margaret Street ...      |
| 13th "         | Castalia          | ... | ... | M. 19        | 8, Gloucester Street ...     |
| 22nd "         | Atlas             | ... | ... | M. 21 days   | 73, Margaret Street ...      |
| 21st April     | Long Reach Hosp.  |     |     | F. 15        | 185, Central Street ...      |
| 2nd July       | Atlas             | ... | ... | M. 4         | 19, Mitchell Street ...      |
| 14th "         | Long Reach Hosp.  |     |     | M. 2 9/12    | 159, Central Street ...      |
| 17th "         | Castalia          | ... | ..  | M. 39        | 6, Galway Street ...         |
| 19th "         | Long Reach Hosp.  |     |     | M. 6         | 37, Central Street ...       |
| 30th "         | Long Reach Hosp.  |     |     | M. 4         | 46, Bastwick Street ...      |
| 5th Aug.       | Long Reach Hosp.  |     |     | M. 40        | 29, Bastwick Street ...      |
| 13th "         | Long Reach Hosp.  |     |     | F. 6         | 46, Bastwick Street ...      |
| 20th "         | Long Reach Hosp.  |     |     | F. 14        | 53, Bastwick Street ...      |



| Occupation.                      | Kind of Small-pox.      | Condition as to Vaccination. |
|----------------------------------|-------------------------|------------------------------|
| Daughter of a Market Porter ...  | Confluent Small-pox     | Not vaccinated.              |
| Warehouse Packer ...             | Confluent Small-pox—    | Not vaccinated.              |
| Son of a General Dealer ...      | Discrete Small-pox ...  | Not vaccinated.              |
| Son of a Compositor ...          | Hæmorrhagic Small-pox   | Vaccinated, infancy.         |
| Wife of a Cabman ...             | Hæmorrhagic Small-pox   | Vaccination unknown.         |
| Glazier ...                      | Hæmorrhagic Small-pox   | Vaccinated, infancy.         |
| Wife of a Labourer ...           | Confluent Small-pox ... | Vaccinated, infancy.         |
| Boot Maker ...                   | Small-pox—Pericarditis  | Vaccination unknown.         |
| Lead Beater ...                  | Confluent Small-pox ... | Not vaccinated.              |
| Cabinet Maker ...                | Confluent Small-pox ... | Vaccinated, infancy.         |
| Cigarette Cutter ...             | Confluent Small-pox ... | Not vaccinated.              |
| Clerk ...                        | Hæmorrhagic Small-pox   | Vaccinated, infancy.         |
| Wife of a Detective ...          | Confluent Small-pox ... | Not vaccinated.              |
| Daughter of a Builder's Labourer | Confluent Small-pox ... | Not vaccinated.              |
| Son of an Umbrella Maker ...     | Confluent Small-pox ... | Not vaccinated.              |
| Cook ...                         | Confluent Small-pox ... | Not vaccinated.              |
| Daughter of a Labourer ...       | Confluent Small-pox ... | Not vaccinated.              |
| Son of a Goods Checker ...       | Small-pox ...           | Not vaccinated.              |
| Son of a Railway Porter ...      | Confluent Small-pox ... | Not vaccinated.              |
| Daughter of a Railway Porter ... | Discrete Small-pox ...  | Not vaccinated.              |
| Son of a Bricklayer's Labourer   | Discrete Small-pox ...  | Not vaccinated.              |
| —                                | Confluent Small-pox ... | Vaccinated, infancy.         |
| Carman ...                       | Hæmorrhagic Small-pox   | Vaccinated, infancy.         |
| Coachman ...                     | Confluent Small-pox ... | Vaccinated, infancy.         |
| Son of a Japanner's Labourer ... | Confluent Small-pox ... | Not vaccinated.              |
| Card Box Maker ...               | Small-pox ...           | Vaccination unknown.         |
| Son of a Labourer ...            | Confluent Small-pox ... | Not vaccinated.              |
| Brass Finisher ...               | Small-pox ...           | Vaccinated, infancy.         |
| Wife of a Coachman ...           | Hæmorrhagic Small-pox   | Vaccinated, infancy.         |
| Hawker ...                       | Confluent Small-pox ... | Not vaccinated.              |
| Son of a Coachman ...            | Discrete Small-pox ...  | Not vaccinated.              |
| Bookfolder ...                   | Confluent Small-pox ... | Not vaccinated.              |
| Son of a Farrier ...             | Confluent Small-pox ... | Not vaccinated.              |
| Son of a Hawker ...              | Confluent Small-pox ... | Not vaccinated.              |
| Potman ...                       | Confluent Small-pox ... | Not vaccinated.              |
| Son of a Publican ...            | Confluent Small-pox ... | Not vaccinated.              |
| Son of a Glass Blower ...        | Hæmorrhagic Small-pox   | Not vaccinated.              |
| Labourer ...                     | Hæmorrhagic Small-pox   | Vaccinated, infancy.         |
| Daughter of a Glass Blower ...   | Hæmorrhagic Small-pox   | Not vaccinated.              |
| Daughter of a Carman ...         | Confluent Small-pox ... | Vaccination unknown.         |

Under this heading it may also be mentioned that whilst there has been a mortality rate of 14 per cent., there has also been a considerable number of extremely mild cases of the disease. In several such cases the rash has been almost absent and only detected after a most careful examination. These mild, and often unrecognized cases are infectious to other persons, and in some cases give rise to a serious and even fatal attack. Not a little of the outbreak under consideration can be directly traced back to such cases. It would, therefore, be well if medical practitioners and heads of families would draw the attention of the Sanitary Authorities to every *suspicious* case of small-pox.

From this table, and from the table on page 43, it will be seen that in only ten of these cases of death had there been vaccination as far as could be ascertained, and *in no case had there been vaccination within ten years or revaccination at any time whatever.* It will further be noticed that, of the vaccinated cases, one per cent. only died under 20 years of age, and this was an invalid boy; whereas, of the unvaccinated cases, 33 per cent. died under 20 years of age.

The causes of death may be tabulated as follows:—

| Causes of Death.      |     |     | Vaccinated in<br>Infancy only. | Unvacci-<br>nated. | Unknown. | Totals. |
|-----------------------|-----|-----|--------------------------------|--------------------|----------|---------|
| Confluent Small-pox   | ... |     | 3                              | 19                 | 1        | 23      |
| Hæmorrhagic Small-pox |     |     | 6                              | 2                  | 1        | 9       |
| Discrete Small-pox.   | ... |     | 1                              | 5                  | 2        | 8       |
| TOTALS                | ... | ... | 10                             | 26                 | 4        | 40      |

**5. Methods of Prevention.**—This subject was discussed in detail in the Report for 1901, pp. 51-56. The same methods were adopted with strictness throughout the Epidemic. It is unnecessary here to do more than name the chief preventive methods adopted: (a) encouragement of early notification; (b) immediate isolation; (c) thorough and immediate disinfection;



(*d*) careful investigation of each case; (*e*) vaccination and revaccination; (*f*) supervision of contact persons; (*g*) inspection of premises, including periodical inspection of Common Lodging Houses.

It may be desirable to emphasise one or two points respecting these methods of prevention.

(1.) We have made the greatest efforts to ensure *immediate* isolation. The importance of *early removal* of all cases of small-pox in a central borough like Finsbury (with 172 persons to the acre and 10.9 to the house) can scarcely be exaggerated. It is, of course, to the advantage of the patient; it is still more to the advantage of the community. In this connection it should be remembered that small-pox, when the rash is first beginning, is much less infectious than at later stages. We are greatly indebted in Finsbury to the rapid removal system of the Metropolitan Asylums Board which has operated with complete success in this Borough, except after midnight, when on one or two occasions we had great difficulty in getting cases away.

(2.) Our system of disinfection was also arranged with the object of *thoroughness* and *promptitude*. Experience shows that the chief point to be borne in mind in this connection is that the disinfection shall be *prompt*. Promptitude in application is probably of more importance in small-pox than extreme measures. In only one or two cases was it found necessary to burn the clothes and bedding of the patient. In all cases the rooms have been promptly sealed up and fumigated with Formic Aldehyde (in a few cases with Sulphur), and the next day sprayed throughout with Chloride of Lime ( $1\frac{1}{2}$  ounces to the gallon). Where necessary the walls have been stripped and cleansed. The clothing and bedding, in all cases, has been thoroughly disinfected by steam, and where destroyed compensation has been paid.

(3.) *Investigation of each Case.*—In my judgment, emphasis should be laid upon this point. The careful and systematic investigation of each case of small-pox is the only way in which we can expect to check the spread of the disease. That is to say by such enquiry we obtain the data upon which to proceed.



I have therefore personally undertaken, with few exceptions, the investigation of all the cases of small-pox, to which reference has been made. In a number of instances it has thus been possible to trace other cases of the disease, following up case after case, directly or indirectly connected with them. In this way we have detected 90 cases of small-pox out of 275, before a medical man had been called in, and have been able to isolate them much earlier than if they had continued to remain "unrecognised," or unnotified until a medical man had been called in.\* Moreover, by personal investigation, the Medical Officer of Health learns many facts in respect to the conveyance of the disease, is able promptly to instigate and complete prevention arrangements, and is placed at once in possession of first-hand information as to the cases comprising the outbreak. This information includes his own observation as to the condition and degree of vaccination, and as to isolation of contact persons. The enquiry as to schools, laundries, workshops, milk shops, and so forth may be readily made by the Sanitary Inspector, and the necessary certificates at once forwarded by the Clerks in the Department. (We kept under supervision 1,871 persons as "contacts." In addition to these there were 161 "contacts" not belonging to Finsbury; 503 employers were advised respecting contact cases, and 135 other employers were advised respecting actual cases of small-pox.)

(For other particulars respecting preventive methods, see Report for 1901, pp. 51-56.)

I desire to express my hearty and grateful appreciation of the work of the Metropolitan Asylums Board in this district, the co-operation of the Board of Guardians, and the uniform assistance of the medical profession.

During 1902 various resolutions were passed by the Borough Council in respect to preventive methods in relation to small-pox,

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\*I do not suggest that this practice of the Medical Officer of Health visiting each case would be desirable or feasible in Boroughs of large area. Even in Finsbury it involved an immense amount of additional labour at various hours of day and night, both Sunday and week-day. But the results have, I submit, shown its value. In this connection I desire to record my high appreciation of the indefatigable labours of Chief Inspector Green.

and various actions were taken in behalf of general efficiency in these respects. A Conference of the Metropolitan Sanitary Authorities, held on February 7th in the Board Room of the Metropolitan Asylums Board, covered the ground exhaustively, and, in the main, in a manner similar to the Finsbury Council decisions, although, of course, there would be some differences of opinion. The result of the Conference may be given in the following resolutions which were passed, such resolutions putting in concrete form the opinions arrived at by the majority of Metropolitan Sanitary Authorities as the result of experience gained in the epidemic, in so far as it had, at that date, progressed :—

1. "That, in the opinion of the Conference, the powers and duties at present vested in Guardians of the Poor with regard to vaccination and re-vaccination, should be transferred to, and enforced by, Borough Councils."

2. "That, in the opinion of the Conference, an amendment of the law is necessary, to ensure compulsory vaccination and re-vaccination of all persons in a dwelling-house wherein small-pox has broken out."

3. "That, in the opinion of the Conference, it should be declared an offence, under the Public Health (London) Act, 1891, to refuse or withhold information, or give false information, with respect to persons living in a house in which small-pox has broken out, with regard to (a) their names, (b) employment or occupation, (c) schools attended by their children, or (d) as to any persons not living in such house, but employed therein."

4. "That, in the opinion of the Conference, all disinfections should be carried out by the Sanitary Authority."

5. "That, in the opinion of the Conference, the provisions of the Public Health (London) Act, 1891, with regard to the prevention of infectious diseases, require amendment by (a) shortening the period of twenty-four hours, allowed by Section 60, for the master of a house to decide whether he will undertake the disinfection or allow the Sanitary Authority to do so, and (b) extending the provisions of Section 64 to the taking of any house, or part of a house, by a person suffering from an infectious disease, or who has been exposed to infection."



6. "That in the opinion of the Conference, it is advisable that application be made to the Metropolitan Asylums Board to send out, to every Medical Officer of Health in London, *daily* lists of small-pox cases only, with age and addresses of patients, as is done *weekly* in the case of all infectious diseases."

7. "That the Conference approve the communication addressed by the Town Clerk of the Royal Borough of Kensington, to the Local Government Board, requesting them to undertake the supply of lymph to any registered medical practitioner who may apply for the same, instead of to Public Vaccinators only."

8. "That, in the opinion of this Conference, an amendment of the law is necessary to the effect that any person inhabiting any part of a house which has been infected by small-pox, and who, knowingly, associates with other persons without having his person and clothes cleansed and disinfected to the satisfaction of the Sanitary Authority, shall be liable to a fine not exceeding £20."

9. "That, in the opinion of this Conference, Borough Councils should be allowed to make provision for contacts for whom they may have no accommodation available in their shelters."

**The Lessons of the Epidemic.**—These may be expressed very briefly :—

(i) **Conditions tending to favour the spread of the disease in Finsbury—**

- (a) Difficulties of diagnosis of modified or early small-pox.
- (b) Infection in surrounding districts.
- (c) Neglect of vaccination and revaccination.
- (d) The overcrowded condition of the Borough.

(ii) **Conditions tending to check the spread of the disease in Finsbury—**

- (a) Vaccination and revaccination.
- (b) Early notification.
- (c) Immediate isolation to the small-pox hospitals (M.A.B.).
- (d) Thorough and prompt disinfection.
- (e) Minute investigation of each case.
- (f) Quarantining of contact persons.



**Financial cost of the Epidemic.**—It is impossible to estimate the financial cost of the epidemic with accuracy. The loss to the Borough and ratepayers in the Borough must have been very considerable. The actual out-of-pocket expenses by way of removal and treatment of the cases, vaccination, etc., may be set out as follows:—

A.—Expenses of Public Health Department.

*Salaries—*

|                                                          |       |       |    |    |    |    |
|----------------------------------------------------------|-------|-------|----|----|----|----|
|                                                          | £     | s.    | d. | £  | s. | d. |
| Sanitary Inspectors, for extra services ...              | 60    | 0     | 0  |    |    |    |
| Clerks                         ,,                 ,, ... | 20    | 0     | 0  |    |    |    |
| Engineer at disinfecting station ...                     | 6     | 16    | 8  |    |    |    |
|                                                          | <hr/> | <hr/> |    | 86 | 16 | 8  |

*Wages—*

|                                        |     |     |     |     |   |                |
|----------------------------------------|-----|-----|-----|-----|---|----------------|
| Disinfectors, additional               | ... | ... | ... | 152 | 3 | 6              |
| Van drivers and assistants, additional | ... | ... | ... | 9   | 9 | 0              |
|                                        |     |     |     |     |   | <hr/> 161 12 6 |

*Compensation—*

|                                                  |                   |   |         |
|--------------------------------------------------|-------------------|---|---------|
| Bedding and clothing destroyed and damaged... .. | 24                | 0 | 3       |
| Food destroyed ... ..                            | 13                | 7 | 8       |
|                                                  | <u>          </u> |   | 37 7 11 |

*Contacts—*

[illegible]

*Miscellaneous—*

|                             |     |     |     |     |       |    |   |
|-----------------------------|-----|-----|-----|-----|-------|----|---|
| Miscellaneous               | ... | ... | ... | ... | 14    | 2  | 1 |
| Printing and stationery     | ... | ... | ... | ... | 17    | 11 | 4 |
| Distribution of bills, etc. | ... | ... | ... | ... | 5     | 14 | 0 |
|                             |     |     |     |     | <hr/> |    |   |
|                             |     |     |     |     | 37    | 7  | 5 |
|                             |     |     |     |     | <hr/> |    |   |
|                             |     |     |     |     | £342  | 2  | 1 |
|                             |     |     |     |     | <hr/> |    |   |

B.—Expenses of the Metropolitan Asylums Board.

The cost to the Metropolitan Asylums Board being £500,000—equal to a threepenny rate, Finsbury's share would be about £12,197.

### C.—Expenses of Public Vaccination.

The following returns have been kindly prepared by Mr. J. Allen Battersby, Clerk to the Holborn Guardians.

FEES PAID TO THE PUBLIC VACCINATORS AND VACCINATION  
OFFICERS FOR THE UNDERMENTIONED YEARS.

| <i>Public Vaccinators.</i> |       |      | <i>Vaccination Officers.</i> |      |     |
|----------------------------|-------|------|------------------------------|------|-----|
|                            | £     | £    |                              | £    | £   |
| Lady-day, 1901 ...         | 201   |      | Lady-day, 1901 ...           | 56   |     |
| Michaelmas, 1901 ...       | 225   |      | Michaelmas, 1901...          | 61   |     |
|                            | —     | 426  |                              | —    | 117 |
| Lady-day, 1902 ...         | 849   |      | Lady-day, 1902 ...           | 155  |     |
| Michaelmas, 1902 ...       | 1022  |      | Michaelmas, 1902...          | 129  |     |
|                            | —     | 1871 |                              | —    | 284 |
| Total, 1901 and 1902       | £2297 |      | Total, 1901 and 1902         | £401 |     |

These figures are exclusive of fees paid to the Public Vaccinators and Vaccination Officers in regard to that portion of the Borough of Holborn which lies within the Holborn Union. The figures apply to Finsbury only.\*

It will be understood that none of these figures include the payments of fees to private medical practitioners.

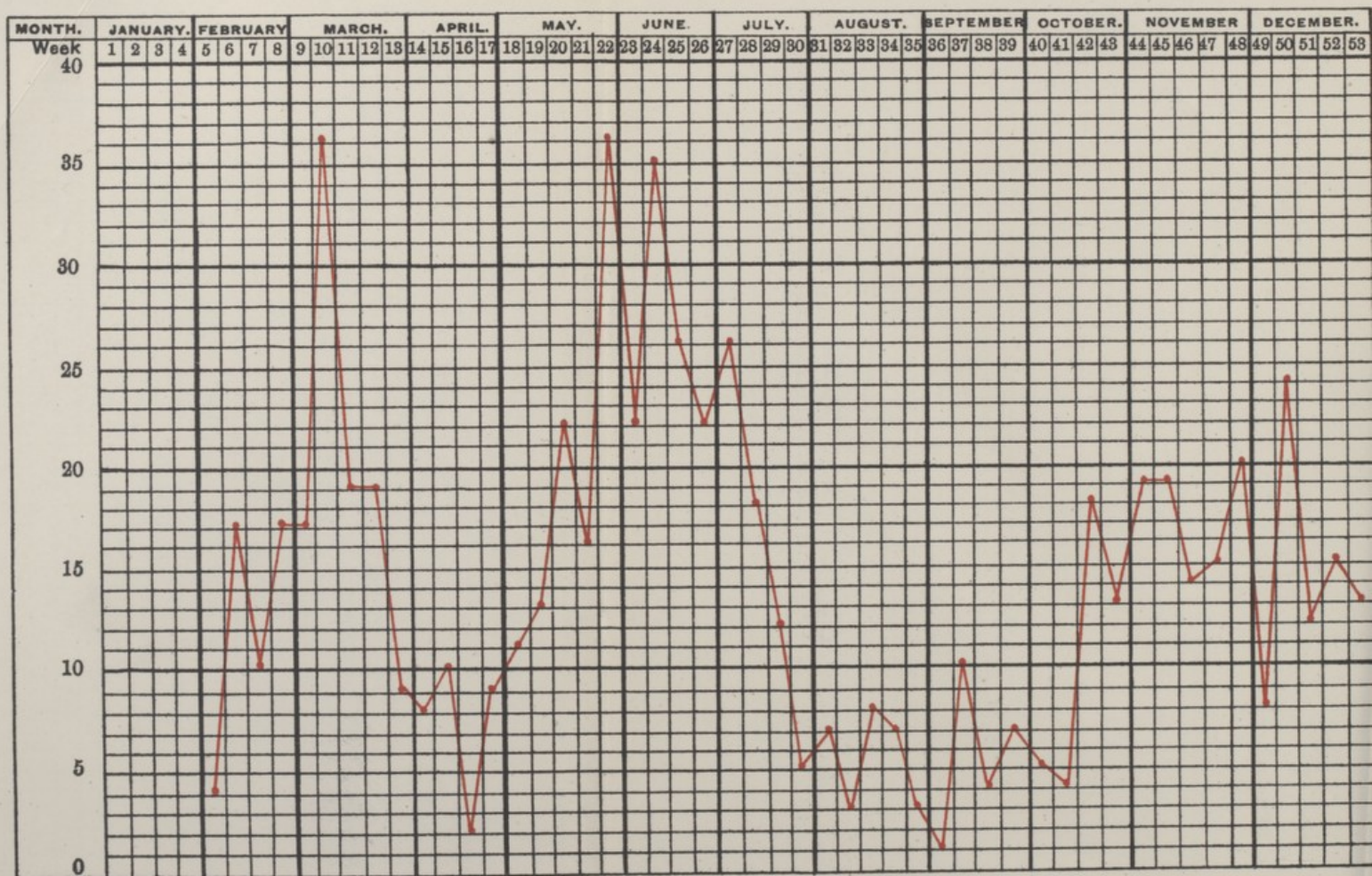
\* For comparison purposes Mr. Battersby has also supplied me with the returns for the five preceding years :—

| <i>Public Vaccinators.</i> |     |     | <i>Vaccination Officers.</i> |    |     |
|----------------------------|-----|-----|------------------------------|----|-----|
|                            | £   | £   |                              | £  | £   |
| Lady-day, 1896 ...         | 34  |     | Lady-day, 1896 ...           | 40 |     |
| Michaelmas, 1896 ...       | 32  |     | Michaelmas, 1896 ...         | 40 |     |
|                            | —   | 60  |                              | —  | 80  |
| Lady-day, 1897 ...         | 33  |     | Lady-day, 1897 ...           | 40 |     |
| Michaelmas, 1897 ...       | 31  |     | Michaelmas, 1897 ...         | 40 |     |
|                            | —   | 64  |                              | —  | 80  |
| Lady-day, 1898 ...         | 25  |     | Lady-day, 1898 ...           | 40 |     |
| Michaelmas, 1898 ...       | 35  |     | Michaelmas, 1898 ...         | 25 |     |
|                            | —   | 60  |                              | —  | 65  |
| Lady-day, 1899 ...         | 16  |     | Lady-day, 1899 ...           | 25 |     |
| Michaelmas, 1899 ...       | 178 |     | Michaelmas, 1899 ...         | 25 |     |
|                            | —   | 194 |                              | —  | 50  |
| Lady-day, 1900 ...         | 162 |     | Lady-day, 1900 ...           | 54 |     |
| Michaelmas, 1900 ...       | 202 |     | Michaelmas, 1900 ...         | 55 |     |
|                            | —   | 364 |                              | —  | 109 |





Showing the Rise and Fall of VARICELLA each week during 1902.



### CHICKEN-POX (Varicella).

At the beginning of January, 1902, the Borough Council decided, on the recommendation of the Public Health Committee, to make Chicken-pox a notifiable disease for six months (Public Health (London) Act, 1891, Section 56) on account of the similarity of the disease to small-pox. Towards the end of the same month the London County Council resolved to make Chicken-pox notifiable for three months throughout London. Hence the arrangements the Borough Council were making became merged into the County Council's arrangements. Notification commenced on February 7th, 1902. Subsequently, on two occasions, the County Council extended the period for notification of this disease to January, 1903. It was, therefore, in operation eleven months. We received 690 notifications, distributed, as regards age and season, as follows :—

| Ages.     | Feb. | March | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total. |
|-----------|------|-------|-------|-----|------|------|------|-------|------|------|------|--------|
| 0 to 1    | 6    | 11    | 1     | 9   | 13   | 3    | 7    | 4     | 7    | 5    | 10   | 76     |
| 1 to 2    | 10   | 9     | 3     | 10  | 23   | 10   | 4    | 1     | 4    | 4    | 6    | 83     |
| 2 to 3    | 3    | 8     | 5     | 7   | 5    | 8    | 1    | 3     | 6    | 9    | 7    | 62     |
| 3 to 4    | 11   | 12    | 4     | 15  | 13   | 7    | 3    | 3     | 12   | 7    | 8    | 95     |
| 4 to 5    | 7    | 13    | 6     | 15  | 16   | 6    | 4    | 3     | 6    | 8    | 17   | 101    |
| 5 to 6    | 10   | 14    | 6     | 8   | 14   | 13   | 2    | 3     | 9    | 9    | 13   | 101    |
| 6 to 7    | 4    | 9     | 3     | 10  | 9    | 5    | 1    | 1     | 4    | 12   | 6    | 64     |
| 7 to 8    | 5    | 5     | 2     | 2   | 9    | 3    | 1    | 3     | 3    | 3    | 2    | 38     |
| 8 to 9    | —    | 2     | 2     | 1   | 5    | 2    | —    | 1     | 2    | 3    | 2    | 20     |
| 9 to 10   | 1    | —     | —     | 5   | —    | —    | —    | —     | —    | —    | 1    | 7      |
| 10 to 11  | 1    | 2     | 2     | 3   | 1    | —    | —    | —     | 1    | 3    | —    | 13     |
| 11 to 12  | 3    | 3     | —     | —   | —    | —    | —    | —     | 2    | 1    | —    | 9      |
| 12 & over | 3    | 1     | 1     | 3   | 3    | 2    | 1    | —     | 3    | 4    | —    | 21     |
|           | 64   | 89    | 35    | 88  | 111  | 59   | 24   | 22    | 59   | 68   | 72   | 690    |



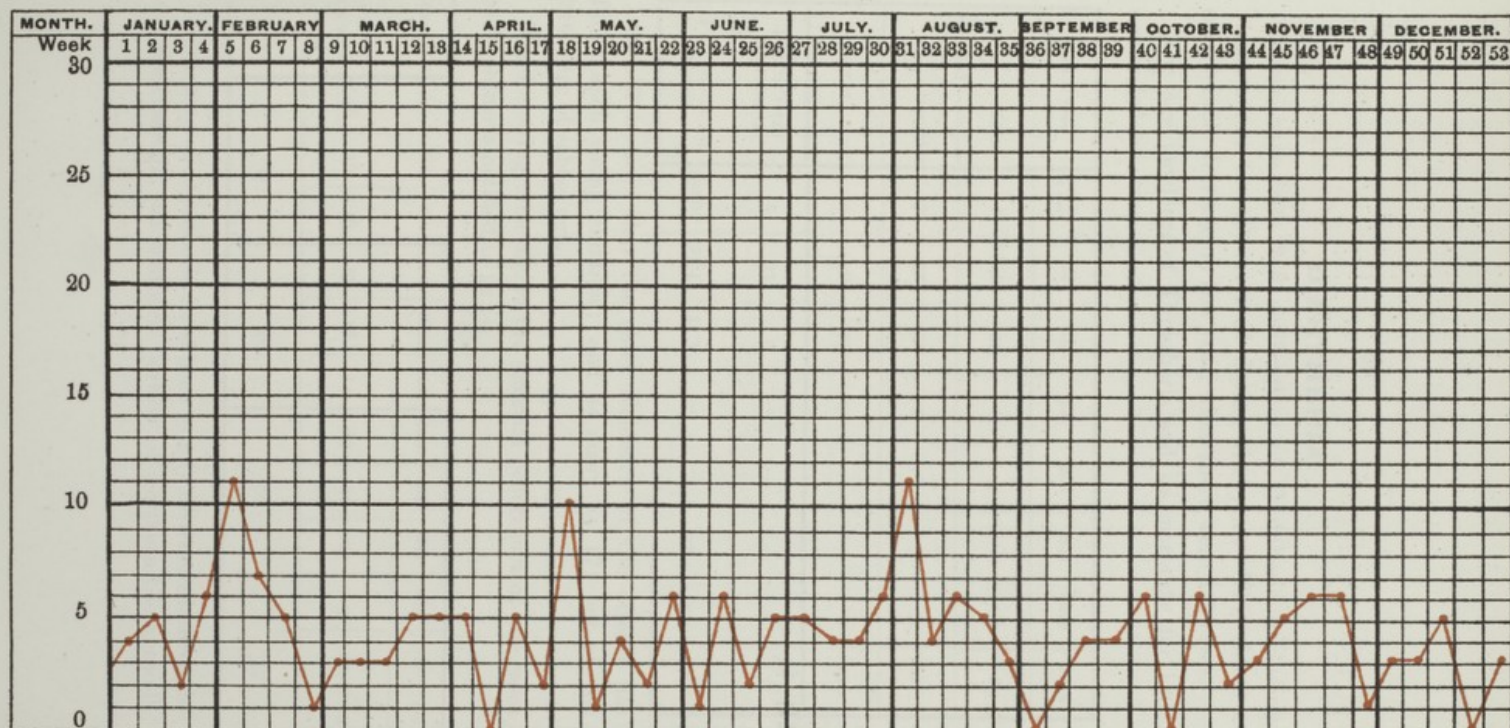
Enquiries were instituted in respect to each of these cases, and number of them were visited by me. Three cases were notified as Chicken-pox which, on examination, I found to be Small-pox. They would not have been detected quite so soon if there had not been notification of Chicken-pox. One of them apparently set up no further infection. The second, on the other hand, was the origin of a group of ten cases (sixth group), some of which, at least, would have been undetected if we had not received this "Chicken-pox" notification. The third "Chicken-pox" case gave rise to only one other. The facts respecting these three cases of notified Chicken-pox, which were in fact Small-pox, do not by any means exhaust our experience of the relation between the two diseases. Our first group of Small-pox cases, numbering in all more than 30 cases, arose from a single case of Small-pox mistaken for Chicken-pox, namely, E. S., the child who went down to the hop-gardens. The second group, consisting of more than 15 cases, also arose from a case of a child with Small-pox, which had been mistaken for Chicken-pox. Once more, the fifth group of eight cases also arose from a precisely similar case. There were, therefore, upwards of 50 cases traceable to mistaken diagnosis between Chicken-pox and Small-pox. In addition to this there were several cases to which I was called, which, although not yet notified, were supposed to be Chicken-pox, and which I found to be Small-pox.

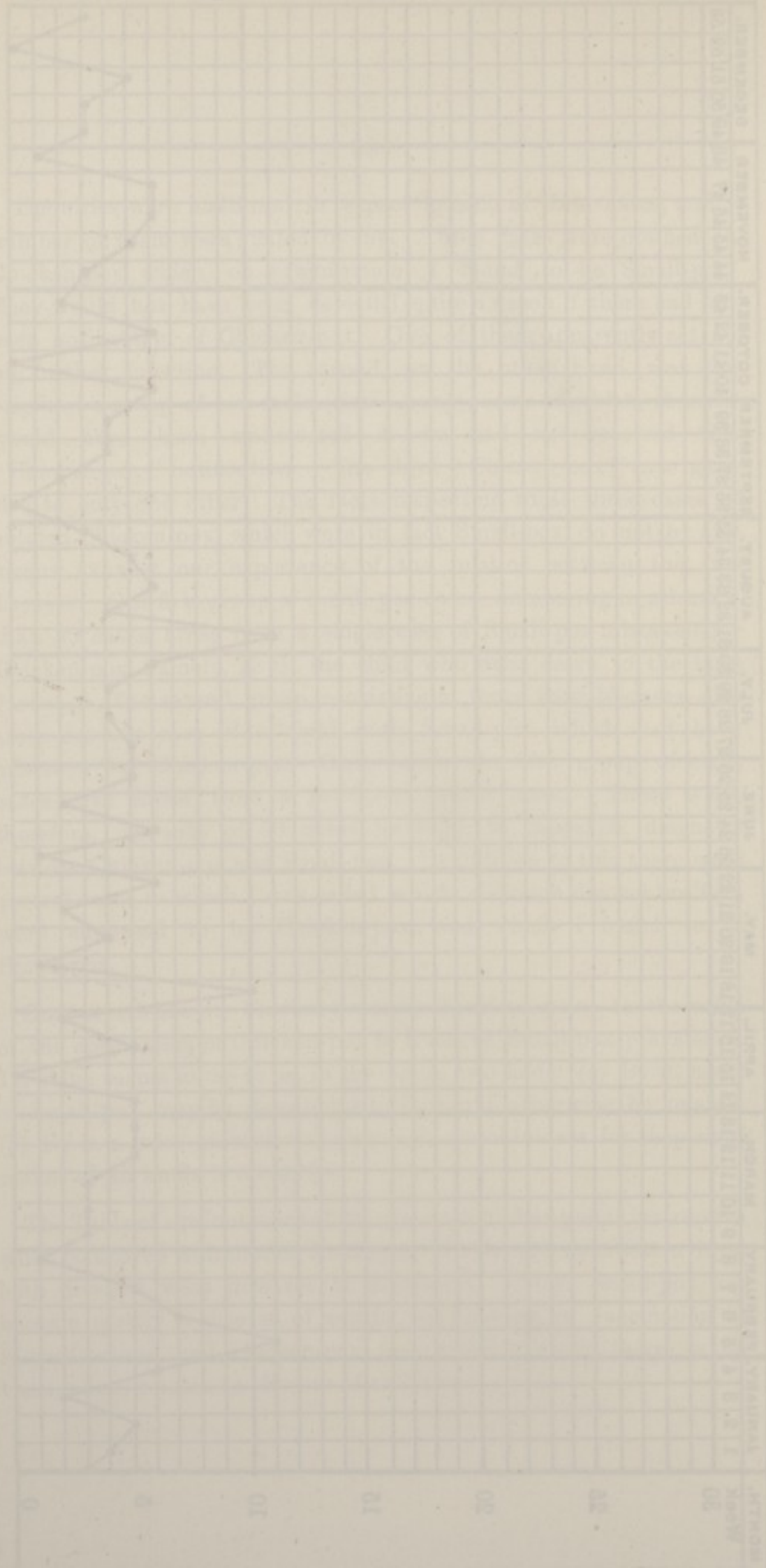
Our experience in Finsbury would, therefore, point to the value of the notification of Chicken-pox in times of Small-pox prevalence. Its value seems to me to be, in the main, two fold: (a) By it, cases of Small-pox may be detected which would otherwise be missed. (b) By it, a more careful and thorough watchfulness for suspicious rashes of all kinds is created.

The Table of age incidence of the cases of Chicken-pox is instructive when compared with that of Small-pox. In the pre-vaccination days, both diseases were diseases of childhood. Now, Small-pox has become mostly a disease of adults unprotected by vaccination or re-vaccination, and chicken-pox (for which disease there is no vaccination) remains a disease of childhood.



Showing the Rise and Fall of DIPHTHERIA each week during 1902.





### DIPHTHERIA.

There have been 216 notifications of Diphtheria (including Membranous Croup) received during the year. This shows a considerable decrease on last year, when there were 289 cases.

The age incidence of Diphtheria and its mortality for 1902 was as follows :—

| Ages in Years           |         | Under 1 year | 1-5  | 5-15 | 15-20 | 20-30 | 30-40 | 40-50 | Totals |
|-------------------------|---------|--------------|------|------|-------|-------|-------|-------|--------|
| No. of Notified Cases   | Males   | 7            | 46   | 22   | 8     | 5     | --    | 1     | 89     |
|                         | Females | 3            | 52   | 51   | 7     | 6     | 3     | 5     | 127    |
| TOTAL ..                |         | 10           | 98   | 73   | 15    | 11    | 3     | 6     | 216    |
| Deaths from Diphtheria. |         | 5            | 23   | 9    | --    | —     | —     | —     | 37     |
| Percentage on Cases.    |         | 50.0         | 23.4 | 12.3 | --    | —     | —     | —     | 17.1   |

It will be seen that the chief incidence of the disease has fallen upon young children; and as many as 171 out of the 216 were of school age.

The following table shows the seasonal occurrence of the cases of Diphtheria notified to us :—

| Months          | Jan. | Feb. | Mar. | April. | May. | June | July. | Aug. | Sept. | Oct. | Nov. | Dec. |
|-----------------|------|------|------|--------|------|------|-------|------|-------|------|------|------|
| Number of Cases | 28   | 16   | 16   | 17     | 18   | 14   | 27    | 21   | 12    | 15   | 18   | 14   |
| Total           | 60   |      |      | 49     |      |      | 60    |      |       | 47   |      |      |

The cases of Diphtheria have been evenly distributed throughout the Borough, the southern portion of northern Clerkenwell,



as last year, alone remaining free. In a general way it may be said that most cases have occurred in the overcrowded and poorer parts of the district. The incidence has not been exceptionally heavy in the Model Dwellings, nor in relation to any schools or milkshops. Five cases only were traceable to school infection, and none to milk. Personal infection has been, without question, the main channel for the spread of the disease. Not a few cases have apparently arisen from contact with "ordinary sore-throats." There has been no definite outbreak and no large groups of cases.

The following table illustrates the channels of infection and the sanitation of the houses in all those cases where infection could be at all traced, or the sanitation of the house was in any way open to criticism :—

|                                                    |     |     |     |     |     |     |    |
|----------------------------------------------------|-----|-----|-----|-----|-----|-----|----|
| I.—INSANITATION—                                   |     |     |     |     |     |     |    |
| Houses, in which Diphtheria occurred, found to be  |     |     |     |     |     |     |    |
| overcrowded                                        | ... | ... | ... | ... | ... | ... | 12 |
| Defective drains                                   | ... | ... | ... | ... | ... | ... | 46 |
| Defective paving in yard                           | ... | ... | ... | ... | ... | ... | 7  |
| Total                                              |     |     |     |     |     |     | 65 |
| II.—CHANNELS OF INFECTION—                         |     |     |     |     |     |     |    |
| Previous cases in the same house or family         | ... | ... | ... | ... | ... | ... | 29 |
| Contact with Diphtheria elsewhere                  | ... | ... | ... | ... | ... | ... | 17 |
| Previous cases of Scarlet Fever in house or family | ... | ... | ... | ... | ... | ... | 8  |
| From School                                        | ... | ... | ... | ... | ... | ... | 5  |
|                                                    |     |     |     |     |     |     | 59 |

Four cases were alleged to be due to "return cases" of Diphtheria from hospital, but there was not sufficient evidence. Four cases of diphtheria occurred at milkshops, but in no case did it spread. In all probability personal infection was the

cause of Diphtheria in many more cases than 46. There are, however, considerable difficulties in tracing infection in a district like Finsbury.

In April there were signs of the commencement of a small outbreak of Diphtheria, which, largely owing to the prompt and efficient action of the medical man in attendance, who availed himself of the arrangements for bacteriological diagnosis and anti-toxin inoculation provided by the Public Health Department, was successfully prevented. On April 17th, M. L. returned to an institution in Finsbury from Bournemouth. She had been engaged at Bournemouth in nursing diphtheria patients for 5 weeks in an institution. She rested for one week previous to coming to London. But the night before she left she went to take leave of her diphtheria patients in Bournemouth. On April 18th, the day after her arrival in London, she went to a Branch Home in Finsbury and there nursed a small boy, W. P., aged  $2\frac{1}{2}$  years. Two or three days after, he sickened with diphtheria, and on April 28th he was notified. Careful enquiry elicited no other possible source of infection than that which had been obtained from M. L. Further, there was now evidence of sore throats in several persons who had come into contact with M. L. Accordingly, the medical man and myself agreed that bacteriological examination should be made of the throats of the other inmates of the Home. This was carried out, on April 26th, 28th, 29th and 30th, with the result that the diphtheria bacillus was found in the sore throats of B. H., N. N. and N. V., and these three patients were notified and removed to hospital. It was also found in the throats of 4 other persons who showed no clinical symptoms. It was absent in the throats of 6 other persons in the Home. Of all these, 7 persons were at once inoculated with anti-toxin as prophylactic, and antiseptics applied to their throats. One of these (O. A.) having the diphtheria bacillus in her throat (on April 29th) but who showed no signs of illness, slept away from the Home and came into contact with Miss C., who slept in Poplar, and she apparently took infection from O. A. and sickened with Diphtheria.



Here, then, we have a history of one little boy in an institution contracting infection from a diphtheria nurse and through him and through the nurse 15 other persons came into the way of infection. Five remained quite well. Six others had sore (diphtheritic) throats. Four others got true diphtheria. Prompt investigation coupled with antiseptic applications to the throats and inoculation of anti-toxin, stamped out what, in all probability, would have been a considerable outbreak of Diphtheria.

**Bacteriological Diagnosis** has been taken advantage of in 112 cases of Diphtheria. Of these, 27 proved to be positive, and 85 gave a negative result.

The Bacteriological Diagnosis is used only in doubtful cases. If the case is one showing the ordinary clinical signs of Diphtheria it is notified forthwith. In one or two instances cases having the clinical signs of Diphtheria have yielded a negative bacteriological result. Such results may be due to failure to take a sufficiently firm swab, previous treatment of the throat with antiseptics, or delay in taking the specimen. It should be understood that a negative result is not therefore absolutely to be relied upon, but must be taken along with the initial symptoms and with the nature and history of the case. Of the total examinations made in doubtful Diphtheria 76 per cent. were negative.

In addition to making arrangements by which every medical practitioner can obtain the advantages of free bacteriological diagnosis, the Borough Council has also authorised me to supply Diphtheria Antitoxin to medical men in private practice in Finsbury. The stock is kept at the Town Hall, and one dose will be supplied, free of charge, for each notification received. Additional doses may be obtained from me at cost price. Application should be made at the time of notification. I shall also be able to supply doses of Antitoxin, gratis, to any medical practitioner who desires to use it for prophylactic purposes, *e.g.*, in children who have been in family contact with the notified



case. During the year Antitoxin was used in a number of cases both for prophylactic and therapeutic purposes.

The value of Antitoxin treatment in Diphtheria is clearly demonstrated in the returns of the Metropolitan Asylums Board. In 1894, 3,042 patients of all ages were treated in the Board's Hospitals without Antitoxin; 902 died, yielding a mortality of 29·6 per cent.

In 1895 the Antitoxic serum treatment was inaugurated; 3,529 cases of Diphtheria were treated, and 729 died, yielding a mortality of 22·5 per cent. Hence, in the first year there was a fall in mortality of 7·1 per cent.

But in 1901, 6,499 patients suffering from Diphtheria were treated, with Antitoxin, in the Board's Hospitals; 817 died, yielding a mortality of 12·5 per cent. There has, therefore, been a fall in mortality percentage from 29·6 in 1894, without Antitoxin, to 12·5 in 1901, with Antitoxin. In other respects the treatment has been substantially the same.

Early administration of Antitoxin is important. Of that there has been evidence in Finsbury alone, but such evidence is all the more emphatic when extended over large numbers of cases and over some period of time. At the Metropolitan Asylums Board Brook Hospital in 1901, 723 cases of diphtheria were treated with Antitoxin, and 78 died, yielding a mortality per cent. of 10·79. The Antitoxin treatment was applied in each of these cases, but in some it was possible to begin on the first day of the disease, in others on the second, and so on. The paramount importance of administration at the earliest possible moment is seen in the result. The mortality percentage of the first day cases was 0·0; of the second day, 4·1; of the third day, 11·9; of the fourth day, 12·4; and of the fifth and subsequent days, 16·6. For five consecutive years there has not been a death at this Hospital among the cases that came under treatment on the first day of the disease.

## ENTERIC FEVER.

In Finsbury during 1902 there were only 77 cases of Typhoid or Enteric Fever. In 1901 there were 65 cases. There was in 1902, 1 death in the district and 8 deaths among the 69 cases removed to hospital for treatment. The total number of deaths was therefore only 9, giving a death rate of 0·09 per 1,000, and a percentage mortality of 11·7 on the total number of cases.

The age distribution of the cases was as follows :—

| Ages        | Under 5 | 5-14 | 15-30 | Above 30 | Totals |
|-------------|---------|------|-------|----------|--------|
| Males ...   | 1       | 16   | 20    | 8        | 45     |
| Females ... | 1       | 12   | 15    | 4        | 32     |
| Total ...   | 2       | 28   | 35    | 12       | 77     |

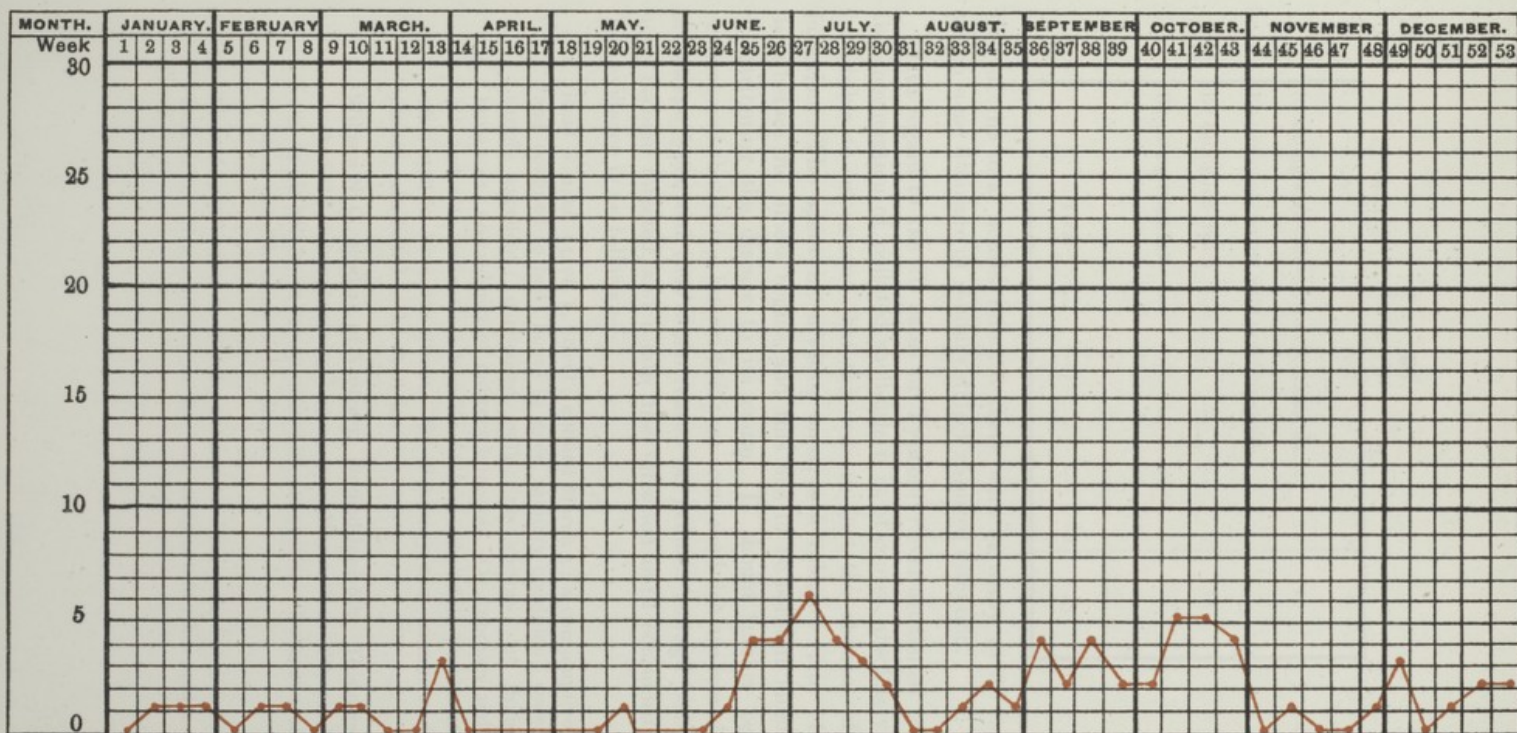
Of these 77 notifications 10 were received in the first quarter, 12 in the second, 31 in the third, and 24 in the fourth.

The two common characteristics of Enteric Fever, namely, that it attacks young adults and that it appears more frequently in the autumn, are illustrated by the cases which occurred in Finsbury in 1902. But the autumnal rise was much less marked than is usual.

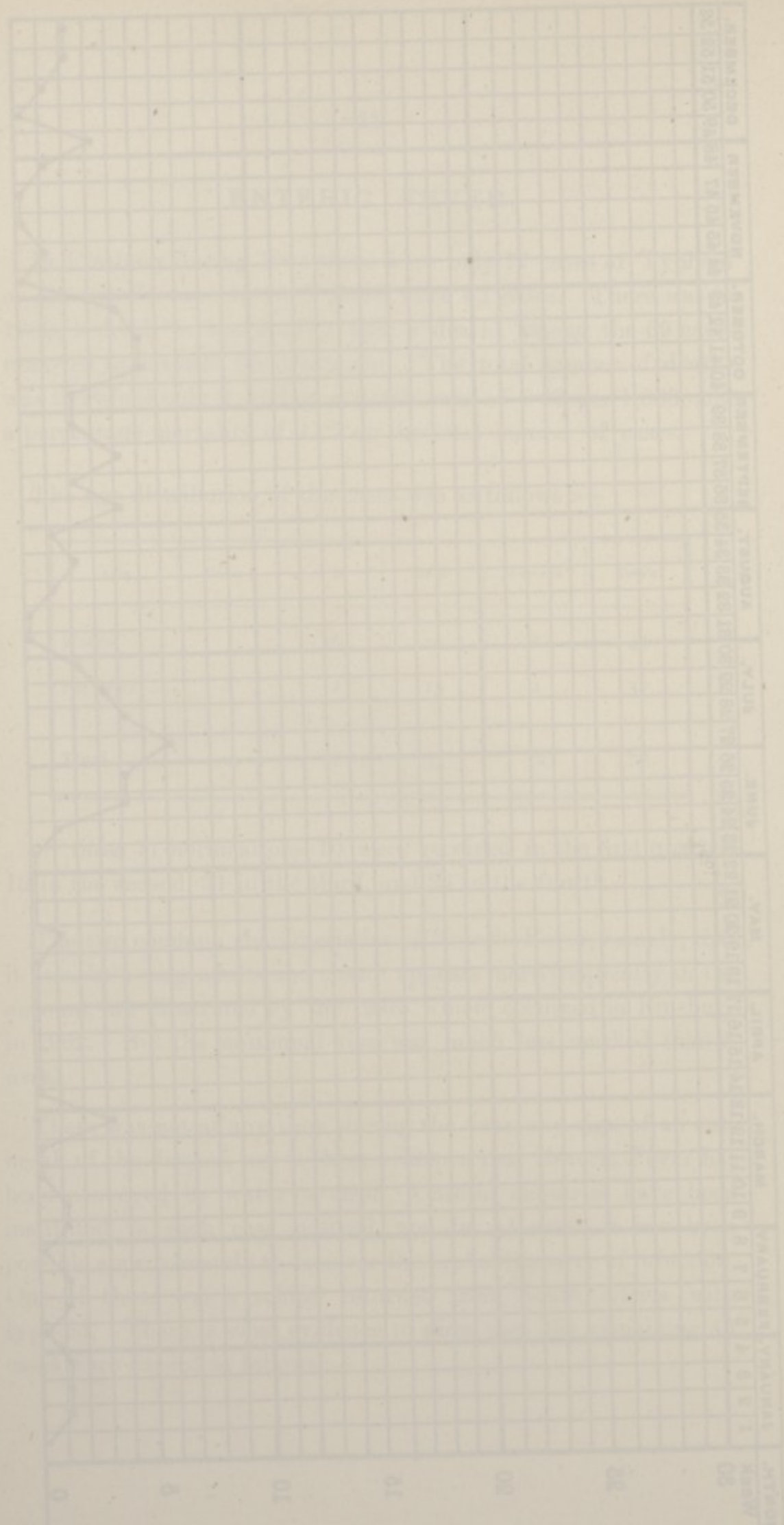
There was not at any time during the year any sign of an outbreak of the disease, nor is there evidence that Enteric Fever has been conveyed by water or milk. Careful enquiries have been instituted in each case notified, and in 44 cases it has been possible approximately to discover the probable source of infection. One of these was a soldier returned from South Africa with typhoid. There is some evidence to show that the remaining 43 cases were caused as follows :—



Showing the Rise and Fall of TYPHOID each week during 1902.







|                                                |    |
|------------------------------------------------|----|
| By eating shell-fish—oysters, cockles, &c. ... | 10 |
| By personal contact with previous cases ...    | 7  |
| By eating ice-cream ...                        | 18 |
| By eating fried fish ...                       | 8  |
| Total ...                                      | 43 |

Out of the total houses infected there were as many as 37 in which some drainage or sanitary defect required attention.

With regard to the 10 cases of Typhoid Fever attributed to the consumption of polluted shell-fish, it is, of course, absolutely impossible to be assured that this was in fact the channel of infection. The agent in infection must, as a rule, act 12 to 14 days before the illness begins, and this has to be borne in mind in attributing the disease to its cause. It should further be remembered that it is a known fact that some shell-fish are reared on sewage beds, and that when reared on *polluted* sewage beds may become infected, and retain the infection until consumed. The evidence is as follows :—

1. Rosa S., aged 13, of T. Street ; notified March 3 ; a consumptive, and confined to bed ; house in good sanitary condition ; water supply excellent ; condensed milk ; no visitors ; no drain nuisances ; no evidence of indirect infection. On February 2nd, 9th and 16th patient ate heartily of some shell-fish, purchased off a stall in Exmouth Street. On February 21st commenced illness ; attributed to the shell-fish.
2. William N. C., aged 23, of A. Street ; notified June 6th. This man worked at a railway clearing house ; from May 14th to May 22nd was on his holiday in Jersey, where he ate oysters. He knows of no other possible cause of his illness.
3. Alice H., aged 15, of E. Street ; notified on June 30th, but ill from June 12th. Has not been in the way of infection ; has paid no



visits and received no visitors ; was out of work and stayed at home ; no drain nuisances ; water and milk good ; no evidence of indirect infection. On or about June 1st consumed a quantity of shell-fish purchased from a hawker, attributes her illness to this.

4. William W., aged 32, of C. Street ; notified July 9th ; commenced illness on July 1st. Twelve days previously had eaten some oysters bought in Nile Street, Hoxton, from a stall. No other evidence of infection, direct or indirect.
5. John H., aged 26, of D. Street, a clerk ; notified September 19th ; commenced illness on September 7th. From August 16th to August 30th was staying at Margate, and ate regularly of oysters and shell-fish from a stall near the pier. No evidence of any other possible source of infection.
6. Emma H., 35, of C. Road ; notified September 18th ; commenced illness on or about August 15th. On August Bank Holiday went to Southend and ate six plates of shell-fish at a stall on the parade. No evidence of other possible infection ; attributes illness to the shell-fish.
7. Walter B., aged 23, of R. Street, a wire-worker ; notified September 17th ; commenced illness on September 10th. Ate a great quantity of raw shell-fish from a stall in Whitecross Street on Friday, August 29th. No other evidence of infection.
8. Florence D., 14, of C. V. ; notified on September 10th, but ill from August 21st. Spent her holidays at Southend, and ate a quantity of shell-fish, to which she attributes her illness. No other evidence of infection.
9. Jane G., 18, of L. Street ; notified October 13th ; illness began September 24th. Attributed illness to bad drains, but, on enquiry, admitted that some days previous to being ill she ate some oysters near Victoria Street from a stall. No drain nuisances or other apparent cause.
10. Daniel M., 42, of C. Road, a porter ; notified November 28th, first commenced illness about November 11th. Water, milk, sanitation, etc., good. Eats shell-fish every Sunday. Ten days before illness began ate some bad shell-fish, which patient stated came from Southend. No other evidence of infection.

The cases of typhoid fever possibly attributable to ice-cream number 18. Last year there were 5. Of these 18, 12 occurred in June in the same quarter of the Borough. They were as follows :—Clarence H., aged 9 ; William G., aged 13 ; William B., aged 7 ; Alfred L., aged 10 ; William H., aged 17 ; James C., aged 15 ; John R., aged 14 ; Thomas M., aged 12 ; Thomas F., aged 10 ; Alfred P., aged 14 ; Gordon M., aged 12 ; and Henry P., aged 17. It appears that these 12 boys, although notified at different periods from June 12th to July 12th, actually became ill in June, and several of them went to hospital together. It was not till some time after their recovery that we learned that they all had ice cream at about the same time, and, as far as can be gathered, from the same source, namely, hawkers in the street. There was no other evidence obtainable in any one of their cases, and hence, although the information came too late to be of value in making an enquiry, it is possible that ice-cream, contaminated by previous infection, was the cause of these cases. In six other cases, where there was no other evidence of infection, the patients attributed their illness to ice-cream.

**Bacteriological Diagnosis** has been arranged gratis for all medical practitioners in Finsbury. A few drops of the blood of the patient are taken and examined by means of the Widal test as to whether or not the blood contains typhoid toxins. The results are as follows :—

| Total No. of<br>Doubtful Cases<br>Examined | Cases which gave<br>Positive Results | Cases which gave<br>Negative Results | Cases of Typhoid<br>notified without<br>Bacteriological<br>Examination |
|--------------------------------------------|--------------------------------------|--------------------------------------|------------------------------------------------------------------------|
| 18                                         | 9                                    | 9                                    | 59                                                                     |



### SCARLET FEVER.

The total number of notifications received during the year for Scarlet Fever was 381 as against last year's 495. The age and sex incidence was as follows :—

| Ages.          | 0- | 1-  | 5-  | 10- | 15- | 20- | 30-40 | Total |
|----------------|----|-----|-----|-----|-----|-----|-------|-------|
| Males ... ..   | 1  | 62  | 69  | 25  | 16  | 13  | 2     | 188   |
| Females ... .. | 4  | 74  | 63  | 35  | 10  | 3   | 3     | 193   |
| Total ... ..   | 5  | 136 | 132 | 61  | 26  | 16  | 5     | 381   |

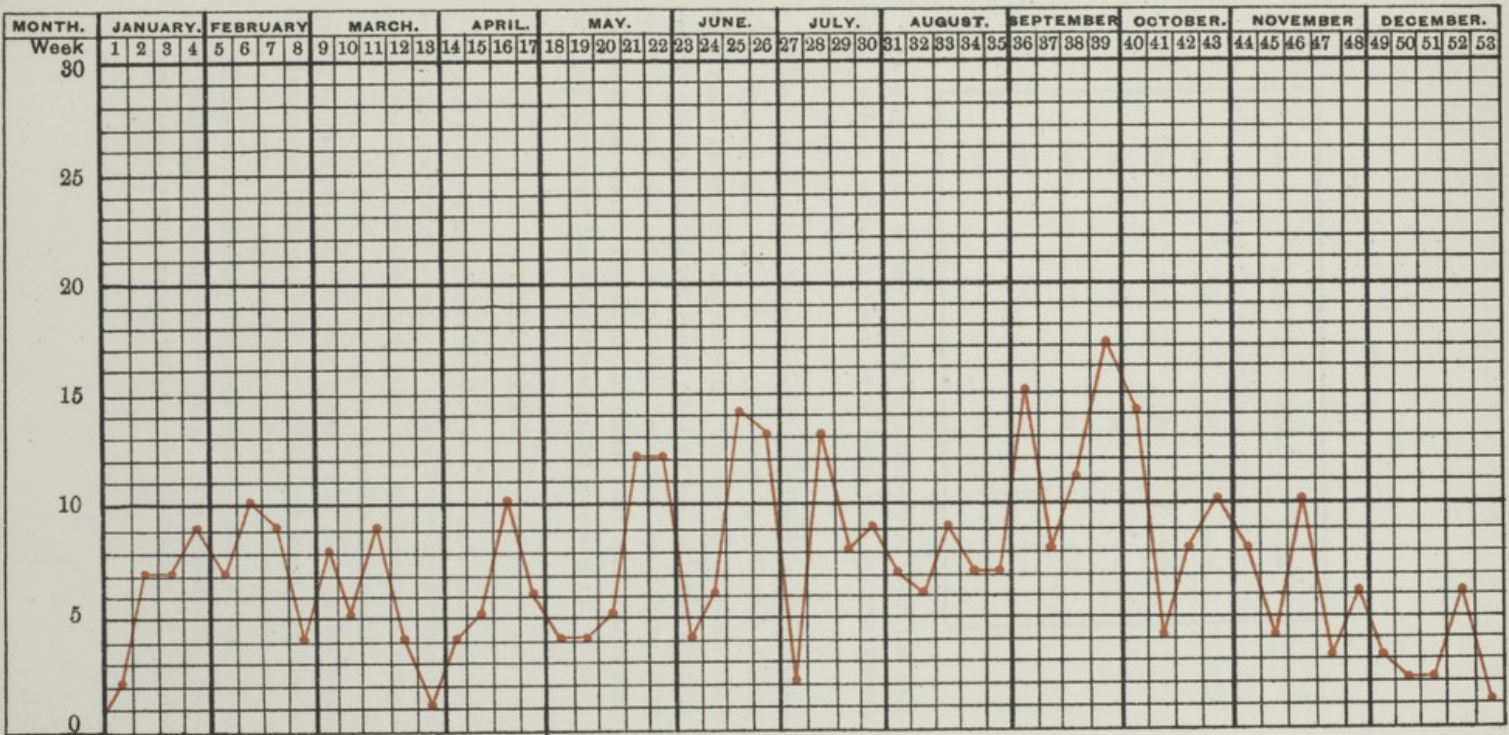
From these figures it will be seen that 273 out of the 381 cases occurred in children under 10 years of age. In relation to school influence, it is of interest to note that seventy-six per cent. of the cases occurred in children at school ages, ten per cent. occurred in children under school age, and twelve per cent. in persons over school age. Not only is it a disease of children but it is most fatal in young children. There were in all nineteen deaths distributed as follows :—

| Years                                            | Under 1 year | 1 and under 5 | 5 and above 5 | At all Ages |
|--------------------------------------------------|--------------|---------------|---------------|-------------|
| Number of cases notified                         | 5            | 136           | 240           | 381         |
| Number of deaths ...                             | 1            | 10            | 4             | 15          |
| Percentage of deaths at each age period attacked | 20.0         | 7.3           | 1.6           | 3.9         |

Nineteen deaths yield a scarlet fever death rate of 0.18 per 1,000. The comparative figures for the last 6 years are as follows :—



Showing the Rise and Fall of SCARLET FEVER each week during 1902.







| Years | Number of Cases notified | Number of Deaths | Death Rate per 1,000 |
|-------|--------------------------|------------------|----------------------|
| 1897  | 597                      | 26               | 0.24                 |
| 1898  | 518                      | 30               | 0.27                 |
| 1899  | 480                      | 18               | 0.16                 |
| 1900  | 227                      | 12               | 0.11                 |
| 1901  | 495                      | 19               | 0.18                 |
| 1902  | 381                      | 15               | 0.14                 |

The distribution of the disease in Finsbury in 1902 has been fairly uniform, although there have been one or two groups around certain schools.

Direct infection has been traceable to schools in 10 instances only. Eleven cases have been attributed to infection derived from cases returned from hospital. In several of these cases enquiry elicits that the returning children had a discharge from eyes or nose and it is possible infection may have been carried in this way. In 103 of the cases direct personal contact with previous cases has been traced as the source of infection.

### MEASLES.

As this is not a notifiable disease we can only gauge its prevalence and degree of severity by means of the death returns and school returns. Including both intra and extra-parochial returns there were 83 deaths attributed to Measles during the year, giving a death-rate of 0.81 per 1,000. The London death-rate for Measles for 1902 was 0.50 per 1,000, there being 2,360 deaths from that cause as against 1,952 in 1901. Seventy-nine out of the 83 deaths in Finsbury occurred under 5 years of age, 20 of these occurring in infants under 1 year. It is probable that these figures do not by any means indicate the destruction of life due

to Measles, for this disease is often complicated with bronchitis or other respiratory disease, and hence some deaths due to Measles are entered in the returns as due to bronchitis, &c. Measles and Whooping Cough—both of which are looked upon generally as slight ailments—caused more deaths in Finsbury (namely, 155) during 1902 than all the other infectious diseases put together.

In accordance with the regulations of the London School Board, we have received certificates from the School Teachers informing us of 432 cases of Measles (see page 216).

It may be pointed out that the remedy for this state of things lies most largely in the hands of parents and others having the care of children. There are strong reasons against the inclusion of Measles under the notification clauses of the Public Health (London) Act, 1891, and hospital provision for this disease is at present impossible. Careful nursing of individual cases and closure of Infants' Departments of schools during an outbreak, coupled with disinfection when necessary, seem to be the best methods of reducing the high death-rate from this disease.

Early in 1901, the London County Council enquired as to whether the London Boroughs were in favour of extending to Sanitary Authorities the power to apply to Measles, when necessary, the provisions contained in any or all of certain sections of the Public Health (London) Act, 1891, which give powers as follows :—

Section 60 gives power to Sanitary Authorities to require disinfection and cleansing of infected premises, etc.

Section 61 provides for disinfection of bedding, clothing, etc.

Section 62 prohibits the casting of infected rubbish into ashpits, without previous disinfection.

Section 63 prohibits letting houses in which infected persons have been living, without disinfection.

Section 64 provides a penalty on persons who make false statements as to infectious disease, in letting houses.



Section 65 provides for a penalty on persons ceasing to occupy premises without disinfection or notice to owner or making false answer.

Section 68 prohibits the exposure of infected persons and things.

Section 69 prohibits infected persons from carrying on any occupation likely to spread the disease.

Section 70 prohibits the conveyance of infected persons by public conveyances.

Section 72 prohibits the retention of the body of a person who has died of any dangerous infectious disease.

Section 73 provides for the body of a person who has died in hospital of any dangerous infectious disease being removed only for burial.

Section 74 provides for the disinfection of a public conveyance which has been used for conveying the body of a person who has died of an infectious disease.

In reply to this enquiry, 10 of the Metropolitan Boroughs expressed approval of placing Measles in the schedule of dangerous infectious diseases, and the London County Council adopted this arrangement on January 21st, 1903. The new order is to come into force on or about April 1st, 1903. This arrangement will give the Borough Council the powers set forth above in cases of measles.

There are two further methods which might be adopted in the Borough of Finsbury, viz :—First : To extend to all denominational and private schools, as far as possible, the plan already in vogue, by which Board School teachers inform the Medical Officer of Health of any cases of Measles occurring among the children in their schools. There can be no doubt that Measles is spread directly by the agency of schools. From these data we should know the time when it would be wise or necessary to exclude certain children from school, to visit absentees, to deal with infected houses, or to close schools, especially Infants' Departments. This method has been put into practice, with considerable success, by a large number of Sanitary Authorities. The idea is prevalent in some quarters that the closure of schools is of little avail in the prevention of epidemics, because if children are not in schools they are playing about together in



the courtyards and streets. But there is very considerable difference between children crowded together in a school-room, in confined air space, and children playing about in the open air.

Second :—Leaflets, giving instruction with regard to Measles, might be distributed when necessary, with a view to impressing upon parents the infectious nature of the disease, and pointing out the risk of children suffering from the disease being exposed to the cold or damp. I may add that the simple precaution of taking care of children during their recovery from Measles, in order to prevent them catching cold and suffering from Pneumonia or Bronchitis, would probably do more to reduce the mortality from this disease than almost anything else.

### WHOOPIING COUGH.

There were 72 deaths from Whooping Cough, giving a death rate of 0.37. Like Measles, this disease shows a considerable increase from 1901.

Whooping Cough is a disease of about two months duration, and is chiefly characterized by bronchial catarrh and a frequent paroxysmal cough. It generally occurs as an epidemic late on in the winter, say from December to March. Though no age is absolutely exempt from Whooping Cough, it is essentially a children's disease, most of the cases being met with in children under seven years of age. It is most fatal in the second year of life. The disease is almost entirely spread directly from patient to patient, the patient being infectious from the very commencement of the attack, and remaining so as long as the "whoop" is present. Owing to its infectiousness, isolation of the patient from other children should be enforced until there is no longer any signs of the "whoop."

The above principles are generally accepted as fully established, and the experience of the disease in Finsbury in 1902, well illustrate them. Out of the 72 deaths, 42 occurred in the second half-year, and only nine in the first quarter. There were only 3 deaths in the last quarter of the year. Out of the 72 deaths,

25 occurred in infants under one year of age, and 70 occurred under 5 years of age. That the disease is spread from patient to patient, particularly in crowded tenements, is remarkably illustrated by the fact that more than 50 per cent. of the deaths occurred in South Clerkenwell, where "model dwellings" abound, although the population in that division constitutes only a quarter of the whole population of the Borough.

The means of preventing Whooping Cough (from which 1,876 children died in London in 1902, yielding a death rate of 0·40 per 1,000) are largely in the hands of the public. Sufficiently long isolation of infected children, and watchful care over the infants' departments of the schools, are perhaps the main points requiring attention.

### EPIDEMIC DIARRHŒA (*Epidemic Enteritis*).

Under this term is included all forms of Zymotic Diarrhœa and Epidemic Enteritis. The Royal College of Physicians has recently (1900) laid down that "Gastro-Enteritis," "Muco-Enteritis," "Gastric Catarrh," and such synonyms of Epidemic Diarrhœa in medical certificates of death should be discarded. The College recognises that Epidemic Diarrhœa is *a general disease of a specific character* in the same sense as enteric or other fevers, and it therefore authorises the use of the term "*Epidemic Enteritis*" (or if preferred "Zymotic Enteritis" or "Epidemic Diarrhœa" to designate the disease in its various forms and degrees. There can be no doubt that the adoption of this common standard will prove of great value in the future, and it is satisfactory to note that medical practitioners generally (in response to our request of January 10th, 1901) are following the suggestion of the College of Physicians.

During 1902 there were 83 deaths attributed to this disease, 54 of these cases being infants under one year of age. This gives a death rate for Epidemic Diarrhœa of 0·81 per 1,000, compared with 1·2 per 1,000 in 1901. Frequently in this district of London the death rate has been over 2·0 per 1,000. So that the present



death rate compares favourably with previous rates. It should not however be forgotten that the London rate for 1902 was as low as 0.53 per 1,000. Hence, there is still much room for improvement in this particular district. It should be added, in relation to nomenclature, that of the 83 certificates received 58 were returned as Epidemic Diarrhœa, and 25 as Epidemic Enteritis. 41 per cent. of the cases occurred in the St. Luke division, 28 per cent. in South Clerkenwell, and 31 per cent. in North Clerkenwell.

Epidemic Diarrhœa is chiefly an autumnal disease of urban life, affecting most largely the children of the industrial classes, and frequently caused, directly or indirectly, by climate or contaminated food. Briefly the main causes of this preventable disease are generally held to be as follows :—

1. *Soil and Climatic Conditions.*—When the four-foot earth thermometer reaches 56° F., the summer rise of Epidemic Diarrhœa commences. Rainfall also exerts an indirect influence. A loose permeable soil, habitually damp, and polluted with organic matter and other refuse, due to “made soils,” town refuse or sewage leakage, is particularly favourably to Epidemic Diarrhœa. Possibly such soil contains the ferment or microbes causing the disease.
2. *Density of Population and Buildings.*—Aggregation favours, dispersion over a wide area disfavors the disease.
3. *Insanitary Conditions.*—Darkness, dirt and defective ventilation of a dwelling favour the disease. Accumulation of domestic refuse in ash-pits, dustbins, or on the street may also exert a like injurious influence.
4. *Food.*—The storage of food, particularly milk, in improper places, exposed to dust, dirt and emanations from filth, is probably a great factor in producing the disease. Disease-producing organisms are thereby greatly

increased in the milk which also undergoes organic changes, giving to the milk poisonous and irritating properties.

5. *Maternal Neglect, etc.*—Infants brought up by hand or bottle suffer most heavily from epidemic diarrhœa.

In other words Epidemic Diarrhœa is a so called "filth-disease," and preventable by improved sanitation and public hygiene in the broadest meaning of the terms.

These diarrhœal diseases would be largely prevented by attention to the following three matters—particularly during the summer months—(1) feeding of infants, instruction on and regulation of children's feeding; (2) purification of the ground and streets; and (3) purification as far as practicable of the milk supply. I should like to find that sterilized milk is much more widely used, and more care generally taken in respect to the milk supply.

The whole question of the causes and prevention of Epidemic Diarrhœa is one of such importance in a district like Finsbury that I have paid special attention to the subject during the year. At present there are two matters in particular to which reference should be made. The first has relation to the effect of soil temperature, and the second to the milk supply.

(a) *Epidemic Diarrhœa and Soil Temperatures.*—Ballard's views on the relationship of earth temperature and Epidemic Diarrhœa are as follows :—

(a) The summer rise of diarrhœal mortality does not commence until the mean temperature recorded by the four-foot earth thermometer has attained somewhere about 56° F., no matter what may have been the temperature previously attained by the atmosphere or recorded by the one-foot earth thermometer.

(b) The maximum diarrhœal mortality of the year is usually attained in the week in which the temperature recorded by the four-foot earth thermometer attains its mean weekly maximum.

(c) The decline of the diarrhœal mortality . . . . coincides with the decline of the temperature recorded by the four-foot earth thermometer, which temperature declines much more slowly than



the atmospheric temperature, or than that recorded by the one-foot earth thermometer.

(d) The influence of the atmospheric temperature, and of the temperature of the more superficial layers of the earth . . . is little, if at all, apparent until the temperature of the four-foot earth thermometer has risen as stated above; then their influence is apparent, but it is a subsidiary one.

On July 1st, 1902, we commenced a four-foot earth thermometer (Symon's) in the gardens of Wilmington Square (near the Town Hall), and since that date a daily reading has been taken at 9 a.m. The thermometer registered  $56^{\circ}0'$  F. on July 7th, and it remained above that figure until October 2nd. On July 11th it rose to  $57^{\circ}0'$  F.; on July 20th.  $57^{\circ}9'$  F.; on August 21st, over  $58^{\circ}0'$  F., and from August 25th until September 16th it remained at or over  $58^{\circ}0'$  F. During that period, 61 deaths, from Epidemic Diarrhoea, of children occurred. The average age at death was eight months. Unhappily, the past records for a number of years for the constituent parts of the Borough do not suffice to show how this figure of 61 compares with previous years, but the deaths from Epidemic Diarrhoea in total, and the corresponding rates (calculated on the changing population) from 1898 to 1902 are as follows :—

| Years. | No. of Deaths<br>from Epidemic<br>Diarrhoea. | Death rate. | Air<br>Temperature<br>in<br>Summer<br>Quarter. | Rainfall in<br>Summer<br>Quarter. |
|--------|----------------------------------------------|-------------|------------------------------------------------|-----------------------------------|
| 1898   | 176                                          | 1·6         | 62·7                                           | 2·51                              |
| 1899   | 187                                          | 1·8         | 63·0                                           | 4·32                              |
| 1900   | 160                                          | 1·5         | 61·8                                           | 4·58                              |
| 1901   | 127                                          | 1·2         | 61·7                                           | 5·10                              |
| 1902   | 84                                           | 0·8         | 61·1                                           | 6·02                              |

The relationship between the weekly number of deaths from Epidemic Diarrhoea and the temperature, as recorded by the four-foot earth thermometer, is shown the following Table :—

| Summer Quarter,<br>1902.                         | June |      | July. |       |           | August. |       |       |       | September. |      |       |       | Oct.           |
|--------------------------------------------------|------|------|-------|-------|-----------|---------|-------|-------|-------|------------|------|-------|-------|----------------|
| Dates of months.                                 | 30-5 | 6-12 | 13-19 | 20-26 | 27-2 Aug. | 3-9     | 10-16 | 17-23 | 24-30 | 31 Sept-6  | 7-13 | 14-20 | 20-27 | 28-4 Oct. 5-11 |
| Mean maximum temperature. Four-foot thermometer. | 52.4 | 56.4 | 57.2  | 57.8  | 57.7      | 57.7    | 57.7  | 57.8  | 58.1  | 58.1       | 58.1 | 57.7  | 56.7  | 56.1 55.1      |
| Rainfall (6.02 in.)                              | 0.58 | 0.35 | 0.01  | 0.21  | 0.29      | 0.44    | 0.17  | 1.43  | 0.24  | 0.68       | 1.45 | 0.06  | 0.00  | 0.11 0.28      |
| No. of deaths from Epidemic Diarrhœa. (61)       | —    | 2    | 3     | 2     | 2         | 3       | 9     | 1     | 7     | 6          | 10   | 9     | 4     | 3 —            |

This total figure of 61 is one of the lowest returns ever recorded in the third quarter of the year in this district of London (in 1901 it was 77). It would, therefore, appear as if there was an exception to Ballard's law as quoted above. But, it will be seen, mention is also made of the effect of the rainfall. During 1902 the temperature conditions were favourable to diarrhœa, that is, for 13 weeks of the summer quarter the earth temperature was above 56°F. But in the same quarter there was a fall of 6.02 inches of rain as compared with 5.10 in the summer quarter of 1901. The two records of temperature and rainfall must be taken together.\*

(b) *Epidemic Diarrhœa and the Feeding of Infants.*—As part of a larger investigation we have obtained some facts

\* It is instructive to observe that London as a whole had, in general, the same experience as our own. The diarrhœa death-rate for London in the summer quarter of 1902 was 1.44 as compared with 2.79 in 1901. The Finsbury rate for the summer quarter was 0.6. For the same reasons, in all probability, a number of towns experienced a low diarrhœa death-rate in the summer quarter of 1902 as compared with 1901. West Ham was 1.8 (6.3 in 1901); Brighton, 0.7 (2.9 in 1901); Wolverhampton, 1.1 (3.5 in 1901); Birmingham 1.2 (4.9 in 1901); Nottingham, 1.5 (5.0 in 1901); Bradford, 0.3 (3.0 in 1901); Sheffield, 1.3 (7.4 in 1901); and Gateshead, 0.8 (8.8 in 1901).



respecting the relation existing between Epidemic Diarrhœa and the feeding of infants. This Report is not the place to enter into a discussion upon the whole subject raised by these facts, but brief reference may be made to them.

Newsholme, Delepine and other authorities have for long held that infected milk is the most common cause of the Epidemic Diarrhœa of infants. I have pointed out in my reports for 1899, 1900 and 1901 how true this view is for Finsbury in particular. It is not unlikely that there is an intimate relationship existing between the earth temperature, the rainfall, and the infectivity of milk. It was formerly supposed that the facts observed by Ballard had relationship to conditions of the soil only. I am inclined to think as I pointed out in 1899 that the emphasis must be laid more upon the effects of temperature upon food, and especially milk, than upon any miasmatic influences of the soil. The two sets of facts, the earth temperatures and the bad feeding of infants, have, of course, been frequently observed and reported upon. It is possible there is an intimate relationship between the two. Hence the importance of collecting facts respecting the causes and conditions of Epidemic Diarrhœa in Finsbury.

Alongside the observations we have made respecting the temperature of the soil, we have investigated the feeding of infants who died from Epidemic Diarrhœa during 1901 and 1902. We have obtained facts respecting 115 infants (that is, under one year of age) as follows :—

| Age in months. | Human Milk. | Condensed Milk. | Human and Condensed. | Cows' Milk (Bottle). | Human and Cows' Milk. | Totals. |
|----------------|-------------|-----------------|----------------------|----------------------|-----------------------|---------|
| 1-3            | 5           | 7               | 5                    | 6                    | 12                    | 35      |
| 4-6            | 8           | 8               | 8                    | 5                    | 8                     | 37      |
| 7-9            | 4           | 3               | 5                    | 4                    | 7                     | 23      |
| 10-12          | 7           | 3               | —                    | 5                    | 5                     | 20      |
| Totals ...     | 24          | 21              | 18                   | 20                   | 32                    | 115     |

From this table it will be seen that only 24 out of 115 infants who have died from Epidemic Diarrhœa in 1901 and 1902 were fed with human milk, which is 20 per cent. The other 80 per cent. were fed on condensed milk, or cows' milk, or either of them as well as human milk. Thirty-five per cent. were fed wholly or partly on condensed milk, and 45 per cent. wholly or partly on cows' milk, in bottles. There can be no doubt in the mind of anyone who knows how the poor live in an urban district like Finsbury that, quite apart from the lesser suitability of condensed milk or cows' milk for infant feeding, these two forms of milk readily become contaminated with dirt and dust. Such pollution may gain access to the milk at the farm, or in transit, or in the home. Such polluted milk readily sets up Diarrhœa, especially in warm weather. The remedy is to feed infants on human milk, or, if that be impracticable, then on sterilized milk.

[For further notes on the question of condensed milks see p. 102.]

### PHTHISIS.

In previous reports, and in a Special Report in 1901, I have discussed the preventive measures adopted in this Borough in respect to Phthisis and it is unnecessary to repeat these statements again. It will be remembered that Voluntary Notification was commenced early in October, 1900, and that this Borough was the first in London to adopt this system. During 1901 and 1902 many other of the Metropolitan Boroughs have adopted a similar system. Our work in Finsbury may be most satisfactorily considered under the two heads of Voluntary Notification and Mortality.

**The Voluntary Notification of Phthisis.**—During 1901 we received 70 notifications of Phthisis, and in 1902 we received 121, as follows :—



| Notified Cases. | Under<br>10 years. | 10- | 20- | 30- | 40- | 50- | 60- | Total. |
|-----------------|--------------------|-----|-----|-----|-----|-----|-----|--------|
| Males ... ..    | —                  | 5   | 6   | 37  | 17  | 11  | 2   | 78     |
| Females ... ..  | —                  | 2   | 12  | 8   | 15  | 5   | 1   | 43     |
| Total ... ..    | —                  | 7   | 18  | 45  | 32  | 16  | 3   | 121    |

A scheme of systematic investigation of each case of Phthisis coming to our knowledge has been carried out, with few exceptions, after notification, and always after death.\* *A written report is made on each case.* This comprises the main facts about the patient's illness, his occupation, his places of abode during the last 5 years, his family history as regards Phthisis, the house he lives in as regards its sanitary condition, overcrowding, cleanliness, light, dampness and ventilation, the source of milk supply, etc. Apart from the important facts thus obtained, the investigation, if carried out tactfully and wisely, has undoubtedly a certain *educational value to the patient himself.* He learns (*a*) that the disease is infectious, (*b*) that it is caused by a germ present in the expectoration in enormous numbers, (*c*) that when the expectoration dries on the pavement or floor the dust disseminates the germ, (*d*) that such infective dust may convey the disease, especially in dark, dirty, overcrowded dwellings, (*e*) and that in addition to being carried in dry dust by the air the germ may also be introduced into the body by milk and other contaminated food. With these facts clearly in his mind the patient is able to see that it is reasonable that the community should be protected as far as possible by means of simple precautions, namely, that the consumptive patient should not spit about on floors or pavements but into small spittoons or

\* This enquiry is not carried out, nor is disinfection, in any case where the medical attendant advises us that it should not be done. In this way medical practice is not interfered with, although, by the notification of the case, more accurate records of the ravages of the disease are obtained.

cups containing disinfectant solution, that *dry dusting* is dangerous and must give place to damp dusting, and that periodically the room and belongings of the patient should be thoroughly cleansed with water or disinfectant solution, and that milk should be boiled, and every available means taken to prevent tuberculous milk being sold. Thus many advantages are gained both to the patient and to the community. With a few exceptions disinfection has been carried out. In all cases the notification and information obtained is strictly confidential and names and addresses are not published in any way whatever. Unquestionably it would be advantageous if sanatorium treatment was available for a number of the cases. Further facts respecting cases notified will be found below.

**Deaths from Phthisis.**—The total deaths due to consumption in 1902 were 249, giving a death rate of 2·45 per 1,000. The rate for 1901 was 2·22, and for 1900 was 2·51.

The age and sex incidence was as follows :

| Deaths         | 0— | 10— | 20— | 30— | 40— | 50— | 60—70 | Total |
|----------------|----|-----|-----|-----|-----|-----|-------|-------|
| Males .. ...   | 27 | 4   | 19  | 43  | 30  | 26  | 12    | 161   |
| Females ... .. | 11 | 11  | 9   | 29  | 18  | 7   | 3     | 88    |
| Total ... ..   | 38 | 15  | 28  | 72  | 48  | 33  | 15    | 249   |

In the first quarter of the year there were 63 deaths ; in the second, 55 ; in the third, 49 ; and in the fourth quarter, 82. The greater prevalence among males is probably due to their greater degree of exposure to unfavourable conditions.

Dr. McLearn, the Medical Superintendent of Holborn Infirmary, writes to me under date January 7th, 1903 :—

“ During the year 1902, the total deaths from Phthisis occurring in the Holborn Union Workhouse Infirmary were 120, and of these deaths, 88 were of patients coming from the Borough of Finsbury. The number of Phthisis cases now



“ under treatment, who are residents of Finsbury, is 102 ; of  
 “ these cases, 87 are men, the remaining 15 being women. I  
 “ might add that nearly all of these patients are in advanced  
 “ consumption, being in the later, second and third, stages of  
 “ the disease.”

During 1902, a careful study has been made of the comparative Phthisis death-rates during the past few years. The following table sets forth the chief returns for Finsbury :—

| Year | 0—10 | 10—20 | 20—30 | 30—40 | 40—50 | 50—60 | 60—70 | Totals | Death rates |
|------|------|-------|-------|-------|-------|-------|-------|--------|-------------|
| 1896 | 35   | 11    | 38    | 64    | 63    | 31    | 10    | 252    | 2'33        |
| 1897 | 23   | 11    | 50    | 58    | 63    | 32    | 20    | 257    | 2'39        |
| 1898 | 28   | 15    | 43    | 58    | 57    | 42    | 10    | 253    | 2'35        |
| 1899 | 16   | 14    | 34    | 63    | 92    | 33    | 13    | 265    | 2'48        |
| 1900 | 11   | 13    | 47    | 68    | 88    | 28    | 12    | 267    | 2'51        |
| 1901 | 18   | 13    | 26    | 59    | 60    | 40    | 10    | 226    | 2'22        |
| 1902 | 38   | 15    | 28    | 72    | 48    | 33    | 15    | 249    | 2'45        |

These are not the full number of deaths, which probably reached at least 300 in each year, or 1,500 per five years, but the deaths of which we have full particulars as to age, address, etc. These returns are full of interest, and illustrate a variety of points in connection with the ravages of Phthisis in Central London.

As a result of the investigations which have been made respecting the notifications and deaths of Phthisis during 1902, a considerable amount of information has been obtained to which brief reference may be made :—

#### 1. Consumption in Families.—The following table

shows the number of cases in which there has been a history of family disease pointing in most cases, in all probability, to family infection :—

| Other members of the family who died of Phthisis. | Notifications. | Deaths. |
|---------------------------------------------------|----------------|---------|
| Grandparents... ..                                | 1              | 17      |
| Father ... ..                                     | 17             | 25      |
| Mother... ..                                      | 8              | 13      |
| Brother ... ..                                    | 10             | 31      |
| Sister ... ..                                     | 12             | 26      |
| Husband ... ..                                    | 4              | 4       |
| Wife ... ..                                       | 1              | 3       |
| Uncle ... ..                                      | 4              | 19      |
| Aunt ... ..                                       | 1              | 10      |
| Children ... ..                                   | 1              | 8       |
| Total ... ..                                      | 59             | 156     |

It should be pointed out that it is impossible to make enquiries in a number of cases owing to removal, or death, or unwillingness to give information. This latter, however, only refers to several cases.

**2. Length of the Disease.**—The comparative length of the disease is illustrated in the following table :—



| Length of Disease. |     |     |     | Notifications. | Deaths. |
|--------------------|-----|-----|-----|----------------|---------|
| Under Six Months   | ... | ... | ... | 19             | 57      |
| Six Months         | ... | ... | ... | 9              | 21      |
| Twelve Months      | ... | ... | ... | 10             | 27      |
| Eighteen Months    | ... | ... | ... | 9              | 5       |
| Two Years          | ... | ... | ... | 16             | 27      |
| Three Years        | ... | ... | ... | 3              | 15      |
| Four Years         | ... | ... | ... | 3              | 5       |
| Five Years         | ... | ... | ... | 1              | 2       |
| Over Five Years    | ... | ... | ... | 9              | 9       |
| Total              | ... | ... | ... | 79             | 168     |

It will be understood that this and the former table are facts obtained from the patient or his friends, and can only be of relative value as it is often impossible to say for how long a period the patient has been suffering from the disease.

**3. House Infection.**—A large number of cases, as in last year, have occurred in the same houses. Of the notifications, 17·8 per cent., and of the deaths 35 per cent., occurred in houses in which there were, during the last seven years, two or more deaths from Phthisis. A careful sanitary inspection and a special report has been prepared on each of these houses. Almost without exception the phthisical patients in these houses neglected to take any precautionary measures whatever, with regard to expectoration or disinfection. The houses appeared to be, as a general rule, in every way fit for habitation, according to the standard of bye-laws, etc. Only seventeen houses were returned as "damp," twenty as having poor light, and thirty-five as being dirty. There were two characteristics commonly occurring,

namely, *uncleanliness* and *ill-ventilation*, using the latter term to signify "stuffiness," owing to neglect to open windows. If house infection plays a large part in the propagation of Phthisis—and there appears to be indisputable evidence that this is so—then it must be said that our experience in Finsbury goes to show that such house infection *is due to want of cleanliness and want of fresh air*, both of which desiderata are available if the occupants wish to have them. It seems to be clear that education of the patient and the public is one of the chief things necessary, either by leaflets, or better still, by personal instruction, preferably by the medical practitioner; or if that is not possible, then by special medical men or health visitors.

**Other Forms of Tuberculosis.**—In addition to 249 deaths from Phthisis (Tuberculosis of the Lungs) there were also during the year 21 deaths from Tuberculosis of the meninges of the brain, and 23 deaths from other forms of Tuberculosis. Amongst these latter, 19 were certified as due to *Tabes-Mesenterica* (Tuberculosis of the mesenteric glands, &c.). During 1901 there were 9 deaths certified as due to *Tabes-Mesenterica*, giving a total for the two years of 28. Each of these cases has been investigated as far as possible, and we have obtained some facts in relation to 16 out of the 28 as follows:—

1. F., 15 months old; 3, B. Court (died 1902); came from Bell's Yard, Uxbridge, three or four days before death. No history of phthisis in the family. A death from phthisis took place at this house in 1900.
2. F., 3 months old; 12, C. Street (died 1902). Father has phthisis; grandfather and grandmother, and two uncles all died during last year from phthisis. Child brought up on Nestlé's milk. Another child of this family died in 1902 from tubercular meningitis.
3. F., 13 months; 2, H. Street (died 1901). Fed on human milk for the first six weeks, then Nestlé's. Father delicate and had a chronic cough. No direct history of phthisis.
4. M., 8 months; 57, M. Street (died 1902). Father has phthisis. Child fed on human milk for first three months, then cows' milk and Nestlé's.



5. M., 4 months ; 23, M. Street (died 1902). Aunt of child has phthisis and visits house. Child always had cows' milk.
6. F., 14 months ; 61, N. Road (died 1901). No history of phthisis in family. Child fed on cows' milk and Nestlé's. Death from phthisis in next house in 1902.
7. M., 12 months ; 10, N. Street (died 1902). Mother has phthisis. Aunt and two uncles of child died of phthisis, which has always been prevalent in family. Child fed on mother's milk only.
8. M., 12 months ; of 10, P. Street (died 1902). Born and died in the Workhouse.
9. M., 8 months ; 3, R. Place (died 1902). Father died of phthisis ; a sister now at Highgate (probably with phthisis) ; and a grandmother died in workhouse (also probably of phthisis).
10. F., 3 months ; 3, S. Street (died 1902). Mother was taken to hospital for confinement, had cancer, an operation was performed for the purpose of delivery. Child was removed from hospital to workhouse, and then to infirmary, where it died.
11. F., 2 months ; 6, L. R. Street (died 1902). Maternal grandfather died of phthisis ; mother has "a weak chest" ; child fed on human milk only.
12. F., 21 months ; 26, V. Buildings (died 1901). Father has phthisis ; a twin-child died at 4 months of age of "mal-nutrition" ; cows' milk, boiled sometimes. Child was sometimes taken care of at No. 38 V. Buildings, where a death from phthisis occurred in 1902.
13. F., 3 years ; 79, W. L. Street (died 1901). No history of phthisis in family, but child of 10 went to play in No. 78 W. L. Street, where there was an acute case of phthisis. Cows' milk, boiled in summer.
14. M., 3 months ; 7, W. Street (died 1902). No history of phthisis in family. Mother's milk till 6 weeks old, then cows' milk, "always boiled. The mother of this infant was accustomed to visit a phthisical friend in a neighbouring street.
15. F., 2 months ; 2, B. Street (died 1902). No history of phthisis. Human milk for 2 months, then Nestlé's.
16. F., 3 months ; 163, C Street (died 1902). Paternal grandfather and some of the grandfather's brothers died of phthisis. A sister of the deceased, aged 8, has phthisis. A little brother, aged 16 months, died in 1901 of phthisis in this house. Infant fed on human milk only, but nursed by its phthisical sister.

From these particulars it will be seen that 56 per cent. of the cases had a history of phthisis in the family or associates. The returns are, of course, too few from which to draw much conclusion.

### ALCOHOLISM.

During 1902 twenty-seven deaths were directly attributed to alcoholism and delirium tremens. Of these 7 were women. These figures do not, of course, represent more than a small proportion of the mortality really caused by alcoholism. It is more than likely, that most, if not all of the deaths of infants attributed to being "laid upon" in bed, are really caused indirectly by alcoholism. During 1902 there were, as already pointed out, 30 deaths so caused. Fifteen of these deaths were of female children. Cirrhosis of the liver, a condition due, as a rule, to alcoholic excess, caused the death of 21 persons, 13 of whom were women. Hence it may be said that 78 deaths were probably due to alcoholic excess.

The figures are as follows :—

| Years. |     |     | Alcoholism. | Cirrhosis of Liver. | Children laid upon. | Total. |
|--------|-----|-----|-------------|---------------------|---------------------|--------|
| 1901   | ... | ... | 11          | 22                  | 20                  | 53     |
| 1902   | ... | ... | 27          | 21                  | 30                  | 78     |

Of the 27 deaths due directly to alcoholism, 21 occurred between the ages of 40 and 60, only one occurred under 30. There can be no doubt that a large number of other deaths during the year were caused indirectly, or accelerated, by alcoholic excesses.

It may be of interest to place on record the number of public houses and beer shops in the Borough in 1902. In 99 houses notices of dilution, under the Food and Drugs Acts, are exhibited, with the view of protecting the vendor in case of prosecution for selling adulterated spirits.



| Number of Public Houses. | Notice of Dilution Exhibited. | No Notice. | Beer Houses. | Total Number of Beer Houses and Public Houses. |
|--------------------------|-------------------------------|------------|--------------|------------------------------------------------|
| 183                      | 99                            | 84         | 45           | 228                                            |

It will be remembered that the population is 100,487.

### CANCER AND MALIGNANT DISEASE.

There were 72 deaths certified during the year as due to Cancerous or Malignant Disease, which gives a special death rate of 0.70 per 1,000. The age and sex incidence of these deaths was as follows:—

| Ages        | Under 10 years | 10 and under 20 | 20 and under 30 | 30 and under 40 | 40 and under 50 | 50 and under 60 | 60 and under 70 | 70 and upwards | Totals |
|-------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|--------|
| Males ...   | —              | —               | —               | —               | 6               | 9               | 9               | 11             | 35     |
| Females     | —              | —               | —               | 1               | 10              | 8               | 9               | 9              | 37     |
| Totals 1902 | —              | —               | —               | 1               | 16              | 17              | 18              | 20             | 72     |
| Totals 1901 | 1              | 2               | 2               | 8               | 14              | 18              | 14              | 13             | 72     |

The occupation of each person dying of Malignant Disease has been noted. These have been various, and in no case is there any obvious connection between the occupation and the cause of death. Ninety-eight per cent. of the cases occurred in persons over 40 years of age.

As to local distribution, it may be remarked that the distribution was fairly uniform throughout the Borough, and there was no instance of more than one case in a house.

It is not probable that these returns are strictly accurate. They are in all probability under the mark, though in some instances the diagnosis included in the 72 cases must be accepted

with reserve. Cancer is not always readily diagnosed. Moreover, it is likely that the deaths of a certain number of persons have been attributed to other causes when they should have been allocated to Cancerous Disease.

The parts of the body mainly affected with Cancerous Disease were as follows :—

|                                                                                 | Liver | Stomach | Throat | Breast | Face,<br>Tongue,<br>Jaw | Uterus | Intestine | Unstated | Total |
|---------------------------------------------------------------------------------|-------|---------|--------|--------|-------------------------|--------|-----------|----------|-------|
| No. of deaths due to Cancer and Malignant Disease, according to organ affected. | 6     | 12      | 8      | 9      | 7                       | 12     | 17        | 1        | 72    |

Such returns as these can only be of value when it is possible to compare such records for a number of years.

C.—PROTECTION OF THE FOOD SUPPLY.





## PROTECTION OF THE FOOD SUPPLY.

During the year 1901 a large amount of time and labour has been spent upon the protection of the Food Supply. This has comprised meat inspection and seizure, registration and inspection of the milkshops and dairies and carrying out the Sale of Food and Drugs Act. During the year the butchers' and condensed milk trade have also come in for attention. The various premises in which the preparation of food takes place, directly or indirectly, have been inspected, including slaughterhouses, butcher shops, shops attached to restaurants, grocers, restaurants, bakeries, confectionery, milkshops, bakeries, restaurants, etc.

### MEAT.

At the time of the formation of the Borough of Finsbury, in 1900, the Finsbury Corporation were made responsible for the jurisdiction of the Finsbury Market. This market is the second largest dead meat market in London, the City Corporation market adjoining it being of course the largest. In December 1901 the Borough

## C.—PROTECTION OF THE FOOD SUPPLY.

this market and of meat shops or meat stores generally throughout the Borough. Inspector G. T. Billing, who had held a similar position under the Holborn Board of Works, was appointed to this post. His work requires that he shall be on duty in the market at an early hour in the morning, and at intervals he inspects meat shops in the Borough. Meat is also inspected in every part of the Borough by the Sanitary Inspectors, and on Sundays the "market streets" are also regularly inspected.

The mode of procedure is as follows: If a complaint is received of meat sold in the Borough, the Inspector to examine suspicious meat and if upon examination what is sent for food, this meat is condemned and destroyed, the Council not being liable. In cases of difficulty the Medical Officer of Health is sent for and consulted. But if the Inspector likes the first step, and on his report orders meat which is unfit for food, exposed for sale, or deposited in any place for the purpose of sale or of preparation for sale, he may deem it right to "seize" the meat. In this event it is





## PROTECTION OF THE FOOD SUPPLY.

During the year 1902 a large amount of time and labour has been spent upon the protection of the Food Supply. This has comprised meat inspection and seizure, registration and inspection of the milkshops and dairies, and carrying out the Sale of Food and Drugs Acts. During the year the butter and condensed milk trade have also come in for attention. The various premises in which the preparation of food takes place, directly or indirectly, have been inspected, including slaughterhouses, butchers' shops, cowsheds, milkshops, bakehouses, restaurant kitchens, etc.

### MEAT.

At the time of the formation of the Borough of Finsbury, in 1900, the Extra-Corporation meat markets came within its jurisdiction. This market is the second largest dead-meat market in London, the City Corporation markets adjoining it being of course the largest. In December, 1900, the Borough Council appointed a special meat inspector to take supervision of this market and of meat shops or meat stores generally throughout the Borough. Inspector G. T. Billing, who had held a similar position under the Holborn Board of Works, was appointed to this post. His work requires that he shall be on duty in the market at an early hour in the morning, and at intervals he inspects meat elsewhere in the Borough. Meat is also inspected in every part of the Borough by the Sanitary Inspectors, and on Sundays the "market streets" are also regularly inspected.

The mode of procedure is as follows: If a salesman or owner of meat calls in the Inspector to examine suspicious meat and at once surrenders what is unfit for food, this meat is confiscated and destroyed, the Council not being liable. In cases of difficulty the Medical Officer of Health is sent for and consulted. But if the Inspector takes the first step, and on his round comes across meat which is unfit for food, exposed for sale, or deposited in any place for the purpose of sale or of preparation for sale, he may deem it right to "seize" the meat. In this event it is



examined by the Medical Officer of Health and submitted to the presiding Magistrate at the Police Court. Permission is granted for experts to examine the meat on behalf of the persons from whom it has been seized, and as a rule such meat lies at the Town Hall for this purpose for 24 hours after seizure. After the meat is condemned, the case in all its particulars (except the name of the person from whom it was seized) is laid before the Public Health Committee, and their instructions as to prosecution or otherwise carried out.

During the year under review there have been 20 prosecutions for unsound meat, fish and fruit. In each case we have obtained a conviction.

TABLE OF MEAT PROSECUTIONS, 1902.

| Date of Trial. | Name and Address.                                | Article.                         | Where seized and Name of Inspector.         | Penalty and Costs inflicted.                     |
|----------------|--------------------------------------------------|----------------------------------|---------------------------------------------|--------------------------------------------------|
| Jan. 9         | Henry Tompkins, Wembley Hill, Sudbury            | Four quarters of diseased beef   | 93, Cowcross Street (Inspector Billing)     | £50, or three months imprisonment.               |
| Jan. 22        | William Talbot, Elizabeth Road, Tottenham        | Half leg of mutton—unsound       | Town Hall (Inspector Billing)               | One month's imprisonment without option of fine. |
| Jan. 31        | Frederick William Tatam, Harpswell, Lincolnshire | Four quarters of diseased beef   | 95, Charterhouse Street (Inspector Billing) | £50, and £10 10s. costs.                         |
| Mar. 13        | Walter Bridger, 135, Lever Street                | Nineteen pieces of diseased beef | 135, Lever Street (Inspector Billing)       | £20 and £5 7s. costs.                            |
| April 3 and 4  | F. Hardy, Hillingdon, Middlesex                  | Nineteen pieces of diseased beef | 135, Lever Street (Inspector Billing)       | £20 and £5 5s. cost.                             |

| Date of Trial. | Name and Address.                          | Article.                                                                                                                                                                          | Where seized and Name of Inspector.             | Penalty and Costs inflicted.                                                                                                                                                                                                                            |
|----------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| April 11       | James Harris,<br>197, St. John Street Road | One pig, 66 pieces of pork, 39 pieces of veal, 3 pieces of mutton, and 2 pieces of beef—unsound                                                                                   | 197, St. John Street Road (Inspector Billing)   | Six week's imprisonment without option of fine. This case was heard at Sessions House (Quarter Sessions) and was an appeal from a conviction at Clerkenwell Police Court on December 21st, 1901. Defendant was also ordered to pay the costs of appeal. |
| June 5         | Alfred Joseph Spence, 30, Chapel St.       | Eight pieces of diseased pork                                                                                                                                                     | 30, Chapel Street (Inspector Billing)           | £120.                                                                                                                                                                                                                                                   |
| June 24        | John Fitter, 134, Central Meat Market      | Fore quarter of beef—unsound                                                                                                                                                      | Cowcross Street (Inspector Billing)             | £10 and £3 3s. costs.                                                                                                                                                                                                                                   |
| July 15        | John Stone, 48, Exmouth Street             | Twenty-six pieces of beef—unsound                                                                                                                                                 | 48, Exmouth Street (Inspector Billing)          | £40.                                                                                                                                                                                                                                                    |
| July 22        | George Hallett, 33, Percival Street        | Eighteen pounds of beef and mutton—unsound                                                                                                                                        | 33, Percival Street (Inspector Billing)         | £40.                                                                                                                                                                                                                                                    |
| July 22        | James Pearcey, 284, New North Road         | One hundred and fifty pieces of mutton, 61 sheep's hearts, 75 sheep's tops and lungs, 7 sheep's livers, 5 pieces of sheep's liver, 8 sheep's plucks, and 12 sheep's milts—unsound | On a stall in Chapel Street (Inspector Billing) | £10.                                                                                                                                                                                                                                                    |
| July 29        | Thomas Fisher, Union Street, Norwich       | Three quarters of diseased beef                                                                                                                                                   | 93, Cowcross Street (Inspector Billing)         | Defendant absconded to New York.                                                                                                                                                                                                                        |



| Date of Trial. | Name and Address.                                                                    | Article.                                                         | Where seized and Name of Inspector.                   | Penalty and Costs inflicted.                                       |
|----------------|--------------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------|
| July 30        | Thomas Ella-cott, Wink-leigh, Devon                                                  | Two sides of beef and one head and tongue—diseased               | 92, Cowcross Street (Inspector Billing)               | £15, or two month's imprisonment.                                  |
| Oct. 24        | James Harris, 197, St. John Street Road                                              | Sixteen pieces of veal, and ten pieces of pork—unsound           | 197, St. John Street Road (Inspector Billing)         | Four month's imprisonment with hard labour, without option of fine |
| Nov. 7         | Charles Marshall, 31, Aylesbury Street                                               | Six rabbits and 40 pieces of rabbit—unsound                      | 31, Aylesbury Street (Inspector Billing)              | £2 and 4s. costs.                                                  |
| Nov. 21        | John Cotton, 37, Rosoman Street                                                      | Thirty rabbits, 78 pieces of rabbit and 9 pieces of pork—unsound | On a stall in Ex-mouth Street (Inspector Billing)     | £20                                                                |
| Dec. 17        | Messrs. Albert Conway and Robert Yates, trading as Messrs. Conway, 69, Chapel Street | Thirty pieces of beef and one leg of mutton—unsound              | 69, Chapel Street, (Inspector Billing)                | Conway fined £10; Yates discharged.                                |
| 1903<br>an. 2  | William George Hiller, 50, Chapel Street                                             | Two legs of pork—unsound                                         | 50, Chapel Street (Inspector Billing)                 | £30. This case had been adjourned from December 19th, 1902.        |
| FRUIT.         |                                                                                      |                                                                  |                                                       |                                                                    |
| Aug. 5         | Samuel Snow, Manor Park                                                              | Forty-two baskets of strawberries—unsound                        | On a stall in Ex-mouth Street (Inspector Billing)     | £2 and 2s. costs.                                                  |
| FISH.          |                                                                                      |                                                                  |                                                       |                                                                    |
| Nov. 21        | John Crispin, 5½, Lloyd's Row                                                        | Fifty-seven soles—unsound                                        | On a stall in Ex-mouth Street (Chief Inspector Green) | £2 and 2s. costs.                                                  |

It has been my practice to advise prosecution only in cases about the seriousness of which there could be no doubt whatever; that is to say, we have only taken to Court cases where the meat seized was extremely unsound or in a state of advanced disease, or cases where continued warnings had been of no avail. In other cases, where extenuating circumstances of one kind or another existed, we have been satisfied with severely reprimanding or warning the owner of the meat, and in that way have given him the benefit of any doubt. This policy has been adopted, not from any desire to diminish the absolute strictness of meat inspection, and, where necessary, prompt prosecution, but from a knowledge of the ordinary exigencies and difficulties of the trade, especially in hot weather. It is partly on this account that I have to report a heavy list of confiscated meat which has been surrendered to the Inspector (more than 75 tons in weight). This amount includes the meat upon which legal proceedings were instituted.



**Summary of Diseased and Unsound Meat, Offal, &c., confiscated  
during the year ending December 31st, 1902.**

| DISEASED.                 |     |     |       |                               |     |     |       |
|---------------------------|-----|-----|-------|-------------------------------|-----|-----|-------|
| Quarters of Beef          | ... | ... | 11    | Bullocks' Livers              | ... | ... | 384   |
| Pieces of Beef            | ... | ... | 19    | " Lungs                       | ... | ... | 261   |
| Barrels of Beef           | ... | ... | 3     | " Heads                       | ... | ... | 6     |
| Carcases of Mutton        | ... | ... | 1     | " Tongues                     | ... | ... | 3     |
| " of Pork                 | ... | ... | 12    | " Hearts                      | ... | ... | 1     |
| Sides of Pork             | ... | ... | 6     | " Tripes                      | ... | ... | 1     |
| Pieces of Pork            | ... | ... | 9     | " Spleens                     | ... | ... | 1     |
| Carcases of Veal          | ... | ... | 53    | Calves' Plucks                | ... | ... | 1     |
| Sheep's Livers            | ... | ... | 6,770 | Pigs' "                       | ... | ... | 7     |
| " Lungs                   | ... | ... | 455   | " Omentum                     | ... | ... | 1     |
| " Plucks                  | ... | ... | 1     |                               |     |     |       |
| Total weight              |     |     |       | Tons. Cwts. Qrs. Lbs.         |     |     |       |
|                           |     |     |       | ...                           | 13  | 5   | 2 8   |
| DECOMPOSED.               |     |     |       |                               |     |     |       |
| Quarters of Beef          | ... | ... | 41    | Sheep's Lungs                 | ... | ... | 189   |
| Pieces of Beef            | ... | ... | 193   | " Hearts                      | ... | ... | 61    |
| Carcases of Mutton        | ... | ... | 3     | " Tops (Hearts and            |     |     |       |
| Pieces of Mutton          | ... | ... | 152   | Lungs)                        | ... | ... | 75    |
| Carcases of Lamb          | ... | ... | 1     | " Milts                       | ... | ... | 12    |
| " of Pork                 | ... | ... | 21    | " Kidneys                     | ... | ... | 1,444 |
| Pieces of Pork            | ... | ... | 64    | Hampers of Kidneys            | ... | ... | 2     |
| Carcases of Veal          | ... | ... | 445   | " Sheep's Plucks              | ... | ... | 2     |
| Pieces of Veal            | ... | ... | 21    | Barrels of Sheep's Plucks...  | ... | ... | 2     |
| Sides of Bacon            | ... | ... | 2     | Hampers of Sheep's Heads      |     |     |       |
| Hams                      | ... | ... | 3     | and Plucks                    | ... | ... | 2     |
| Pieces of Bacon           | ... | ... | 2     | Lambs' Heads                  | ... | ... | 96    |
| Crates of Rabbits         | ... | ... | 34½   | " Plucks                      | ... | ... | 46    |
| Rabbits                   | ... | ... | 55    | " Livers                      | ... | ... | 90    |
| Pieces of Rabbit          | ... | ... | 150   | Calves' Plucks                | ... | ... | 53    |
| Bullocks' Livers          | ... | ... | 5,156 | Hampers of Plucks             | ... | ... | 5     |
| " Lungs                   | ... | ... | 676   | Calves' Feet                  | ... | ... | 8     |
| " Heads                   | ... | ... | 95    | Pairs of Sweetbreads          | ... | ... | 40    |
| " Tongues                 | ... | ... | 35    | Barrels of Pork               | ... | ... | 6     |
| " Spleens                 | ... | ... | 318   | Pigs' Plucks                  | ... | ... | 30    |
| Cases of Bullocks' Tails  | ... | ... | 34    | " Hearts                      | ... | ... | 10    |
| Bullocks' Cheek           | ... | ... | 1     | " Lungs                       | ... | ... | 6     |
| " Tails                   | ... | ... | 38    | Barrels of Pigs' Chitterlings | ... | ... | 8     |
| Barrels of Ox Kidneys     | ... | ... | 13    | " Kidneys                     | ... | ... | 14    |
| " Udder                   | ... | ... | 2     | Boxes of Wet Fish...          | ... | ... | 15    |
| " Tripe                   | ... | ... | 62    | " Dried Fish                  | ... | ... | 54    |
| Tripes                    | ... | ... | 16    | Cases of Eggs                 | ... | ... | 3     |
| Crates of Cow Heels       | ... | ... | 2     | Baskets of Strawberries       | ... | ... | 42    |
| Cases of Mixed Offal      | ... | ... | 60    | Boxes of Tomatoes             | ... | ... | 8     |
| Sheep's Heads             | ... | ... | 1,776 | Pomegranates                  | ... | ... | 433   |
| " Livers                  | ... | ... | 503   | Fowls                         | ... | ... | 37    |
| " Plucks                  | ... | ... | 1,104 |                               |     |     |       |
| Total weight (Decomposed) |     |     |       | Tons. Cwts. Qrs. Lbs.         |     |     |       |
| Total weight (Diseased)   |     |     |       | ...                           | 61  | 17  | 0 25  |
|                           |     |     |       | ...                           | 13  | 5   | 2 8   |
| Grand total weight        |     |     |       | ...                           | 75  | 2   | 3 5   |

**Slaughter-Houses.**—The following are the Slaughter-houses situated in Finsbury :—

|                    |                      |
|--------------------|----------------------|
| 14, Penton Street  | 39, Bath Street*     |
| 20, Amwell Street  | 102, Central Street* |
| 191, Goswell Road* | 37, Chiswell Street* |

These six slaughter-houses have been regularly inspected. The premises are comparatively small and are not well situated. They are, however, kept clean, and the paving and drainage is good. The slaughter-house in St. John Street has been closed recently, as it was situated in an insanitary area for which an improvement scheme (demolition and reconstruction) is being carried out by the London County Council. The slaughter-houses marked with an asterisk are licensed only to kill small cattle.

### MILK SUPPLY.

At the time of the formation of the Borough, in November, 1900, the Registration of Milk Sellers and Dairymen, including various powers and duties, was transferred from the London County Council to the Metropolitan Borough Councils under Section 5, sub-Section 1, of the London Government Act, 1899. The regulations thus to be enforced by the Borough Councils come under the Dairies, Cowsheds, and Milkshops Order of 1885 and the Amending Orders of 1886 and 1899, and comprise matters of registration, sanitary construction, ventilation, water supply, the health of the cattle in the cowsheds, the cleanliness of the utensils used in dairying and the protection of milk from infection and other forms of contamination. In the Borough there are registered 280 milk-shops, and each of these was inspected periodically during 1902. A list of coffee-shops, restaurants, &c., where milk is consumed on the premises has also been made for purposes of reference, but such places are not, of course, registered. If milk is served on such premises to customers in their own receptacles, the occupier is called upon to register his premises.



A Register book is kept containing the name of the occupier, situation of premises, and date of registration. In the same Register is kept a record of all cases of infectious disease occurring at milk-shops and dairies, with the dates of occurrence and disinfection.

It will be understood that, with few exceptions, these 280 milk-sellers receive their supply from wholesale dealers and contractors. Contractors not infrequently receive their wholesale supply from places in the country at a considerable distance from London; such a supply, often thousands of gallons in quantity, reaches London by rail; the contractors' carts convey the milk in milk-churns at an early hour of the morning from the railway station to the milk-shop. Such a contractor would supply scores of milk-shops. He does not, however, know at which shops the milk from certain farms is delivered. Moreover, in many cases a milk-shop will deal with two or more contractors, thus still further complicating the business.

At present it may be said that whilst we have in operation registration of milk-shops and some control over their management, there is little or no protection of the milk itself. A person buys some milk at his doorstep which comes from a small milk-shop, which is supplied by a milk contractor, who is supplied by a large number of farmers in remote districts of the country, the purchaser, the purveyor, and the contractor all being entirely ignorant of the fact that this particular milk may be derived from a farm on which an infectious disease is prevalent. I am strongly of opinion such a contractor should, in the first place, keep a register of the farms from which he obtains his milk supply and every part of his supply; in the second place, he should keep an exact register of the destination, the milk-shops, to which the milk from every farm with which he deals is delivered; and, in the third place, he should only deal with farmers willing to furnish him with a written guarantee that they will inform him immediately of any outbreak of infectious disease in man or animal upon their farms. By these three comparatively simple

measures it would be possible to *trace* infection and *stop* infection at once instead of being compelled to wait until all the mischief has been done. The custom of some purveyors of milk of obtaining their daily supply from several sources is not in my judgment a desirable one. It greatly complicates the difficulty of tracing the source of infection, as it also increases the liability of the purveyor to risk. Another circumstance which is apt to obscure the source in these cases is that the various supplies are delivered at different times and mixed together in the milk-shop. Hence, one delivery to purchasers may be a mixture of milk from various farms.

The cow-houses inside the Borough in 1902 numbered seven, and are situated as follows :—

### LIST OF LICENSED COWKEEPERS IN THE BOROUGH OF FINSBURY.

| No. | Name of Occupier.     | Situation of Premises.         | No. of Cows |
|-----|-----------------------|--------------------------------|-------------|
| 1   | Hughes, David... ..   | 39A, Baldwin Street... ..      | 17          |
| 2   | Jones, Rees ... ..    | 1, George Street ... ..        | 12          |
| 3   | Joel, Isaac ... ..    | 30, Great Sutton Street ... .. | 9           |
| 4   | Davies, John ... ..   | 40, Rawstorne Street ... ..    | 10          |
| 5   | Thomas, Evan ... ..   | 230, St. John Street ... ..    | 30          |
| 6   | Richards, John ... .. | 4, Sermon Lane ... ..          | 51          |
| 7   | Evans, Rees ... ..    | 27, Whiskin Street ... ..      | 20          |
|     |                       | TOTAL ... ..                   | 149         |

These premises have been periodically inspected by us.

In 1856 in Clerkenwell alone 540 cows were stabled.



**Condensed Milk.**—In 1902 we instituted a prosecution for selling condensed milk certified to contain 44.74 per cent. of cane sugar, and as this was a test case, it is necessary to report upon it somewhat fully. The facts are these:—

At the Clerkenwell Police Court, on August 15th, William Shapcott, of Brewer Street North, Finsbury, was summoned before Mr. d'Eyncourt, at our instance, for selling "condensed milk" which was certified by Mr. J. Kear Colwell, F.I.C., Public Analyst for the Borough, to contain 44.74 per cent. of cane sugar.† Mr. Ricketts prosecuted, and Mr. Beck defended. Mr. A. J. Giles watched the case on behalf of the Metropolitan Grocers' Association.—Mr. Ricketts said the prosecution was taken out under the 6th section of the Food and Drugs Act, and the defendant was charged with selling, to the prejudice of the purchaser, "condensed milk" which had been adulterated by the admixture of sugar to the extent of 44.74

† Mr. Colwell examined in all five samples of condensed milks, with the following results:—

Results of analysis of whole milk are also added for comparative purposes:—

| Description of Sample.        | Water. | Fat.  | Proteids. | Lactose. | Mineral Matter. | Cane Sugar. | Deficient in Fat. |
|-------------------------------|--------|-------|-----------|----------|-----------------|-------------|-------------------|
| A ... ..                      | 26.25  | 1.80  | 12.05     | 14.80    | 2.35            | 42.75       | per cent.<br>82   |
| B ... ..                      | 24.30  | 1.60  | 11.46     | 15.50    | 2.40            | 44.74       | 84                |
| C ... ..                      | 23.20  | 2.00  | 11.72     | 14.88    | 2.80            | 45.40       | 80                |
| D ... ..                      | 25.45  | 1.00  | 12.26     | 14.71    | 2.45            | 44.07       | 90                |
| E ... ..                      | 24.40  | 2.00  | 9.60      | 15.50    | 3.00            | 45.50       | 80                |
| Sweetened whole milk          | 22.55  | 12.00 | 9.23      | 13.36    | 2.20            | 40.66       | —                 |
| Unsweetened whole milk ... .. | 62.39  | 10.80 | 11.09     | 13.67    | 2.05            | —           | —                 |

Four of these samples were sold in cans on which were labels notifying the fact that they contained condensed machine-skimmed milk mixed with cane sugar, but on the other can no mention was made of the addition of cane sugar. Proceedings were therefore instituted as recorded above.

per cent. There had been no prosecution against vendors of condensed milk for the addition of sugar. Prosecutions had hitherto been for deficiency of cream. Now, however, many of the labels on condensed milk cans disclosed the fact that the milk had been skimmed or the cream removed. The present sample complained of was called the "Acorn" brand, and was described as "condensed machine-skimmed milk." In addition to containing 44.74 per cent. of sugar, it was deficient in fat to the extent of at least 84 per cent. Therefore it contained very little milk.—Mr. d'Eyncourt: That would be due to the skimming.—Mr. Ricketts: Yes. We cannot complain of that, because the tin is labelled "skimmed milk." I mention the fact to show what little milk value there is in the article. If this label had gone further and stated that this was machine-skimmed condensed milk mixed with sugar we should have had no ground for complaint.

Mr. Colwell's certificate, dated July 17th, 1902, was as follows:—

"I am of opinion that the said sample contained the parts as  
"under:—

|                                             |       |           |
|---------------------------------------------|-------|-----------|
| Water, proteids, lactose and mineral matter | 53.66 | per cent. |
| Fat ... ..                                  | 1.60  | „         |
| Cane Sugar ... ..                           | 44.74 | „         |

"I am of opinion that the said sample is prepared from milk  
"deficient in fat to the extent of at least 84 per cent. I am also  
"of opinion that the said sample contained the percentage of  
"foreign ingredient as under—at least 44.74 per cent of cane  
"sugar.\*

In support of the case, Mr. Colwell said that sugar arrested fermentation, but it did not prevent it. Probably unsweetened condensed milk would not keep as long as sweetened condensed milk, but it was unnecessary to add sugar to condensed milk.—Mr. Beck, for the defence, said the case was one of considerable

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\* In the Report of the Health of Liverpool, 1898, Dr. Hope gives records of 22 analyses of condensed milk, none of which had as much cane sugar as 44 per cent. In 1901, Dr. Hope reported:—"Thirty-three samples of condensed milk were examined, and the great majority were not sterile. There can be no doubt that condensed milk is a most unsatisfactory product. Bacteria are usually present, their products are masked by the large quantity of sugar present, but their irritant properties are not destroyed."



importance to the trade. Condensed milk was a necessary article of commerce, and was much used on board ship and in foreign countries, and contended that ever since condensed milk had been made it had been prepared with the addition of sugar. In the process of manufacture the moisture was driven out of the milk, and sugar in the form of thick syrup was added. Sugar was added for the purpose of preserving the milk, because without the use of sugar, fermentation would be set up in the milk and there would be rapid decomposition. Milk was condensed both with the cream and without the cream, and it was more necessary that the skimmed variety should contain sugar than the whole variety—the full cream milk—because the fat in the latter acted somewhat as a preservative. Condensed milk, to which sugar had not been added, decomposed rapidly when the tin was opened. The only alternative to using sugar would be “to use acid, such as boracic, for preserving the milk.” The milk to which sugar had been added would keep for a week after the tin was opened, whereas the unsweetened brand would go bad within a few hours. As an article of food, it was much more useful with the sugar than without it. It was known to the public that in the process of condensing milk, sugar was used. There were hundreds of brands of condensed milk, and only four brands did not contain sugar, and in each case they were labelled “unsweetened.” Most of the condensed milk was imported, and at the port of entry duty was paid on the sweetened brands. It had never before been suggested by the authorities that the milk ought not to contain sugar. Sugar in condensed milk stood in the same position as sugar in preserved fruit or jam.—Mr. Richard Bannister, Analyst, gave evidence for the defendant, and stated, as his opinion, that sugar acted as a preservative in condensed milk. Of the condensed milk sold, about one-tenth was unsweetened and nine-tenths sweetened. Mr. C. G. Moor also said sugar acted as a preservative in milk. He admitted that sugared condensed skimmed milk was not adopted for infants’ food on account of the deficiency of fat, and further, that the label upon the tin should contain a statement to the effect that the article contained added sugar.—Alfred Gordon Salamon contended, sugar in the quantity used in condensed milk was necessary as a preservative.—

In order that further expert evidence might be called for the prosecution, the case was adjourned.

At the adjournment, on August 29th, evidence was produced by us in support of the prosecution.—Charles E. Cassal, F.I.C., Public Analyst for the Royal Borough of Kensington, the City of Westminster, and the County of Lincoln, said it was not necessary to add sugar in the preparation of condensed milk, or condensed separated milk, and he had analysed several brands of condensed milk which contained no added sugar whatever. The witness said that condensed milk, when properly prepared and canned, would keep as long as it was safe, and therefore desirable, that it should be kept after the tin is opened, without the addition of sugar. Such addition did not result in the proper preservation of the milk, and was in no way beneficial to the consumer, but rather harmful, in that the presence of the sugar masked the evidences of decomposition, which, in unsweetened milk, affords warning to the consumer that the substance is dangerous to health. The addition of 40 to 50 per cent. of sugar to separated milk, and the subsequent condensation of the mixture, gave a product whose thickness deceived the purchaser, and foreign separated milk, from which practically the whole of the fat had been removed, was thus foisted on the public in this country as a nourishing product, and, in the opinion of the witness, the extensive use of such products had resulted in grave injury, and had, unquestionably, been responsible for much infant mortality. The presence of so large a proportion of sugar had the effect of throwing out the relation between the various food constituents of the milk, and in the present case the food value of the substance was lowered because sugar was made to take the place of the fat which should have been present.

Robert Hutchison, M.D., M.R.C.P., Assistant Physician to the London Hospital, and the Hospital for Sick Children in Great Ormond Street, said that the addition of sugar is not necessary for the preservation of condensed milk, as is proved by the existence of some excellent brands to which no sugar has been added, viz :—“Ideal,” “Hollandia,” “Viking,” and “First Swiss.” The removal of fat made it more difficult to preserve milk. The addition of a large quantity of sugar renders a great degree of subsequent dilution



of the milk necessary, otherwise it would be too sweet. If the milk has already been skimmed or separated, such dilution results in a fluid which is little more than a solution of cane sugar. The use of such a milk for the feeding of infants inevitably results in the production of "rickets," which is apparently due to excess of carbohydrate and poverty of proteid and fat in the milk. All medical men who see much of children's diseases recognise that much harm is done in this way by the continued use of such milks as that under consideration. There is also reason to believe that the presence of an excess of cane sugar in the diet of infants is apt, from fermentation in the stomach, to result in the production of acidity, colic and diarrhoea.\*

Dr. Evan Jones, speaking from his experience in general practice in Finsbury, said that the addition of sugar is unnecessary for the preservation of condensed milk, as several of the very best brands are unsweetened. The quantity of cane sugar in this milk rendered much dilution necessary. Condensed milk is extensively used for child feeding, and the cheaper the price of the tin the more that quality is used by the poor, who do not understand the difference between good and bad condensed milk, and their only guide is its consistence, to obtain which cane sugar is often used. The "Acorn" brand, when diluted according to instructions, might—if used for infant feeding—in the summer, quickly produce fermentation, sickness and diarrhoea; and if in cooler weather it was possible for some time to avoid these troubles, the child would waste from want of fat in its diet, and many such children die from exhaustion and stomachic diseases. The use of condensed milk, in his opinion, was responsible for a number of deaths of infants under one year.

Mr. Beck, for the defence, contended that it was not necessary to disclose the fact on a label on the tin that the condensed milk was

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\* In reference to this class of milks Dr. Robert Hutchison, in his work on *Food and Dietetics* (1902, p. 444), says:—"There can be no doubt that an immense amount of harm is done to infants by the indiscriminate use of such milks. Babies fed on them may look fat enough, but they are pale and flabby and often suffer from rickets, for fatness produced by abundance of sugar in the milk is by no means a sure indication of health, and the pictures of such fat but flabby infants so freely spread abroad by the makers of condensed milks are very deceptive."

mixed with sugar, as that was understood by the purchaser. Sugar was added to the milk after the process of condensation for the purpose of preserving it, and the only alternative to using sugar would be to use preservatives, such as boracic acid, for preserving the milk.—Mr. C. T. Lehmann (a manufacturer of condensed milk and condensed separated milk), said that this article (condensed skimmed milk) was manufactured entirely out of England—in Holland, mostly, and also in Ireland. The make of the tins for unsweetened condensed milk was entirely different to the make of tins for ordinary condensed milk, so as to admit of a heat sterilization process after filling. It was more expensive to put up unsweetened condensed milk than sweetened condensed milk or sweetened condensed skim milk.—Mr. Henry Cushen, Chairman of the Metropolitan Grocers' Association, said that in his opinion the only reason for putting a notification on tins that added sugar was present was to show that nothing else was added (such as starch, etc.). He saw no other reason for the proceeding.—Mr. Goodrich said that he was a grocer and oilman in a large way of business, and also a member of the London County Council for Mile End. He thought that condensed skimmed milk was a necessary article of food for the poor, but he saw no reason why the presence of sugar should be notified to the purchaser.—Mr. Beck said that his case was that the addition of sugar to condensed milk was necessary in order to prepare it as an article of commerce, and that therefore there was no prejudice to the purchaser. They were dealing with a manufacture for the composition of which no standard had at present been fixed.—Mr. Ricketts said that it was for the magistrate to say whether sugar was necessary for the preservation of the milk, and whether there ought not to have been on the tin a disclosure of the fact that sugar was used.

Mr. d'Eyncourt reserved his judgment, and eventually delivered it on September 27th. He held that the article had been sold with prejudice to the purchaser; that when purchasers obtained this condensed milk they neither expected or required so much cane sugar; that it was of such a nature as to be prejudicial to young children; that sugar acts as a preservative of the milk, but that condensed



whole milk can be prepared without sugar.\* The learned magistrate accordingly gave a verdict for the prosecution, and imposed a nominal fine of 10s. and £15 15s. 0d. costs. The defendant gave notice of appeal, but at a later date abandoned it.

### BUTTER.

In my Annual Report for 1901 attention was drawn to the manufacture of "Pears' Pure Butter," or "Milk-blended Butter" as it is now termed. Particulars were given of the process, and of sundry prosecutions which had taken place in relation to it. It will be remembered that this butter contains some 8-10 per cent. more moisture than ordinary butter. During 1902 this excess of water claimed the attention of the Board of Agriculture, who appointed a Departmental Committee on Butter Regulations. This Committee issued (January 24th, 1902), an interim Report particularly dealing with the question of watered butter, and recommend "the adoption of a limit of 16 per cent. for the proportion of water in butter to be fixed by a Regulation under Section 4 of the sale of Food and Drugs Act, 1899, and make this recommendation on the assumption "that butter containing a larger percentage of water than 16 per cent. will escape the operation of this limit provided that a sufficient disclosure be made to the purchaser."

On the other hand it is suggested that it is impracticable for vendors to make a "sufficient disclosure" to every small purchaser of butter. In the particular case in question it seems clear that the phrase "milk-blended" would lead the purchaser to believe from the description that the addition of milk enriches it in *quality*. The ordinary purchaser would not consider the effect such addition would have either upon the weight or the "keeping" power of the butter. The phrase "milk-blended butter" has however been upheld by the Lord Chief Justice and Justices Darling and Channell, in the case of *Pearks v. Haughton*

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\* We possess in the Department a verbatim record of Mr. d'Eyncourt's judgment, which was also published in the *British Food Journal*, 1902 (October), Vol. iv. No. 46, pp. 225-227.

(February 26th, 1902), as disclosure of the consistence and character of the article being sold. The same Justices have held that the substance is not *margarine*, and that it may be sold without prejudice to the purchaser if due notice is given.

During the year the Finsbury Borough Council, acting on the recommendation of the Public Health Committee, memorialized the Board of Agriculture, requesting the Board to determine the standard of water permissible in butter.

On April 22nd, 1902, the Board of Agriculture, in exercise of the powers conferred on them by section 4 of the Sale of Food and Drugs Act, 1899, made the following regulation to come into force on May 15th, 1902, and to extend to Great Britain:—  
 “Where the proportion of water in a sample of butter exceeds  
 “16 per cent. it shall be presumed for the purposes of the Sale  
 “of Food and Drugs Acts, 1875 to 1899, until the contrary is  
 “proved, that the butter is not genuine by reason of the excessive  
 “amount of water therein.” I am informed that a large production and sale of this milk-blended butter still continues.

After the regulation of the Board had come into force, an examination was made for excessive amounts of water in butter. In three samples out of 133 excess was detected, but the amount was so small that no action was taken.

### ICE-CREAM.

The sale of ice-cream as carried on from barrows in London streets is largely in the hands of Italians, and the cream is for the most part made upon the premises where the barrow men live. In London there are, according to the Census (1901), Italians to the number of 10,889. Of this total, 1,065 live in the Borough of Finsbury. Most of these persons reside in what is called the “Italian Quarter,” and many of them are engaged in the manufacture of ice-cream.

The “Italian Quarter” includes certain streets, alleys and courts situated in a triangular area, bounded on the south by Clerkenwell Road, and on its other two sides by Rosebery Avenue and Farringdon Road. A portion of this area is within



the Borough of Holborn. It is in this triangular district that a considerable portion of the ice-cream sold in London by itinerant vendors is manufactured. Almost the entire area is open to criticism on account of a variety of insanitary conditions which exist, and it often appears that where the construction of houses or courts is most open to criticism, there the ice-cream industry particularly flourishes.

During 1902, a determined effort has been made to supervise the ice-cream industry, not only in the Italian Quarter but throughout the Borough. A system of Registration was adopted in 1901, and has been strictly followed out in 1902, with the result that we have at present 94 registered premises in which this trade is carried on; 87 are both makers and sellers, and 46 of the shops belong to Italians. On and after November 1st, our position, in relation to this trade, was much strengthened by the Ice-Cream Clauses of the London County Council (General Powers) Act, 1902, Part viii., Sections 42-45, which are as follows :—

Any person being a manufacturer of or merchant or dealer in ice creams or other similar commodity who within the County—

(a) Causes or permits ice creams or any similar commodity to be manufactured sold or stored in any cellar shed or room in which there is any inlet or opening to a drain or which is used as a living room or sleeping room ;

(b) In the manufacture sale or storage of any such commodity does any act or thing likely to expose such commodity to infection or contamination or omits to take any proper precaution for the due protection of such commodity from infection or contamination ; or

(c) Omits on the outbreak of any infectious disease amongst the persons employed in his business or living or working in on or about the premises in or on any part of which any such commodity as aforesaid is manufactured sold or stored to give notice thereof forthwith to the Medical Officer of the Sanitary District in which such business is carried on or such premises are situate ;

shall be liable for every such offence on conviction in a Court of

Summary Jurisdiction to a penalty not exceeding Forty Shillings.

Every itinerant vendor of any such commodity as aforesaid shall if not himself the manufacturer thereof exhibit in a legible manner on a conspicuous part of his barrow a notice stating the name and address of the person from whom he obtains such commodity and if such vendor is himself the manufacturer of such commodity he shall in the same manner exhibit his own name and address. Every such itinerant vendor who shall fail to comply with the provisions of this Section shall be liable for each offence on conviction as aforesaid to a penalty not exceeding Forty Shillings.

Proceedings for the recovery of the penalties shall be instituted by the Sanitary Authority for the District in which the offence was committed or of the District to the Medical Officer of which such notification as aforesaid ought to have been made or in which such itinerant vendor as aforesaid shall offer any such commodity as aforesaid for sale as the case may be.

It will be seen that we now have power to enforce the following points in relation to ice-cream :—

- (a) Ice-cream must be made and stored in sanitary premises.
- (b) It must not be made or stored in living rooms.
- (c) Strict precautions must be taken as to protection from contamination.
- (d) Cases of infectious disease must be reported.
- (e) The name and address of the maker must appear on street barrows.

These regulations are new for London, though they have practically been in existence in Glasgow since 1895, and in Liverpool since 1898. These Ice-cream Sections in the General Powers (London County Council) Act, 1902, have been printed as posters and exhibited throughout the Borough, and, in addition, special copies in English and Italian have been distributed to every registered ice-cream maker or salesman in Finsbury.

In addition to the Inspectors' periodical visits, I have made a number of special inspections, and one early morning inspection, in order to observe the methods of manufacture. One or two extracts from my notes may be inserted :—



1. Antonio, 26, C. St., owner of shop, native of Naples, has been here two years, makes and sells ice-cream in summer, sells baked potatoes in winter. He employs five men (Italians) who sleep on the premises. In season he makes 30-35 quarts daily. He sends barrows into Charing Cross Road, Shoe Lane, Whitecross Street and Wynford Road.
2. Mario (F., 31, M. P., employs three men (Italians), sends barrows to Blackfriars Road, York Road, Lambeth, and Fleet Street; also has a small shop near Blackfriars Road. Has been in Finsbury in the ice-cream trade 16 years. On week-days he makes 10-15 quarts of ice-cream, on Sundays 25-30 quarts.
3. Pasquale B., shares premises with the last-named, but does not sleep here. Has one barrow and sells round Ludgate Circus. Has been here two months.
4. Leonardo B., 8, C. Sq., employs four men (Italians) who make and sell for him, barrows going to Westminster, &c. He makes 15 quarts daily.
5. Romano A., 8, L. B. St., makes and sells ice-cream, and sends barrows to Tower Hill, Gray's Inn Road, Marylebone Lane, Tottenham Court Road and Holborn.
6. Nunzio A., 1-4, K. P., occupies four houses as dwelling and store rooms. Has lived here eight years, and in London twenty years. Employs 7-10 men according to season. In season, makes 20 gallons of ice-cream daily. Has three shops in the City of London, and sends out five barrows all over the Metropolis.

With regard to the method of manufacture, it is briefly stated as follows: Skimmed milk is boiled with sugar and vanilla; eggs are beaten up and added, with or without cornflour, to the boiled milk, in the proportion of three or four eggs to each quart of milk; the whole is again boiled (for perhaps 20 minutes), after which it is set aside to cool until the following morning, when it is placed in the "freezers" and frozen. In short, the mixture contains no cream and is, in fact, a frozen custard. The milk and eggs are generally obtained locally, and are usually of good quality. It is stated that if such were not the case the ice-cream would be unpalatable, owing to ill-flavour, and therefore unsaleable. The eggs used to be blown, but of late years that

practice has fallen into disuse, and they are now broken and mixed in the ordinary way. The boiling is carried out in various utensils over the open fire of a living room. The mixture stands for cooling purposes in the living room, or in any out of the way corner, sometimes in the open yard or area. The freezing takes place early on the following morning in the "freezers." A "freezer" consists of a tin or galvanised iron cylinder, or container, in which the mixture is placed. The cylinder fits into an outer vessel of wood or metal so loosely as to leave an inch or two of space all round. In this space is placed broken ice and salt, and the inner cylinder is rotated from time to time in this ice medium. No ice is added directly or indirectly to the mixture itself, nor are colouring agents used as a rule. The utensils and materials appear, as a general rule, to be clean.

From this description, which applies, generally speaking, to the ice-cream industry in Finsbury,\* it will be seen that the "ice-cream," is boiled for some time, and in all probability sterilized, and in due course it undergoes, at least approximate, freezing. These facts, added to the generally wholesome condition of the elementary materials used, would appear, at first sight, to place the substance beyond risk of contamination. But the critical period is the time of exposure between boiling and freezing. Boiling sterilizes, but freezing does not sterilize. Hence, if in the long cooling process the substance is exposed to contaminated surroundings, the result may be, in effect, a contaminated ice-cream. Such, in fact, frequently occurs.† Hence it would appear that it is not the process of manufacture that we need to supervise so much as the general condition of the houses in which the substance is made, and of the persons who make it, and the manufacture so far as length of time between boiling and freezing is concerned. The majority of the

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\* I am, of course, aware that genuine ice-cream is made by freezing a mixture of cream (with a little milk), fruit, or fruit-pulp, and sugar. Other forms are also made.

† See investigations by Klein, Cook, Wilkinson, Foulerton and others.



makers are aliens, and their habits, unfortunately, leave something to be desired where the preparation of food is concerned.

**Ice - Cream Premises.**—These have been inspected, and in a number of cases, where it has been necessary, work has been carried out, particularly so in Kemp Place and Caroline Place, to which reference is made on p. 141.

**Ice-Cream Poisoning.**—During the year there have been several cases of ice-cream poisoning, which have been investigated in due course.

An outbreak of such poisoning occurred in the City of London in July, which was traced by Dr. Collingridge, the Medical Officer of Health of the City, in part, to some ice-cream made in Finsbury. Some eighteen persons, mostly telegraph boys, were affected. The symptoms were colic, headache, vomiting, diarrhœa and nervous depression. Dr. Collingridge took, altogether, 23 samples from suspected shops, and these were examined by Dr. Klein, who found that 12 of these (or 52 per cent.) were absolutely poisonous.\* Two of these samples were

\* The Corporation of the City of London have, as a result of this outbreak, drawn up Regulations to be observed by persons being manufacturers of, or merchants, or dealers in ice-creams, or other similar commodity *within the City of London*, as follows :—1. No such commodity must be manufactured, sold, or stored in insanitary premises, nor in any cellar, shed or room in which there is any inlet or opening to a drain, or which is used as a living room or sleeping room. 2. Such premises must at all times be kept in a thoroughly clean and sanitary condition. 3. All materials must be of a sound and wholesome description. 4. All utensils used in the preparation of ice cream, &c., should be thoroughly cleansed and scalded with boiling water before use. 5. Such utensils should not be used for any other purpose than for making ice creams, &c. 6. When in the process of manufacture materials are boiled, freezing must take place immediately afterwards. 7. Such materials, after manufacture, should be kept in clean vessels, covered, and placed in cool, well-ventilated rooms. 8. No ice cream or other similar commodity should be kept for a longer period than 48 hours after manufacture, if remaining then unsold it must be destroyed. 9. If any case of infectious disease occur amongst the persons employed in the business, or living, or working in, on, or about the premises, in or on any part of which any such commodity is manufactured, sold or stored, notice shall be forthwith given to the Medical Officer of Health, Public Health Department, Guildhall, E.C.

made in Finsbury, by M. A., a registered maker in the Borough. One of these was found to be satisfactory, and one poisonous. A sample of milk, used in the manufacture of Finsbury ice-cream, was also found to be poisonous. It should be added that one of the shops mostly implicated in the City outbreak was also supplied by an ice-cream maker of this Borough. It appears that 81 per cent. of the shops in the City, where ice-cream is sold, are supplied by makers outside the City, some being in Finsbury. We found, on investigation, that the poisonous samples of ice-cream, which had been sold in the City, were made in this Borough, in insanitary premises. In accordance with this finding, we took action for remedying the state of affairs. But, in point of fact, arrangements had already been made for dealing with the insanitary property in question. The outbreak well illustrates the extreme importance of a stricter supervision of this industry. The new regulations of the London County Council Act, 1902, have come into force none too soon, and they will be duly enforced by us.

**Restaurants and Eating-Houses.**--During the year I have inspected the Restaurants, Eating-Houses, Coffee Shops, etc., situated within the Borough. There are a total of 220 such places in which 375 men and 589 women are occupied in the preparation of food. The total is, therefore, 964, but this figure does not include waitresses of whom there are a considerable number in the larger establishments. The 964 persons enumerated are actually engaged in the preparation of food and in some cases live on the premises. I also ascertained by the courtesy of proprietors the approximate number of persons using these restaurants and eating-houses daily. The sum total of such persons is 56,182. This is probably considerably under the mark, as there is naturally a tendency to understate on the part of the proprietors. Of the 220 establishments there are eleven described as "stewed-eel shops" and 27 engaged exclusively in the cooking and sale of fried fish.\* Seventeen are restaurants

\* The eels and fish sold in Finsbury are commonly obtained from Billingsgate. Some of the larger dealers, however, obtain their supplies direct from Grimsby, Hull and Lowestoft.



attached to hotels or large public houses. With these, and one or two minor exceptions, the remainder is approximately 160 general restaurants or eating-houses.

I made a careful inspection of everything appertaining to these places and in 150 instances (out of the 220) had to serve notices for considerable defects. The chief of these was dirty floors, walls and ceilings, some of them extremely so; unclean yards or areas where food was being prepared; a number of premises without proper or sufficient dust-bin accommodation; and a number also in which the sanitary conveniences were either quite insufficient or defective. In a considerable number of cases I found infringement of the Bye-laws in respect to the regulation that no sanitary convenience shall communicate directly with a room in which food is being prepared. Whilst it may be said that many of the proprietors of these establishments conduct their business in a suitable manner and wholly within the meaning of the law, the same cannot be said of all. Some of the kitchens and cellars into which I went were in a disgraceful condition, and food prepared in them could not but be open to grave criticism. I propose to make periodical inspections of all places concerned in the food trade and to insist upon a high standard of cleanliness and sanitation.

**Sweetmeat Makers.**—We have in Finsbury eleven manufacturers or makers of sweetmeats. One or two of these are large firms with extensive premises, and whose produce has a world-wide market. Seven or eight of them, on the other hand, are in a small way of business, and naturally require more supervision from us. They supply local shops. In one of the Central Districts of Finsbury there are some 60 shops selling sweetmeats, but in only three cases do the vendors actually make sweets. These workshops have been carefully inspected, and various recommendations made for the protection of the produce from contamination.

**Food Stalls.**—In Chapel Street, Exmouth Street and Whitecross Street there is carried on a considerable food trade

from stalls. These are regularly inspected at irregular periods every week, including Sundays and Saturday nights. Several seizures of diseased or unsound fish or food have been made during 1902, and in some cases prosecution has followed. One of the most difficult foods to inspect is shell-fish, and from time to time information reaches the Department of illness attributed to the consumption of shell-fish. A number of enquiries have been made in such cases, and sometimes apparently clear evidence is forthcoming incriminating the shell-fish. These are generally obtained from Billingsgate or some near sea-side town. In some cases undoubtedly shell-fish fattened at sewage outfalls become contaminated and poisonous. In other cases the contamination is derived from their storage. Hawkers and stall-holders frequently keep their little stock of shell-fish in dirty buckets in dirty yards, and in this way it is possible that they may become polluted.

### SALE OF FOOD & DRUGS ACTS.

Under the Bye-laws of the Borough Council, each Sanitary Inspector acts, in his own sanitary district, as an Inspector under the above Act. During the year 1902 the Inspectors collected 556 samples, of which 81 (or 14·6 per cent.) were adulterated. There were 35 prosecutions under the Act, the aggregate amount of fines and costs inflicted being £113 19s. 6d. In 1901, 17 per cent. of the samples were found to be adulterated, and there were 51 prosecutions.\*

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\* It may be interesting to note that, according to the report of the Local Government Board, the percentage of adulterated samples of milk in the whole of London during the year 1901 was 15·2.

The report also contains an extract from a memorial recently addressed to the Board by one of the Dairy Trade Protection Societies, in which it was stated that the quantity of milk received in the London area from outside is approximately 144,000 imperial gallons per day. "If this is correct," it is added, "and if we assume that the samples taken for analysis in the Metropolis in 1901 correctly represent the quality of this outside milk supply, it seems that Londoners pay, at 4d. per quart, at least £30,000 per annum for water which has been added to the milk supplied to them."



The samples collected were as follow :—

|                    | Samples<br>taken. | Adulte-<br>rated. |                    | Samples<br>taken. | Adulte-<br>rated. |
|--------------------|-------------------|-------------------|--------------------|-------------------|-------------------|
| Milk ... ..        | 269               | 53                | Camphorated Oil... | 6                 | 3                 |
| Condensed Milk ... | 5                 | 5                 | Olive Oil ... ..   | 1                 | ...               |
| Butter ... ..      | 133               | 10                | Arrowroot... ..    | 1                 | ...               |
| Ice Cream... ..    | 1                 | ...               | Golden Syrup ...   | 4                 | ...               |
| Cheese ... ..      | 12                | ...               | Lard ... ..        | 16                | ...               |
| Mustard ... ..     | 15                | ...               | Dripping ... ..    | 1                 | ...               |
| Pepper ... ..      | 15                | ...               | Brandy ... ..      | 10                | 1                 |
| Cocoa ... ..       | 8                 | 1                 | Gin ... ..         | 6                 | 1                 |
| Coffee ... ..      | 22                | 3                 | Rum ... ..         | 7                 | 1                 |
| Demerara Sugar ... | 6                 | 1                 | Whisky ... ..      | 12                | 2                 |
| Flour ... ..       | 1                 | ...               |                    |                   |                   |
| Ground Ginger ...  | 2                 | ...               |                    |                   |                   |
| Honey ... ..       | 3                 | ...               |                    | 556               | 81                |

Sampling is undertaken at various irregular times, including Sundays and in the evenings. Inspectors also change districts. All the various milk-sellers in the Borough are sampled without exception at some time during the year, and samples are also obtained from hawkers and others passing through the Borough, though not having any shop or premises in the Borough.

### WATER SUPPLY.

The water supply of the Borough is derived from the New River Company. According to the official water examinations, made under the Metropolis Water Act, 1871, the quality of the water is excellent. Taking the mean of the 12 months (monthly bacterial examinations), the New River unfiltered water contained 273 bacteria per c.c. (= 20 drops), and the filtered water, as

delivered, contained only 13. This is the purest water in London. An examination of the Tables of the average composition, chemical and bacteriological, of the London Water Supply as a whole proves that the quality is excellent, and that the high standard of previous years was well maintained during 1902.

Sir W. Crookes and Professor Dewar, reporting for 1902, state :—

“ The longer our experience of the bacteriological method, as applied to the analysis of the filtered supply, and the wider its application, the more we are convinced of its primary importance as a safeguard to the public. It enables us to define in a much more delicate way than is possible by chemical analysis what is an efficiently filtered water, and thereby enables the chemist to warn the engineer the moment any one of his filters shows signs of defective working. Whether the supply as regards the organic matter in solution varies more or less according to the season of the year, is of relatively small moment as compared with the knowledge that the microbic impurity is reduced to a minimum. . . . The standard of general organic purity during the past year, as defined by chemical methods, has been maintained.”

The wells existing in the Borough, which are still used, are as follows :—

1. RICHMOND STREET (25).—This is an artesian well, about 400 feet deep. The water is used for the purpose of supplying a gas engine only. The domestic supply is derived from the New River Company.

2. BUNHILL ROW (No. 125).—This place is used by a firm of engineers and artesian well-borers. They have an artesian well about 450 feet deep and use the water for all purposes, not having any other supply.

3. COWPER STREET (Nos. 7 and 8).—There is a well here which is dug for a depth of about 80 feet, and then bored for a



depth of another 60 feet. The water is not used for drinking purposes under ordinary circumstances, but sometimes in the summer those employed on the premises are likely to take a drink of the well water. It is ordinarily used for the machinery only.

4. CITY ROAD (Messrs. Lipton).—The firm using these premises has an artesian well in their cocoa factory, about 300 feet deep, the water from which is used for all purposes. They have a supply laid on from the New River Company as reserve.

5. CITY ROAD (No. 102).—There is an artesian well at these premises which is 370 feet deep, the water is used for all purposes, and there is also a supply from the New River Company.

5. HOUSE PROPERTY AND OVERCROWDING.



depth of water 30 feet. The water is not good for drinking purposes under ordinary circumstances. But sometimes in the case of illness and sickness the water is used for drinking and for cooking. It is ordinarily used for the machinery only.

4. City Road No. 1001. The firm using this road has a water tank in their open factory, about 30 feet deep, the water from which is used for all purposes. They have a supply bill on from the New River Company as usual.

5. City Road No. 1002. There is an artesian well at this point which is 30 feet deep, the water from which is used for all purposes and there is also a supply from the New River Company.

## THE HOUSING QUESTION

The Housing Policy of the Ministry Borough Council was stated in my report for last year. Only certain portions of that policy came within the scope of the Public Health (London) Amendment Bill of 1924. Briefly, they are three. First, monetary aid and loans. Secondly, the keeping of a register of all persons housed. Thirdly, the enforcement of the Public Health (London) Act, in respect to house property and overcrowding. In my report for 1924 I stated that the Council had decided to take the steps which would be necessary to enable it to carry out its policy. I have now to report that the Council has decided to take the steps which would be necessary to enable it to carry out its policy. I have now to report that the Council has decided to take the steps which would be necessary to enable it to carry out its policy.

### D.—HOUSE PROPERTY AND OVERCROWDING.

The provisions of the Bill which relate to the Housing Question will be considered under three main headings. In the first place, the provisions which relate to the enforcement of the Public Health (London) Act, in respect to house property and overcrowding. In the second place, the provisions which relate to the keeping of a register of all persons housed. In the third place, the provisions which relate to the monetary aid and loans.

Many of the particulars which relate to the enforcement of the Public Health (London) Act, in respect to house property and overcrowding, will be considered under three main headings. In the first place, the provisions which relate to the enforcement of the Public Health (London) Act, in respect to house property and overcrowding. In the second place, the provisions which relate to the keeping of a register of all persons housed. In the third place, the provisions which relate to the monetary aid and loans.





## THE HOUSING QUESTION.

The Housing Policy of the Finsbury Borough Council was stated in my report for last year. Only certain portions of that policy came within the duties of the Public Health Committee and these have received attention during the year. Briefly, they are three. First, insanitary areas and houses. Secondly, the keeping of a register of all persons displaced. Thirdly, the enforcement of the Public Health (London) Act, in respect to house property and overcrowding. In my report of 1901 I discussed in some detail the general position of the housing question and the necessary steps that should be taken. The past year has been occupied in taking the steps, and a large amount of work has been done. I propose to deal strictly with the above-mentioned points of insanitary areas and the maintenance of sanitation in house property. A register is being kept of persons displaced in any houses closed by the Borough Council.

For convenience this section dealing with the Housing Question will be sub-divided under three main headings. In the first place the insanitary areas under the London County will be considered; then the smaller insanitary areas receiving the attention of the Borough Council; and thirdly, the general question of the maintenance of sanitation in house property and the reduction of overcrowding.

Many of the particulars which follow, respecting the areas now being dealt with by the London County Council, appeared in a special report I was instructed to draw up at the end of 1902. These facts are printed here for purposes of reference, and because of their great importance. They show in a very clear manner the steady degeneration of property in the areas during the process of reform, and furnish many illustrations of the difficulties of housing work in Finsbury, and the causes of the overcrowding in some parts of the Borough.



**I.—INSANITARY AREAS IN FINSBURY,  
UNDER THE LONDON COUNTY COUNCIL  
(Part I of the Housing Act).**

*A.—The Aylesbury Place Area.*

On December 11th, 1897, Dr. Glaister made an official representation under Part I. of the Housing of the Working Classes Act, 1890, with respect to an area abutting on St. John Street, and comprising houses in Jerusalem Court, Bishop's Court, Aylesbury Place, St. John Street, Albemarle Street, Aylesbury Street and Jerusalem Passage. The representation was considered by the London County Council, who decided, on March 28th, 1899, that the area should be dealt with under Part I., and instructed the Housing Committee to prepare a scheme for dealing with the insanitary courts and alleys. The represented area is very largely composed of business premises, which occupy almost all the frontages, the houses inhabited by the working classes lying for the most part in the rear.

This scheme was sealed on November 2nd, 1899, confirmed in July, 1900, and the Local Inquiry as to the accuracy of the representation and the sufficiency of the scheme was held at the Holborn Town Hall on March 15th, 1900.

At the Inquiry it was shown that the total area included in the scheme is 4,915 square yards, of which 3,817 square yards are covered by buildings, the remaining 1,098 being the footways in the courts. The total number of houses included in the scheme was 73 and the total population 511.

The condition of affairs at this period may be seen in the following figures, which, in addition to the marked insanitation, were the chief cause of the condemnation :—

| Five Years, 1895-1899. | Death Rate<br>per 1,000. | Infant Death<br>Rate per<br>1,000 Births. | Notifiable<br>Diseases<br>per 1,000. | Density<br>per Acre. |
|------------------------|--------------------------|-------------------------------------------|--------------------------------------|----------------------|
| London ... ..          | 18·6                     | 165·8                                     | —                                    | 58·9                 |
| Clerkenwell ... ..     | 21·5                     | 168·5                                     | 11·2                                 | 124·2                |
| The Aylesbury Area ... | 36·4                     | 447·3                                     | 14·4                                 | 503·0                |

The net cost of the Scheme will be £189,800. For this expenditure an area of about  $1\frac{7}{8}$  acres will be cleared; 136 tenements of one room, 192 of two rooms, and 21 of three or more rooms will be destroyed. At the end of 1901, 12 out of the 50 houses included in the Scheme were empty. No. 6a, Bishop's Court is excluded from the Scheme by an Order permitting modification (March 4th, 1902).

The Scheme provides that accommodation shall be erected on this area, *in conjunction with the Union Buildings, Holborn*, for 1,400 persons (Housing of the Working Classes Act, 1890. Section 11). No street widenings are rendered necessary and none are provided for. The estimated cost of carrying the scheme into effect is as follows:—Gross cost of property £220,500; less receipts £30,700; total net cost £189,800.

It may be desirable to quote the exact particulars referred to in the foregoing scheme as regards reconstruction:

"The existing buildings upon the lands constituting the Improvement Area shall be taken down and removed, and new dwellings upon the said lands shall be erected, as may be determined from time to time, in that behalf, by the Council, with the approval of one of Her Majesty's Principal Secretaries of State."

"The new dwellings shall be constructed in such manner as to position, elevation, size, design and extent of accommodation as the Council, with such approval as aforesaid, shall prescribe or approve, and to their satisfaction so as to afford in the aggregate suitable accommodation for persons of the working classes in the proportions following, that is to say, upon the Aylesbury Place, Clerkenwell Improvement Area, as defined by Plan No. 31, there shall be provided accommodation for 200 persons, and upon the Union Buildings, Holborn Improvement Area, as defined by the said Plan No. 31, there shall be provided accommodation for 1,200 persons, making a total provision for 1,400 persons. Such dwellings shall be furnished with such water-closets, sinks, water supply and other proper sanitary arrangements as the Council shall prescribe, and to their satisfaction. Such of the lands constituting the Improvement Areas as shall not be required for the purpose of providing accommodation as aforesaid for 1,400 persons of the working classes may be sold, leased or otherwise disposed of by the County Council as they may think fit."

#### *B.—Garden Row, Roby Street, Baltic Street and Honduras Street Scheme.*

On 31st July, 1899, Dr. Yarrow, the Medical Officer of Health of St. Luke's, made an official representation with respect to ten areas



in the Parish, together occupying about four acres. The total population was upwards of 2,000 persons, and there were nearly 300 houses included.

The areas were duly considered by the Housing Committee of the London County Council, and on 29th October, 1899, the Council decided that four of these areas, namely Garden Row, Roby Street, Baltic Street and Honduras Street, should be dealt with by them in a Scheme.

The state of affairs existent at that time may be set forth as follows :—

| Five Years, 1895—1899. | Houses. | Population. | Death Rate per 1000. | Deaths of Children under 5 years. Percentage on Total Deaths. |
|------------------------|---------|-------------|----------------------|---------------------------------------------------------------|
| Garden Row... ..       | 69      | 407         | 42·2                 | 55                                                            |
| Roby Street ... ..     | 50      | 218         | 32·5                 | 53                                                            |
| Baltic Street ... ..   | 55      | 351         | 42·1                 | 44                                                            |
| Honduras Street ...    | 17      | 217         | 40·5                 | 35                                                            |
| Averages and Totals    | 191     | 1193        | 39·3                 | 46                                                            |

The estimated cost of the scheme is as follows: Gross cost of property, £172,000; cost of works, £3,750—£175,750; less receipts, £30,900—total net cost, £144,850. For this amount sites will be cleared, upon which it is estimated that 1,256 persons will be accommodated in lieu of 1,193 displaced. (Housing of the Working Classes Act, 1890, Section 11.) Baltic Street will be widened at its eastern end and continued westwards into Middle Row at a width of 40 feet. Central Street will be widened where it abuts on the Garden Row area at its northern end, by setting back the frontages, so as to provide a width of 50 feet. In all, an area of about  $2\frac{3}{4}$  acres will be cleared, and 109 tenements of one room, 147 of two rooms, and 39 of three or more rooms, and one common lodging-house will be destroyed. It was expected that the Roby Street area would be the first of the five areas to be cleared and it was

anticipated that this might have been accomplished about the end of 1902. It will probably take place early in 1903. Generally speaking, very few of the condemned houses were empty at the end of 1901, and only one was formally closed.

*C.—The Position and Life-history of the Areas  
to December, 1902.*

(i) **Houses on the Areas.**—The history of the matter as regards houses may be set out in the following way:—

DWELLING-HOUSES ON THE FIVE AREAS.

|                     | No. of<br>Houses of<br>all kinds<br>at time of<br>Scheme,<br>1900. | No. of<br>Dwelling-<br>houses,<br>1900. | No.<br>closed<br>previous<br>to Scheme. | No.<br>closed<br>in<br>1900. | No.<br>closed<br>in<br>1901. | No.<br>closed<br>in<br>1902. | Total<br>No.<br>now<br>closed. | No. of<br>Dwelling-<br>houses<br>now<br>occupied. |
|---------------------|--------------------------------------------------------------------|-----------------------------------------|-----------------------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|---------------------------------------------------|
| Aylesbury Place ... | 73                                                                 | 70                                      | 8                                       | 1                            | 3                            | 2                            | 14                             | 56                                                |
| Garden Row ...      | 69                                                                 | 69                                      | —                                       | —                            | 1                            | 17                           | 18                             | 51                                                |
| Roby Street ...     | 50                                                                 | 37                                      | —                                       | —                            | —                            | 30                           | 30                             | 7                                                 |
| Baltic Street ...   | 55                                                                 | 52                                      | —                                       | —                            | —                            | 13                           | 13                             | 39                                                |
| Honduras Street ... | 17                                                                 | 16                                      | —                                       | —                            | —                            | —                            | —                              | 16                                                |
| Totals ...          | 264                                                                | 244                                     | 8                                       | 1                            | 4                            | 62                           | 75                             | 169                                               |

The *closures* have, it will be seen, taken place chiefly in 1902. As regards distribution they are as follows: [In square brackets have been placed the number of houses in each street or court *occupied* at the end of 1902.]

**Aylesbury Place Area.**—Aylesbury Place, 1 [28]; Aylesbury Street, 0 [6]; Bishop's Court, 1 [11]; Jerusalem Passage, 0 [6]; St. John's Square, 1 [1]; Jerusalem Court, 11 [4].

Total closures—14.

**Garden Row Area.**—Garden Row, 1 [22]; Clarence Place, 10 [2]; Clarence Street, 0 [4]; Europa Place, 1 [7]; Central Street, 2 [5]; Lever Street, 4 [11].

Total closures—18.

**Roby Street Area.**—Roby Street, 13 [3]; Anchor Yard, 17 [2]; Helmet Row, 0 [2]; Richard's Place is entirely composed of houses used as workshops, etc.

Total closures—30.



**Baltic Street Area.**—Baltic Street, 3 [13]; Middle Row, 4 [4]; Baltic Place, 0 [4]; Baltic Court, 1 [7]; New Court, 5 [2]; Thomas Place, 0 [5]; Hatfield Street, 0 [4]. Total closures—13.

**Honduras Street Area.**—Honduras Street, 0 [8]; Baltic Street, 0 [3]; Golden Lane, 0 [5]. Several tenements are empty, but no houses wholly closed. Total closures—0.

The decline in houses step by step is seen in the following table:—

| DWELLING-HOUSES.       |       |       |       |       |
|------------------------|-------|-------|-------|-------|
|                        | 1899. | 1900. | 1901. | 1902. |
| Aylesbury Place ... .. | 70    | 61    | 58    | 56    |
| Garden Row ... ..      | 69    | 69    | 69    | 51    |
| Roby Street... ..      | 37    | 37    | 37    | 7     |
| Baltic Street ... ..   | 52    | 52    | 52    | 39    |
| Honduras Street ... .. | 16    | 16    | 16    | 16    |
|                        | 244   | 235   | 232   | 169   |

In addition to closed houses, there are upon the areas from time to time several houses empty temporarily. Some of the closed houses, especially in the Aylesbury Place Area, are in ruins. "Closure" should be understood to mean that the house is boarded up or locked by the County Council.

There have been no demolitions on any of the areas up to the present, but "closures" have been taking place on each of the areas. A number of houses have therefore been standing empty, in some cases for many months.

(ii) **Population on the Areas.**—The total population on the five areas in 1899 was 1704. At the end of 1902 it was 1352. The approximate changes are set out in the following table. The figures for 1899 and 1902 are correct, and the result of actual enumeration of persons on the areas at those dates, but the figures for 1900 and 1901 are estimated:—

| Areas.               | Population on Areas. |       |       |       |
|----------------------|----------------------|-------|-------|-------|
|                      | 1899.                | 1900. | 1901. | 1902. |
| Aylesbury Place ...  | 511                  | 480   | 470   | 464   |
| Garden Row ... ..    | 407                  | 407   | 407   | 344   |
| Roby Street ... ..   | 218                  | 218   | 218   | 44    |
| Baltic Street ... .. | 351                  | 351   | 351   | 285   |
| Honduras Street ...  | 217                  | 217   | 217   | 215   |
| Total ... ..         | 1704                 | 1673  | 1663  | 1352  |

In point of fact, this table does not correctly represent the movements and fluctuations of population on the areas, for the reason that changes have been taking place month by month since the areas were condemned.

In some cases houses once empty have become again tenanted, and houses which before were crowded have during the last three years become overcrowded. Consequently it is not possible to present an absolutely accurate figure respecting the displacements. On page 454 of the Minutes I have stated an estimate of the approximate displacement of population *owing to closure of houses* as 533, leaving the remaining population at 1171. But in the above Table it will be seen that the total population now resident on the five areas is 1352. This includes 25 persons temporarily absent on the Aylesbury Place area; rooms, that is to say, which were empty at the time of enumeration have been accounted for in accordance with the numbers of the last tenants. From this total of 1352 it would therefore appear that the total displacement was 352 (1704 minus 352 = 1352). But this is a fallacy, for though some have departed owing to the closure of houses, others have crowded into the remaining houses, with the result that the total population has not been a correct indication of the displaced persons. Accordingly I have made a careful enumeration of the persons *actually*



*displaced* up to the present, as far as could be obtained.\* The result is as follows:—

|                              | Aylesbury<br>Place Area. | Garden<br>Row Area. | Roby<br>Street Area. | Baltic<br>Street Area. | Honduras<br>Street Area. | Total. |
|------------------------------|--------------------------|---------------------|----------------------|------------------------|--------------------------|--------|
| No. of persons<br>displaced. | 86                       | 108                 | 180                  | 126                    | 34                       | 534    |

Taking the original population therefore, 1,704, and subtracting 534, there ought to be on the areas a remaining population of 1170. Actually there is 1,352. Hence it is obvious that some of the persons displaced, or some outsiders, have crowded into the 169 remaining dwelling houses. Thus, closure of houses has not meant in all cases the departure of the population, but accentuation of the overcrowding on the area. An illustration will make this clear. The Aylesbury Place area contained a population of 511 at the time of representation. Now it contains 464, a difference of 47. But 14 houses have been closed, six of which at the time of representation contained residents, the others were empty. The six houses contained 86 persons, who were displaced, and yet the population on the area is not 425 (*i.e.*—511 minus 86) but 464, or, in other words, 40 people have crowded into the already overcrowded houses remaining on the smaller area. This appears to be an assumption until one compares the present population in these remaining houses to the population resident there in 1900 at the time of the enquiry, which is as follows:—

(*Jerusalem Court is omitted, as the place where the closures have occurred.*)

\* Persons received notice to quit on account of non-payment of rent. They were not "displaced" on account of impending demolition, and therefore it has been assumed that their departure was purely voluntary. As regards the particular tenants that is so. But, as a matter of fact, in many cases *the houses were closed behind them and boarded up*, so that in actual practice the available accommodation on the areas was reduced. If the houses had remained open for other tenants there would have been no such reduction. As it happened there was, in fact, "displacement," although it was not displacement for demolition purposes.

|                          | No. of Dwelling Houses. | Population. |       |
|--------------------------|-------------------------|-------------|-------|
|                          |                         | 1900.       | 1902. |
| Aylesbury Place ... ..   | 28                      | 142         | 151   |
| Aylesbury Street ... ..  | 6                       | 46          | 44    |
| Jerusalem Passage ... .. | 7                       | 48          | 60    |
| Bishop's Court ... ..    | 11                      | 140         | 176   |
| Totals ... ..            | 52                      | 376         | 431   |

This works out at 7·2 persons per house in 1900, and 8·3 persons per house in 1902, and instead of a net decrease there is a total increase of 55 persons. In Bishop's Court, which has suffered most, having had 36 additional people to accommodate, the persons per house have risen from 12 to 16. So instructive is the life-history of Bishop's Court since 1900 that it may be recorded in detail:—

| Address.              | 1900.   |           | 1902.   |           | Total Increase or Decrease. | Period of Occupancy of present Residents. | Condition of House. |
|-----------------------|---------|-----------|---------|-----------|-----------------------------|-------------------------------------------|---------------------|
|                       | Adults. | Children. | Adults. | Children. |                             |                                           |                     |
| Bishop's Court, No. 1 | 6       | 3         | 10      | 6         | +7                          | 1—25 years.                               | Fair                |
| " " 2                 | 7       | 4         | 13      | 9         | +11                         | 1—10 "                                    | Bad                 |
| " " 3                 | 4       | 2         | 12      | 8         | +14                         | 1—7 "                                     | "                   |
| " " 4                 | 11      | 5         | 14      | 6         | +4                          | 1—4 "                                     | "                   |
| " " 5                 | 11      | 6         | 12      | 3         | —2                          | 1—9 "                                     | "                   |
| " " 6                 | 8       | 13        | 11      | 4         | —6                          | 2—9 "                                     | "                   |
| " " 7                 | 7       | 7         | 9       | 5         | —                           | 1—3 "                                     | "                   |
| " " 8                 | 7       | 8         | 10      | 7         | +2                          | 3—12 "                                    | "                   |
| " " 9                 | 9       | 2         | 11      | 3         | +3                          | 4 mo—7 "                                  | "                   |
| " " 10                | 8       | 5         | 8       | 6         | +1                          | 1 mo—6 "                                  | Fair                |
| " " 11                | 6       | 1         | 8       | 1         | +2                          | 8—25 "                                    | Bad                 |
| Totals                | 84      | 56        | 118     | 58        | +36                         | —                                         | —                   |



Here is a history of increased overcrowding during the period under consideration, all the new comers having taken up residence in the Court during periods varying from one month to three years, to the detriment of the condition both of the houses and people. The condition of the houses is open to very grave criticism, though it cannot be presented in figures. The death rates, however, are even more expressive. In the last three years (1900-02) there have been 24 deaths in this one little Court, 7 in 1900, 8 in 1901, and 9 in 1902. This gives an average death rate of 52·6 per 1,000 (as compared with 46 per 1,000 in the five years 1895-99, and 21·3 per 1,000 for the Borough of Finsbury in 1901). Of the 24 deaths 10 were of infants under one year of age, which is 43% of the total deaths, and yields the high infant mortality of 714 per 1,000 births (as compared with 140 for all Finsbury, and 148 for all London in 1901). The births during the three years have been 14. Further, the diseases which have caused the deaths of these 24 persons have been of a character due in the main to bad housing and its effects — namely, lung diseases, 11, wasting diseases of children, 9, abdominal diseases, 3, and poisoning, 1 — total, 24.

(iii). **Births on the Areas.**—The births taking place during the years 1900, 1901, and 1902, on the three areas numbered 164, which gives an average birth-rate (calculated on the population of the three years), of 35 per 1,000, as compared with 32 for all Finsbury in 1901. The birth-rate on each of the five areas was substantially the same.

(iv). **Deaths on the Areas.**—The two clear calendar years following the schemes for these five areas were 1901 and 1902. During these two years 108 deaths occurred on the areas. The deaths and death-rates (calculated on the changing population), are set out as follows:—

| Areas                  | 1901.          |              | 1902.          |              |
|------------------------|----------------|--------------|----------------|--------------|
|                        | No. of Deaths. | Death Rates. | No. of Deaths. | Death Rates. |
| Aylesbury Place ... .. | 19             | 40·3         | 21             | 45·2         |
| Garden Row ... ..      | 10             | 24·5         | 13             | 37·8         |
| Roby Street ... ..     | 8              | 36·7         | 3              | 68·1         |
| Baltic Street ... ..   | 11             | 34·9         | 13             | 45·6         |
| Honduras Street ... .. | 4              | 18·4         | 6              | 27·9         |
| Totals ... ..          | 52             | 31·2         | 56             | 41·4         |

It may be objected that as the displacement of population occurred for the most part in the second half of 1902, that therefore the deaths in 1902 were out of a population of 1,663 and not 1,352 (see previous table). That is not quite legitimate, but even if that were done the death-rate comes out at 33·7 per 1,000. The death-rate for the Borough for 1901 was 21·3 per 1,000. Reference has already been made to the deaths in Bishop's Court, and substantially the same remarks apply to all the areas.

(v) **Insanitation on the Areas.** — The five areas were, of course, condemned on the ground of insanitation, ill-construction, &c. I have to report that since March, 1900, matters have not improved. Indeed, as would be expected, the reverse has happened. There are a large number of defects and nuisances now existing on each of the areas, and though I do not assert that there are not respectable and cleanly tenants residing on these areas, I have formed the opinion, after careful enquiry and examination, that there are a large number of persons who cannot be thus described. As a consequence, many of the houses are dirty and verminous in a high degree. Since March, 1900, the date of the enquiries, the following sanitary works have been carried out:—



|                          | Houses Cleansed more<br>or less thoroughly. | Houses in which<br>Substantial Repairs or<br>Drainage have<br>been carried out. |
|--------------------------|---------------------------------------------|---------------------------------------------------------------------------------|
| Aylesbury Place Area ... | 12                                          | 19                                                                              |
| Garden Row Area ...      | 62                                          | 21                                                                              |
| Roby Street Area ...     | 3                                           | 1                                                                               |
| Baltic Street Area ...   | 31                                          | 1                                                                               |
| Honduras Street Area ... | 11                                          | 2                                                                               |
| TOTALS ...               | 119                                         | 44                                                                              |

The areas have involved constant supervision and extra inspection during the last two years. At the end of November, 1902, at my suggestion, the Valuer of the County Council arranged for the boarding up of Jerusalem Court, as the open passage and ruined houses were being used for undesirable purposes.

The following notifiable infectious diseases occurred, including seven cases of small-pox, but excluding eleven cases of chicken-pox :—

|                    | 1900. | 1901. | 1902. | Total. |
|--------------------|-------|-------|-------|--------|
| The Five Areas ... | 11    | 12    | 17    | 40     |

(vi) **The Action of the London County Council.**—As I have stated on p. 89 of the Minutes (May 1902), the London County Council scheduled all five areas under Part I. of the Housing of the Working Classes Act, 1890, and the schemes are being proceeded with as expeditiously as is practicable under all the circumstances. In the carrying out of all such schemes, there must, moreover, elapse a certain period of time occupied in the purchase of the condemned houses previous to their demolition. The present period of apparent delay in the proceedings is due to the operation of the system generally adopted by the County Council. In respect to the five areas under consideration these operations have been as follows: The areas were represented in

1897 and 1899; the two enquiries were held in March, 1900; the date of confirmation by the County Council was July, 1900: after which the first steps for the acquisition of the property became possible. The period of two and a half years since July, 1900 has been occupied in carrying out the arrangements respecting purchase: (a) in sending out to all owners of houses in the areas requests for claims, (b) in valuing the interests disclosed in such claims, (c) in negotiating the settlement of such claims where possible, (d) in completing purchase, (e) in obtaining the appointment of an arbitrator to deal with cases where no agreement could be arrived at and in awaiting the issue of his award.\* The provisions in the Housing Act with respect to the purchase, otherwise than by agreement, are of some complexity, and involve arrangements occupying some period of time.† The delays which have occurred in respect to the Finsbury areas are not, as far as I can gather, wholly exceptional in comparison with other similar areas elsewhere in London. At the same time, I wish to add that whilst recognising that the delay in carrying out these Schemes is due, in large measure, to the necessary proceedings under the Act, and to the system of administering the Act practised by the County Council, I must also state that, as far as I am able to judge, the delay appears to have been prolonged by the slowness of application of this system (the acquisitions and closures having mostly occurred only in the latter half of 1902) and by the action of the County Council in closing houses on all the five areas simultaneously instead of proceeding with one area at a time. There may be adequate reasons for these conditions, but they are not apparent.

The County Council is not yet in possession of, by any means, all the properties on these areas. Approximately the returns up to the time of writing are as follows:—

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\*Housing of the Working Classes Act, 1890, Sections 12, 20, 21, 108, etc.

†Housing of the Working Classes Act, 1890, Schedule II, also Arbitration Act, 1889.



| Acquisitions and Closures on the Five Areas. |     |     |                  |       |                |       |
|----------------------------------------------|-----|-----|------------------|-------|----------------|-------|
|                                              |     |     | Houses Acquired. |       | Houses Closed. |       |
|                                              |     |     | 1901.            | 1902. | 1901.          | 1902. |
| Aylesbury Place Area...                      | ... |     | —                | 16    | —              | 3     |
| Garden Row Area                              | ... | ... | 1                | 35    | 1              | 14    |
| Roby Street Area                             | ... | ... | —                | 34    | —              | 29    |
| Baltic Street Area                           | ... | ... | 1                | 14    | 1              | 8     |
| Honduras Street Area                         | ... |     | —                | 3     | —              | —     |
| Totals                                       | ... | ... | 2                | 102   | 2              | 54    |

These figures are obtained from returns supplied by the London County Council to the Rating Department of the Borough Council. It will be understood that the closures here enumerated do not include closures before 1901 (which number 9 or 10), nor do they include about an equal number closed during the last few weeks. The exact number of houses now closed, as counted by us, is 75, leaving 169 dwelling-houses still in occupation. In accordance with the County Council's usual practice the "closed" premises are locked and boarded up as soon as vacant possession has been obtained. It will be seen in all these tables that the Roby Street area is the most advanced of the five, and it is upon this area that building operations will be shortly commenced, under the obligation placed upon the County Council, to accommodate 1200 persons upon or in the vicinity of this and the three adjoining areas. In this way provision will be found for the persons displaced from the next area to be closed. Thus, in turn, it is intended that there will be accommodation for each set of persons to be displaced previous to their displacement. (*For the relationship of the new L.C.C. buildings on Reid's Brewery Site to the Finsbury areas, see Minutes, page 90*).

I understand that it has been alleged that the County Council and the Borough Council have "evicted" a number of tenants on these areas.\* I have no reason to suppose, nor am I in possession of

\* I understand the term *eviction* to mean an arbitrary ejection of tenants paying punctually their rents and performing their other obligations.

any substantial evidence to show, that the County Council has "evicted" any tenants unreasonably, without consideration, or in a manner unauthorised by the provisions of the Act. Any such allegations against the Borough Council are groundless, the Council not having either power or occasion to "evict" anybody on these areas. The Borough Council has no power whatever itself to expedite the clearance of these areas. That is a matter, at present, wholly in the hands of the County Council. I understand that the practice of the Council in respect to displacements, say upon the Roby Street area, which is the area more particularly concerned at the moment, has been to issue notice to quit only in cases where the tenant has been four weeks or more in arrears with his rent. Further, when the warrant officer has attended with the Valuer's assistant, I am informed that if the tenant has not secured other premises to which to remove, "formal possession" only has been taken, and the tenant has been allowed to remain a few days, and in some exceptional cases for a few weeks, pending arrangements for removal or for the payment of rent. I am further told that information has also been given to the tenants of the situation of dwellings belonging to the County Council, the accommodation provided therein, and the rents asked for. It will be understood that this statement respecting the County Council's practice is not based upon first-hand evidence, but upon information received. As I have already pointed out, upwards of 500 persons have, in fact, removed, or have been removed, from closed houses on all five areas simultaneously during the period under consideration; the closed houses have remained empty, and the dispossessed persons have not been accommodated by the County Council either on the areas or in the vicinity of the areas, except in so far as they may have overcrowded the remaining houses.\*

It will be understood that the responsibility for the sanitary condition of these five areas rests, not with the Borough Medical Officer of Health, but with the Sanitary and Housing Authorities of the London County Council. Nor has the Borough Medical Officer any power to expedite the clearance of these five areas. He has, on various occasions during the last two years drawn the attention of the owners of the properties and of the authorities of the County Council to the numerous insanitary conditions existing; the County

\* I do not suggest that persons not paying rent should be accommodated, but the house accommodation itself might have been kept available.



Council is anxious, naturally, to carry out a minimum of fresh sanitary work in properties awaiting demolition.\*

## II.—INSANITARY AREAS IN FINSBURY UNDER THE BOROUGH COUNCIL.

### (Part ii. of the Housing Act and the Public Health (London) Act).

During the year a large amount of attention has been devoted to a number of small insanitary areas unsuitable for treatment by the London County Council, under Part I. of the Housing of the Working Classes Act. These have, therefore, been approached from the point of view of Part II. of the Act, which is applicable to all Sanitary Districts, and may be enforced by the Local Authority. It provides *inter alia* for the closure and demolition of buildings which are unfit for human habitation. In dealing with such houses the procedure to be adopted must depend upon a variety of circumstances. In some cases it is preferable to proceed under the Housing Act (Part ii.), in other cases under the Public Health (London) Act, which is also enforceable by the Local Authority. These two Acts furnish the Borough Council with considerable powers, of which it should avail itself if necessary. Before advising the Council to put these powers into force, I have made it my duty to see the owner in each of the following areas, and have fully set before him, or his solicitors, the various defects of the property. Further, I have pointed out, where necessary, in unmistakable terms that unless the owner himself would sufficiently repair or close the properties in question, it would be necessary for me to proceed under the Acts above-mentioned. It has seemed to me that this method of first approaching the owner in a personal way before issuing legal

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\* It should be added, that, since the attention of the London County Council was drawn to the conditions obtaining in the five areas, steps have been taken by them to remedy matters by keeping the areas, temporarily, in a more sanitary condition pending demolition.

notices against him has considerable advantages to recommend it, and affords the owner ample opportunity of discharging his duties to his property and tenants. I have to report that in the following five areas in which this course has been adopted it has resulted in each case in the owner himself undertaking the necessary sanitary repair rather than the Local Authority. This is, in my judgment, as it should be. In the event of non-compliance, or non-acceptance of responsibility for the insanitary conditions existing, it would, of course, be necessary for me to advise the Borough Council to proceed with strictness against such owners. The record is as follows :—

**Area A.**—This area is situated off Sermon Lane and contained 12 houses, two of which were unoccupied. All the houses were worn out and insanitary. It was impossible to make them habitable without rebuilding, and the owners fully recognised this. The houses consisted, as a rule, of a ground floor of two rooms, and a first floor of two rooms. The ground floor of one of the houses was used as a store room, and the second floor of the same house as a bootmaker's shop. Otherwise the houses were used exclusively for residential purposes. The population inhabiting these houses numbered 53. The owner decided to close the houses, and the closure and demolition was commenced and completed during 1902. At the time of closure several of the houses were empty. The owner, who possesses other houses in the immediate vicinity, arranged for housing the displaced persons. It should be added that the owner of this property was in every way desirous of meeting his obligations.

**Area B** consists of two small courts containing eight houses. Thirty-nine persons reside there.

(a) **Caroline Place** is a *cul de sac* on the west side of Baker's Row, Farringdon Road. It is entered by a covered passage between No. 7 and No. 8, Baker's Row. The passage is some 18



feet long and 3 to 4 feet wide. The court itself consists of four houses, two on each side. Each house consists of two rooms, one above the other. There is no back ventilation. The sanitary conveniences are situated near the entrance to the court and are for the common use of all the persons in the court. They ventilate into the court. The dustbins and water supply are also common to the four houses. At the blind end of the court there are buildings higher than those in the court, thus preventing through ventilation of the court, which is still more obstructed by the tunnel entrance. Each of the houses is used in part for the manufacture of ice-cream, and the residents are almost exclusively Italians.

(b) **Kemp Place** is another similar *cul de sac* on the west side of Baker's Row, Farringdon Road, in immediate proximity to Caroline Place. It is entered by a similar narrow covered entrance, between Nos. 8 and 9, Baker's Row. The court contains four houses, having two rooms each, one above the other. There are no back windows. The sanitary convenience, dustbins and water-cisterns are situated at the blind end of the court, and are for the common use of all the residents in the court. In each of the four houses Italians are accommodated, and the houses are largely used for ice-cream manufacture.

The floors, walls and roofs were defective, the paving of the yards in a bad condition, no through ventilation for the houses, and defective drainage. The owners, while admitting the serious defects and insanitation, believed that they could remedy the condition of things by extensive repairs. Works have therefore been carried out extending over several months, and a number of the sanitary defects have been rectified. This attempt has not been made by my advice, and it remains to be seen how far the eight houses will be made really habitable. There can be no doubt at all that the property has been greatly improved. Wherever possible effort should be made to improve residential property rather than close it, and I view with satisfaction any such remedial works as these *if they are adequate and result in making*

*houses habitable* within the meaning of the Public Health and Housing Acts.

**Area C** is **Providence Place**, a blind court on the east side of Baker's Row, Farringdon Road. It consists of ten houses, five on each side. In the front of each house is a small fore-court, railed in. There is a central passage down the middle of the court, and the entrance into Baker's Row is open and the same width as the court. A high wall exists at the end of the court opposite to the entrance. The houses contain two rooms, one above the other. There are no back windows and no through ventilation of any of the houses. At the back of each house stand business premises. The water-cistern is at the end of the court, opposite the entrance, and at its side stand two metal dust boxes. These are for the common use of all houses in the court. In the forecourts, which are unpaved, there are small subterranean cellars with approaching stone steps. In these places are situated the sanitary conveniences for each house. The only means of light and ventilation is derived from the staircases which lead down to them. There are about 50 persons resident in Providence Place.

The structural conditions of the houses in this Place are of such a nature as to make palliative alterations of no avail. The only improvement that can be made is closure and demolition, which the owners themselves propose to carry out at an early date, of which they have given me notice.

**Area D** is **Easton Place**, which opens to the South-west end of Easton Street. The entrance is under two arches, passing under Nos. 2 and 3 of Easton Place. The court in front of the houses is about 90-100 feet long and 7 feet wide. The small yard at the back of each house is about 3 feet by 11. In these back yards stand the sanitary conveniences, but the dustbins stand in the front yard. There are nine houses, consisting in the main of a ground floor of one room, and a first and second floor,



each of one room. The cubic capacity of the rooms is from 700-800 cubic feet. The back ventilation is very limited, consisting only of a small window or skylight on each staircase. The floors are unventilated, and the houses are worn out and damp. In some instances the drainage of the houses is also defective. The number of people resident in the court is about 70.

The owner recognises the unsatisfactory condition of the property, but believes that he can remedy most of the defects by extensive alterations. Works are therefore being carried out at his instigation and expense with a view to making the houses habitable within the meaning of the Public Health and Housing Acts. Whether or not this will prove possible in the long run remains to be seen. It has been necessary in the past to issue a large number of sanitary notices with respect to this property, which have always received the prompt attention of the owners.

**Area E** is a square of property bounded by York Road, Ironmonger Row, Lever Street and Hull Street, the outside of the square consists of about 30 houses. Inside the square of property stand about a dozen cottages and a ginger-beer factory. The cottages constitute Garden Court and Charles Court, the latter entered by a narrow passage under an archway and the former by a narrow passage. All the houses in this property are old and worn out, with many defects, but particularly is this true of the two small courts. These, with the ginger-beer factory, are also unsatisfactory in that they prevent light and air gaining access to the backs of the houses facing the outer sides of the square.

These facts, as in the previous areas, were laid before the owners of the property and arrangements have been come to by which the whole of the property will be rebuilt in the course of two or three years. But in order to improve the houses on the outside of the square at once, the inside of the square will be

cleared during 1903. This will mean the demolition of the factory and some dozen cottages, each of which is beyond question thoroughly insanitary.

**Summary of these Five Small Areas.** One area is closed and cleared now. Twelve houses were demolished, 53 persons displaced, most of whom were re-accommodated in the vicinity. Two areas are being altered and repaired, including 17 houses accommodating more than 100 persons. Two areas are to receive attention at an early date, when 22 houses will be closed and about 100 persons displaced. It should be understood that in all these areas the one and only reason for action is the insanitary condition of the properties in question.

### III.—Insanitary Areas now under consideration.

—In addition to the above 10 areas upon which work is now being carried out, there remain in the Borough some half-dozen other insanitary areas which have received attention. In respect to two or three of them negotiations are still proceeding, and it would be undesirable to enter into details in the present report.

**Dwelling-houses closed in 1902.**—In addition to the closures on the insanitary areas or on account of insanitation, there have been a number of dwelling-houses closed by their owners for reconstruction on the sites of premises for commercial or industrial purposes. As I have pointed out elsewhere, the Borough tends to become more and more a commercial district and dwelling-houses are being superseded every year by business premises. How rapidly this is taking place will be seen in the following returns.

During 1902 dwelling-houses have been closed in the following streets :—



| Streets.                 |     |     |     |     | No. of Houses<br>closed in 1902. | No. of Persons<br>displaced. |
|--------------------------|-----|-----|-----|-----|----------------------------------|------------------------------|
| Southampton Street       | ... | ... | ... | ... | 5                                | 12                           |
| Collier Street           | ... | ... | ... | ... | 1                                | 7                            |
| Great Sutton Street      | ... | ... | ... | ... | 2                                | 16                           |
| Berkley Street           | ... | ... | ... | ... | 2                                | 48                           |
| Red Lion Street          | ... | ... | ... | ... | 2                                | 6                            |
| St. John Street (L.C.C.) | ... | ... | ... | ... | 17                               | 102                          |
| Bartholomew Square       | ... | ... | ... | ... | 3                                | 45                           |
| Bath Street              | ... | ... | ... | ... | 2                                | 12                           |
| Mitchell Street          | ... | ... | ... | ... | 1                                | 20                           |
| Tabernacle Street        | ... | ... | ... | ... | 2                                | 24                           |
| Finsbury Square          | ... | ... | ... | ... | 5                                | 10                           |
| City Road                | ... | ... | ... | ... | 6                                | 52                           |
| Finsbury Pavement        | ... | ... | ... | ... | 4                                | 6                            |
| Banner Street            | ... | ... | ... | ... | 6                                | 10                           |
| Leonard Street           | ... | ... | ... | ... | 2                                | 13                           |
| Memel Street             | ... | ... | ... | ... | 2                                | 24                           |
| Domingo Street           | ... | ... | ... | ... | 2                                | 22                           |
| Totals                   | ... | ... | ... | ... | 64                               | 429                          |

All these dwelling-houses have been closed in order to make room for business premises. If we divide the Borough of Finsbury into three equal divisions, one in the north (Pentonville District), one in the centre (Clerkenwell District) and one in the south (adjoining the City of London boundary), it will be found

that out of these 64 closures, 8 occur in the northern division, none occur in the residential district of Clerkenwell, and 56 occur in that third of the Borough adjoining the boundary of the City of London. No evidence could be more complete of the change which is proceeding year by year in the character of the Borough than these facts respecting house closure. The total record for 1902 is as follows :—

|                                   | Houses Closed<br>in 1902. | Persons Dishoused<br>in 1902.<br>(Approximate Number). |
|-----------------------------------|---------------------------|--------------------------------------------------------|
| Five Insanitary Areas (L.C.C.)... | 62                        | 350                                                    |
| Insanitary Closures ... ..        | 14                        | 60                                                     |
| Closures for Commercial reasons   | 64                        | 429                                                    |
| TOTALS ... ..                     | 140                       | 839                                                    |

It will be understood that the St. John Street closures, included in the "Commercial" closures in the above Table, are owing to the Street Improvement Scheme of the London County Council.

### III.—THE MAINTENANCE OF SANITATION IN HOUSE PROPERTY.

The sanitary supervision of existing houses is one of the most important parts of the housing question in Finsbury. It cannot be doubted that the problem of housing in London is what it is to-day very largely indeed because in the past strict sanitary supervision of existing houses has been neglected. This sanitary supervision, to be effective, must be two-fold in its application, namely, it must deal with house structure and sanitary maintenance (houses let in lodgings, house to house inspection, etc.) and with overcrowding of persons. During 1902



a large amount of time has been devoted to this subject. For convenience it may be reported in sections as follows :—

**1. Houses let in Lodgings, etc.**—When the Borough was formed there were a number of houses let in lodgings, registered under Bye-laws of Section 94 of the Public Health (London) Act, 1891. Bye-laws first came into force in this district in 1897 and from that year to 1900 the total number of houses registered in all the constituent parts of the new Borough was 327. During 1901, new Bye-laws had to be framed. After considerable discussion and amendment these Bye-laws were ratified by the Local Government Board in November, 1901, and they are now in force. Provisions exist in the Bye-laws—

- (a) For fixing the number of persons who may occupy a house or part of a house which is let in lodgings or occupied by members of more than one family :
- (b) For the registration of houses so let or occupied :
- (c) For the inspection of such houses :
- (d) For enforcing drainage for such houses, and for promoting cleanliness and ventilation in such houses :
- (e) For the cleansing and lime-washing at stated times of the premises :
- (f) For the taking of precautions in case of any infectious disease.

The two main objects of the Bye-laws are the maintenance of sanitation and cleanliness and the restriction of overcrowding. The former is attained by a variety of Bye-laws (9–17), and the latter by Bye-laws 3 and 4 which lay down the following standard :—

**3.** The landlord of a lodging-house or a lodger therein shall not knowingly cause or suffer a greater number of persons than will admit of the provision of *three hundred cubic feet* of free air space for each person of an age exceeding ten years, and of *one hundred and fifty cubic feet* of free air space for each person of an age not exceeding ten years to occupy, at any one time, *as a sleeping apartment, a room which is used exclusively for*

*that purpose*, and which is under the control of such landlord or which has been let to such lodger respectively, as the case may be.

4. The landlord of a lodging-house or a lodger therein shall not knowingly cause or suffer a greater number of persons than will admit of the provision of *four hundred cubic feet* of free air space for each person of an age exceeding ten years, and of *two hundred cubic feet* of free air space for each person of an age not exceeding ten years, to occupy, at any one time, as a sleeping apartment, *a room which is not used exclusively for that purpose*, and which is under the control of such landlord or which has been let to such lodger respectively, as the case may be.

During 1902 we have inspected and placed on the Register 612 houses, which, with 327 previously registered, makes a total of 939 houses in the Borough. Houses in 120 streets and courts are now registered. During the year the usual inspections have been made, and a number of notices served. In the spring the registered houses were cleansed, in accordance with the requirements of the Bye-laws. Overcrowding also has been reduced in many registered houses, and there is a substantial improvement in their general sanitation.

There are still remaining out of the 9,000 houses in the Borough a number which ought to be registered, and these will be proceeded with in due course. In a general way it may be said that it is tenement houses of the poorer class which require registration. Such houses are exempt when the landlord resides upon the premises, and the letting by such landlord is to not more than one lodger.

*Legal Proceedings under the Bye-laws.*—During the year it has been necessary to take proceedings under the Bye-laws for Houses let in Lodgings. Such proceedings should be recorded briefly :—



1. **Failure to Supply Information necessary for Registration** (Bye-law 5).—It will be understood that landlords not desiring the registration of their houses endeavour to avoid such being done. Naturally the defence urged will be to the effect that the house is not suitable for registration. We had one such case in 1902. The particulars of which are as follows :—

*Finsbury Borough Council (Green) v. Fletcher*.—In this case defendant was summoned by us for having failed, within fourteen days from the 27th November, 1901, and since the expiration thereof, to supply to the Borough Council, a statement in writing of the particulars and information necessary for the registration of the premises, 36, Northampton Road, as a house let in lodgings, as required by Bye-law 5 made in that behalf.

At the hearing at the Clerkenwell Police Court on March 4th, 1902, defendant's Counsel took the objection that inasmuch as the house in question was let in floors, the landlord being non-resident, and the several tenants being entitled to a vote, being on the register as householders, that it was, therefore, a set of houses (let out in floors) not liable to registration, and, therefore, not a house subject to Bye-law 5. The case of *Weatheritt v. Cantlay*\*

\* *Weatheritt v. Cantlay*—High Court of Justice, King's Bench Division, May 13th, 1901, before the Lord Chief Justice, Mr. Justice Lawrance, and Mr Justice Phillimore.

This case arose from a complaint preferred by James Weatheritt, an officer of the Vestry of St. George-the-Martyr, Southwark, against R. W. Cantlay, of 15, Finsbury Square, E.C., under the Bye-laws made by the Vestry with respect to houses let in lodgings, charging him that he had failed to furnish the Sanitary Authority with a true statement of particulars with respect to certain houses as required by the Bye-laws. The property in question was the Artizans' Dwellings, Gunn Street, Southwark, consisting of two blocks of buildings, the fronts of which abut on Gunn Street, and the backs on Silex Street. There was a front door with a Norfolk latch, and from the entrance passage tenements opened off, and were let to separate families. Each floor was arranged in a similar manner, and supplied with water-closet, sink, water tap, and dust-shoot opening. The staircase and passages were used in common. The landlord did not live on the premises, but was represented by a caretaker. The respondent contended that this property was not liable to registration under the Bye-laws for houses let in lodgings. The appellant contended that such property did come within such Bye-laws, and was a house or part of a house let in lodgings within Section 94 of the Public Health (London) Act, 1891. The Lord Chief Justice stated that "if there is an eight-roomed house, and in each of the eight rooms there is a family, that would come within the Bye-laws." But in the present case he gave judgment that the building was "a collection of houses" for the purpose of Section 94. There was no front door. There was a common passage and staircase, and the property did not come within the Bye-laws for houses let in lodgings.

was quoted in support of the defence. For the prosecution it was proved that there was a street-door at the entrance to the house common to each tenant; that each lodger had the common use of the passage and staircase, the sanitary conveniences (of which there were two), the dustbin, and the washhouse.

The learned Magistrate (Mr. Bros) gave judgment against the defendant, ruling that the house was one liable to registration. As the non-compliance with the notice served by us was by reason of a misinterpretation of the law, and not of contumacy, the Solicitor to the Borough Council asked for only a nominal penalty. The defendant was therefore fined one shilling and £2 2s. costs.

**2. Overcrowding of Registered Houses (Bye-law 4).—**A number of summonses were issued under this heading to which reference is made under "Overcrowding" (p. 156). Fourteen prosecutions have taken place, all of which resulted in convictions. Total penalties and costs £27 8s. 0d. It should be added that in addition to these 14 prosecutions for overcrowding, under Bye-law 4, there were 89 additional cases of overcrowding under this Bye-law which were abated under notice without prosecution.

*The Council (Green) v. Gehringer.*—This was a matter in which 9 summonses had been taken out against defendant for causing or allowing overcrowding to exist at 9 houses of which he was the landlord, and which were upon the Register of Houses Let in Lodgings. The case came before the Worship Street Police Court on April 24th, 1902, when the defendant's solicitor took the objection that these houses should not be upon the Register, relying on *Weatheritt v. Cantlay*. The Magistrate (Mr. Haden Corser), however, held that the case of *Weatheritt v. Cantlay* did not apply to houses of this description.

**3. Failure to Cleanse Registered Houses (Bye-law 15).—**Eleven prosecutions have taken place under this Bye-law, and in each case have resulted in convictions. Total penalties and costs, £22 13s. 0d.



In the case of the *Council (Powell) v. Belham*, heard at Worship Street Police Court (July 3rd, 1902), objection was taken by defendant's Solicitor to the proceedings being taken under the Bye-laws for Houses let in Lodgings, contending that the case was governed by *Weatheritt v. Cantlay*, and that as the houses were let in flats (floors), and the landlord exercised no control, and the lodgers were entitled to vote as householders, the houses should not have been placed on the register as houses let in lodgings. The learned Magistrate (Mr. Haden Corser) decided that the case quoted referred to a block of model dwellings and not to ordinary tenement houses such as these in question, the case therefore proceeded, and the defendant was convicted and fined.

**2. House to House Inspection** is a second means for attaining the same ultimate object. By this arrangement houses, whether registered or not, are periodically inspected and a complete sanitary survey thus carried out. Each inspector undertakes this work in his own sanitary district. When sanitary defects are present notices are at once served for their repair. The facts obtained are entered in the House Record Book. In this register are particulars as to owner, mode of occupation, cubic space, conditions of sanitation, drainage, &c. This record is constantly of great service in the work of the Department, and of considerable permanent value. During 1902 the systematic house inspections thus made numbered 1,501. There are in the Borough about 9,000 houses.

**3. Overcrowding.**—In the third place, regular work is being done in the reduction, as far as known and as far as practicable, of any nuisances arising by reason of overcrowding. The prevalence of overcrowding in Finsbury in 1901 was considered in some detail in the Housing Report issued by the Medical Officer during the year (see pp. 57-67), and it will therefore be unnecessary to enter into the facts there set forth. Since the publication of that Report the Census Report for 1901 has been issued (in 1902), and contains figures and facts respecting London Boroughs which

were not contained in the Parliamentary Census Report issued in 1901. In so far as these facts respect overcrowding brief reference must be made to them.

The total population of the Borough is 101,463. The number of houses is 9,280, and hence the number of persons per house is 10·9. This is only a relative figure on account of the "model dwellings," for which the census enumerators return "separate blocks" as *houses*, with the result that in Finsbury (where such dwellings are very numerous) we obtain 92 houses (or separate blocks) containing 17,130 persons, or 186 persons per house (or separate block). But even with adjustments, the return of persons per house comes out at 9, as compared with the London average of 7·8 per house. The Borough of Finsbury unfortunately occupies the unenviable position of being one of the most "overcrowded" districts of London. The explanation of this will be found in what has already been said in relation to house property and the transition stage in which Central Districts, and particularly Finsbury, find themselves.

In the Census of 1891 it was found that the total number of tenements in Clerkenwell and St. Luke together were 26,188, 22,432 of which were tenements of less than five rooms :—

| Clerkenwell and St. Luke.               | Rooms in tenement. | Tenements of less than 5 rooms. | PERSONS PER TENEMENT. |      |      |      |      |      |     |     |     |    |    |            |
|-----------------------------------------|--------------------|---------------------------------|-----------------------|------|------|------|------|------|-----|-----|-----|----|----|------------|
|                                         |                    |                                 | 1                     | 2    | 3    | 4    | 5    | 6    | 7   | 8   | 9   | 10 | 11 | 12 or more |
| Total tenements, 26,188.                | 1                  | 8505                            | 2283                  | 2862 | 1665 | 976  | 433  | 196  | 70  | 11  | 4   | 4  | 1  | ...        |
|                                         | 2                  | 8074                            | 342                   | 1409 | 1537 | 1478 | 1240 | 1008 | 634 | 282 | 102 | 35 | 5  | 2          |
| Tenements of less than 5 rooms, 22,432. | 3                  | 4047                            | 86                    | 467  | 582  | 610  | 627  | 564  | 449 | 337 | 195 | 85 | 28 | 17         |
|                                         | 4                  | 1806                            | 18                    | 139  | 206  | 286  | 278  | 273  | 208 | 163 | 121 | 64 | 33 | 17         |

When we turn to the inhabitants of these tenements, we find that as many as 79·5 per cent. of the whole population of the Borough live in tenements of less than five rooms; 20,912 persons live in single-room homes (*i.e.*, 19·3 per cent. of the



entire population) ; 33,972 persons live in two-room tenements (*i.e.*, 31·4 per cent.) ; 20,872 persons live in three-room tenements (*i.e.*, 19·3 per cent.), and 10,142 persons live in four-room tenements (or 9·4 per cent.).

The Census Report for 1901 gives the following figures in respect to the occupiers of tenements of less than five rooms :—

|                                         | Rooms in tenement. | Tenements of less than 5 rooms. | PERSONS PER TENEMENT. |      |      |      |      |     |     |     |     |    |     |            |
|-----------------------------------------|--------------------|---------------------------------|-----------------------|------|------|------|------|-----|-----|-----|-----|----|-----|------------|
|                                         |                    |                                 | 1                     | 2    | 3    | 4    | 5    | 6   | 7   | 8   | 9   | 10 | 11  | 12 or more |
| Total tenements, 24,097.                | 1                  | 6364                            | 1993                  | 2144 | 1250 | 648  | 226  | 73  | 20  | 6   | 3   | 1  | ... | ...        |
|                                         | 2                  | 7882                            | 283                   | 1554 | 1629 | 1561 | 1258 | 889 | 441 | 173 | 77  | 15 | 2   | ...        |
| Tenements of less than 5 rooms, 20,515. | 3                  | 4233                            | 68                    | 440  | 624  | 708  | 731  | 604 | 497 | 315 | 149 | 66 | 23  | 8          |
|                                         | 4                  | 2036                            | 24                    | 155  | 253  | 346  | 331  | 272 | 251 | 171 | 111 | 75 | 34  | 13         |

The proportion of tenements with less than five rooms averages 65·9 per cent. of the total number of tenements in the County of London: It is lowest in Lewisham (30·9), and highest in Finsbury (85·1). The proportion of single room tenements (which averaged 14·7 per cent. in all London), ranges from 3·5 per cent. in Lewisham to 26·4 in Finsbury and 27·0 in Holborn. Finsbury is characterised more than any other Borough in London by tenement dwellings of less than five rooms.

When we turn to the inhabitants of these tenements, we find that as many as 77·4 per cent. of the whole population of the Borough live in tenements of less than five rooms ; 14,516 persons live in single-room homes (*i.e.*, 14·3 per cent. of the entire population) ; 31,482 persons live in two-room tenements (*i.e.*, 31·2 per cent.) ; 21,280 persons live in three-room tenements (or 20·9 per cent.), and 11,168 live in four-room tenements (or 11·0 per cent.). It will be noted on comparison of these figures with those of the 1891 Census that the overcrowding of Finsbury

shows signs of diminution. These figures are of grave import, and bear an intimate relationship to the health of the community.

During the year a very large number of complaints of alleged "overcrowding" have been made to the Department, and each of these has received careful investigation. Most of such complaints proved to be unfounded or grossly exaggerated. In 244 cases, however, overcrowding has been abated.

Special efforts have also been made to reduce overcrowding in Bastwick Street, which has for long been a cause of anxiety to the Local Authority owing to overcrowding and mismanagement of the houses. As it was found that day inspections yielded inaccurate results, midnight inspections were made. There are 63 houses in Bastwick Street, many of them registered as Houses Let in Lodgings. On the first occasion (December 20th, 1901) we visited nine houses, comprising 64 tenements, containing 158 adults and 114 children (under 10 years of age). In each tenement we examined the room, and counted the number of adults and children occupying each room. The standard of overcrowding which we used was not that wherever there are more than two persons in a room it is overcrowded, but that overcrowding shall be measured by actual cubic space, as in Bye-law 4 of the Bye-laws for Houses Let in Lodgings:—

4. The landlord of a lodging-house or a lodger therein shall not knowingly cause or suffer a greater number of persons than will admit of the provision of four hundred cubic feet of free air space for each person of an age exceeding ten years, and of two hundred cubic feet of free air space for each person of an age not exceeding ten years, to occupy, at any one time, as a sleeping apartment, a room which is not used exclusively for that purpose, and which is under the control of such landlord, or which has been let to such lodger respectively, as the case may be.

Judged by Bye-law 4, we found 47 out of the 64 tenements to be overcrowded. This gives a percentage of overcrowding of 73·4. In 39 out of these 47 cases the overcrowding was considerable; in the remaining eight it was inconsiderable. Preliminary notices were served upon the owner.



A second midnight inspection of the same street was made on February 25th, 1902. We visited 25 houses, comprising 129 occupancies or tenements, containing 314 adults and 157 children, or a total population of 471. Judged by Bye-law 4, we found 78 out of the 129 tenements overcrowded. This gives a percentage of overcrowding of 59·6 as against 73·4 two months previously. In both of these inspections we found that the overcrowding was more of adults than of children, but fairly equally distributed between front and back rooms and on different floors. The second inspection confirmed my previous opinion, that, in many cases, the overcrowding was of such a degree and character that it could not but have grave effects both physically and morally. With few exceptions the tenements are one-roomed. The matter was reported in detail to the Council and I was authorised to issue summonses against the owner of the worst cases. Nine were issued under the Bye-laws for Houses Let in Lodgings and the defendant was convicted, and fined £5 and £2 2s. costs on the first, and £1 and 2s. costs on each of the other eight, total £15 18s.

The third night inspection of the same houses was made on November 18th, 1902. We visited 20 houses comprising 116 tenements. Only 87 of these were occupied, as the result of the clearances made by the owner. These 87 tenements contained 205 adults and 119 children, or a total population of 324. Judged by Bye-law 4, we found 38 out of the 87 tenements to be overcrowded, yielding a percentage of 43·6. The overcrowding which was present on this third occasion was of a much less serious character than formerly. In December 84 per cent. of the overcrowding was of a considerable degree, in February 68 per cent. of the overcrowding was of a considerable degree, and in November less than 50 per cent. of the overcrowding was of a considerable degree. The matter was fully reported to the Council and I was instructed to proceed against the owner again. On this second occasion four summonses were issued, and he was again convicted on each and fined £10 8s.

As a result of these night inspections there are three broad facts arising. First, twelve months ago there was existent in Bastwick Street a grave state of affairs and 73 per cent. of the tenements were overcrowded, now 43 per cent. are overcrowded. Secondly, twelve months ago, in 84 per cent. of the overcrowding it was of a serious degree, now, 46 per cent. of the overcrowding is serious. Thirdly, twelve months ago the houses as a whole were densely overcrowded, being almost entirely one-room tenements; at the time of the third inspection many of the tenements were empty and many others had been let in two rooms instead of one. It should be stated that a considerable proportion of the inhabitants of Bastwick Street are "birds of passage," and belong to the drifting portion of the population.

The main facts, as regards Bastwick Street overcrowding, may be set out as follows :—

|                                               | Adults. | Children. | Total | No. of Tenements occupied. | No. of Tenements overcrowded. | Percentage of Tenements overcrowded |
|-----------------------------------------------|---------|-----------|-------|----------------------------|-------------------------------|-------------------------------------|
| First Night Inspection-<br>(9 houses) ... ..  | 158     | 114       | 272   | 64                         | 47                            | 73·4                                |
| Second Night Inspection<br>(25 houses) ... .. | 314     | 157       | 471   | 129                        | 78                            | 59·6                                |
| Third Night Inspection-<br>(20 houses) ... .. | 205     | 119       | 324   | 87                         | 38                            | 43·6                                |

Night Inspections have also been made in other parts of the Borough in the same manner as in Bastwick Street. These have taken place in registered houses let in lodgings and have been judged by precisely the same standards as in Bastwick Street. The results are as follows :—



|                                                                                               | Adults. | Children. | Total. | No. of Tenements occupied. | No. of Tenements overcrowded | Percentage of Tenements overcrowded |
|-----------------------------------------------------------------------------------------------|---------|-----------|--------|----------------------------|------------------------------|-------------------------------------|
| 1. Noble Street ...<br>(29 houses)                                                            | 294     | 91        | 385    | 156                        | 35                           | 22·4                                |
| 2. Beckford Square,<br>Jay's Buildings, Til-<br>ney Court, Memel<br>Street ...<br>(19 houses) | 149     | 54        | 203    | 69                         | 24                           | 34·7                                |
| 3. Bath Court, Great<br>Bath Street, Cor-<br>poration Row ...<br>(8 houses)                   | 108     | 46        | 154    | 36                         | 21                           | 58·4                                |

In all these cases notices were issued and overcrowding was abated. As in Bastwick Street, some of the cases were extreme.

Registration of tenement houses and house to house inspection, with occasional night inspections, and as strict an enforcement of the Public Health (London) Act as is equitable and practicable, seem the two chief means for reducing this evil of overcrowding.

**4. Common Lodging Houses.**—The following nine common lodging-houses are situated in the Borough :—

| Address.                | Registered Owner.  | Registered Number of Occupants. | Average Attendance. |
|-------------------------|--------------------|---------------------------------|---------------------|
| Clerkenwell Green, 35   | J. H. Clayton ...  | 87                              | 80                  |
| Middle Row, 14-16 ...   | Cornelius Holland  | 39                              | 34                  |
| Do. 18 ...              | Do.                | 39                              | 34                  |
| Old Street, 97 ...      | Wm. Cragg ..       | 82                              | 75                  |
| Pentonville Road, 19    | Mr. Callagher ...  | 23                              | 20                  |
| Do. 21                  | Do. ...            | 36                              | 30                  |
| St. John's Lane, 34 ... | Mrs. Hensman ...   | 55                              | 40                  |
| Whitecross Street, 99   | James Shuttleworth | 83                              | 76                  |
| White Lion Street, 57   | Do.                | 98                              | 90                  |
|                         |                    | 542                             | 479                 |

These Common Lodging-houses have been visited and inspected on various occasions during the year. One night inspection of each has also been made. There are no Salvation Army Shelters in Finsbury. There is one Church Army Asylum in Banner Street.

**5. Model Dwellings**, so called, are numerous in Finsbury. It has been estimated that about one-fifth of the population in the Eastern Division of the Borough reside in artisans' or similar dwellings. There are 31 sets of such residences. The larger ones belong to the City and Central Dwellings Company (1,400 persons); the Improved Industrial Dwellings Company (1,651 persons); the Corporation of the City of London (1,050); Metropolitan Association for Improved Dwellings (1,075); Guinness' Trust (1,352); and the Peabody Donation Fund (4,487). The total number of blocks of model dwellings is 92, containing 4,104 tenements and occupied by 17,130 people.

**6. Underground Rooms.**—Under Sections 96 and 97 of the Public Health (London) Act, 1891, there have been 27 nuisances abated in respect to the occupation of underground rooms or kitchens.

**General Conclusions.**—As we have seen in a previous report\* :—

1. The population of Finsbury reached its zenith between 1851 and 1861.
2. The number of *inhabited* houses was greatest in 1851.
5. Since these respective dates there has been a steady and uninterrupted decline both in houses and population. *But whereas the population has declined 21 per cent., the number of inhabited houses has declined 31 per cent.*

The chief decline in the houses occurred between 1881 and 1891, whilst the chief decline in the population took place in the decennium between 1871 and 1881. These changes occurred in

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\* Report on the Housing Question in Finsbury (1901) pp. 58-67.



the most marked degree in those portions of the Borough in immediate proximity to the boundary of the City of London. Such changes inevitably resulted in overcrowding, and there was, in fact, a greater number of persons per house in Finsbury in 1901 (10·9), as compared with London as a whole (8·0) ||.

From these figures it is proved (i) that the population of Finsbury is a declining one; (ii) that the density *per acre* is a declining one; but (iii) that the density *per house* is an increasing one. Time and the ordinary process of events, if coupled with strict sanitary supervision and enforcement of the Public Health Act, will ultimately solve the insanitary Housing problem in this Borough. But in the meantime, and during the transition period, the problem is a very acute one. There are two further points which must not be ignored if the whole question is to receive adequate consideration. First, in a Borough like Finsbury, the industrial classes may be divided in a general way into two divisions, those able to live away from their work and those not able to do so. There is evidence to show that the first group is a rapidly increasing one, and the need of many of the workers to live near their work is a diminishing need. Particularly will this be so, as means of transit are improved.\* Notwithstanding this, there will be for many years to come a considerable population of persons who must, or will, live near their work. For this population who are immovable, accommodation must be found. Secondly, Central London inevitably tends to become like the City of London, namely, a place for business development and commercial premises. On this account the price of land and the cost of

|| Ibid pp. 64 and 65.

\* Without some improved means of transit (cheap and rapid) the carrying out of the provisions of the Housing of the Working Classes Act and the Public Health (London) Act, must involve the incurrence of considerable hardship upon persons, it was the object of these Acts to assist, and in this and other ways, a satisfactory early solution of the Housing problem in Central London is largely impracticable and ineffectual.

building dwelling houses on a large scale, to let at low rents, are absolutely prohibitive. The prices are such as can only be paid for commercial concerns. It is an inevitable change which it is in the main impossible to prevent. Rather is it desirable to meet the change and recognise it as an increasing factor in the future. It is as useless as it is undesirable to attempt to stem it. All it needs is guidance, supervision, and direction.

The improvement schemes now in the process of being carried out will displace 1,700 persons. Other areas which are about to be, or are being, dealt with will displace some hundreds more. There will also be other persons displaced owing to the substitution of warehouses and factories for dwelling-houses. At present, accommodation is to be provided in the Borough by the London County Council for the 1,700 persons displaced. And further accommodation in the Borough ought to be provided, if practicable, for some, at all events, of the remaining persons displaced.† These matters are receiving the consideration of the Housing Committee. But merely increasing the house accommodation is not the whole of the solution, or, indeed, the most important part of the solution, of the housing problem in Finsbury. To re-house large numbers of persons within some Boroughs may be the primary and essential remedy. In Finsbury, such a policy, on the part of the Municipal Authority, would seriously and permanently aggravate the evil conditions at present existing\*.

The policy which has been adopted by this Department

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† The applicability of the method of enlargement and improvement of existing houses as carried out by Miss Octavia Hill, and also in Glasgow, should have due consideration before houses are demolished as wholly irremediable, and before new houses are built.

\* It will be understood that this remark does not apply to re-housing persons displaced by sanitary schemes under Part II. of the Housing of the Working Classes Act, nor to re-housing in suburban or outside districts. But all re-housing in Finsbury must almost of necessity be re-housing the very poor upon very costly land, and so eventually necessitating a large charge on the rates.



during 1902, is, in my judgment, that which, in the long run, will prove most efficacious and also most equitable. Expressed in a few words it is—

1. The strict sanitary supervision and maintenance of existing houses.
2. The strict enforcement of the Public Health (London) Act, 1891, as it affects house property and overcrowding, as far as is compatible with justice and equity.
3. Action under Part II. of the housing of the Working Classes Act for houses and small areas which are beyond repair, when necessary.
4. The improvement of transit.†

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† Housing Report, pp. 98-103.







### E.—FACTORIES AND WORKSHOPS.





## FACTORIES AND WORKSHOPS.

The Factory and Workshop Act, 1901, came into force at the beginning of 1902, and has thrown upon the Local Authority a number of additional duties. Section 132 of the Act further lays down that the Medical Officer of Health of every district council shall every year report specifically on the administration of the Act in workshops and workplaces in the district under his supervision, and transmit a copy to the Secretary of State for the Home Department. This portion of the Annual Report on the Health of Finsbury is devoted to the subject, and within its pages will be found reference to everything which has concerned the Public Health Department in 1902, in relation to workshops or workplaces. The only exceptions are restaurants, sweet-shops and milk-shops, which come more suitably in the section of the Report dealing with the Protection of the Food Supply.

It is well known that the population of the Borough of Finsbury is largely an industrial population. Out of the total population of 101,463 there are 23,086 persons under 10 years of age. These may be set on one side. The number of persons over 10 years of age is, therefore 78,377. Out of this number 28,669 are "retired" or unoccupied, leaving a total of 49,708 workers, or nearly one-half of the entire population. Subtracting 9,708 as approximately the total number of those occupied in Government service, defence of the country, professional and commercial occupations, and employers of labour, we get a rough estimate of 40,000 persons employed in factories, workshops or workplaces.

I have abstracted from the Census Report for 1901 a table giving the returns under each of the 23 headings of the Census Report, except "Fishing," which occupies nobody in Finsbury. Hence we have 22 classes of workers. The chief industries of Finsbury come under domestic and hotel service, conveyance of men and goods, metal and machinery, jewellery and watchmaking, builders, carpenters and plumbers, furniture and decorations, skin and feather works, papers and printers, and dress and textile fabrics.



| Occupations of Persons in Finsbury<br>over 10 years of age. |                                                                                                                           | Males. | Females. | Total. | Percentage<br>on Adult<br>Population. |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------|----------|--------|---------------------------------------|
| i.                                                          | General or Local Government                                                                                               | 942    | 43       | 985    | 1'2                                   |
| ii.                                                         | Defence of the Country ...                                                                                                | 127    | —        | 127    | 0'2                                   |
| iii.                                                        | Professional Occupations ...                                                                                              | 787    | 559      | 1346   | 1'7                                   |
| iv.                                                         | Domestic and Hotel Service,<br>Charwomen and Laundresses                                                                  | 738    | 4117     | 4855   | 6'2                                   |
| v.                                                          | Commercial Occupations ...                                                                                                | 1610   | 291      | 1901   | 2'4                                   |
| vi.                                                         | Conveyance of Men, Goods, &c.                                                                                             | 6863   | 173      | 7036   | 8'9                                   |
| vii.                                                        | Agriculture, Nurserymen and<br>Florists ... ..                                                                            | 35     | 53       | 88     | 0'1                                   |
| viii.                                                       | Mines and Quarries ... ..                                                                                                 | 66     | 7        | 73     | 0'1                                   |
| ix.                                                         | Metals, Machinery, &c. ...                                                                                                | 2613   | 213      | 2826   | 3'6                                   |
| x.                                                          | Jewellery, Watch Making, &c.                                                                                              | 1965   | 375      | 2340   | 2'9                                   |
| xi.                                                         | Building, Carpentry, Painters,<br>Plumbers, &c. ... ..                                                                    | 2767   | 1        | 2768   | 3'5                                   |
| xii.                                                        | Furniture and Decorations ...                                                                                             | 1738   | 352      | 2090   | 2'7                                   |
| xiii.                                                       | Brick, Potteries, Glass, &c. ...                                                                                          | 354    | 26       | 380    | 0'5                                   |
| xiv.                                                        | Chemical Works ... ..                                                                                                     | 353    | 266      | 619    | 0'8                                   |
| xv.                                                         | Skins, Leather, Hair and<br>Feathers ... ..                                                                               | 682    | 747      | 1429   | 1'9                                   |
| xvi.                                                        | Paper, Printers, and Stationery                                                                                           | 3367   | 3143     | 6510   | 8'3                                   |
| xvii.                                                       | Textile Fabrics ... ..                                                                                                    | 574    | 581      | 1155   | 1'5                                   |
| xviii.                                                      | Dress, Tailors, Milliners, Seam-<br>stresses, Shirt Makers, Boot<br>and Shoe Makers, Artificial<br>Flower Makers, &c. ... | 1517   | 3840     | 5357   | 6'9                                   |
| xix.                                                        | Food, Tobacco, Restaurants, &c.                                                                                           | 3204   | 1289     | 4493   | 5'7                                   |
| xx.                                                         | Gas, Water and Electricity ...                                                                                            | 183    | 1        | 184    | 0'2                                   |
| xxi.                                                        | Other, General, and Undefined<br>Workers and Dealers ...                                                                  | 2630   | 516      | 3146   | 4'1                                   |
| xxii.                                                       | Without Specified Occupations<br>or Unoccupied ... ..                                                                     | 5238   | 23431    | 28669  | 36'6                                  |
| Totals ... ..                                               |                                                                                                                           | 38353  | 40024    | 78377  | 100'0                                 |

It is unnecessary to discuss this Table, although it is full of interest. It may, however, be stated that of the females over ten years of age, who work in Finsbury, 61·7 per cent. are unmarried, and 25·8 per cent. are married or widowed (which is the fifth highest per centage in London). The total, 78,377, includes all adult persons and also all children who are at work. It does not include children at school or infants (roughly 23,000). It will be seen that a very large proportion of the persons in the Borough are engaged in unskilled or casual labour (*Vide* Nos. iv., vi., xix., xxi., xxii.). If we include unspecified occupations, probably as much as 50 per cent. are so employed. In section xxii. the total of 28,669 is a large one. It includes 297 persons retired from business, 56 pensioners, 477 "living on their own means" (what is called "independent"), and 27,839 "without specified occupation."

The largest per centage of occupied persons is found to be in the class of those engaged in the conveyance of men and goods. The Borough contains several of the great carrying firms such as Messrs. Carter and Paterson, MacNamara, etc., who possess large stables of 800 or 1,000 horses. The next most common occupation in the Borough is in relation to printing, papers, or stationery.

The following Table shows the various trades and occupations carried on in workshops and work-places in the Borough of Finsbury which are now on the workshop register of this Department :—



|                           |    |                            |      |
|---------------------------|----|----------------------------|------|
| Watchmakers and           |    | Glass-blowers ... ..       | 11   |
| repairers                 | 77 | Instrument-makers ...      | 11   |
| Bakehouses ... ..         | 69 | Wood and Ivory-turners     | 11   |
| Jewellers ... ..          | 67 | Coppersmiths ... ..        | 10   |
| Engravers and Chasers     | 57 | French-polishers ...       | 10   |
| Cabinet-makers ... ..     | 53 | Gold and Silver Chain-     |      |
| Tailors ... ..            | 53 | makers... ..               | 10   |
| Box-makers ... ..         | 52 | Glass-silverers and        |      |
| Stick-makers & Mounters   | 51 | Bevellers                  | 9    |
| Leather Goods ... ..      | 39 | Pipe-makers & Mounters     | 9    |
| Builders, Carpenters,     |    | Stationers ... ..          | 9    |
| Joiners, etc.             | 37 | Brush-makers ... ..        | 8    |
| Furriers ... ..           | 32 | Feathers ... ..            | 8    |
| Gilders and Platers ...   | 29 | Opticians ... ..           | 8    |
| Clock, Jewel and Instru-  |    | Paper and Rag-sorters...   | 8    |
| ment Case-makers ...      | 28 | Pattern-makers, etc. ...   | 8    |
| Necktie-makers ... ..     | 27 | Druggists and Perfumers    | 7    |
| Artificial Florists ...   | 24 | Ironmongers ... ..         | 7    |
| Laundries ... ..          | 24 | Cycle-makers ... ..        | 6    |
| Boot-makers ... ..        | 21 | Dial-painters ... ..       | 6    |
| Mantle-makers ... ..      | 18 | Gold-blockers ... ..       | 6    |
| Brass-finishers ... ..    | 17 | Lapidaries ... ..          | 6    |
| Milliners ... ..          | 17 | Metal-workers ... ..       | 6    |
| Goldsmiths & Silversmiths | 16 | Plaster-cast-makers ...    | 6    |
| Clock-makers ... ..       | 14 | Athletic Goods ... ..      | 5    |
| Dress-makers ... ..       | 14 | Electricians ... ..        | 5    |
| Glass-cutters and         |    | Embroiderers ... ..        | 5    |
| Engravers                 | 14 | Firewood-choppers ...      | 5    |
| Picture-frame-makers ...  | 14 | Linen Collar-makers ...    | 5    |
| Umbrella-makers ... ..    | 14 | Lithographic Artists, etc. | 5    |
| Blacksmiths ... ..        | 13 | Underclothing ... ..       | 5    |
| Fancy Goods ... ..        | 13 | Wheelwrights ... ..        | 5    |
| Skirt and Shirt-makers... | 13 | Wireworkers ... ..         | 5    |
| Hat & Hat-shape-makers    | 12 | Miscellaneous Trades ...   | 198  |
| Blouse-makers ... ..      | 11 |                            |      |
| Book-edge-gilders ... ..  | 11 |                            | 1374 |

## 1. Sanitary Conditions of Workshops —

(a) **Cleanliness.**—Speaking generally, it may be said that the large workshops, which are in the majority of cases situated in

new buildings, are kept in a clean condition. Many of these have to do with the making of dress materials or wearing apparel, and cleanliness is essential to success in business. The same cannot be said of a great number of the small workshops situated in or at the back of residential houses. Many of these are of long standing and associated with the early industries of Clerkenwell and the parish of St. Luke, such as jewellery, watch-making, plating, etc. Many of such workshops are not kept as cleanly as they might well be. This is partly due to deterioration of premises and decline of trade, and partly to their situation. It is almost impossible to maintain cleanliness in small sheds in back yards. Sometimes too, the processes themselves are of a nature to make cleanliness difficult. Perhaps 30 or 40 per cent. of these workshops are open to criticism on account of uncleanliness.

In 10 streets which have been thoroughly inspected there were found to be 237 workshops. Of these 61 were so dirty as to require official notices for cleansing. That is 22 per cent., and most of these streets contain the better class of workshop. One or two of the worse streets are included, and in these 40 per cent. of the workshops were dirty. During the year 120 workshops in all parts of the Borough have been found to require notices for cleansing.

(b) **Air Space.**—Taking the standard of 250 cubic feet per head as laid down in Section 3 of the Act, it may be said that very few Finsbury workshops have been found in 1902 to be overcrowded. In only 8 cases has it been necessary to issue notices. In other cases a slight re-arrangement of workers has provided that each person shall have at least 250 cubic feet. In many of the large workshops the air space provided is liberal. In general it may be said workshops in Finsbury are not ventilated by fans, or warmed with hot water pipes.

(c) **Ventilation.**—Here, also, it may be said that it is exceptional to meet with a workshop in the Borough which is not provided with sufficient means of ventilation. The first clause of the



section (7-i,) requiring that "sufficient ventilation shall be maintained" would appear to throw some onus upon workers themselves. We have frequently found that even where ample means of ventilation is provided workers themselves prevent ventilation by not maintaining in operation the means provided.

(d) **Drainage of Floors where wet processes are carried on.**—The only "wet processes" carried on in Finsbury, speaking generally, are small laundries, of which there are a considerable number. In two instances it has been necessary to order more adequate drainage.

(e) **Provision of Suitable and Sufficient Sanitary Conveniences.**—In respect to this matter we have found it necessary to take considerable action. Speaking of small workshops it must be said in the first place that these sanitary conveniences are situated in the back yards near the workshops as a rule, and do not gain in suitability on that account; in the second place, they were constructed for the use of the residents in the house, at one time a single family, and latterly several families living in the tenement system, and now have to serve also as the sanitary convenience for the workshop. Consequently we have one sanitary convenience, not infrequently ill-situated, acting for the house and workshop. This is not desirable but it is impracticable in many cases to arrange otherwise. It is obvious how this state of things has come to be. One family in former days occupied the whole house and possessed a workshop, say, on the ground floor or in the back yard. Prosperity of trade necessitated the engagement of one or two additional workers not belonging to the family. Sometimes such workers lived in the house, in other cases they lived elsewhere. Eventually, perhaps, the owner himself moved out and sub-let his house in tenements, retaining the ground floor and the workshop. Thus we have the present position:—a tenement house containing 3 or 4 families, a workshop in the back yard, the employées of which come in from other districts. The sanitary convenience acts for both parties, the residents and

non-resident workers. With regard to large workshops the chief difficulty is due to the fact that whole floors of large buildings are let out without reference to, or arrangements for, sanitary convenience accommodation as regards the separation of sexes. In large firms owning entire buildings there is generally ample provision.

In enforcing section 9 of the Act we have not been without difficulties, which are not lessened by the facts that many of the industries in these small workshops are seasonal, and that the trade is occasionally in the hands of one family, both sons and daughters working in the workshop. The standard we have used is that contained in the draft Order of the Home Office (August, 1902)—

In pursuance of Section 9 of the Factory and Workshop Act, 1901, the accommodation in the way of sanitary conveniences provided in a factory or workshop shall be deemed to be sufficient and suitable within the meaning of the said section if the following conditions are complied with and not otherwise :—

1. In factories or workshops where females are employed or in attendance there shall be one sanitary convenience for every 25 females.

2. In factories or workshops where males are employed or in attendance there shall be one sanitary convenience for every 25 males : provided that—

(a) in factories or workshops where the number of males employed or in attendance exceeds 100, and sufficient urinal accommodation is also provided, it shall be sufficient if there is one sanitary convenience for every 25 males up to the first 100, and one for every 40 after ;

(b) in factories or workshops where the number of males employed or in attendance exceeds 500, and the District Inspector of Factories certifies in writing that by means of a check system, or otherwise, proper supervision and control in regard to the use of the conveniences are exercised by officers specially appointed for that purpose it shall be sufficient if one sanitary convenience is provided for every 60 males, in addition to sufficient urinal accommodation. Any certificate given by an Inspector shall be kept attached to the general register, and shall be liable at any time to be revoked by notice in writing from the Inspector.



3. Every sanitary convenience shall be kept in a cleanly state, shall be sufficiently ventilated and lighted, and shall not communicate with any work-room, except through the open air or through an intervening ventilated space.

4. Every sanitary convenience shall have a proper door and fastenings, and be so enclosed as to secure privacy.

5. The sanitary conveniences in a factory or workshop shall be so arranged and maintained as to be conveniently accessible to all persons employed therein at all times during their employment.

6. Where persons of both sexes are employed the conveniences provided for each sex shall be completely separate with separate screened approaches.

Some of the difficulty, in equitably and suitably arranging these matters arises from the questions of leasehold which constantly crop up in a district like Finsbury in the midst of a transition period between a residential Borough and a commercial Borough.

During the year 43 additional sanitary conveniences have been constructed in relation to factories and workshops, and 257 such conveniences have been cleansed and repaired; 23 urinals having been cleansed and repaired.

Much of the work under the Factory and Workshop Act has been interrupted during the year by the epidemic of small-pox, during which time the Workshop Inspector was engaged on emergency work in connection with cases of small-pox. Consequently the systematic inspection of workshops throughout the Borough has not been as extensive as it might and ought to have been. Notwithstanding this, however, 1958 visits of inspection have been made to factories and workshops by the Workshop Inspector, and a large amount of work has been accomplished. In addition to this, the other inspectors in the ordinary course of their duties on their several districts have inspected 71 workshops. The chief matters arising in relation to this work are set out in the following table :—

SUMMARY OF OFFENCES IN FACTORIES AND WORKSHOPS FOR WHICH  
NOTICES WERE SERVED DURING 1902.

|                                                           |     |     |     |     |     |     |
|-----------------------------------------------------------|-----|-----|-----|-----|-----|-----|
| Dirty staircases, cleansed                                | ... | ... | ... | ... | ... | 8   |
| Dilapidated workshops, repaired                           | ... | ... | ... | ... | ... | 23  |
| Dirty workshops, cleansed                                 | ... | ... | ... | ... | ... | 120 |
| Overcrowding in workshops, reduced                        | ... | ... | ... | ... | ... | 8   |
| Workshop ventilation, improved                            | ... | ... | ... | ... | ... | 2   |
| Sanitary conveniences cleansed, repaired, &c.             | ... | ... | ... | ... | ... | 328 |
| Insufficient sanitary convenience accommodation, provided | ... | ... | ... | ... | ... | 43  |
| Urinals unclean or defective, remedied                    | ... | ... | ... | ... | ... | 23  |
| Soil pipes defective or unventilated, remedied            | ... | ... | ... | ... | ... | 14  |
| Yard paving defective or dirty, remedied                  | ... | ... | ... | ... | ... | 23  |
| Sinks and gullies defective, repaired...                  | ... | ... | ... | ... | ... | 44  |
| Water-cisterns foul or uncovered, remedied                | ... | ... | ... | ... | ... | 10  |
| Accumulations of refuse or manure                         | ... | ... | ... | ... | ... | 11  |
| Dustbins defective or absent                              | ... | ... | ... | ... | ... | 52  |
| Drainage defective                                        | ... | ... | ... | ... | ... | 27  |
| Rain-water pipes defective, &c.                           | ... | ... | ... | ... | ... | 12  |
| Wash-house paving defective or undrained                  | ... | ... | ... | ... | ... | 2   |
| Animals improperly kept in workshops                      | ... | ... | ... | ... | ... | 2   |
| Black smoke, abated                                       | ... | ... | ... | ... | ... | 1   |

In addition to work in all parts of the Borough, the workshop Inspector has also completed a certain amount of systematic inspection. It is proposed to go through every street in the Borough in due course, so that eventually we may obtain a



complete record of all the factories and workshops under our jurisdiction. The following Table illustrates this systematic inspection. Parts of other streets have been inspected, but the following ten streets are now complete and may serve as an illustration of the system :—

| Street           | Workshops on Register, 1901. | Workshops added to Register, 1902 |        | Total Workshops on Register, 1902. | Notices issued for— |                        |                                 |                                    |                | Workshops—no Abstract affixed. |
|------------------|------------------------------|-----------------------------------|--------|------------------------------------|---------------------|------------------------|---------------------------------|------------------------------------|----------------|--------------------------------|
|                  |                              | Workshops                         | Rooms. |                                    | Workshops dirty.    | Workshops overcrowded. | Insufficient w.c. accommodation | W.C.'s reconstructed, cleansed, &c | Miscellaneous. |                                |
| Gloucester St.   | —                            | 26                                | 32     | 26                                 | 6                   | —                      | —                               | 5                                  | 4              | 5                              |
| King Square      | 17                           | 2                                 | 5      | 19                                 | 4                   | —                      | —                               | 5                                  | 5              | 1                              |
| Meredith St.     | —                            | 15                                | 25     | 15                                 | 1                   | —                      | —                               | 2                                  | 5              | 3                              |
| Percival St. ... | 19                           | 33                                | 51     | 52                                 | 14                  | —                      | 1                               | 19                                 | 11             | 3                              |
| Powell Street    | 9                            | 1                                 | 6      | 10                                 | 1                   | —                      | —                               | 5                                  | —              | 1                              |
| President St.    | 24                           | —                                 | —      | 24                                 | 10                  | —                      | —                               | 8                                  | 5              | —                              |
| Rahere Street    | 21                           | 2                                 | 3      | 23                                 | 3                   | —                      | —                               | 10                                 | 4              | 2                              |
| Skinner St. ...  | —                            | 13                                | 16     | 13                                 | 6                   | —                      | —                               | 8                                  | 3              | 2                              |
| Spencer St. ...  | 3                            | 43                                | 55     | 46                                 | 15                  | 1                      | —                               | 12                                 | 10             | 4                              |
| Whiskin St....   | —                            | 9                                 | 14     | 9                                  | 2                   | —                      | —                               | 2                                  | 3              | 1                              |
| Total ...        | 93                           | 144                               | 207    | 237                                | 62                  | 1                      | 1                               | 76                                 | 50             | 22                             |

## II. Special Sanitary Regulations for Bakehouses.

The whole question of Bakehouses was reported upon by me in a special report (54 pp.) in October, 1902. In order to make the subject clear to the owners of Bakehouses, I summarized in simple form the practical effect of all the legislation under all and any Acts dealing with sanitation in Bakehouses. "What

does the Act mean in practice?" is a question that has been addressed to us, and this section of the report was drawn up with a view of answering that question, and placing in simple and clear terms the practical points that required attention, and which must form the basis upon which "suitability" or "unsuitability" is decided. Not infrequently a baker defends a breach of the law by urging that he did not know the law meant so and so, and accordingly we placed in the hands of every owner of a Bakehouse in Finsbury the following statement as to what the law actually does mean. For convenience we placed, first, the requirements common to all Bakehouses, whether above ground or underground; and, secondly, the requirements in respect to underground Bakehouses only.

*A.—Regulations applying to all Bakehouses.*

1. **General.**—Every room or place used as a Bakehouse must at all times be in such a state as to be on sanitary grounds fit for use and occupation as a Bakehouse.

2. **Water Closets.**—No water closet, earth closet, privy or ashpit must be within or communicate directly with the Bakehouse (Factory Act, 1901, Section 97). Every Bakehouse must have a water closet which must possess proper means of ventilation and lighting, and must in all respects comply with the Bye-laws for water closets.

3. **Cisterns.**—Every cistern for supplying water to the Bakehouse must be separate and distinct from any cistern supplying water to a water closet (Factory Act, 1901, Section 97). Every cistern supplying water to a Bakehouse must be made of metal or of slate, and must be effectually covered and periodically cleansed.

4. **Drains.**—No drain or pipe for carrying off faecal or sewage matter is to have an opening within the Bakehouse (Factory Act, 1901, Section 97). The joints of any drain passing beneath the floor of a Bakehouse should be gas and water-tight. Any covers necessary to inspection chambers to the drains should be



of metal, and be double covers with double sealed joints. Any gully for carrying off waste water must be discharged over, or on to, a properly trapped inlet situated *outside* the Bakehouse.

N.B.—No certificate shall be granted for any underground Bakehouse which is liable to be flooded with sewage owing to the public sewer becoming surcharged.

**5. Walls Ceilings, Passages and Staircases** of the Bakehouse must either be painted with oil or varnished, or be limewashed or be partly painted or varnished and partly limewashed.

(a) Where painted with oil or varnished there must be 3 coats of paint or varnish which must be renewed once in every 7 years, and must be washed with hot water and soap every six months (Factory Act, 1901, Section 99).

(b) Where limewashed the limewashing must be renewed once at least in every 6 months (Factory Act, 1901, Section 99).

The walls are to be smooth and impervious throughout, so that the Bakehouse may be free from dampness.

**6. Sleeping Place.**—No room or place on the same level of the Bakehouse and forming part of the same building may be used as a sleeping place unless effectually separated from the Bakehouse by a partition extending from the floor to the ceiling, and having an external glazed window of at least 9 superficial feet in area, of which  $4\frac{1}{2}$  superficial feet are made to open for ventilation. (Factory Act, 1901, Section 100), and if such sleeping place be separately occupied the requirements as to underground rooms, so occupied, laid down in Section 96 of the Public Health (London) Act, 1891, must be complied with.

**7. Employment of Male Young Persons.**—Male young persons between 16 and 18 years of age may not be employed in a Bakehouse, in which the process of baking bread is carried on, except between the hours of 5 a.m. and 9 p.m., with seven hours for absence and meals; provided that no such person is employed

both before and after the ordinary period of employment\* on the same day, nor after the ordinary period on one day and before the ordinary period on the next day. (Factory Act, 1901, Section 38.)

*B.—Regulations applying to Underground Bakehouses.*

8. No underground Bakehouse may be used as such unless it was being used as a Bakehouse on and before August 17th, 1901, and no underground Bakehouse, which was in use on and after August 17th, 1901, may be used as such after January 1st, 1904, unless certified by the Finsbury Borough Council to be suitable.

9. An underground Bakehouse shall not be certified as suitable unless the Finsbury Borough Council is satisfied that it is suitable as regards (i) construction; (ii) light; (iii) ventilation and (iv) in all other respects. (Factory Act, 1901, Section 101, Sub-section 4).

(i) **Construction:—**

The underground Bakehouse must have a capacity of not less than 1,000 cubic feet.

(a) **Height.** The underground Bakehouse should be in every part thereof 8 ft. high, measured from the floor to the ceiling, and should have at least 3 ft. of its height above the surface of the footway of the adjoining street, or of the ground adjoining or nearest to the Bakehouse, unless provided with a sufficient area or areas directly communicating with the external air into which a window or windows of such underground Bakehouse open.

(b) **Ceilings.** The ceilings are to be properly ceiled or, if made of brick, to be made smooth and impervious and to be

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\* By Section 26, Factory & Workshop Act, ordinary period of employment is defined as follows :—"Work to begin at 6 o'clock in the morning and end at 6 o'clock in evening, or begin at 7 o'clock in the morning and end at 7 o'clock in the evening, or begin at 8 o'clock in the morning and end at 8 o'clock in the evening, except on Saturday, when work must cease at either 2 o'clock, 3 o'clock, or 4 o'clock respectively. On every day except Saturday there must be at least  $1\frac{1}{2}$  hours allowed for meals.



painted, or varnished, or limewashed similarly to the walls.

(c) **Walls.** (See above under regulations applying to all Bakehouses.)

(d) **Floors.** The floors are to be made of at least 6 inches of concrete rendered smooth in cement or with other jointless, hard, smooth or impervious paving. The floor of the Bakehouse should be laid to proper falls and be drained by means of a suitable channel to a gully over which, if practicable, a draw off tap should be fixed, the gully being properly dished and placed outside the Bakehouse.

(ii) **Light.** An underground Bakehouse should be provided with one or more windows opening directly into the external air, or into an area or areas, so as to be properly lighted by the admission of day light—such windows should have a total area, clear of the sash frames, equal, at least, to  $\frac{1}{10}$ th of the floor space of the Bakehouse, and be so constructed that  $\frac{1}{2}$  at least of each window can be opened. The opening in each case to extend to the top of the window. The lighting of a Bakehouse may also be obtained in part by areas opening on the footway, glazed with reflecting prisms, the walls of the areas being built in white, glazed bricks. No Bakehouse will be considered suitable in which it is necessary at all times to illuminate artificially.

(iii) **Ventilation.** An underground Bakehouse should be properly and effectually ventilated by permanent inlets and outlets (other than the windows or staircase) of sufficient size and suitable character, such openings not being under the control of the persons employed. Through ventilation will be insisted upon, and this is not to be obtained from the footway surface or the stall board of the shop front, unless at a height of at least 12 inches above the footway surface; and not even then when ventilation can be had in any other way.

The temperature of an underground Bakehouse should be constant and equable (say 60–65° Fahrenheit.) It will, of course be higher (say 80° Fahrenheit) at certain periods of baking. The standard of ventilation should be such that the CO<sub>2</sub> does not exceed 10 per 10,000 volumes while the work is going on.

iv. **All other respects:—**

(a) **Proper means of access** to the Bakehouse must be provided.

(b) **Flour, Storage, etc.** Provision is to be made for the proper storage of flour, potatoes, salt, and all other constituents or ingredients used in the Bakehouse, elsewhere than in the Underground Bakehouse itself. Such store places must be as strictly and properly kept as a Bakehouse.

(c) **Troughs.** All Dough Troughs and Benches must be provided with casters or wheels so as to be readily removed for cleaning purposes. Such troughs, benches and utensils of every kind are to be kept at all times scrupulously clean.

(d) **Refuse.** No refuse of any kind is to be stored within the Underground Bakehouse itself, and all sweepings, ashes and refuse matters of every kind are to be removed immediately from such Underground Bakehouse, and placed in a proper and sufficient covered receptacle outside the Bakehouse.

(e) **No animals** are to be kept in the Bakehouse on any pretext whatever.

(f) **The furnace** in connection with the oven is to be provided with an efficient outlet or flue to carry off any fumes generated in the process of baking. An outlet for heat or steam is to be provided immediately in front of the oven door. The outer doors of the furnaces and the oven door are to be close fitting.

Where gas is used in the process of baking, efficient means of ventilation must be provided for carrying off any fumes generated.

(g) **No overcrowding** of workers is to be allowed at any time within the Bakehouse.

(h) **The Bakehouse** is never to be used for any other purpose except that for which it is intended. No laundry or other work is to be carried on in the Bakehouse.

(i) **The Bakehouse** must be kept at all times periodically cleansed, and in a cleanly state, and free from offensive effluvia



arising from drains, water closets, urinals, or any other nuisance whatever.

NOTE.—As stated in the prefatory note to the Special Report, it was deemed desirable and most equitable to all parties that each underground Bakehouse should be judged, without prejudice, on its own merits. Most of the above conditions are absolutely binding and will be enforced with strictness. Some are of a suggestive nature, and it is possible that under exceptional circumstances the requirements may be met in other ways.

**III. Home Work.**—This has reference to persons employed by firms carrying out various simple trade processes at home. They are out-workers doing work for firms belonging to Finsbury or other Boroughs, but all of them working and living in Finsbury. Eighty-one visits have been paid by the Workshop Inspector to 62 such homes. So that it will be seen that it is impossible to keep pace with this branch of the work, for it is evident from the Table on page 184 that we have at least 218 such out-workers doing work for firms in other Boroughs. In addition to these a considerable per centage of the 1,535 out-workers of Finsbury firms are employed in the Borough, say, 300-400. In all probability also there are many of whom we have not yet received notification. Probably the home workers in Finsbury do not number less than 750.

Of the 62 homes visited, in which trade work is being carried on, it was found that 3 were extremely dirty, and 4 were overcrowded. In ten cases careful enquiry elicited the fact that the home work was not done only by the out-worker himself but that he, in turn, employed others at his home to do the out-work. These cases, therefore, are in fact workshops. Three others were found to be "domestic workshops." Hence of the 62 homes in which out-work is being carried on, 10 are ordinary workshops and three are domestic workshops. In three cases also, it should be recorded, there was the occurrence of infectious disease.

**IV. Outworkers' Lists.**—Under Section 107 of the Act, employees in certain industries (namely : (*a*) making, cleaning, washing, altering, finishing and repairing of wearing apparel ; (*b*) ditto for lace, lace curtains and nets ; (*c*) cabinet and furniture making and upholstery work ; (*d*) electro-plating ; (*e*) making of files and (*f*) fur-pulling) have to keep, in prescribed form, lists of employees working outside the factory or workshop. Such lists have to be sent on or before February 1st and August 1st in each year to the Borough Council. In cases where such outworkers do not reside in the limits of the Borough in which they work, then their names and addresses are to be sent on to the Council in whose district they reside.

In Finsbury, during 1902, we have received 53 lists from 42 employers, only six of whom have acted in strict accordance with the Act, and sent two lists during the year at the stated periods. Thirty-four employers have sent once ; one, three times ; and one, four times. It may be necessary to take action under Section 107, Sub-section (5), to enforce more accurate returns. The penalty to which employers are liable for contravening this requirement of sending in lists is £2 or for second offences £5. These 53 lists have chiefly been from firms concerned in the making or preparing of wearing apparel (Section *a*). We have received several lists from fur-pullers (Section *f*). Sections (*c*), (*d*) and (*e*) have, generally speaking, furnished no lists. We have received lists of outworkers from 16 Local Authorities in whose districts outworkers are employed who live in Finsbury. In this way we have obtained the names and addresses of 218 outworkers obtaining work from elsewhere but living and working in Finsbury. The following Table furnishes in brief the facts obtained under Section 107 of the Act :—



| Lists received in 1902.                                         | Number<br>of Lists. | Number<br>of<br>Outworkers |
|-----------------------------------------------------------------|---------------------|----------------------------|
| Lists received from Finsbury Employers,<br>Jan. 1st to Feb. 1st | 5                   | 97                         |
| Do. do. Feb. 1st to June 30th                                   | 31                  | 1056                       |
| Do. do. July 1st to Aug. 1st                                    | 6                   | 118                        |
| Do. do. Aug. 1st to Dec. 31st                                   | 11                  | 264                        |
| Total ... ..                                                    | 53                  | 1535                       |
| Lists received from 16 Local Authorities in 1902 ...            | 84                  | 218                        |
| Lists dispatched to 27 Local Authorities in 1902 ...            | 121                 | 941                        |

**V. Inspection, Registration, &c.**—A Register of Workshops is kept in the department which contains the names and addresses of the occupier, the trade or manufacture, the position and cubic capacity of the workrooms, the number of gas burners, the number of occupants permissible, the means of ventilation, and details respecting the sanitary arrangements. The old register books of Clerkenwell and St. Luke have been carefully examined and revised, with the result that considerable duplication was detected and has been eliminated. At the end of 1901, there were on the register 987 and during 1902 the new workshops placed on the register numbered 378 making the total number now on the register 1365. The following table sets out in brief the work done :—

| Inspection, Registration, etc.                                                              | Nos. for 1902. |
|---------------------------------------------------------------------------------------------|----------------|
| Workshops on Register at end of 1901... ..                                                  | 987            |
| Workshops placed on Register during 1902 ... ..                                             | 378            |
| Total Workshops now on Register ... ..                                                      | 1365           |
| Total Rooms in Workshops registered in 1902... ..                                           | 683            |
| Factories and Workshops inspected ... ..                                                    | 709            |
| Do. visited <i>re</i> infectious diseases                                                   | 149            |
| Do. re-visits ... ..                                                                        | 1090           |
| Outworkers Homes, visits to ... ..                                                          | 81             |
| Total ... ..                                                                                | 2029           |
| HOME OFFICE CERTIFICATES—                                                                   |                |
| Notices received <i>re</i> existence of workshops<br>(Sect. 127, Sub-sect 3)                | 87             |
| Complaints (Sect. 5) as to dirty workshops and<br>sanitary convenience accommodation ... .. | 21             |
| Complaints remedied ... ..                                                                  | 21             |
| NOTICES SENT TO HOME OFFICE INSPECTORS ...                                                  | 50             |
| Workshops without Abstract (Sect. 133) ... ..                                               | 32             |
| Domestic Workshops (Home Office Memo., March,<br>1902) ... ..                               | 10             |
| Factories—Overcrowded, no Abstract, etc. ... ..                                             | 8              |

**VI. Legal Action.**—During the year 1902 we have issued 371 intimation notices respecting factories and workshops and 41 statutory notices. In only one case was it necessary to issue a summons



This case is of considerable interest. It was dismissed. The facts were as follows :—

On June 4th, at Clerkenwell Police Court, owner of 13, Pine Street, was summoned by us for allowing a workshop at the rear of 13, Pine Street to be in such a dilapidated, insanitary condition as to be a nuisance, and dangerous to health. This summons was dismissed. [The judgment of the learned Magistrate is so exceptional that it is desirable to state the facts of the case, which are as follows: The building consists of two workshops, one above the other, each measuring about 31 ft. by 16 ft. The top workshop is immediately under the roof, which was in a condition of such extreme disrepair, that the workshop was useless owing to the rain coming in in many places. Thus the floor was soaked and rotten, and the rain passed through the floor into the workshop beneath. The bottom workshop was on this account damp throughout, and was, in addition, in a state of uncleanness. The workshop was used for "fancy-box making," and three men were employed there. The occupier had occupied the workshop for a number of years, and had made various complaints as to its condition. It appears, however, that the owner had taken no action, except, so I am informed, that she had the workshop whitewashed some four years ago. The premises came into her hands about eight years ago. The rent charged by her was then 5s. per week, at which figure it has remained ever since. Year by year the premises have got into a worse condition of repair. The occupier, to protect himself in some measure, placed a tarpaulin (20 ft. by 5 ft. in size) under the roof in the top unused workshop, and from the tarpaulin he constructed a wooden gutter (24 ft. in length) to carry the water through the window into the yard. He also provided three vessels in the bottom workshop to collect the water which came through the floor of the top workshop.

On March 25th, Inspector Norman visited the premises, and on account of their condition served an Intimation Notice upon the owner on March 26th (No. 1975), to repair the roof and lime-white the walls and ceiling. As nothing was done I served a Statutory Notice, by permission of the Council, on April 24th, four weeks after the Intimation Notice. Still nothing was done, and accordingly on May 28th (eight weeks after the Intimation Notice), I took out a summons to enforce the work being done. The case came on for hearing at the Clerkenwell Police Court, on June 4th. Inspector Norman and myself gave evidence, as above stated. I added, further, that I had not seen such a bad state of affairs in any workshop in the Borough of Finsbury, and that I had formed the decided opinion that the whole of these premises were, and had been for some time, in such a state as to be unquestionably a gross nuisance and injurious to health. The learned Magistrate, having heard the evidence, gave judgment to the effect that the matter was one between landlord and tenant, and did not affect the public health. The tenant was not compelled to remain in the dilapidated workshop, but did so because he obtained it at a low rent. His Worship accordingly dismissed the case.

The Borough Council resolved to appeal against this judgment, and in due course made application. The Magistrate, however, stated that he had adjudicated the case upon facts and not upon law, and therefore declined to grant an appeal. Consequently the Council was unable to proceed further in the matter. The facts of the case were laid before the Home Office.

#### **VII. Special Enquiries in relation to Workshops.—**

As far as opportunity offers, it is hoped to be able to conduct enquiries into conditions affecting the health of workers in Finsbury. We have, strictly, few "dangerous trades," but in a district so largely devoted to industrial occupation it is important to enquire from time to time, and in various directions, as to the possibility of



injury arising from any processes, or the neglect of reasonable precautions or sanitary requirements. During 1902 a special enquiry has been devoted to underground Bakehouses, and also an enquiry of a much less formidable character into some cases of Anthrax. Report on these matters has been made in due course to the Borough Council, and it is only necessary to place the main facts on record here :—

(a) **Underground Bakehouses.**

In October, I submitted a Special Report on the Bakehouses at present existent in the Borough of Finsbury. It was drawn up in accordance with the instructions of the Committee in view of the powers conferred upon the Local Authority by the Factory and Workshop Act, 1901, Sections 97-102. By that Act it is required that no underground Bakehouse shall be used after January 1st, 1904, unless certified by the Borough Council as suitable for that purpose. It shall not be considered suitable unless the Council is satisfied that it is suitable as regards construction, light, ventilation, and in all other respects. There can be no doubt that the object of this legislation is, if not the closure of all underground Bakehouses, at least the closure after January 1st, 1904, of all unsuitable underground Bakehouses, and such alteration of remaining underground Bakehouses as will bring them into compliance with the requirements of the Act. Out of 69 Bakehouses in Finsbury 46 are underground. It is my duty to state that there are not a few of them which fail to meet the requirements of the Act, or indeed any ordinary common-sense requirements of a Bakehouse, and it seems to me inevitable that certain underground Bakehouses must now be closed. In other cases I am of opinion that the premises are capable of such alteration and improvement as will justify the Council in certifying them as suitable.

A copy of this report was sent with the necessary forms of application and certificate (*see p. 205*), to each owner of a Bakehouse, and we received 41 applications from owners of underground

Bakehouses for a certificate of suitability. Each of these applications is now being dealt with.

It will be unnecessary to do more than summarize the special report referred to above. It dealt with the history of Bakehouse legislation, the provisions of the new Factory and Workshop Act, 1901, and the practical meaning of the new Act to Finsbury. The report also contained full particulars of all the underground and aboveground Bakehouses in the Borough, and the general conditions obtaining.

The following is a list of the 46 underground Bakehouses at present existent in the Borough:—

Amwell Street, 21, 53; Aylesbury Street, 14; Barnsbury Road, 6; Bath Street, 42, 66; Bowling Green Lane, 11; Central Street, 29, 124; Chapel Street, 2; Corporation Row, 36; Compton Street, 1, 68; Exmouth Street, 14, 17; Farringdon Road, 88; Finsbury Pavement, 109; Goswell Road, 5, 235, 236, 272, 281; Henry Street, 45; Ironmonger Row, 58; King's Cross Road, 92; Lloyd's Row, 35; Macclesfield Terrace, 2; Margaret Street, 16; Myddelton Street, 4; Northampton Street, 32; Penton Street, 30; Red Lion Street, 40; Rosoman Street, 51; St. John Street, 56; St. John Street Road, 1, 61, 131, 190; Southampton Street, 42; Tysoe Street, 2; Whitecross Street, 61, 106, 148, 169; White Lion Street, 72; Wilmington Street, 1.

The main particulars respecting these 46 Bakehouses are set out in detail in the special report.

There are also in Finsbury 23 aboveground Bakehouses situated in the following streets:

Aylesbury Street, 10; Chapel Street, 55, 65; Chiswell Street, 64; Clerkenwell Green, 6; Cloudesley Road, 4; Compton Street, 60; Field Place, 13; Goswell Road, 34, 94, 164, 202; Helmet Row, 2; Lever Street, 136; Leverington Street, 2; Liverpool Road, 7, 43; Old Street, 161; Penton Street, 18, 44; Whitecross Street, 97, 177; Wynford Road, 22.

During the last few years these Bakehouses have shown much improvement, and are now fairly well kept and generally clean. Many of them are far from convenient and fall short of modern requirements. But in the main, and especially in comparison with the underground Bakehouses, they are satisfactory, and I am glad to report that a general effort has been made towards cleanliness and proper equipment. Periodical inspection has



taken place throughout the year and 32 notices have been served for defects or uncleanness.

**General Conditions.**—There are, therefore, in the Borough of Finsbury, at the present time, 69 Bakehouses, 46 underground and 23 aboveground. In these 69 Bakehouses, 190 men work and the average number of hours *per diem* is 11. In 9 of the Bakehouses the work is wholly during the day, in 45 work is carried on only or chiefly during the night, and in the remaining 15 it is partly day work and partly night work. The main figures may be set out as follows :—

| Bakehouses.            | No. | No. of men at work. | Average No. of hours daily. | No. of Bake-houses in which work is done in day only. |
|------------------------|-----|---------------------|-----------------------------|-------------------------------------------------------|
| Underground ... ..     | 46  | 125                 | 11½                         | 3                                                     |
| Aboveground ... ..     | 23  | 65                  | 10½                         | 6                                                     |
| Totals or averages ... | 69  | 190                 | 11                          | 9                                                     |

In a number of cases the employés live in the house over the bakery as lodgers of their employer. It may be added also that in a large number of cases those employed belong to various foreign nationalities, the German race predominating. All the bread made in Finsbury is prepared by hand, there is no machine-made bread.

During the last 20 years there has been a marked decline in the number of Bakehouses, many of which have succumbed to the requirements of sanitary legislation. The following are the returns since 1882 :—

| Bakehouses in Finsbury.     | 1882. | 1892. | 1902. |
|-----------------------------|-------|-------|-------|
| Clerkenwell Division ... .. | 60    | 54    | 45    |
| St. Luke's Division ... ..  | 45    | 46    | 24    |
| Total ... ..                | 105   | 100   | 69    |

The trade of most of the Bakehouses in Finsbury is to supply the immediate neighbourhood in which the Bakehouse is situated, either over the counter or by barrow. Many of the bakers also supply bread to small general shops and coffee-houses. In no case is there a Bakehouse used for sleeping purposes. One or two instances occur in which the Bakehouse was used occasionally as the family laundry, and in not a few cases dogs or cats are kept in the Bakehouse, or have the run of the Bakehouse. In most cases the "governor" or occupier himself works part time in the Bakehouse.

Bread making in Finsbury is of a varied nature, but in the main, consists of the manufacture of cottage,\* tin and long loaves, rolls and twists. These different kinds of loaf are made as a rule from the same dough. The flour is obtained from town or country millers, the former commonly supplying a mixed flour, and the latter a home grown. In the Bakehouse a mixture of flour is used. In the better Bakehouses the blend consists of "whites" and "best patents," and the poorer and cheaper bread is made from a dough derived from a blend of "whites" and "households" or "second patents." The "patents" flour, the result of the mechanical process of milling, is as a rule poor in proteids, but rich in starch. Its purity of colour makes it useful for the preparation of fancy breads and pastry. It is found in practice that the best bread is made from blends, because wheat differs in composition, and by this means variations are harmonised. Hence it comes about that the mixture of flour commonly used is partly of foreign and partly of home growth. Potato is often mixed with the dough to give it a lighter consistence (20 or more pounds to every 3 sacks). There is said to be no alum used now-a-days. The average amount of flour used is about 15 sacks per Bakehouse per week, but it varies from 3 to 30.

Half of the underground Bakehouses possess two ovens each although the two are not always in use. The size varies from

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\* The well known cottage loaf is a half-quarten (2 lbs.); one sack of flour (280 lbs.) would yield about 180 such loaves, and about 320 such loaves would be baked in a 10 bushel oven.



3 bushels to 15 bushels. Almost without exception the ovens are of the old fashioned brick kind, with side fires and top flues.

**Position and Construction.**—Generally it may be said that the aboveground Bakehouses are situated at the back of the house, on the ground floor, occupying part or all of the original yard space ; and the underground Bakehouses are situated under the shop, in the front, below the footway. With several exceptions the construction or position of all the 69 Bakehouses is open to criticism, and many of them to very grave criticism.

Confining ourselves to the underground Bakehouses it must be said that in addition to their unsatisfactory position the Bakehouses are as a rule of ill-construction. The height with few exceptions is less than eight feet, and in some instances is not much more than six. In no case out of the 46 is the height three feet above ground. The entrance is by means of a more or less awkward staircase or ladder. The walls are generally limewashed, and the windows and ventilators small, and, as a rule, closed. The troughs are, with one or two exceptions, fixed. The flour is kept stored in the Bakehouse or in a cellar off the Bakehouse. In a number of cases there is no proper ceiling, the joists and floor boards of the ground floor being left bare in the Bakehouse.

**Light.**—It is obvious that underground Bakehouses will be deficient in light. In practice this means, first, uncleanness, and secondly, artificial illumination. The former is detrimental to the bread and the latter to the workers. In 22 of the 46 underground Bakehouses the light is extremely bad, in half-a-dozen of them the gas is *always* required ; in 18 the light is fair ; and in six it is good and sufficient. In one the artificial illumination is electric.

**Cleanliness.**—There can be no doubt that the owners of underground Bakehouses in Finsbury have, in the last few years, made a great effort to maintain a high standard of cleanliness. The limewashing is more or less regularly done, and the floors are kept fairly clean. There are, unhappily, exceptions to this rule.

But in spite of commendable effort and intention it must be said that it is almost impossible to maintain real cleanliness in underground Bakehouses as they exist at present. Yet bread should be made by clean workers, in clean premises, by a clean process. Flour dust is of course unavoidable, but street dirt and shop dust should be prevented, and personal uncleanness should be avoided. In not a few instances I have found dust blowing in through the stallboard openings, dust and dirt falling through the unceiled rafters and joists, all sorts of filth collected under the fixed troughs, or workers quite innocent of personal cleanliness.

**The Air of Bakehouses.**—One of the chief grounds on which underground Bakehouses are open to criticism is the unsatisfactory condition of their atmosphere, and therefore it seemed desirable that a somewhat careful examination should be made on this point. Particularly was this desirable in that various owners and persons interested have suggested to me that underground Bakehouses were, after all, very healthy places, the air of which would compare favourably with aboveground Bakehouses, or indeed with the air of the street. Whilst it is true that the onus of proof does not rest with the Local Authority whose only duty it is to administer the Act, it has seemed desirable to enquire fully into the actual conditions existent in Finsbury in order the better to administer the Act in this particular Borough.

The examination of the air naturally divided itself into three main divisions, (*a*) a chemical examination, particularly as to the presence of carbonic acid gas ( $\text{CO}_2$ ); (*b*) an estimation of the temperature and degree of humidity; and (*c*) a bacteriological examination.

(*a*) **Chemical Examination.**—The following table sets out the results of investigations into the condition of the atmosphere:—



# CHEMICAL EXAMINATION OF THE AIR OF SOME OF FINSBURY BAKEHOUSES.

By J. KEAR COLWELL, F.I.C., Public Analyst, Finsbury, etc.

| No. of Sample. | Where collected.                  | Above or under ground. | Date of Collection. | Time.        | Temperature °F. | Atmospheric pressure. | State of Atmosphere outside.     | Carbonic Acid Gas, CO <sub>2</sub> , parts per 10,000 | Remarks.                                                                                                                                |
|----------------|-----------------------------------|------------------------|---------------------|--------------|-----------------|-----------------------|----------------------------------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| 1              | Bakehouse A ...                   | Under                  | 1902<br>21 July     | A.M.<br>7.10 | 66.0            | 29.96                 | clear, slight westerly breeze.   | 14.5                                                  | Shop open; Sample taken while dough was being worked; 2 men; cub. cap. 1,840 ft.                                                        |
| 2              | Street Air (outside A)...         | —                      | do.                 | 7.20         | 53.6            | do.                   | do.                              | 4.9                                                   |                                                                                                                                         |
| 3              | Bakehouse B ...                   | Under                  | 23 July             | 6.30         | 69.8            | 29.88                 | clear, N.W. breeze.              | 12.0                                                  | Shop shut; dough being moulded; top of dough bin raised; window open; 2 men; cub. cap. 1,774.                                           |
| 4              | Bakehouse C ...                   | Under                  | do.                 | 7.0          | 68.0            | do.                   | do.                              | 17.5                                                  | Shop shut; oven being charged; 2 men; cub. cap. 1,299.                                                                                  |
| 5              | Street Air (outside C)            | —                      | do.                 | 7.15         | 57.2            | do.                   | do.                              | 4.5                                                   |                                                                                                                                         |
| 6              | Bakehouse D ...                   | Under                  | 25 July             | 6.30         | 75.2            | 29.90                 | do.                              | 16.9                                                  | Shop and doors of Bakehouse open; batch being drawn from oven; 3 men; cub. cap. 3,806.                                                  |
| 7              | Bakehouse E ...                   | Under                  | do.                 | 6.50         | 80.6            | do.                   | do.                              | 13.6                                                  | Shop and doors of Bakehouse open; bread being drawn from oven; 2 men; cub. cap. 3,445.                                                  |
| 8              | Bakehouse F ...                   | Under                  | do.                 | 7.10         | 86.0            | do.                   | do.                              | 15.8                                                  | Shop open; bread in oven; 2 men; cub. cap. 2,359.                                                                                       |
| 9              | Street Air (outside F)...         | —                      | do.                 | 7.30         | 60.0            | do.                   | do.                              | 4.6                                                   |                                                                                                                                         |
| 10             | Bakehouse G ...                   | Under                  | 15 Sept.            | 7.0          | 77.0            | 29.96                 | clear, very slight air movement. | 16.3                                                  | Shop open; batch in oven; dough in bin rising; 2 men; cub. cap. 1,181.                                                                  |
| 11             | Street Air (outside G)            | —                      | do.                 | 7.30 P.M.    | 59.0            | do.                   | do.                              | 4.4                                                   |                                                                                                                                         |
| 12             | Bakehouse H ...                   | Under                  | do.                 | 3.0          | 75.2            | 29.84                 | clear, westerly breeze.          | 12.0                                                  | Shop closed; dough being kneaded; 1 man; cub. cap. 1,713.                                                                               |
| 13             | Street Air (outside H)            | —                      | do.                 | 3.15 A.M.    | 62.6            | do.                   | do.                              | 3.9                                                   |                                                                                                                                         |
| 14             | Bakehouse Z ...                   | Above                  | 1 Oct.              | 7.40         | 63.5            | 29.80                 | clear, strong W. breeze.         | 4.9                                                   | Shop open; Bakehouse on shop level; Queen's post roof with trap door; ovens closed; bread just drawn from ovens; 2 men; cub. cap. 2808. |
| 15             | Street Air (outside Z)            | —                      | do.                 | 7.50         | 53.6            | do.                   | do.                              | 3.8                                                   |                                                                                                                                         |
|                | Normal Country Air (Standard) ... | —                      | —                   | —            | 60.0            | 30.00                 | —                                | 3.0                                                   |                                                                                                                                         |

NOTES.—The estimation of the CO<sub>2</sub> was made by Pettenkofer's method. Samples of 10 litres were taken and examined at once. In all cases the amount of oxygen and nitrogen was also estimated, but as the results varied only slightly from the normal, the figures have not been included in the Table.

From the observations made it appears that the air becomes most charged with CO<sub>2</sub> at the time the baked bread is being drawn from the oven.

It will be noted that the season of the year was late summer. In the winter the amount of CO<sub>2</sub> would probably be considerably higher. Probably even in the present Table the degree of CO<sub>2</sub> recorded is much below the amount usually present, as in all the cases the Bakehouses were of such construction that it was impossible to enter them for the collection of samples of air without creating very free ventilation. Most of them also had other means of ventilation, either through the open shop or by means of windows, at the time of the visit. J. K. C.

It is customary to take the degree of  $\text{CO}_2$  present in air as indication of its purity or otherwise. Carbonic acid gas (or carbon di-oxide) is a normal constituent of the atmosphere, forming 3 volumes out of every 10,000 volumes of fresh country air. In ordinary town air this amount is therefore always present, but to it has been added products of respiration and combustion, and accordingly there is always present in such air a "permissible" impurity, that is to say a degree of impurity which is unavoidable. Dr. Chaumont fixed this at .02 per cent., or 2 parts in every 10,000. Anything beyond this would be an impurity. Carnelly, Haldane and Anderson fixed the standard of permissible impurity at 6 parts per 10,000 in dwellings and 9 in schools. The general rule now is that  $\text{CO}_2$  is reckoned an impurity if amounting to more than 5 parts in 10,000 of air (*i.e.*, 3 parts in fresh air *plus* 2 as permissible impurity). Angus Smith found it present as follows :—

|                                                                 | Volumes of $\text{CO}_2$<br>in 10,000<br>volumes of air. |
|-----------------------------------------------------------------|----------------------------------------------------------|
| On mountains and moors in Scotland (mean of 75 analyses) ... .. | 3.36                                                     |
| In the streets of Glasgow (mean of 42 analyses) ...             | 5.02                                                     |
| London. E.C. (mean of 12 analyses) ... ..                       | 4.74                                                     |
| Manchester streets, ordinary weather ... ..                     | 4.03                                                     |
| During fogs in Manchester ... ..                                | 6.79                                                     |

Dr. Russell found the average for London air at St. Bartholomew's Hospital was 4 parts per 10,000, and during foggy weather 7 per 10,000. In Finsbury street air, it will be seen that Mr. Colwell found  $\text{CO}_2$  to be present to the extent of 4.3 per 10,000 (mean of six analyses), in a typical above-ground Bakehouse it was 4.9, and in underground Bakehouses it varied from 12.0 to 17.5 per 10,000. His results may be set out as follows :—



|                                                                       | Volumes of CO <sub>2</sub> in<br>10,000 volumes of air. |
|-----------------------------------------------------------------------|---------------------------------------------------------|
| Open air of streets in Finsbury (mean of six analyses) ... ..         | 4.3                                                     |
| Air of typical above ground Bakehouses ... ..                         | 4.9                                                     |
| Air of typical underground Bakehouses (mean of eight analyses) ... .. | 14.8                                                    |

This shows a very high degree of vitiation, but perhaps not more than might be expected under the circumstances. For we have in addition to the underground position, a considerable absence of ventilation and exceptional production of CO<sub>2</sub>. There is the respiration of the workers (yeilding about one cubic foot of CO<sub>2</sub> per man per hour\*), the oven, the gas burners,† and the fermentation of the dough. Whilst these conditions explain the presence of the high degree of CO<sub>2</sub> they also emphasise the imperative necessity of abundant ventilation wherever bread is made, especially when it is remembered that the atmosphere is one in which men are working for eleven hours each day.

Further, it should not be forgotten that the figures obtained in respect of the CO<sub>2</sub>, are in all probability considerably below the mark of what is usually present. The differences of temperature and the various openings of the Bakehouse, both for ventilation and for the exigences of the trade, admit of considerable variation of the CO<sub>2</sub> actually found to be present, and these conditions are in full operation when the shop is opened and

\* *Journal of Hygiene*, 1902. Vol. ii., p. 430 (Haldane).

† A common gas jet, as usually met with in workshops and bakehouses consumes from 5 to 10 cubic feet of gas per hour; and this amount of ordinary English gas produces, in burning, from 2½ to 5 cubic feet of carbonic acid gas. So that this amount of CO<sub>2</sub> is added every hour that each jet of gas is burning (Haldane). Incandescent mantles use up much less gas per hour than ordinary burners and yeild much more light. They are therefore preferable in workshops. By the use of incandescent electric light, all the inconveniences due to air vitiation and heat from gas jets can be avoided (Haldane).

persons are coming and going in the Bakehouse. Haldane has pointed out, that, as a general rule, the air in basements is relatively pure on this account. But, during the night, when work is proceeding, such conditions do not pertain in the same degree. The shop is shut, the staircase opening is closed, often the ventilators are closed and the air is not changed. The examinations were, therefore, made at a time favourable to the Bakehouse than otherwise. The exact position of the Bakehouse and the proximity or otherwise of areas also affects the question. Out of the 46 underground Bakehouses 41 *have no part above the level of the ground*. Many of them also have practically no area, whilst others such as B. and H. have areas. This is probably one reason why the  $\text{CO}_2$  in B. and H. was lower than in C. which, like many other Bakehouses, is a "well."

(b) **The Temperature and Humidity.** — The following table contains the records of temperature and relative humidity inside and outside eight typical underground Bakehouses and one typical aboveground Bakehouse, in each case the records being taken at the same time. It may be explained that the relative humidity (or moistness) of the air is the amount of moisture present in the air expressed as a percentage of the amount of moisture just necessary to cause saturation, 100 representing saturated air, or air carrying its maximum degree of moisture. The relative humidity generally accepted as standard in this country is about 70–75. A very fine dry day would record, say, between 50–60, a damp day would record about 90.



# BAKEHOUSES.

Particulars of Wet and Dry bulb Thermometer Readings.

| INSIDE THE BAKEHOUSE. |          |                      |                      |      |      |                    | OUTSIDE THE BAKEHOUSE. |      |      |                    |                         |
|-----------------------|----------|----------------------|----------------------|------|------|--------------------|------------------------|------|------|--------------------|-------------------------|
| Bakehouse.            | Date.    | Time when deposited. | Time when taken out. | Dry. | Wet. | Relative Humidity. | Position.              | Dry. | Wet. | Relative Humidity. | Remarks.                |
| <b>H</b> ... ..       | 1902.    | P.M.                 | P.M.                 |      |      |                    |                        |      |      |                    |                         |
|                       | 15 Sept. | 2'45                 | 3'0                  | 71'0 | 63'0 | 61'1               | Yard... ..             | 61'0 | 54'5 | 64'4               | Fine bright day.        |
| <b>D</b> ... ..       | 16 Sept. | 3'5                  | 3'40                 | 70'0 | 63'0 | 64'9               | Yard... ..             | 56'0 | 52'0 | 75'7               | Raining slightly.       |
| <b>B</b> ... ..       | do.      | 3'50                 | 4'20                 | 67'0 | 61'0 | 68'8               | Yard... ..             | 58'5 | 57'0 | 91'9               | Inclined to be wet.     |
| <b>C</b> ... ..       | 17 Sept. | 2'45                 | 3'23                 | 67'0 | 57'0 | 52'6               | Yard... ..             | 60'0 | 51'0 | 57'7               | Fine day.               |
| <b>E</b> ... ..       | do.      | 3'30                 | 4'0                  | 71'0 | 61'0 | 53'9               | Yard... ..             | 64'0 | 53'5 | 49'6               | Do.                     |
| <b>A</b> ... ..       | 19 Sept. | 3'15                 | 3'45                 | 68'0 | 57'5 | 52'1               | Flat ... ..            | 58'5 | 50'5 | 58'0               | Fine day, rather close. |
| <b>Z</b> ... ..       | 29 Sept. | 3'15                 | 3'45                 | 70'0 | 60'0 | 53'5               | Yard... ..             | 58'0 | 52'0 | 65'9               | Fine day.               |
| <b>F</b> ... ..       | do.      | 3'55                 | 4'25                 | 73'0 | 63'0 | 54'5               | Yard... ..             | 56'0 | 51'0 | 70'6               | Do.                     |
| <b>G</b> ... ..       | 30 Sept. | 3'0                  | 3'30                 | 69'0 | 59'0 | 53'3               | On yard wall           | 57'0 | 51'0 | 65'4               | Do.                     |

N.B.—These observations were made in each case after the day's work had been finished, and not during the period when the air of the Bakehouse would be exceptionally hot and dry.

From this table it will be seen that the air of Bakehouses is, on occasion, more than 20 per cent. drier than outside air. It will be noticed that these observations were made in the Bakehouse after all the work had been done. In order to test the matter during the process of baking, examinations were also made early in the morning, and one such reading may be added here :—

| Time at which Readings were taken in Underground Bakehouse. | Relative Humidity inside Bakehouse. | Relative Humidity outside Bakehouse. | Percentage Difference. |
|-------------------------------------------------------------|-------------------------------------|--------------------------------------|------------------------|
| Early morning, work proceeding.                             | 66                                  | 92                                   | 26                     |
| Early morning, batch of bread being drawn from oven.        | 58                                  | 92                                   | 34                     |
| Afternoon, work finished ...                                | 52                                  | 57                                   | 5                      |

Other examinations made in the early morning whilst actual work was going on gave readings showing similar results to the above. In a general way it may be said that when no work is going on the average difference in percentage between the humidity of the inside air and outside air is about 10 ; when work is going on about 24—that is to say, the air of the underground Bakehouse contains 24 per cent. less moisture than the outside air.\*

(c) **Bacteriological Examination.**—A simple comparative examination of the number of bacteria present in the air of four typical underground Bakehouses and one typical above-ground was also made. In each of these Bakehouses, whilst work was going on, three agar-plates were exposed for 30 minutes. One plate was placed on the floor, one on the table or trough

\* It should not be forgotten that the differences of temperature and humidity between the Bakehouse air and the outside air affects the exchange of air between the two, and therefore the ventilation of the Bakehouse and the degree of CO<sub>2</sub>.



where the bread was being made,, and one on a shelf near the ceiling. After exposure for 30 minutes the plates were re-covered and incubated at blood heat ( $37^{\circ}$  C.), for exactly 22 hours. All the plates then showed abundant growth. Doubtless if the plates had been incubated for 48 hours or three or four days there would have been a vastly greater growth of colonies, and it is probable also that if some of the plates had been placed at room temperature certain bacteria would have grown which did not appear at blood heat in 22 hours. It is not suggested for one moment that these plates provide an adequate record of all the bacteria present in the air of these Bakehouses; to obtain such a record would have entailed an extensive investigation.\* Our object was merely to obtain a *comparative* idea of the air of underground Bakehouses and above-ground Bakehouses in Finsbury. Accordingly, the whole of the 30 plates used in this examination were treated exactly the same in every way, the medium, exposure, and temperature and period of incubation were all precisely similar. The results, therefore, whilst of little value as a complete examination of the air, are useful and reliable *for comparison with each other*.

Without entering into the question of the kind of bacteria found,\* we may here insert the results respecting the number of bacteria falling upon these plates (9.6 inches in area) during the 30 minutes :—

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\* I am aware, of course, that this gravity method of examination is open to criticism, and in some ways not so accurate in numerical estimation as the aspiration methods of Petri, Hesse, Frankland, Miquel, &c. But under all the circumstances it was considered the best in this particular case. For *comparative* purposes it is, of course, as useful as any other method.

\* Subculture of the different colonies were made in various media and a number of micro-organisms isolated in pure culture, including a variety of bacteria commonly found in polluted atmospheres, yeasts, moulds, and several chromogenic bacilli. The plates on the shelves were found to yield a number of liquefying organisms. No disease-producing organisms were isolated.

|                                                                                   | Underground Bakehouses. |     |     |     | Above Ground Bakehouses. |
|-----------------------------------------------------------------------------------|-------------------------|-----|-----|-----|--------------------------|
| Average number of bacteria falling on each 9.6 inches (mean of three plates each) | B                       | C   | D   | E   | Z                        |
|                                                                                   | 800                     | 680 | 600 | 600 | 200                      |

The numbers on a second examination may be set out in relation to the position of the plates as follows :—

|                             | Number of Bacteria on plate on Shelf. | Number of Bacteria on plate on Table or Trough. | Number of Bacteria on plate on Floor. |
|-----------------------------|---------------------------------------|-------------------------------------------------|---------------------------------------|
| Underground Bakehouse C ... | 490                                   | 720†                                            | 850                                   |
| Above ground Shop of C ...  | 130                                   | 150                                             | 720                                   |
| Above ground Bakehouse Z... | 150                                   | 170†                                            | 300                                   |

These figures, which have been most carefully checked, speak for themselves, and *in comparison with each other* are of interest. In order to complete the comparison, however, it seemed desirable to examine the outside air around one of these Bakehouses. For convenience Bakehouse C, which is situated in Whitecross Street, was selected, and agar plates were exposed for 30 minutes and treated in the same way as all the other plates. The results were as follows :—

† A number of the plates were photographed, and illustrations were appended to the Special Report of these two plates.



|                                                                     | Over Grating in<br>Pavement which<br>acted as Ventilator<br>to Underground<br>Bakehouse C. | In Back Yard<br>behind<br>Bakehouse C. | In Open Street<br>on Edge of<br>Kerbstone opposite<br>Bakehouse C. |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------------------|
| Number of bac-<br>teria on agar<br>plates exposed<br>for 30 minutes | 820                                                                                        | 200                                    | 160                                                                |

From these figures it will be seen (*a*) that underground Bakehouse air contained at least four times more bacteria than street air around it; (*b*) at least three times more bacteria than the air of a shop over it; and (*c*) at least three times more bacteria than the above ground Bakehouse.

**Summary.**—The general result of these three investigations is that the air of the typical underground Bakehouses examined—

- (i) Contained 14·8 volumes per 10,000 of carbonic acid gas,  $\text{CO}_2$  (as compared with 4·9 in above-ground Bakehouses and 4·3 in the streets of Finsbury);
- (ii) That it contained between 10 and 24 per cent. less moisture than outside air surrounding the Bakehouses; and
- (iii) That it contained at least four times more bacteria than surrounding street air, and three times more bacteria than the air of a typical above ground Bakehouse.

It is not possible to judge with accuracy what the effect of these conditions has been upon those who work under them. Bakers as a class appear to suffer considerably from diseases of the liver and the lungs, and their mortality from rheumatic fever, diabetes and urinary diseases is above the standard for occupied males generally.\* This statement must, however, be qualified by

\* Supplement to the 55th Annual Report of the Registrar General, Part II., 1897, p. li. See also *Dangerous Trades*, by Thomas Oliver, M.D., 1902, p. 505.

adding that it is based upon the causes of death of 88,243 bakers of all classes and not on bakers working in underground premises only, where as we have seen the evil conditions mostly exist. Moreover, the causes of mortality peculiar to bakers have decreased in recent years. In Finsbury, an examination of the records for the last 5 years shows that 54 per cent. of the deaths of persons working in Bakehouses were due to disease of the lungs. There can be no doubt that persons working under the conditions at present existing in underground Bakehouses breathe continually an atmosphere polluted with the products of respiration and combustion in a very high degree, and this coupled with long hours and a dusty and sedentary employment doubtless exerts a detrimental influence upon their health. The effect would be in all probability very much more marked if there were not, at least, two counteracting conditions favourable to health. In the first place a baker's work does not expose him to many of the external conditions to which occupied males generally are exposed, such for instance as dampness and climatic conditions, chemical poisoning, muscular strain, machinery accidents, etc. In the second place, some of the evils produced by the polluted atmosphere and resulting tendency to lung disease, are counteracted by the low relative humidity which might be distinctly favourably to certain lung conditions.



## SCHEDULE USED IN THE INSPECTION OF BAKEHOUSES AND RESTAURANTS.

|                                          |  |        |
|------------------------------------------|--|--------|
| No.                                      |  |        |
| Address                                  |  | Rental |
| Name of Occupier and period of occupancy |  |        |
| Name and Address of Owner                |  |        |
| Names and Addresses of Employees         |  |        |
| Day or Night Work?                       |  | Hours. |

### General Conditions :

Size and Situation of Bakehouse

Construction (walls, ceiling, floor, windows, sky-light, staircase, entrances)

Lime Washing or Varnishing?

### Apparatus :

Troughs (No., fixed or moveable, construction)

Oven ; Machinery

Arrangements for Flour, Potatoes, &c.

### Physical Conditions :

|                                           |          |                 |
|-------------------------------------------|----------|-----------------|
| Temperature                               | Humidity | CO <sub>2</sub> |
| Ventilation and Light (Fans, Tobins, &c.) |          |                 |
| Cleanliness                               |          |                 |

### Sanitary Conveniences :

Drain Inlets

W.C. (situation, communication, condition)

Ash-pit (situation and construction)

### Water Supply :

Coal

|                 |                  |
|-----------------|------------------|
| From the Main ? | From a Cistern ? |
|-----------------|------------------|

If Cistern (position, construction, cover, cleanliness, connection with w.c. water supply)

### REMARKS.

As to Management, Cleanliness, Trade, Ill-health of Employees, use of Premises for Sleeping Purposes, &c.

Date

Form of Application.

## METROPOLITAN BOROUGH OF FINSBURY.

FACTORY AND WORKSHOP ACT, 1901.

*Application for Certificate in respect of Underground Bakehouses.*

TO THE TOWN CLERK,

FINSBURY TOWN HALL, ROSEBERY AVENUE, E.C.

SIR,

As I am desirous of continuing the use of the Bakehouse situate at No. \_\_\_\_\_ Street, after the 1st day of January, 1904, I hereby make application for the certificate of the Council under the 101st section of the above mentioned Act that the Bakehouse is suitable for the purpose.

My interest in the premises is as follows:—

I am,

Your obedient servant,

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ 190 .

Form of Certificate.

## METROPOLITAN BOROUGH OF FINSBURY.

FACTORY AND WORKSHOP ACT, 1901. 1 EDW. 7, CAP. 22, SEC. 101.

*Certificate as to the suitability of Underground Bakehouses.*

THE TOWN HALL,

ROSEBERY AVENUE, E.C.

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The Council of the above mentioned Borough having enquired as to and being satisfied of the suitability of the Underground Bakehouse, situate at No. \_\_\_\_\_ Street, as regards construction, light, ventilation, and in all other respects, do hereby certify that the said Underground Bakehouse, situate as aforesaid, is in their judgment suitable for the purpose of a Bakehouse.

*Town Clerk.**For the Council of the Metropolitan Borough of Finsbury.*



(b) **Anthrax.**

We received five Anthrax certificates from the Home Office during the year, four of which proved to be Anthrax. They all occurred at the same premises, which are used for the purposes of a horse-hair factory. The firm is a large one, employing more than 130 persons. By the courtesy of the firm I was enabled to inspect the premises, and the various processes were explained to me. South American and Russian hair (but not Chinese) is purchased, and examined on delivery before being passed into the factory. The process, briefly, consists in sorting, dyeing, washing, milling and curling. Finally, the product is used for upholstery. During the process the hair remains in boiling water for three hours, and for a further period at a later stage. It would, therefore, appear that any infection obtained from the hair was contracted anterior to the process, and not during or after the process. Anthrax is a disease of animals communicable to man. It is contracted by means of the breath in respiration or by means of direct inoculation through the skin. It is commonly acquired in the latter instance by a man scratching or breaking a pimple on his skin whilst his hands and fingers carry the infective dust. It should be added that the firm in question appear to take all reasonable care in conducting their business. They decline to purchase undyed Mane Hair until satisfactory guarantee is given by the seller that the hair has been thoroughly disinfected, and, moreover, the hair is examined, under precautions, before it enters the factory. Further, there are contrivances such as draft dust extractors for reducing to a minimum the risk of sorters inhaling injurious dust. Notwithstanding these arrangements, four cases of Anthrax were certified during the year from this factory. There were no other cases certified in Finsbury. The facts are, briefly, these:—

1. F. B., 28 years old; living at Croydon; employed in this hair factory as a clerk; handles bales of hair on delivery; on February 14th noticed a swelling on the right temple; on February 15th patient was admitted to St. Bartholomew's Hospital and the "malignant pustule" was removed, the patient making a good recovery; certified February 18th.

2. C. C., 20 years of age ; living in Victoria Park ; employed as warehouseman ; packing hair into bags ; handling all kinds of hair ; swelling on back of neck ; admitted to St. Bartholomew's Hospital on May 20th ; certified as Anthrax May 21st ; recovered.
3. J. R., 19 years old ; living off Kingsland Road, N. ; employed in the yard of this factory emptying tanks of hair after the boiling process ; swelling on left cheek in front of ear ; admitted to the Metropolitan Hospital, Kingsland Road, N., on June 27th, where the wound was excised and the patient recovered ; a bacteriological examination was made and the *Bacillus Anthracis* was found ; certified June 30th.
4. J. Y., aged 15 ; of Bethnal Green ; employed at this factory in picking and washing and brushing white horse hair ; small swelling over right eyelid ; treated at London Hospital ; certified August 12th ; eventually proved not to be Anthrax.
5. H. C., aged 19 ; of Hoxton ; employed at this factory in the yard and at the dye-tanks after or during the boiling process ; swelling over right temple first noticed August 26th ; admitted on August 27th at St. Bartholomew's Hospital, where the wound was excised and the patient recovered ; certified August 28th ; a bacteriological examination was made and the *Bacillus Anthracis* was found.

(c) **Inspection of Various Industries.**—During the year I have inspected the premises and processes of various industries in the Borough including wax-modelling, sweet-meat making, thermometer making, paper dinner-centre makers, stick and umbrella fitters, electro-plating and re-gilding processes, etc. In several instances I have made suggestions with a view to diminishing the risks to health.





## GENERAL SANITATION AND ADMINISTRATION.

There are on the Staff of the Department a Chief Sanitary Inspector, a special Milk Inspector, seven ordinary Sanitary Inspectors, and two Clerks, who devote the whole of their time to the work of the Department. For purposes of sanitary inspection the Borough is divided into six districts, to each of which are attached six Inspectors, one to each district. The Milk Inspectors are attached to the districts of St. John's, St. Peter's, St. Paul's, St. James's, St. George's, and St. Andrew's. Up to the present year there has been no Factory and Workshop Inspector, but in March, 1902, the Borough Council appointed one additional Inspector, and his services have been devoted to factories and workshops and small-pow work. There are five men regularly engaged in the work of disinfection and the removal of refuse, and one man engaged in the work of the

### F.—GENERAL SANITATION AND ADMINISTRATION.

The Canal at the end of the town, which is situated within the Borough of Loughborough, is owned by the Regent's Canal and Dock Company, and consists of a waterway of about 2 miles, a portion of which has a breadth of 100 feet, and the other part has a breadth of 120 feet. The canal is situated on the right bank of the River Trent, and is connected with the River Trent by a lock at the end of the canal.

The largest portion of the canal is situated on the right bank of the River Trent, and is connected with the River Trent by a lock at the end of the canal. The canal is situated on the right bank of the River Trent, and is connected with the River Trent by a lock at the end of the canal.

The Regent's Canal has two locks in the immediate neighbourhood of the town. They are parallel to each other, and are separated only by the Wharf Road. The canal is situated on the right bank of the River Trent, and is connected with the River Trent by a lock at the end of the canal. The canal is situated on the right bank of the River Trent, and is connected with the River Trent by a lock at the end of the canal.





## GENERAL SANITATION AND ADMINISTRATION.

There are on the Staff of the Department a Chief Sanitary Inspector, a special Meat Inspector, seven ordinary Sanitary Inspectors, and two Clerks, who devote the whole of their time to the work of the Department. For purposes of sanitary inspection and supervision the Borough is divided into six districts, to which are attached six Inspectors, one to each district. In his sanitary district each Inspector undertakes duties under the Public Health and the Sale of Food and Drugs Acts. Up to the present year there has been no Factory and Workshop Inspector; but in March, 1902, the Borough Council appointed one additional Inspector, and his services have been devoted to factories and workshops, and small-pox work. There are five men regularly engaged in the work of Disinfection and the Mortuaries, etc., and in times of epidemic one or two others have been temporarily employed.

**The Canal and Canal Boats.**—The Canal which is situated within the Borough of Finsbury is owned by the Regent's Canal and Docks Company, and consists of a waterway of about  $5\frac{3}{4}$  acres, a portion of which has a through communication with the River Thames on the one hand and the Midlands on the other.

The major portion of the *cul de sac* known as the "City Road Basin," with wharves, warehouses, and factories on either side, at which boats load and unload merchandise.

The Regent's Canal has two basins in this immediate neighbourhood. They lie parallel to each other, and are separated only by the Wharf Road. The most westerly basin is the "City Road Basin," and that on the easterly side of it, lying between Wharf Road and Wenlock Road, is the "Wenlock Basin." It is situated in the Borough of Shoreditch, and is the smaller of the two.



The City Road Basin, in the Borough of Finsbury, has on its west side premises fronting on Macclesfield Street and Graham Street, and occupied by various firms as factories, warehouses, and wharves. There are also a few residential premises.

There are three wharves at which boats load offensive cargo, viz.: 22, *Graham Street*, 12, *Macclesfield Street* and 26, *Wharf Road*. The first belongs to the Borough of Islington and the other two to the Borough of Finsbury. The "offensive cargo" consists of street sweepings and house refuse. It does not, of course, include night soil, as occurs in rural districts in which the water-carriage system of sewage removal is not adopted.

**Canal Boats.**—The number of Canal Boats inspected during the past year was 116. In these Boats 18 infringements of the Acts were found, requiring 12 complaint notices to the persons responsible. The Inspector under the Canal Boats Act for the City Road Basin is the Sanitary Inspector for the district of Finsbury in which it is situated.

In addition to the boats registered under the Canal Boats Acts, there are a number of other boats or barges known as "dumb" boats. These are boats which at one time were registered, but from structural or other defects are now unfit for habitation. Casual visits have been made to these boats in order to ascertain if the men who work on them use the cabins for other purposes than as store-places for ropes, chains, etc. These boats carry general merchandise, and are worked by men who contract to navigate them from the dock to the various wharves, and *vice versa*.

Sailing barges, registered under the Merchant Shipping Acts, occasionally bring cargoes of building materials, bricks, sand, pipes, etc., from the Medway District. They are inspected by the Port Sanitary Authority of the Port of London, except in cases of infectious disease, when the Local Authority has certain jurisdiction.

Further, the Local Authority has no powers in respect to Registration. Its powers are limited to Inspection. Various minor matters in respect to the marking of boats have received attention during the year. One case of overcrowding was also reduced.

There were no infringements of the following Regulations :— Separation of the sexes, cleanliness, ventilation, painting, provision of water cask, removal of bilge water, notification of infectious diseases, or admittance of Inspector.

The following defects were found :—One leaky boat, two after-cabin deck heads defective, two instances of certificate infringement, two cases of non-separation of sexes, five painting infringements, two boats carrying offensive cargo.

In all cases of infringement of the regulations notices have been served on the owners or occupiers and the nuisances abated. No legal proceedings to enforce compliance with notices have been necessary.

As there has been no case of notified infectious disease it has not been found necessary to enforce isolation or to detain boats for cleansing and disinfection during the past year.

The following table gives a comparison of the years 1899, 1900, 1901 and 1902 as follows :—

| Year. | Boats Inspected. | Persons found on Boats. |        |            | Total. |
|-------|------------------|-------------------------|--------|------------|--------|
|       |                  | Men.                    | Women. | Children.* |        |
| 1899  | 100              | 206                     | 38     | 77         | 321    |
| 1900  | 107              | 222                     | 31     | 60         | 313    |
| 1901  | 102              | 207                     | 34     | 64         | 305    |
| 1902  | 116              | 189                     | 78     | 78         | 345    |

The canal boats inspected during the year have been found comparatively clean.

\* The term children should be understood to include only those at ages as stated in the Acts.



The shortness of water at the Tring summit of the Grand Junction Canal, during the summer of 1902, caused delay to canal boats working between the Midlands and London, and on this account I understand that the boat masters in some instances had to bring their women-folk to assist in working the boats. This may account in some measure for the increase of women found on these boats in 1902.

**Pollution of the Canal.** — During the year I made two careful inspections (November 10th and 13th) of the City Road Basin of the Regent's Canal, which is the only portion of the Canal lying within the boundary of the Borough of Finsbury. I have to report that I find myself in general agreement with the opinions expressed in the letter from the Clerk to the London County Council, dated November 4th, namely, that the water shows signs of considerable pollution. The depth of the Canal varies from 4 or 5 feet to 6 or 8 feet. The bottom is covered with a thick sludge, which in one place measured more than 18 inches. It consists of putrefying animal and vegetable matter from which bubbles of gas are almost continually rising. When stirred up the condition is extremely bad. In some parts the water always appears to be black and considerably charged with pollution, in other places it is comparatively clear. It would seem that this is almost unavoidable in a *cul de sac* like the City Road Basin.

The origin of the pollution is twofold. First, it is due to refuse from the wharves, and, secondly, to refuse from the boats. The latter is, probably, inconsiderable. In respect to the former, it will be remembered that there are about 50 wharves (*see* Annual Report of Medical Officer, 1901, pp. 153-156), ten or a dozen of which might readily add pollution to the Canal, and at three of which boats load offensive cargo. It is inevitable that some pollution must occur from this source. I have received complaints in particular of one wharf belonging to this Borough Council and the one wharf belonging to the Islington Borough

Council. On making enquiry of the Superintendents for Finsbury and Islington, I am, however, informed that considerable pollution does not take place at either of these wharves. After careful enquiry of the workmen and an inspection of the wharves, however, I formed the opinion that it would be very difficult to avoid a certain amount of pollution, especially on windy days. I understand that the Finsbury authorities have placed some specially constructed boards alongside the barges to catch droppings of refuse, and the Superintendent of Islington has also taken steps to diminish possibility of pollution.

On November 20th I had the opportunity of discussing the subject at length with Mr. Glass, the Secretary of the Regent's Canal Company. He stated that the chief pollution was, in his opinion, from the Borough Councils' wharves. He further stated that the water was changed daily by the Company, more than a million gallons (1,061,718 gallons) of fresh water on the average being passed through the Canal daily. This water is obtained from the Brent Reservoir at Hendon (Welsh Harp), or from Ruislip Reservoir. There is a fall of 90 feet in the  $8\frac{1}{2}$  miles of Canal from the Hampstead Lock to the Thames at Limehouse. Mr. Glass is of opinion that the condition of the City Road Basin compares favourably with other similar Basins. It is the avowed practice of the Company to clear out and cleanse these Basins about once in ten years, but it is said that in the past it was done more frequently. The Company endeavours to protect its Canal water from pollution by means of various bye-laws, &c., and offers publicly a reward to any person giving them information which will lead to a conviction for wilful pollution.

Whilst I obtained evidence by inspection that the water of the Canal is open to criticism, I did not obtain any evidence to show that, as regards the City Road Basin, the water or water-course is at the present time in such a state as to be a nuisance, injurious or dangerous to the health of the surrounding community.



## SCHOOLS.

There are in Finsbury 24 Public Elementary Schools, containing 19,166 children, as follows :—

| Schools.              | Infants. | Boys. | Girls. | Totals. |
|-----------------------|----------|-------|--------|---------|
| Board Schools ...     | 4,647    | 4,727 | 5,110  | 14,484  |
| Voluntary Schools ... | 1,590    | 1,523 | 1,569  | 4,682   |
| Totals ...            | 6,237    | 6,250 | 6,679  | 19,166  |

During the year various visits and inspections have been made to the Elementary Schools. In some cases this has been due to the occurrence of infectious disease or to the existence of insanitary conditions. One Board School was closed for two days for thorough disinfection owing to a case of small-pox in the caretakers family.

The certificates received from the Board Schools as regards the occurrence of non-notifiable diseases have been as follows :—

NON-NOTIFIABLE INFECTIOUS DISEASES IN BOARD  
SCHOOLS IN FINSBURY, 1902.

| Schools.              | No. on Roll. | Measles. | Whooping Cough. | Chicken Pox. | Other Diseases. | Total. |
|-----------------------|--------------|----------|-----------------|--------------|-----------------|--------|
| Albion Place ...      | 711          | 8        | 13              | —            | —               | 21     |
| Ann Street ...        | 866          | —        | 2               | —            | 1               | 3      |
| Bath Street ...       | 1314         | 89       | 24              | —            | 72              | 185    |
| Baltic Street ...     | 568          | 1        | —               | 2            | —               | 3      |
| Bowling Green Lane    | 923          | —        | —               | —            | —               | —      |
| Central Street ...    | 917          | 18       | —               | —            | 2               | 20     |
| Chequer Alley ...     | 802          | 12       | 1               | —            | —               | 13     |
| Compton Street ...    | 1134         | —        | 3               | —            | 4               | 7      |
| Hugh Myddelton ...    | 2146         | 3        | —               | —            | —               | 3      |
| Moreland Street ...   | 1202         | 11       | 21              | —            | 15              | 47     |
| Risinghill Street ... | 1513         | 120      | 37              | 6            | 38              | 201    |
| White Lion Street ... | 843          | 51       | —               | —            | 1               | 52     |
| Winchester Street ... | 1545         | 119      | 50              | —            | 15              | 184    |
| TOTAL ...             | 14484        | 432      | 151             | 8            | 148             | 739    |

There are 3 other Board Schools which have sent certificates of non-notifiable diseases from time to time, the children concerned residing in Finsbury, but the schools being outside. We have received no certificates from the eleven Voluntary Schools, as, unfortunately, the system of notification does not prevail.

### DISINFECTION.

After all cases of infectious diseases, in a certain number of notified cases of Phthisis, and after all deaths from Phthisis, premises have been thoroughly disinfected. Where necessary the walls have been stripped. No charge is made for disinfection unless the householder requires it to be done at a time when the officers are not on duty. In such cases a nominal fee would be charged.

Articles of clothing, bedding, carpets, curtains, etc., have been disinfected in the steam disinfecting apparatus (Goddard, Massey and Warner) which has given satisfaction. Disinfection by this means is absolutely efficient and occupies about one hour. Two vans are used for conveyance of the articles. One van for bringing the infected articles, and a second van for taking the disinfected articles back again. In the Eastern Division we have a Thresh machine, which we use occasionally. The following is the record of work done during 1902 :—

|                        | 1st<br>Quarter. | 2nd<br>Quarter. | 3rd<br>Quarter. | 4th<br>Quarter. | Total. |
|------------------------|-----------------|-----------------|-----------------|-----------------|--------|
| Beds ... ..            | 501             | 216             | 283             | 252             | 1,252  |
| Mattresses ... ..      | 359             | 75              | 127             | 29              | 590    |
| Pillows ... ..         | 663             | 388             | 462             | 397             | 1,910  |
| Bolsters... ..         | 171             | 106             | 124             | 153             | 554    |
| Sheets ... ..          | 616             | 316             | 317             | 341             | 1,590  |
| Blankets ... ..        | 585             | 285             | 311             | 321             | 1,502  |
| Quilts ... ..          | 485             | 233             | 215             | 256             | 1,189  |
| Cushions ... ..        | 107             | 55              | 58              | 19              | 239    |
| Table Cloths ... ..    | 11              | 4               | 7               | 2               | 24     |
| Curtains ... ..        | 219             | 55              | 79              | 6               | 359    |
| Carpets... ..          | 153             | 35              | 46              | 19              | 253    |
| Wearing Apparel ... .. | 1911            | 631             | 592             | 164             | 3,298  |
| Sundries ... ..        | 10524           | 1344            | 481             | 1,059           | 13,408 |
| Books ... ..           | 5               | 2               | ...             | ...             | 7      |
| Burnings ... ..        | 9               | 6               | 4               | 9               | 28     |
| Totals ... ..          | 16,319          | 3,751           | 3,106           | 3,027           | 26,203 |



It will be understood that the above Table deals with articles which have been disinfected. The actual number of occupancies disinfected during the year are as follows :—

|               | Small-pox | Scarlet Fever | Diphtheria | Enteric Fever | Puerperal Fever | Disinfections at request of Occupiers for non-infectious Diseases | Erysipelas | Phthisis | Totals |
|---------------|-----------|---------------|------------|---------------|-----------------|-------------------------------------------------------------------|------------|----------|--------|
| January ...   | 35        | 25            | 28         | 4             | 1               | —                                                                 | —          | 12       | 105    |
| February ...  | 49        | 30            | 17         | 6             | 1               | —                                                                 | —          | 8        | 111    |
| March ...     | 30        | 18            | 15         | 4             | —               | —                                                                 | 1          | 7        | 75     |
| April ...     | 11        | 28            | 16         | —             | —               | 1                                                                 | —          | 11       | 67     |
| May ...       | 10        | 31            | 18         | 2             | —               | 1                                                                 | —          | 8        | 70     |
| June ...      | 3         | 30            | 16         | 10            | —               | —                                                                 | —          | 4        | 63     |
| July ...      | 29        | 38            | 28         | 16            | 2               | —                                                                 | —          | 11       | 124    |
| August ...    | 6         | 32            | 23         | 4             | —               | —                                                                 | —          | 8        | 73     |
| September ... | —         | 51            | 13         | 15            | —               | —                                                                 | —          | 10       | 89     |
| October ...   | —         | 36            | 17         | 14            | 2               | 1                                                                 | —          | 10       | 80     |
| November ...  | 1         | 20            | 19         | 2             | —               | 1                                                                 | 1          | 5        | 49     |
| December ...  | 1         | 12            | 17         | 8             | —               | 1                                                                 | —          | 17       | 56     |
|               | 175       | 351           | 227        | 85            | 6               | 5                                                                 | 2          | 111*     | 962    |

We have practically discarded Sulphur as a disinfectant, using Formic Aldehyde instead. Formic Aldehyde gas is produced by burning tabloids (30 to every 1,000 cubic ft.) in a small "alformant lamp." We have also used Lingners Formalin apparatus in the case of Board Schools when necessary.

But against all gaseous disinfectants there is serious criticism. By whatever method it is practised it may prove inefficient on

\* This number refers to cases of disinfection done after the patients had either died in the Borough or left the district, and does not relate to cases of deaths which occurred outside the Borough.

account of the fact that what is required is that the disinfectant should be applied directly to infected surfaces of a room. It is therefore better, wherever practicable, to apply the disinfectant by washing or spraying. Accordingly we have adopted the spray method, and now, disinfectant solution (chloride of lime, 1-2 per cent.) is sprayed on to walls, floors, etc. Thorough and wet cleansing of infected rooms is the desideratum.

In accordance with the views expressed above, and in my Annual Report for Clerkenwell, 1900 (p. 71), we have used only Sulphurous Acid Gas, Formalin, and Chloride of Lime (1-2 per cent.). In cases of Small-pox we have used Formalin gaseous disinfection first (30 tablets to each 1,000 cubic ft.) and followed it by wet spraying of the surfaces of rooms and staircases used by the patient (Chloride of Lime). After the gaseous disinfection, the wearing apparel and bed-clothes, etc., are removed for steam disinfection. In houses and rooms, where necessary, "stripping and cleansing" has also been carried out. In cases of ordinary infectious disease the same disinfectants are used, and wet disinfection and cleansing of surface is practised. Following deaths from phthisis, and where possible after notification, exactly the same principles have guided us. In phthisis-infected houses which are otherwise clean, simple but thorough cleansing is generally sufficient.

**Reception Houses.**—During disinfection of rooms, free accommodation is provided for the temporarily displaced persons. We have two reception houses, one (41, Macclesfield Street) in the Eastern Division of the Borough, and a second (47, Northampton Road), when necessary, in the Western Division. When the house in Macclesfield Street was closed, on account of Small-pox existing there, the London County Council kindly lent us a house in Goswell Road, which was in their possession owing to street improvements.

The total number using the reception houses was 72 families of 310 persons.



## THE MORTUARIES.

We have two Mortuaries, one at Warwick Place, in the Eastern Division, and the other at 47, Northampton Road, in the Western Division. The returns are as follows:—

|                                                            | Northampton<br>Road<br>Mortuary. | Warwick<br>Place<br>Mortuary. | Total.     |
|------------------------------------------------------------|----------------------------------|-------------------------------|------------|
| Inquest cases ... ..                                       | 101                              | 98                            | 199        |
| Infectious diseases... ..                                  | 4                                | 2                             | 6          |
| Bodies deposited by Borough Orders ...                     | 3                                | 3                             | 6          |
| Bodies brought for convenience of<br>relatives, &c. ... .. | 154                              | 115                           | 269        |
| <b>TOTAL</b> ... ..                                        | <b>262</b>                       | <b>218</b>                    | <b>480</b> |

In addition to the inquests held at the Borough Mortuaries, 78 inquests have been held at places outside the Borough upon bodies of persons belonging to the Borough, making the total number of inquests held, 276. The verdicts were as follows:—

|                              |     |                               |    |
|------------------------------|-----|-------------------------------|----|
| 1. NATURAL CAUSES—           |     | 2. ACCIDENTAL—                |    |
| Heart Disease ... ..         | 6   | Fracture of Skull ... ..      | 4  |
| Heart Failure (Syncope) ...  | 23  | Fracture, Arm, Leg, and       |    |
| Kidney Disease ... ..        | 9   | Ribs ... ..                   | 3  |
| Pneumonia ... ..             | 25  | Poisoning... ..               | 1  |
| Rupture of Aneurism of       |     | Run over in the Street        | 11 |
| Aorta ... ..                 | 4   | Concussion of Brain ... ..    | 3  |
| Cerebral Diseases ... ..     | 20  | Shock from Burns ... ..       | 11 |
| Measles ... ..               | 2   | Injuries caused by fall... .. | 12 |
| Small-pox ... ..             | 1   | Asphyxia by Choking ... ..    | 1  |
| Puerperal Peritonitis ... .. | 1   | Asphyxia by Hanging ... ..    | 1  |
| Ptomaine Poisoning ... ..    | 2   | Asphyxia by Drowning ... ..   | 1  |
| Phthisis ... ..              | 11  | Miscellaneous ... ..          | 8  |
| Bronchitis ... ..            | 9   |                               |    |
| Diphtheria ... ..            | 1   |                               | 56 |
| Appendicitis ... ..          | 1   |                               |    |
| Premature Birth ... ..       | 1   |                               |    |
| Atelectasis ... ..           | 4   | 3. SUICIDES—                  |    |
| Convulsions ... ..           | 3   | By Hanging ... ..             | 2  |
| Overlain in Bed ... ..       | 30  | By Shooting ... ..            | 3  |
| Meningitis ... ..            | 3   | By Poisoning ... ..           | 7  |
| Alcoholism ... ..            | 31  | By Drowning ... ..            | 2  |
| Miscellaneous ... ..         | 12  | Miscellaneous ... ..          | 7  |
|                              | 199 |                               | 21 |

**Cleansing of Verminous Persons.**—By the Cleansing of Persons Act, 1897, 60 and 61 Vic., Cap. 31, power is given to any local Authority which means the Council of any County Borough, the District Council of any district, any Board of Guardians, and in the County of London any Sanitary Authority as defined by the Public Health (London) Act, 1891, from and after the passing of the Act, when in their discretion they shall see fit to permit any person who shall apply to the said Authority, on the ground that he is infected with vermin, to have the use, free of charge, of any apparatus the Authority may possess for the person and his clothing from vermin. The use of such apparatus is not to be considered as parochial or charitable relief, either to the person applying or his friend or relatives.

Local Authorities may expend on the provision of buildings, appliances and attendants, such sums as may be reasonably necessary for the carrying out of the provisions of the Act.

The late Vestries of Clerkenwell and St. Luke never made any arrangements for the purpose of cleansing persons and clothing, but the Holborn Board of Guardians instructed the master of City Road Workhouse to give facilities to enable any and every applicant under the Act to be cleansed. Since that time there have been about a half-dozen persons who have applied for this purpose. Such persons have a warm bath and their clothing is disinfected, unless in such bad condition as to warrant its destruction, in which case fresh clothing is supplied in its stead.



## SANITARY INSPECTION.

At the time of the amalgamation, the Vestry of Clerkenwell had three Sanitary Inspectors, St. Luke had three, and one came over from the Parish of St. Sepulchre (Meat Inspector). Two of these inspectors shortly obtained other positions, and the Borough Council appointed two in their place, and have recently added two others. The Staff therefore consists of a Chief Inspector, a Special Meat Inspector, and seven ordinary Inspectors, one of whom devotes his time to workshops, and another includes in his work the inspection of the canal.

As previously explained, the Borough is divided into six sanitary districts, the inspectors in charge of each district undertaking all the sanitary duties for his district. These duties include the inspection of dwelling-houses, milk-shops, bake-houses, etc.; the investigation of every case of infectious disease; the supervision of sanitary works and drainage; the enquiries respecting complaints made to the Department, and smoke and general nuisances. Reports are furnished to me by the inspectors from time to time having reference to the above matters, all the more important cases being specially reported upon in writing.

The construction of the drainage of new buildings is supervised by the Borough Surveyor (Mr. P. G. Killick). The Department also has the advantage of the advice and co-operation of the Borough Surveyor in all matters affecting drainage.

Refuse collection and destruction, cleansing of streets, and regular emptying of dustbins and dust-boxes is undertaken by the Wharf and Cleansing Department (Mr. A. May, Superintendent). Rapid and effectual removal of refuse and dust and the satisfactory cleansing of streets, particularly in the months of July and August, is of the greatest importance. The relationship between bad scavenging and disease is an intimate one, and there can be no doubt that a well scavenged town, other things being equal, will be characterised by a lower infantile death rate and a lower zymotic death-rate than that which will occur in a dusty and badly scavenged town.

## WORK OF SANITARY INSPECTORS.

|                                                                                      | Inspector<br>Ensor. | Inspector<br>Davis. | Inspector<br>Longden. | Inspector<br>Norman. | Inspector<br>Hindhaugh. | Inspector<br>Powell. | Total. |
|--------------------------------------------------------------------------------------|---------------------|---------------------|-----------------------|----------------------|-------------------------|----------------------|--------|
| Damp, dirty, or dilapidated houses,<br>nuisances remedied ... ..                     | 154                 | 110                 | 177                   | 260                  | 234                     | 165                  | 1100   |
| Defective doors, windows, floors,<br>ceilings, sashcords, &c., cases of              | 87                  | 45                  | 24                    | 39                   | 149                     | 131                  | 475    |
| Illegal occupations of kitchens,<br>cellars, or underground rooms<br>remedied ... .. | 6                   | —                   | 4                     | 10                   | 6                       | 1                    | 27     |
| Water-closets cleansed or repaired                                                   | 153                 | 188                 | 265                   | 119                  | 154                     | 243                  | 1122   |
| Additional water-closets provided ...                                                | 11                  | 27                  | 20                    | 10                   | 2                       | 4                    | 74     |
| Urinals cleansed or repaired ...                                                     | 3                   | 4                   | 5                     | 8                    | 2                       | 1                    | 23     |
| Defective soil-pipes and ventilating<br>shafts repaired ... ..                       | 32                  | 22                  | 20                    | 4                    | 59                      | 18                   | 155    |
| Yards drained, paved, repaired, or<br>limewashed ... ..                              | 103                 | 73                  | 51                    | 292                  | 220                     | 151                  | 890    |
| Waste and sink pipes repaired or<br>remedied ... ..                                  | 152                 | 15                  | 22                    | 66                   | 43                      | 66                   | 364    |
| Water cisterns cleansed or repaired                                                  | 74                  | 22                  | 13                    | 11                   | 71                      | 73                   | 264    |
| Accumulations of rubbish, manure,<br>&c., removed ... ..                             | 31                  | 50                  | 17                    | 31                   | 14                      | 29                   | 172    |
| Dung or dust receptacles repaired<br>or renewed ... ..                               | 73                  | 81                  | 48                    | 69                   | 77                      | 55                   | 403    |
| Defective drains cleared repaired or<br>reconstructed ... ..                         | 185                 | 41                  | 79                    | 152                  | 109                     | 67                   | 633    |
| Rain water pipes repaired, &c. ...                                                   | 42                  | 16                  | 13                    | 27                   | 69                      | 26                   | 193    |
| Defective roofs and gutters repaired                                                 | 59                  | 28                  | 25                    | 78                   | 83                      | 73                   | 346    |
| Areas paved, limewashed, or repaired                                                 | 15                  | 2                   | 3                     | 34                   | 101                     | 27                   | 182    |
| Water supply to houses re-instated                                                   | 4                   | 2                   | 1                     | 4                    | 4                       | 4                    | 19     |
| Washhouses re-paved or repaired ...                                                  | 76                  | 8                   | 22                    | 172                  | 103                     | 81                   | 462    |
| Bakehouses cleansed or repaired ...                                                  | 12                  | 7                   | 4                     | —                    | 5                       | 4                    | 32     |
| Restaurants cleansed or repaired ...                                                 | 29                  | 51                  | 44                    | 15                   | 9                       | 18                   | 166    |
| Nuisances from animals abated ...                                                    | 3                   | 7                   | 3                     | 11                   | 2                       | 1                    | 27     |
| Basements cleansed or repaired ...                                                   | 26                  | 10                  | 10                    | —                    | 55                      | 4                    | 105    |
| Stables re-paved or repaired ...                                                     | 4                   | 2                   | —                     | 2                    | 2                       | 15                   | 25     |
| Smoke nuisances abated ... ..                                                        | 3                   | 13                  | 6                     | 2                    | 1                       | 8                    | 33     |
| Miscellaneous nuisances abated ...                                                   | 42                  | 10                  | 27                    | 10                   | 25                      | 1                    | 115    |
| House-to-house inspections ... ..                                                    | 314                 | 173                 | 250                   | 362                  | 194                     | 208                  | 1501   |
| First visits on complaints, &c. ...                                                  | 541                 | 1326                | 912                   | 794                  | 995                     | 677                  | 5245   |
| Re-visits ... ..                                                                     | 3404                | 2931                | 3964                  | 4820                 | 2625                    | 3547                 | 21291  |
| Intimation Notices served ... ..                                                     | 556                 | 367                 | 541                   | 612                  | 382                     | 441                  | 2899   |
| Statutory Notices served ... ..                                                      | 136                 | 80                  | 94                    | 110                  | 69                      | 61                   | 550    |
| Infectious disease investigations ...                                                | 208                 | 107                 | 150                   | 214                  | 204                     | 143                  | 1026   |
| Cases of overcrowding abated ...                                                     | 14                  | 54                  | 55                    | 59                   | 31                      | 31                   | 244    |
| Canal boats inspected ... ..                                                         | —                   | 116                 | —                     | —                    | —                       | —                    | 116    |

The above Table does not include any reference to particulars regarding the inspection of Factories and Workshops.



LEGAL PROCEEDINGS UNDER THE PUBLIC HEALTH (LONDON) ACT, 1891  
AND METROPOLIS LOCAL MANAGEMENT ACT.

| Date.      | Name and Address of Defendant.                               | Offence.                                                                                   | Result.                                                 |
|------------|--------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Jan. 17th  | F. Long & Son,<br>4, Adelaide Place,<br>London Bridge        | For failing to repair a drain at 119,<br>Pentonville Road, N.                              | Withdrawn on<br>payment of<br>£2 4s.                    |
| Mar. 4th   | B. F. and H. P.<br>Fletcher, 29, New<br>Bridge Street, E.C.  | For failing to supply information to<br>Register 36, Northampton Road                      | Fined 1s. and<br>£2 2s. costs.                          |
| April 1st  | J. R. Thew, 91,<br>Cromer Street,<br>W.C.                    | For failing to provide water supply to<br>water-closet at 20, Little Northampton<br>Street | Fined £5 and 2s.<br>costs.                              |
| "          | Do. do.                                                      | For failing to provide new trap to<br>water-closet at 11, Little Northampton<br>Street     | Ordered to pay<br>2s. costs.                            |
| "          | Do. do.                                                      | For failing to provide a dustbin at 20,<br>Little Northampton Street                       | Ordered to pay<br>2s. costs.                            |
| April 24th | H. Belham, 264,<br>City Road                                 | For failing to remedy insanitary con-<br>dition of house at 240, City Road                 | Order made to<br>abate in 21 days,<br>and £1 7s. costs. |
| "          | Fredk. Gehringer,<br>31, Great Pearl<br>Street, Spitalfields | Permitting overcrowding at 58, Bastwick<br>Street                                          | Fined £5 and<br>£2 2s. costs.                           |
| May 15th   | Do do                                                        | Permitting overcrowding at 57, Bastwick<br>Street                                          | Fined £1 and 2s.<br>costs.                              |
| "          | Do. do.                                                      | Permitting overcrowding at 56, Bastwick<br>Street                                          | Fined £1 and 2s.<br>costs.                              |
| "          | Do. do.                                                      | Permitting overcrowding at 52, Bastwick<br>Street                                          | Fined £1 and 2s.<br>costs.                              |
| "          | Do. do.                                                      | Permitting overcrowding at 51, Bastwick<br>Street                                          | Fined £1 and 2s.<br>costs.                              |
| "          | Do. do.                                                      | Permitting overcrowding at 45, Bastwick<br>Street                                          | Fined £1 and 2s.<br>costs.                              |
| "          | Do. do.                                                      | Permitting overcrowding at 26, Bastwick<br>Street                                          | Fined £1 and 2s.<br>costs.                              |
| "          | Do. do.                                                      | Permitting overcrowding at 48, Bastwick<br>Street                                          | Fined £1 and 2s.<br>costs.                              |

| Date.     | Name and Address of Defendant.                     | Offence.                                                                                                      | Result.                        |
|-----------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------|
| May 25th  | Do. do.                                            | Permitting overcrowding at 20, Bastwick Street                                                                | Fined £1 and 2s. costs.        |
| "         | L. Phillips, 22, St. Bartholmew's Square           | Permitting overcrowding at 42, Bastwick Street                                                                | Fined £1 and 2s. costs.        |
| June 4th  | N. Browne, 73, Cheapside, E.C.                     | For failing to cleanse the lodging-house, 209, Pentonville Road, as required by Bye-laws                      | Fined £2 and 2s. costs.        |
| "         | Maude Mackintosh, 29, Pond Street, Hampstead, N.W. | For failing to repair a drain at 15, Chapel Row                                                               | Fined £5 and 2s. costs.        |
| "         | Do. do.                                            | For failing to repair defective and dilapidated workshop                                                      | Dismissed.                     |
| June 18th | Archibald Croser, 9, Sutton Street, E.C.           | For fixing a water-closet pan, etc., at Beard's stables, Little Sutton Street, without first giving notice    | Fined £2 and £1 3s. costs.     |
| "         | Angelo Monti, 32, Warner Street, E.C.              | For fixing a water-closet pan, etc., at 2, Baker's Row, without first giving notice                           | Fined £1 and 2s. costs.        |
| June 20th | N. Browne, 73, Cheapside, E.C.                     | For failing to cleanse the lodging-house, 213, Pentonville Road, as required by the Bye-laws                  | Ordered to pay £1 1s. costs.   |
| "         | Do. do.                                            | For failing to cleanse the lodging-house in respect of No. 215, Pentonville Road, as required by the Bye-laws | Ordered to pay 10s. 6d. costs. |
| "         | Do. do.                                            | For failing to cleanse the lodging-house in respect of No. 217, Pentonville Road, as required by the Bye-laws | Ordered to pay 10s. 6d. costs. |
| June 25th | Abraham Munday, 47, Victoria Park Road, N.E        | For failing to cleanse the lodging-house, 53, Warren Street, as required by the Bye-laws                      | Fined £2 and 2s. costs.        |
| July 2nd  | Do. do.                                            | For failing to cleanse the lodging-house in respect of 54, Warren Street, as required by the Bye-laws         | Fined £2 and 2s. costs.        |
| "         | L. H. G. Moore, 9, Upper Montagu Street, W.        | For failing to cleanse the lodging-house, 36, Risinghill Street, as required by the Bye-laws                  | Fined £5 and £2 2s. costs.     |



| Date.      | Name and Address of Defendant.                | Offence.                                                                                                                                  | Result.                                                |
|------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| July 16th  | J. T. Soames, 5 and 6, Orde Hall Street, W.C. | For fixing a light iron ventilating pipe to drain at 12, Affleck Street                                                                   | Fined £2 and £1 3s. costs.                             |
| July 29th  | Edwin Withers, 23, Bayer Street               | For fixing a pan and trap at 15-17, Playhouse Yard, without first giving notice                                                           | Dismissed.                                             |
| Aug. 21st  | O. Westlake, 115, Great College Street, N.W.  | For failing to alter and amend a defective drain at 67, Bastwick Street                                                                   | Fined £1 and £3 3s. costs.                             |
| Aug. 26th  | James Lowmas, 68, Compton Street              | For allowing a bakehouse in his occupation at 68, Compton Street, to be in an insanitary condition                                        | Fined £2 and 2s. costs.                                |
| Sept. 18th | Henry Belham, 264, City Road                  | For failing to cleanse the lodging-house, 3, York Road, as required by the Bye-laws                                                       | Fined £1 and £3 3s. costs.                             |
| "          | Do. do.                                       | For failing to cleanse the lodging-house, 13, York Road, as required by the Bye-laws                                                      | Fined £1 and £3 3s. costs.                             |
| "          | Do. do.                                       | For failing to cleanse the lodging-house 15, York Road, as required by the Bye-laws                                                       | Fined £1 and £3 3s. costs.                             |
| "          | Do. do.                                       | For failing to cleanse the lodging-house 17, York Road, as required by the Bye-laws                                                       | Fined £1 and £3 3s. costs.                             |
| "          | Thomas West, 138, Southgate Road N.E.         | For failing to alter and amend defective drain at 51, Galway Street                                                                       | Summons withdrawn, on payment of £3 13s. 6d. costs.    |
| Sept. 26th | Thomas Crowder, 1, Great Sutton Street, E.C.  | For fixing a new length of light iron soil pipe at 22, Little Sutton Street, without first giving written notice                          | Fined £3 and 2s. costs.                                |
| Dec. 18th  | Fredk. Gehringer, 31, Great Pearl Street      | For causing or allowing overcrowding to exist at the lodging-houses, 24, 48, 53 and 55, Bastwick Street, in contravention of the Bye-laws | Adjourned to Jan. 8th. 1903. (Fines and costs £10 8s.) |

## SALE OF FOOD AND DRUGS ACT.

| Date.      | Name and Address of Defendant.         | Offence.                                                                                   | Result.                         |
|------------|----------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------|
| Jan. 14th  | John Rowland, 24, Collier Street       | For selling butter adulterated with 81 per cent. of foreign fat                            | Fined £1 and 12s. 6d. costs.    |
| „          | Thomas Jones, 47, Myddelton Street     | For selling butter adulterated with 82 per cent. of foreign fat                            | Fined £1 and 12s. 6d. costs.    |
| „          | Marion Richards, 27, Gloucester Street | For selling coffee adulterated with 50 per cent. of chicory                                | Fined £2 and 12s. 6d. costs.    |
| Jan. 28th  | Emily Pike, 9, Henry Street            | For selling butter adulterated with 80 per cent. of foreign fat                            | Fined £1 and 12s. 6d. costs.    |
| Feb. 20th  | Charles Brown, 80, Bath Street         | For selling camphorated oil which was deficient of camphor to the extent of 55.5 per cent. | Fined £1 and £1 13s. 6d. costs. |
| „          | David Davies, 79, Central Street       | For selling butter adulterated with 83 per cent. of foreign fat                            | Summoned dismissed.             |
| „          | Anna Jones, 118, Whitecross Street     | For selling milk adulterated by the addition of 35 per cent. of water                      | Fined £1 and £1 13s. 6d. costs. |
| March 7th  | C. J. Alberici, 28, Thomas Street      | For selling milk adulterated by the admixture of 19 per cent. of added water               | Fined £1 and 12s. 6d. costs.    |
| March 19th | John P. Robinson, 33, Bath Street      | For selling camphorated oil which was 58.2 per cent. deficient in camphor                  | Ordered to pay 12s. 6d. costs.  |
| April 1st  | William Barfield, 19, Northampton Road | For selling milk from which had been abstracted 13 per cent. of its fat or cream           | Ordered to pay 12s. 6d. costs.  |
| „          | James Windsor, 11, Sans Walk           | For selling milk which had been adulterated by the admixture of 7 per cent. of added water | Fined £2 and 12s. 6d. costs.    |
| April 3rd  | Samuel Curry, 284, Goswell Road        | For selling milk which had been adulterated by the addition of 8.7 per cent. of water      | £1 13s. 6d. costs.              |
| „          | Zalie Woolf, 64, Lever Street          | For selling margarine in an unstamped paper                                                | Fined £1 and £1 13s. 6d. costs. |
| „          | Henry Jenkins, 129, Central Street     | For selling margarine in an unstamped paper                                                | Fined £20 and £3 3s. 0d. costs. |



| Date.      | Name and Address of Defendant.           | Offence.                                                                                           | Result.                                   |
|------------|------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------|
| April 18th | Frederick Pettitt, 1, Percival Street    | For selling milk adulterated by the addition of 26·5 per cent. of water                            | Fined £7 and 12s. 6d. costs.              |
| April 24th | Thomas Felix, 84, Moreland Street        | For selling milk adulterated by the addition of 24·0 per cent of water                             | Fined £5 and 12s. 6d. costs.              |
| May 8th    | Guisseppi Seagnelli, 74, Chiswell Street | For selling milk from which 14·7 per cent. of its cream had been abstracted                        | Fined £1 and 12s. 6d. costs.              |
| "          | Anna Jones, 118, Whitecross Street       | For selling milk adulterated by the addition of 7·5 per cent. of water                             | Fined £3 and 12s. 6d. costs.              |
| "          | Ann Pugh, 158, Lever Street              | For selling milk from which 32·6 per cent. of its fat had been abstracted                          | Fined £1 and 12s. 6d. costs.              |
| June 18th  | James Clarkson, 9, Rosoman Street        | For selling milk which had been adulterated by the addition of 6·5 per cent. of water              | Ordered to pay 12s. 6d. costs.            |
| June 19th  | Guilio Gialnizio, 88, Whitecross Street  | For selling milk which had been adulterated by the addition of 6·6 per cent of water               | Fined £2 and £1 costs.                    |
| "          | Philip H. Gittuns, 53, Banner Street     | For selling milk which had been adulterated by the addition of 6·5 per cent. of water              | Fined £2 and 12s. 6d. costs.              |
| "          | Margaret Spann, 3, Tabernacle Street     | For selling milk from which 8·6 per cent. of its cream had been abstracted                         | Fined £1 and 12s. 6d. costs.              |
| June 25th  | Evan Jones, 113, Shepperton Road, N.     | For selling milk from which 12·6 per cent. of its fat had been abstracted                          | Ordered to pay 12s. 6d. costs.            |
| July 3rd   | David Evans, 32, President Street        | For selling milk from which 8·0 per cent. of its cream had been abstracted.                        | Withdrawn on payment of £2 2s. 0d. costs. |
| July 16th  | Rees Evans, 27, Whiskin Street           | For selling butter adulterated with 79·0 per cent. foreign fat                                     | Fined £4 and 12s. 6d. costs.              |
| "          | John Lewis, 15, Nile Street, N.          | For selling milk from a barrow without first having his name and address legibly inscribed thereon | Fined £1 and 12s. 6d. costs.              |
| "          | Do. do.                                  | For selling milk from which 81·3 of its fat had been abstracted                                    | Fined £1 and 2s. costs.                   |

| Date.      | Name and Address of Defendant.           | Offence.                                                                                           | Result.                                                             |
|------------|------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Aug. 15th  | John Rowland, 24, Collier Street         | For selling milk which had been adulterated by the addition of 6·3 per cent. water                 | Fined £1 and 12s. 6d. costs.                                        |
| Aug. 28th  | Zalic Woolf, 64, Lever Street            | For selling milk from which 18·3 per cent. of its fat had been abstracted                          | Fined £1 10s. and 12s. 6d. costs.                                   |
| "          | Mary Davies, 42, Ironmonger Row          | For selling milk from which 16·0 per cent. of its fat had been abstracted                          | Fined £1 5s.                                                        |
| Aug. 29th  | W. H. Jones, 182, St. John Street Road   | For selling milk from a barrow without first having his name and address legibly inscribed thereon | Fined 5s. and 5s. costs.                                            |
| Sept. 27th | William Shapcott, 1, Brewer Street North | For selling condensed milk adulterated by the admixture of 44·74 cane sugar                        | Fined 10s. and £15 15s. costs.                                      |
| Nov. 7th   | Ellen Seager, 232, City Road             | For selling butter adulterated with 78 per cent. foreign fat                                       | Fined £4.                                                           |
| Nov. 28th  | Rees Evans, 27, Whiskin Street           | For selling milk adulterated by the addition of 4·9 per cent. of water                             | Ordered to pay 12s. 6d. costs.                                      |
| Dec. 5th   | Evan Thomas, 230, St. John Street        | For selling milk adulterated with 10·8 per cent. of added water                                    | Fined £2 and £1 13s. 6d. costs.                                     |
| Dec. 17th  | Wm. Jenkins, 6, Aylesbury Street         | For selling milk from which 7·0 per cent. of its cream had been abstracted                         | Adjourned to January 14th, 1903. (Fined £10 and £3 13s. 6d. costs.) |

### SMOKE NUISANCES.

|           |                                                        |                                                                                                  |                              |
|-----------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------|
| July 2nd  | Cannon Brewery Company, Limited, 156, St. John Street  | For allowing black smoke to issue from boiler chimney shaft in such quantity as to be a nuisance | Fined £5 and £2 2s. costs.   |
| Oct. 24th | Messrs. Drake, Driver & Leaver, 22-26, Rosebery Avenue | For allowing black smoke to issue from boiler chimney shaft in such quantity as to be a nuisance | Ordered to pay £3 5s. costs. |





# LOCAL GOVERNMENT TABLES.



LOCAL GOVERNMENT TABLES

## VACCINATION RETURNS.

### TOTAL RETURN FOR 1901.

RETURN made on or before 9th February, 1903, by Mr. T. J. Garstang, Vaccination Officer of the Holborn Union, respecting the Vaccination of Children whose Births were registered in the Finsbury District, from 1st January to 31st December, 1901, inclusive.

(Return made to the Board of Guardians.)

| Registration Sub-Districts<br>comprised in<br>the Vaccination Officer's District | Number of<br>Births<br>returned in<br>the "Birth<br>List Sheets"<br>as registered<br>from 1st<br>January to<br>31st Dec.,<br>1901 | Number of these Births duly entered by<br>31st January, 1903, in Columns I, II, IV and V of the<br>"Vaccination Register" (Birth List Sheets), viz: |                                   |                                           |        |       | Number of these Births which on 31st<br>January, 1903, remained unentered in the<br>"Vaccination Register" on account (as<br>shown by Report Book) of:— |                                                                                                 |                                                                                                               | Number of these<br>Births remaining on<br>31st January, 1903,<br>neither duly entered<br>in the "Vaccination<br>Register" (columns<br>3, 4, 5, 6, and 7 of<br>this Return) nor<br>temporarily accounted<br>for in the "Report<br>Book" (columns 8,<br>9, and 10 of this<br>Return) | Total Number of<br>Certificates of<br>Successful Primary<br>Vaccination at ALL<br>AGES received<br>during each of the<br>calendar years 1901<br>and 1902 |      |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------|--------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|                                                                                  |                                                                                                                                   | Col I                                                                                                                                               | Col II                            |                                           | Col IV | Col V | Postpone-<br>ment by<br>Medical<br>Certificate                                                                                                          | Removal to<br>Districts, the<br>Vaccination<br>Officer of<br>which has<br>been duly<br>apprised | Removal to<br>Places un-<br>known, or<br>which cannot<br>be reached;<br>and Cases not<br>having been<br>found |                                                                                                                                                                                                                                                                                    | 1901                                                                                                                                                     | 1902 |
|                                                                                  |                                                                                                                                   |                                                                                                                                                     | Success-<br>fully Vac-<br>cinated | Insus-<br>ceptible of<br>Vaccina-<br>tion |        |       |                                                                                                                                                         |                                                                                                 |                                                                                                               |                                                                                                                                                                                                                                                                                    |                                                                                                                                                          |      |
| 1                                                                                | 2                                                                                                                                 | 3                                                                                                                                                   | 4                                 | 5                                         | 6      | 7     | 8                                                                                                                                                       | 9                                                                                               | 10                                                                                                            | 11                                                                                                                                                                                                                                                                                 | 12                                                                                                                                                       | 13   |
| 1. Finsbury, St. Luke                                                            | 1803                                                                                                                              | 952                                                                                                                                                 | 1                                 | 1                                         | 5      | 193   | 17                                                                                                                                                      | 445                                                                                             | 102                                                                                                           | 87                                                                                                                                                                                                                                                                                 | 1743                                                                                                                                                     | 2160 |
| 2. Clerkenwell, North                                                            | 1056                                                                                                                              | 658                                                                                                                                                 | 1                                 | 0                                         | 10     | 142   | 38                                                                                                                                                      | 72                                                                                              | 79                                                                                                            | 56                                                                                                                                                                                                                                                                                 | 1384                                                                                                                                                     | 990  |
| 3. Clerkenwell, South                                                            | 921                                                                                                                               | 632                                                                                                                                                 | 0                                 | 0                                         | 15     | 95    | 29                                                                                                                                                      | 77                                                                                              | 35                                                                                                            | 38                                                                                                                                                                                                                                                                                 | 1263                                                                                                                                                     | 1270 |
| Total ... ..                                                                     | 3780                                                                                                                              | 2242                                                                                                                                                | 2                                 | 1                                         | 30     | 430   | 84                                                                                                                                                      | 594                                                                                             | 216                                                                                                           | 181                                                                                                                                                                                                                                                                                | 4390                                                                                                                                                     | 4420 |

Dated 3rd February, 1903.

Signed, THOMAS J. GARSTANG, *Vaccination Officer.*



## VACCINATION RETURNS.

RETURN FOR THE PERIOD JANUARY—JUNE, 1902.

RETURN to be made on or before 8th of February, 1903, by Mr. T. J. Garstang, Vaccination Officer of the Holborn Union, respecting the Vaccination of Children whose Births were registered in the Finsbury District, from 1st January to 30th June, 1902, inclusive.

*(Return made to the Board of Guardians.)*

| Registration Sub-Districts<br>comprised in<br>the Vaccination Officer's District | Number of<br>Births<br>returned in<br>the "Birth<br>List Sheets"<br>as registered<br>from 1st<br>January to<br>30th June,<br>1902 | Number of these Births duly entered by<br>31st January, 1903, in Columns I, II, IV and V of the<br>"Vaccination Register" (Birth List Sheets), viz: |        |   |        |       | Number of these Births which on 31st<br>January, 1903, remained unentered in the<br>"Vaccination Register" on account (as<br>shown by Report Book) of:— |                                                                                                 |                                                                                                               | Number of these<br>Births remaining on<br>31st January, 1903,<br>neither duly entered<br>in the "Vaccination<br>Register" (columns<br>3, 4, 5, 6, and 7 of<br>this Return) nor<br>temporarily accounted<br>for in the "Report<br>Book" (columns 8,<br>9, and 10 of this<br>Return) | Number of Certifi-<br>cates of Conscientious<br>Objection actually<br>received by the<br>Vaccination Officer,<br>irrespective of the<br>dates of birth of the<br>Children to which<br>they relate, during<br>the year 1902. |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------|---|--------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                  |                                                                                                                                   | Col I                                                                                                                                               | Col II |   | Col IV | Col V | Postpone-<br>ment by<br>Medical<br>Certificate                                                                                                          | Removal to<br>Districts, the<br>Vaccination<br>Officer of<br>which has<br>been duly<br>apprised | Removal to<br>Places un-<br>known, or<br>which cannot<br>be reached;<br>and Cases not<br>having been<br>found |                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                             |
| 1                                                                                | 2                                                                                                                                 | 3                                                                                                                                                   | 4      | 5 | 6      | 7     | 8                                                                                                                                                       | 9                                                                                               | 10                                                                                                            | 11                                                                                                                                                                                                                                                                                 | 12                                                                                                                                                                                                                          |
| 1. Finsbury...                                                                   | 860                                                                                                                               | 465                                                                                                                                                 | 1      | 0 | 0      | 93    | 15                                                                                                                                                      | 201                                                                                             | 44                                                                                                            | 41                                                                                                                                                                                                                                                                                 | 3                                                                                                                                                                                                                           |
| 2. Clerkenwell, North                                                            | 519                                                                                                                               | 319                                                                                                                                                 | 0      | 0 | 3      | 55    | 30                                                                                                                                                      | 40                                                                                              | 28                                                                                                            | 44                                                                                                                                                                                                                                                                                 | 11                                                                                                                                                                                                                          |
| 3. Clerkenwell, South                                                            | 435                                                                                                                               | 289                                                                                                                                                 | 0      | 0 | 1      | 46    | 23                                                                                                                                                      | 35                                                                                              | 17                                                                                                            | 24                                                                                                                                                                                                                                                                                 | 3                                                                                                                                                                                                                           |
| Total ...                                                                        | 1814                                                                                                                              | 1073                                                                                                                                                | 1      | 0 | 4      | 194   | 68                                                                                                                                                      | 276                                                                                             | 89                                                                                                            | 109                                                                                                                                                                                                                                                                                | 17                                                                                                                                                                                                                          |

Dated 3rd February, 1903.

*Signed, THOMAS J. GARSTANG, Vaccination Officer.*

TABLE I.  
Name of District—METROPOLITAN BOROUGH OF FINSBURY.  
FOR WHOLE DISTRICT.

| YEAR.                                    | Population estimated to middle of each Year. | BIRTHS. |        | DEATHS UNDER ONE YEAR OF AGE. |                                   | DEATHS AT ALL AGES TOTAL. |        | DEATHS IN PUBLIC INSTITUTIONS. | Deaths of non-residents registered in District. | Deaths of Residents registered beyond District. | DEATHS AT ALL AGES NETT. |        |
|------------------------------------------|----------------------------------------------|---------|--------|-------------------------------|-----------------------------------|---------------------------|--------|--------------------------------|-------------------------------------------------|-------------------------------------------------|--------------------------|--------|
|                                          |                                              | Number. | Rate.* | Number.                       | Rate per 1,000 Births registered. | Number.                   | Rate.* |                                |                                                 |                                                 | Number.                  | Rate.* |
| 1                                        | 2                                            | 3       | 4      | 5                             | 6                                 | 7                         | 8      | 9                              | 10                                              | 11                                              | 12                       | 13     |
| 1897                                     | 107,474                                      | 3,156   | 29.3   | 663                           | 210.0                             | 1,745                     | 16.2   | 128                            | 128                                             | 881                                             | 2,498                    | 22.6   |
| 1898                                     | 107,472                                      | 3,467   | 32.2   | 682                           | 196.7                             | 1,698                     | 15.8   | 124                            | 124                                             | 905                                             | 2,479                    | 23.0   |
| 1899                                     | 106,662                                      | 3,344   | 31.4   | 662                           | 197.9                             | 1,702                     | 15.6   | 121                            | 121                                             | 1,048                                           | 2,629                    | 24.6   |
| 1900                                     | 101,576                                      | 3,259   | 32.8   | 574                           | 176.1                             | 1,592                     | 15.6   | 95                             | 95                                              | 981                                             | 2,478                    | 24.3   |
| 1901                                     | 101,463                                      | 3,792   | 37.3   | 461                           | 121.6                             | 1,318                     | 13.0   | 33                             | 29                                              | 880                                             | 2,169                    | 21.4   |
| Approximate Averages for years 1896-1900 | 104,929                                      | 3,404   | 32.6   | 608                           | 180.5                             | 1,611                     | 15.2   | 100                            | 100                                             | 939                                             | 2,451                    | 23.2   |
| 1902                                     | 100,487                                      | 3,624   | 36.0   | 558                           | 153.9                             | 1,376                     | 13.6   | 40                             | 35                                              | 907                                             | 2,283                    | 22.7   |

\* Rates calculated per 1,000 of estimated population.

Note—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term of "Non-residents" is meant persons brought into the district on account of illness, and dying there; and by the term "Residents" is meant persons who have been taken out of the district on account of illness, and have died elsewhere.

Area of District in acres  
(exclusively of area  
covered by water). 589

Total population at all ages, 101,463  
Number of inhabited houses, 9,280  
Average number of persons per house, 10.9

At Census of 1901.

Note—The above figures for 1896-1900 are approximate only, and have been arrived at by the addition of the figures for the Parishes of Clerkenwell and St. Luke.



TABLE II.

*Borough of Finsbury.*

| NAMES OF LOCALITIES |     | 1—THE BOROUGH                               |                   |                    |                     | 2—NORTH CLERKENWELL                         |                   |                    |                     | 3—SOUTH CLERKENWELL                         |                   |                    |                     | 4—FINSBURY (ST LUKE'S)                      |                   |                    |                     | 5—ST SEPULCHER                              |                   |                    |                     |
|---------------------|-----|---------------------------------------------|-------------------|--------------------|---------------------|---------------------------------------------|-------------------|--------------------|---------------------|---------------------------------------------|-------------------|--------------------|---------------------|---------------------------------------------|-------------------|--------------------|---------------------|---------------------------------------------|-------------------|--------------------|---------------------|
| YEAR                |     | Population estimated to middle of each Year | Births registered | Deaths at all Ages | Deaths under 1 year | Population estimated to middle of each Year | Births registered | Deaths at all Ages | Deaths under 1 year | Population estimated to middle of each Year | Births registered | Deaths at all Ages | Deaths under 1 year | Population estimated to middle of each Year | Births registered | Deaths at all Ages | Deaths under 1 year | Population estimated to middle of each Year | Births registered | Deaths at all Ages | Deaths under 1 year |
|                     |     | <i>a</i>                                    | <i>b</i>          | <i>c</i>           | <i>d</i>            | <i>a</i>                                    | <i>b</i>          | <i>c</i>           | <i>d</i>            | <i>a</i>                                    | <i>b</i>          | <i>c</i>           | <i>d</i>            | <i>a</i>                                    | <i>b</i>          | <i>c</i>           | <i>d</i>            | <i>a</i>                                    | <i>b</i>          | <i>c</i>           | <i>d</i>            |
| 1901                | ... | 101,463                                     | 3,792             | 2,161              | 461                 | 35,028                                      | 1,059             | 699                | 158                 | 28,676                                      | 888               | 583                | 124                 | 35,375                                      | 1,798             | 840                | 172                 | 1,643                                       | 37                | 31                 | 6                   |
| 1902                | ... | 101,463                                     | 3,624             | 2,283              | 558                 | 35,028                                      | 1,056             | 783                | 183                 | 28,676                                      | 871               | 593                | 152                 | 36,116                                      | 1,649             | 873                | 217                 | 1,643                                       | 38                | 34                 | 6                   |

NOTES.—(a) The separate localities adopted for this table should be areas of which the populations are obtainable from the census returns, such as wards, parishes or groups of parishes, or registration sub-districts. Block 1 may, if desired, be used for the whole district: and blocks 2, 3, &c., for the several localities. In small districts without recognised divisions of known population this Table need not be filled up.

(b) Deaths of residents occurring beyond the district are to be included in sub-columns *c* of this table, and those of non-residents registered in the district excluded. (See note on Table I. as to meaning of terms "resident" and "non-resident.")

(c) Deaths of residents occurring in public institutions are to be allotted to the respective localities, according to addresses of the deceased.

TABLE III.  
CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1902.  
*Borough of Finsbury.*

| Notifiable Disease      | Cases Notified in Whole District |              |        |         |          |          |                   | Total Cases Notified in each Locality |                           |                             |                       | No. of Cases removed to Hospital from each Locality |                           |                             |                       |
|-------------------------|----------------------------------|--------------|--------|---------|----------|----------|-------------------|---------------------------------------|---------------------------|-----------------------------|-----------------------|-----------------------------------------------------|---------------------------|-----------------------------|-----------------------|
|                         | At All Ages                      | At Ages—Year |        |         |          |          |                   | 1<br>North<br>Clerkenwell             | 2<br>South<br>Clerkenwell | 3<br>Finsbury<br>(St. Luke) | 4<br>St.<br>Sepulchre | 1<br>North<br>Clerkenwell                           | 2<br>South<br>Clerkenwell | 3<br>Finsbury<br>(St. Luke) | 4<br>St.<br>Sepulchre |
|                         |                                  | Under<br>1   | 1 to 5 | 5 to 15 | 15 to 25 | 25 to 65 | 65 and<br>upwards |                                       |                           |                             |                       |                                                     |                           |                             |                       |
| Small-pox ... ..        | 186                              | 4            | 16     | 35      | 61       | 70       | —                 | 28                                    | 26                        | 131                         | 1                     | 28                                                  | 26                        | 129                         | —                     |
| Cholera ... ..          | —                                | —            | —      | —       | —        | —        | —                 | —                                     | —                         | —                           | —                     | —                                                   | —                         | —                           | —                     |
| Diphtheria ... ..       | 216                              | 9            | 99     | 78      | 23       | 7        | —                 | 107                                   | 39                        | 65                          | 5                     | 101                                                 | 39                        | 64                          | 4                     |
| Membranous croup ... .. | —                                | —            | —      | —       | —        | —        | —                 | —                                     | —                         | —                           | —                     | —                                                   | —                         | —                           | —                     |
| Erysipelas ... ..       | 155                              | 3            | 12     | 16      | 16       | 98       | 10                | 42                                    | 33                        | 76                          | 4                     | —                                                   | —                         | —                           | —                     |
| Scarlet Fever ... ..    | 381                              | 5            | 141    | 192     | 34       | 9        | —                 | 156                                   | 101                       | 115                         | 9                     | 370                                                 | 99                        | 112                         | 9                     |
| Typhus Fever ... ..     | —                                | —            | —      | —       | —        | —        | —                 | —                                     | —                         | —                           | —                     | —                                                   | —                         | —                           | —                     |
| Enteric Fever ... ..    | 77                               | —            | 2      | 29      | 24       | 21       | 1                 | 18                                    | 17                        | 41                          | 1                     | 16                                                  | 15                        | 38                          | —                     |
| Relapsing Fever ... ..  | —                                | —            | —      | —       | —        | —        | —                 | —                                     | —                         | —                           | —                     | —                                                   | —                         | —                           | —                     |
| Continued Fever ... ..  | 5                                | —            | 1      | 2       | —        | 2        | —                 | 2                                     | 2                         | 1                           | —                     | 2                                                   | 2                         | —                           | —                     |
| Puerperal Fever ... ..  | 6                                | —            | —      | —       | 2        | 4        | —                 | 2                                     | 3                         | 1                           | —                     | —                                                   | —                         | —                           | —                     |
| Plague ... ..           | —                                | —            | —      | —       | —        | —        | —                 | —                                     | —                         | —                           | —                     | —                                                   | —                         | —                           | —                     |
| Varicella ... ..        | 690                              | 76           | 341    | 268     | 5        | —        | —                 | 212                                   | 199                       | 274                         | 5                     | —                                                   | —                         | —                           | —                     |
| Totals ... ..           | 1,716                            | 97           | 612    | 620     | 165      | 211      | 11                | 567                                   | 420                       | 704                         | 25                    | 517                                                 | 181                       | 343                         | 13                    |



TABLE IV.

## Borough of Finsbury.

CAUSES OF AND AGES AT DEATH DURING THE YEAR, 1902.

| Causes of Death.                                           | Deaths in District at subjoined Ages |         |               |                |                 |                 |                | Deaths in Localities (at all Ages) |                   |                       |               | Deaths in Public Institutions |
|------------------------------------------------------------|--------------------------------------|---------|---------------|----------------|-----------------|-----------------|----------------|------------------------------------|-------------------|-----------------------|---------------|-------------------------------|
|                                                            | All ages                             | Under 1 | 1 and under 5 | 5 and under 15 | 15 and under 25 | 25 and under 65 | 65 and upwards | North Clerkenwell                  | South Clerkenwell | Finsbury (St. Luke's) | St. Sepulchre |                               |
| Small-Pox ... ..                                           | 32                                   | 3       | 8             | 5              | 9               | 7               | ...            | 9                                  | 1                 | 21                    | 1             | 30                            |
| Measles ... ..                                             | 83                                   | 20      | 50            | 4              | ...             | ...             | ...            | 24                                 | 30                | 26                    | 3             | 16                            |
| Scarlet Fever ... ..                                       | 15                                   | 1       | 10            | 1              | 2               | 1               | ...            | 7                                  | 4                 | 3                     | 1             | 14                            |
| Whooping Cough ... ..                                      | 72                                   | 25      | 45            | 2              | ...             | ...             | ...            | 16                                 | 37                | 19                    | ...           | 9                             |
| Diphtheria and Membranous Croup ... ..                     | 37                                   | 6       | 22            | 9              | ...             | ...             | ...            | 22                                 | 3                 | 12                    | ...           | 34                            |
| Croup ... ..                                               | 2                                    | 1       | 1             | ...            | ...             | ...             | ...            | 1                                  | ...               | 1                     | ...           | ...                           |
| Fever { Typhus ... ..                                      | ...                                  | ...     | ...           | ...            | ...             | ...             | ...            | ...                                | ...               | ...                   | ...           | ...                           |
| Enteric ... ..                                             | 9                                    | ...     | ...           | 2              | 2               | 5               | ...            | 3                                  | 1                 | 5                     | ...           | 8                             |
| Other Continued ... ..                                     | ...                                  | ...     | ...           | ...            | ...             | ...             | ...            | ...                                | ...               | ...                   | ...           | ...                           |
| Epidemic Influenza ... ..                                  | 18                                   | 1       | ...           | 2              | 1               | 9               | 5              | 7                                  | 2                 | 9                     | ...           | 3                             |
| Cholera ... ..                                             | ...                                  | ...     | ...           | ...            | ...             | ...             | ...            | ...                                | ...               | ...                   | ...           | ...                           |
| Plague ... ..                                              | ...                                  | ...     | ...           | ...            | ...             | ...             | ...            | ...                                | ...               | ...                   | ...           | ...                           |
| Diarrhœa ... ..                                            | 59                                   | 39      | 14            | ...            | ...             | 4               | 2              | 12                                 | 17                | 28                    | 2             | 13                            |
| Enteritis ... ..                                           | 25                                   | 15      | 6             | 1              | ...             | 2               | 1              | 14                                 | 4                 | 7                     | ...           | 2                             |
| Puerperal Fever ... ..                                     | 5                                    | ...     | ...           | ...            | 3               | 2               | ...            | ...                                | 3                 | 2                     | ...           | 3                             |
| Erysipelas ... ..                                          | 5                                    | ...     | ...           | 1              | ...             | 3               | 1              | ...                                | 3                 | 2                     | ...           | 1                             |
| Other Septic Diseases ... ..                               | 12                                   | ...     | 4             | 1              | 1               | 6               | ...            | 6                                  | 1                 | 5                     | ...           | 6                             |
| Phthisis ... ..                                            | 240                                  | 7       | 10            | 9              | 22              | 186             | 6              | 81                                 | 71                | 86                    | 2             | 108                           |
| Other Tubercular Diseases ... ..                           | 23                                   | 12      | 6             | ...            | ...             | 4               | 1              | 5                                  | 5                 | 13                    | ...           | 12                            |
| Cancer, Malignant Disease ... ..                           | 70                                   | ...     | ...           | ...            | ...             | 44              | 26             | 22                                 | 18                | 27                    | 3             | 36                            |
| Bronchitis ... ..                                          | 298                                  | 59      | 30            | 2              | 2               | 113             | 92             | 100                                | 85                | 111                   | 2             | 117                           |
| Pneumonia ... ..                                           | 204                                  | 54      | 54            | 3              | 7               | 64              | 22             | 77                                 | 40                | 86                    | 1             | 63                            |
| Pleurisy ... ..                                            | 5                                    | ...     | ...           | ...            | ...             | 4               | 1              | 2                                  | 1                 | 2                     | ...           | 2                             |
| Other Diseases of Respiratory Organs ... ..                | 20                                   | 9       | 5             | 1              | ...             | 4               | 1              | 12                                 | 3                 | 5                     | ...           | 9                             |
| Alcoholism ... ..                                          | 27                                   | ...     | ...           | ...            | ...             | 25              | 2              | 8                                  | 6                 | 13                    | ...           | 14                            |
| Cirrhosis of Liver ... ..                                  | 21                                   | ...     | ...           | ...            | ...             | 16              | 5              | 10                                 | 3                 | 7                     | 1             | 9                             |
| Venereal Diseases ... ..                                   | 8                                    | 8       | ...           | ...            | ...             | ...             | ...            | 1                                  | 4                 | 2                     | 1             | ...                           |
| Premature Birth ... ..                                     | 79                                   | 79      | ...           | ...            | ...             | ...             | ...            | 30                                 | 17                | 32                    | ...           | 2                             |
| Diseases and Accidents of Parturition ... ..               | 6                                    | 1       | ...           | ...            | ...             | 5               | ...            | 2                                  | 1                 | 3                     | ...           | 1                             |
| Heart Diseases ... ..                                      | 160                                  | 4       | 4             | 6              | 9               | 95              | 42             | 61                                 | 44                | 52                    | 3             | 70                            |
| Accidents ... ..                                           | 54                                   | 9       | 8             | 6              | 2               | 17              | 12             | 10                                 | 9                 | 34                    | 1             | 31                            |
| Suicides ... ..                                            | 18                                   | ...     | ...           | ...            | 1               | 16              | 1              | 10                                 | 4                 | 4                     | ...           | 8                             |
| Renal Diseases ... ..                                      | 8                                    | ...     | ...           | ...            | 1               | 4               | 3              | 2                                  | ...               | 5                     | 1             | 7                             |
| Nervous and Cerebral Diseases ... ..                       | 51                                   | ...     | ...           | 2              | 5               | 36              | 8              | 20                                 | 16                | 15                    | ...           | 28                            |
| Debility ... ..                                            | 25                                   | 23      | 1             | ...            | ...             | 1               | ...            | 8                                  | 11                | 6                     | ...           | 1                             |
| Senility ... ..                                            | 129                                  | ...     | ...           | ...            | ...             | ...             | 129            | 41                                 | 26                | 54                    | 8             | 82                            |
| Overlain in Bed ... ..                                     | 30                                   | 29      | 1             | ...            | ...             | ...             | ...            | 8                                  | 6                 | 16                    | ...           | ...                           |
| Convulsions ... ..                                         | 35                                   | 26      | 6             | 3              | ...             | ...             | ...            | 11                                 | 9                 | 15                    | ...           | 1                             |
| Developmental Diseases ... ..                              | 12                                   | 8       | 4             | ...            | ...             | ...             | ...            | 5                                  | 4                 | 3                     | ...           | ...                           |
| Diseases of Stomach ... ..                                 | 26                                   | 8       | ...           | 1              | 1               | 12              | 4              | 10                                 | 4                 | 12                    | ...           | 15                            |
| Eczema ... ..                                              | ...                                  | ...     | ...           | ...            | ...             | ...             | ...            | ...                                | ...               | ...                   | ...           | ...                           |
| Homicide ... ..                                            | 1                                    | ...     | 1             | ...            | ...             | ...             | ...            | ...                                | ...               | 1                     | ...           | 1                             |
| Inflammation and Softening of Brain ... ..                 | 69                                   | 4       | 1             | 1              | 3               | 38              | 22             | 22                                 | 17                | 28                    | 2             | 31                            |
| Meningitis ... ..                                          | 25                                   | 7       | 11            | 3              | ...             | 4               | ...            | 13                                 | 7                 | 5                     | ...           | 7                             |
| Nephritis and Bright's Disease ... ..                      | 56                                   | 1       | 1             | 1              | 3               | 37              | 13             | 18                                 | 11                | 27                    | ...           | 19                            |
| Intestinal Obstruction ... ..                              | 21                                   | 4       | ...           | 7              | 2               | 4               | 4              | 4                                  | 8                 | 9                     | ...           | 14                            |
| Tuberculous Meningitis ... ..                              | 21                                   | 6       | 10            | 5              | ...             | ...             | ...            | 8                                  | 9                 | 4                     | ...           | 10                            |
| Tumours and other Diseases of Female Genital Organs ... .. | 2                                    | ...     | ...           | ...            | ...             | 1               | 1              | 1                                  | ...               | 1                     | ...           | 2                             |
| Murder ... ..                                              | 1                                    | 1       | ...           | ...            | ...             | ...             | ...            | 1                                  | ...               | ...                   | ...           | 1                             |
| Marasmus ... ..                                            | 90                                   | 82      | 8             | ...            | ...             | ...             | ...            | 28                                 | 29                | 32                    | 1             | 16                            |
| All other causes ... ..                                    | 74                                   | 6       | 9             | 3              | 6               | 36              | 14             | 29                                 | 19                | 26                    | ...           | 52                            |
| All cases ... ..                                           | 2283                                 | 558     | 339           | 81             | 82              | 805             | 418            | 781                                | 593               | 876                   | 33            | 908                           |

## APPENDIX









NAMES AND ADDRESSES, ETC., OF THE SMALL-POX CASES,  
1901 & 1902.

| No.  | Name. | Address.                                  | Sex and Age. | Occupation.             | Date of commencement of symptoms. | Date of Eruption. |
|------|-------|-------------------------------------------|--------------|-------------------------|-----------------------------------|-------------------|
| 1901 | G T   | New Charles Street, 42                    | M 44         | Compositor              | Aug 10                            | Aug 13            |
| 2    | G M   | Red Lion Street, 12                       | M 39         | Cabinet Maker           | 20                                | 25                |
| 3    | H C   | Thomas Street, 30                         | F 21         | Laundress               | Sept 14                           | Sept 18           |
| 4    | W H   | Macclesfield Street, 41                   | M 23         | Disinfector             | 12                                | 18                |
| 5    | E P   | Vineyard Walk, 9                          | F 17         | ...                     | 22                                | 25                |
| 6    | F P   | Do 9                                      | M 7          | ...                     | 26                                | 28                |
| 7    | M H   | Do 9                                      | F 19         | ...                     | 25                                | 28                |
| 8    | H G   | Thomas Street, 24                         | M 17         | ...                     | 26                                | 26                |
| 9    | B D   | Do 12                                     | F 14         | ...                     | 26                                | 27                |
| 10   | J D   | Do 12                                     | F 18         | ...                     | 26                                | 27                |
| 11   | J B   | Mount Zion, Serimon Lane, 4               | M 14         | ...                     | 15                                | 25                |
| 12   | W B   | Do do                                     | M 12         | ...                     | 15                                | 27                |
| 13   | J P   | Whiskin Street, 7                         | M 37         | Builder's Labourer      | 22                                | 28                |
| 14   | H B   | Mount Zion, Serimon Lane, 4               | F 16         | Doll Maker              | 25                                | 27                |
| 15   | H D   | Lower Charles Street, 6                   | M 33         | Barometer Maker         | 28                                | 30                |
| 16   | C D   | Fann Street, 17                           | F 16         | Gold & Silver Burnisher | 27                                | 30                |
| 17   | A B   | Thomas Street, 30                         | M 3          | ...                     | Oct 1                             | Oct 4             |
| 18   | E H   | Do 30                                     | M 13         | ...                     | 7                                 | 25                |
| 19   | A H   | Do 30                                     | M 16         | Driver                  | 27                                | 27                |
| 20   | J F   | Valetta Street, 9                         | M 40         | Printer and Caretaker   | 6 Oct                             | 10                |
| 21   | M S   | Tilney Court, 9                           | F 15         | ...                     | 11                                | 11                |
| 22   | J L   | New Buildings, Margaret Street, 7         | M 13         | ...                     | 11                                | 11                |
| 23   | C H   | Woodbridge Street, 4                      | M 21         | Disinfector             | 11                                | 17                |
| 24   | E J   | Bartholomew Buildings, Seaward Street, 15 | M 32         | ...                     | 17                                | 18                |
| 25   | M W   | Thomas Street, 24                         | F 28         | ...                     | 20                                | 23                |
| 26   | J D   | Banner Street, 6                          | M 41         | ...                     | 23                                | 24                |
| 27   | J A   | Risinghill Street, 45                     | M 45         | Disinfector             | 26                                | 28                |
| 28   | E H   | Malta Street, 9                           | M 26         | Packer                  | 27                                | 29                |
| 29   | A P   | Lloyd's Row, 4A                           | F 47         | ...                     | Nov 1                             | Nov 3             |
| 30   | W P   | Do 3A                                     | M 6          | ...                     | 2                                 | 3                 |
| 31   | M T   | Thomas Street, 8                          | F 14         | ...                     | Oct 31                            | 3                 |
| 32   | J T   | Thomas Street, 8                          | M 8          | ...                     | Nov 1                             | 3                 |
| 33   | J W   | Easton Place, 1                           | M 26         | ...                     | Oct 30                            | 2                 |
| 34   | A M   | Northampton Street, 43                    | F 19         | Paper Bag Maker         | Nov 1                             | 2                 |
| 35   | C W   | Douglas Place, 18                         | F 25         | Labourer                | Sept 29                           | early in Oct      |
| 36   | A F   | Do 18                                     | M 18         | ...                     | Oct 15                            | Oct 17            |
| 37   | P F   | Do 18                                     | F 11         | ...                     | 15                                | 17                |
| 38   | L F   | Do 18                                     | F 16         | Machinist               | 30 Nov                            | 3                 |
| 39   | S S   | Pine Street, 4                            | F 22         | ...                     | Nov 1                             | 1                 |
| 40   | H D   | St. John Street, 92                       | M 10         | ...                     | 3                                 | 5                 |
| 41   | T S   | Northampton Street, 42                    | M 46         | tationer's Cutter       | Oct 31                            | 6                 |
| 42   | C S   | Do 42                                     | F 22         | Burnisher               | Nov 3                             | 6                 |
| 43   | E R   | Margaret Street, 17                       | F 19         | Machinist               | 3                                 | 6                 |

| Date of Removal to Hospital. | Vaccinated in Infancy. | Vaccinated during the last 10 years. | Unvaccinated. | Cases terminating fatally, with date and kind of Small-pox. | Source of Infection.                                                                                                                                                                                           |
|------------------------------|------------------------|--------------------------------------|---------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aug 13                       | *                      | ...                                  | ...           | ...                                                         | Working Men's Club and Institute Union, Clerkenwell road (infected). 20, Clipstone Street (infected workshop). Contracted from unrecognised case (E S). Disinfecting 12, Red Lion Street. Infected Hop-fields. |
| Sept 20                      | *                      | ...                                  | ...           | ...                                                         | Do do                                                                                                                                                                                                          |
| Sept 18                      | *                      | ...                                  | ...           | ...                                                         | Do do                                                                                                                                                                                                          |
| Sept 19                      | *                      | ...                                  | ...           | ...                                                         | Do do                                                                                                                                                                                                          |
| Sept 28                      | ...                    | ...                                  | *             | ...                                                         | Do do                                                                                                                                                                                                          |
| Sept 28                      | ...                    | ...                                  | *             | ...                                                         | Do do                                                                                                                                                                                                          |
| Sept 28                      | ...                    | ...                                  | *             | ...                                                         | Do do                                                                                                                                                                                                          |
| Sept 28                      | ...                    | ...                                  | *             | ...                                                         | Do do                                                                                                                                                                                                          |
| Sept 28                      | ...                    | ...                                  | *             | ...                                                         | Do do                                                                                                                                                                                                          |
| Sept 28                      | ...                    | ...                                  | *             | ...                                                         | Do do                                                                                                                                                                                                          |
| Sept 28                      | ...                    | ...                                  | *             | ...                                                         | Do do                                                                                                                                                                                                          |
| Sept 28                      | ...                    | ...                                  | *             | ...                                                         | Do do                                                                                                                                                                                                          |
| Sept 28                      | ...                    | ...                                  | *             | ...                                                         | Do do                                                                                                                                                                                                          |
| Sept 28                      | ...                    | ...                                  | *             | ...                                                         | Do do                                                                                                                                                                                                          |
| Oct 1                        | *                      | ...                                  | ...           | ...                                                         | Unknown. Contracted disease from infected area around Thomas Street.                                                                                                                                           |
| Oct 3                        | *                      | ...                                  | ...           | ...                                                         | Contracted infection from E S.                                                                                                                                                                                 |
| Oct 4                        | ...                    | ...                                  | *             | ...                                                         | Do do                                                                                                                                                                                                          |
| Oct 7                        | ...                    | ...                                  | *             | ...                                                         | Do do                                                                                                                                                                                                          |
| Oct 7                        | *                      | ...                                  | ...           | ...                                                         | Wandering in the vicinity of Thomas Street.                                                                                                                                                                    |
| Oct 11                       | *                      | ...                                  | ...           | ...                                                         | Infected Hop-fields.                                                                                                                                                                                           |
| Oct 11                       | ...                    | ...                                  | *             | Oct 22, 1901. Confluent small-pox                           | Do do                                                                                                                                                                                                          |
| Oct 12                       | ...                    | ...                                  | *             | ...                                                         | Contracted disease in the discharge of his duties.                                                                                                                                                             |
| Oct 18                       | *                      | ...                                  | ...           | ...                                                         | Contracted his infection at his work-place in the City of Westminster.                                                                                                                                         |
| Oct 18                       | *                      | ...                                  | ...           | ...                                                         | Contact from Hop-pickers.                                                                                                                                                                                      |
| Oct 25                       | ...                    | ...                                  | ...           | ...                                                         | A tramp, wandering about in infected areas.                                                                                                                                                                    |
| Oct 26                       | *                      | ...                                  | ...           | ...                                                         | Contracted disease in the discharge of his duties.                                                                                                                                                             |
| Oct 28                       | *                      | ...                                  | ...           | ...                                                         | Wandering in infected areas.                                                                                                                                                                                   |
| Nov 31                       | ...                    | *                                    | ...           | Nov 5, 1901. Confluent small-pox                            | Contracted disease from the infected area around Thomas Street.                                                                                                                                                |
| Nov 4                        | *                      | ...                                  | ...           | Nov 11, 1901. Discrete small-pox                            | Do do do                                                                                                                                                                                                       |
| Nov 4                        | ...                    | *                                    | ...           | ...                                                         | Thomas Street infected area.                                                                                                                                                                                   |
| Nov 4                        | ...                    | *                                    | ...           | ...                                                         | Contracted disease from No. 35.                                                                                                                                                                                |
| Nov 5                        | *                      | ...                                  | ...           | ...                                                         | Wandering about in infected streets.                                                                                                                                                                           |
| Nov 5                        | *                      | ...                                  | ...           | ...                                                         | Contracted disease from Vineyard Walk.                                                                                                                                                                         |
| Nov 5                        | *                      | ...                                  | ...           | ...                                                         | Contracted disease from his sister (No 35).                                                                                                                                                                    |
| Nov 5                        | *                      | ...                                  | ...           | ...                                                         | Contracted disease from her sister (No 35).                                                                                                                                                                    |
| Nov 5                        | *                      | ...                                  | ...           | ...                                                         | Do do do (No. 35)                                                                                                                                                                                              |
| Nov 5                        | *                      | ...                                  | ...           | ...                                                         | Do do do (No. 35)                                                                                                                                                                                              |
| Nov 5                        | *                      | ...                                  | ...           | Nov 10. Haemorrhagic small-pox                              | Unknown.                                                                                                                                                                                                       |
| Nov 6                        | *                      | ...                                  | ...           | ...                                                         | Contracted disease from his daughter, an unrecognised case of small-pox.                                                                                                                                       |
| Nov 7                        | *                      | ...                                  | ...           | ...                                                         | Contracted disease from her sister, an unrecognised case of small-pox.                                                                                                                                         |
| Nov 9                        | *                      | ...                                  | ...           | ...                                                         | Wandering about in infected streets.                                                                                                                                                                           |

| No | Name | Address                                    | Sex and Age | Occupation              | Date of commencement of symptoms | Date of Eruption |
|----|------|--------------------------------------------|-------------|-------------------------|----------------------------------|------------------|
| 44 | R P  | Penton Place, 14                           | M 31        | Policeman               | Nov. 4                           | Nov. 7           |
| 45 | N N  | Corporation Building, 1                    | M 32        | Jewel Case Maker        | " 7                              | " 13             |
| 46 | E D  | Green Terrace, 22                          | F 26        | "                       | " 11                             | " 14             |
| 47 | W S  | Myddelton Street, 35                       | M 41        | Boot Maker and Repairer | " 13                             | " 16             |
| 48 | F A  | Dufferin Street (Peabody Buildings, 20, 1) | M 35        | Pattern Card Maker      | " 12                             | " 16             |
| 49 | C C  | Thomas Street, 8                           | F 18        | Laundress               | " 14                             | " 16             |
| 50 | J H  | Coldbath Square, 6                         | M 28        | Packing Case Maker      | " 14                             | " 18             |
| 51 | A M  | Douglas Place, 4                           | F 25        | "                       | " 14                             | " 18             |
| 52 | A G  | Northampton Buildings, 152                 | F 18        | Layer-on                | " 16                             | " 20             |
| 53 | J P  | Penton Place, 14                           | M 7         | "                       | " 19                             | " 19             |
| 54 | F P  | Do 14                                      | M 8         | "                       | " 19                             | " 22             |
| 55 | E P  | Southampton Street, 98                     | F 23        | "                       | " 25                             | " 26             |
| 56 | T L  | Farringdon Road, 167                       | M 10 1/2    | "                       | " 27                             | " 30             |
| 57 | A W  | St. James' Street, 13                      | M 36        | "                       | " 27                             | Dec. 1           |
| 58 | L H  | Coldbath Square, 6                         | F 20        | "                       | " 26                             | Nov. 30          |
| 59 | J H  | Do 6                                       | M 3 1/2     | "                       | Dec 1                            | Dec 2            |
| 60 | A J  | Myddelton Street, 69                       | M 27        | Zinc Mounter            | Nov 28                           | " 1              |
| 61 | G S  | Exmouth Street, 36                         | M 33        | Fancy Draper            | Dec 1                            | " 4              |
| 62 | G V  | Thomas Street, 5                           | M 18        | Stableman               | " 2                              | " 4              |
| 63 | E Y  | Middleton Square, 68                       | F 53        | "                       | " 2                              | " 5              |
| 64 | E B  | Thomas Street, 6                           | F 29        | "                       | " 1                              | " 5              |
| 65 | H P  | Whiskin Street, 23                         | F 23        | "                       | " 2                              | " 6              |
| 66 | W S  | Baker Street, 29...                        | M 17        | Leather Worker          | " 7                              | " 10             |
| 67 | F L  | Coldbath Square, 4                         | M 4         | "                       | " 10                             | " 11             |
| 68 | E M  | Rodney Street, 31                          | F 40        | "                       | " 9                              | " 12             |
| 69 | W M  | Do 31                                      | F 15        | Leather Worker          | " 25                             | Nov 29           |
| 70 | A M  | Do 31                                      | F 11        | "                       | " 9                              | Dec 12           |
| 71 | R M  | Do 31                                      | M 17        | Printer                 | " 13                             | " 13             |
| 72 | A C  | Risinghill Street, 19                      | F 17        | Leather Worker          | " 9                              | " 12             |
| 73 | W L  | Providence Place, 4                        | M 10        | "                       | " 12                             | " 14             |
| 74 | J G  | Northampton Buildings, 387                 | M 33        | Mason's Labourer        | " 13                             | " 17             |
| 75 | W C  | Ironmonger Row, 11                         | M 28        | Porter                  | " 17                             | " 22             |
| 76 | T W  | Lock's Gardens, 14                         | M 18        | "                       | " 17                             | " 24             |
| 77 | E S  | Pentonville Road, 76                       | M 18        | Compositor              | " 21                             | " 23             |
| 78 | M C  | Farringdon Road Buildings, 197             | F 18        | Soda Water Worker       | " 13                             | " 14             |
| 79 | H C  | Jay's Buildings, 8                         | F 16        | Cigarette Maker         | " 22                             | " 24             |
| 80 | R C  | Farringdon Road Buildings, 197             | M 49        | Printer                 | " 16                             | " 23             |
| 81 | S G  | Seabrook Place, 9                          | M 31        | Stableman               | " 21                             | " 25             |
| 82 | R D  | Percival Street, 41                        | M 25        | Kitchen Porter          | " 18                             | " 26             |
| 83 | F S  | St. John Street, 68                        | M 32        | Lead Liner              | " 19                             | " 27             |
| 84 | A S  | Goswell Road, 219                          | F 20        | Cigar Packer            | " 20                             | " 25             |

| Date of Removal to Hospital | Visited in Infirmary | Visited during the last 14 days | Unvaccinated | Cases terminating fatally, with date and kind of Small-pox | Source of Infection                                |
|-----------------------------|----------------------|---------------------------------|--------------|------------------------------------------------------------|----------------------------------------------------|
| Nov. 10                     | *                    | ...                             | ...          | ...                                                        | Wandering about in infected streets.               |
| " 14                        | *                    | ...                             | ...          | ...                                                        | Contracted disease from his workshop.              |
| " 15                        | Un                   | ...                             | ...          | Nov 21. Haemorrhagic small-pox                             | Thomas Street, infected area.                      |
| " 17                        | Un                   | ...                             | ...          | Dec 22. Discrete small-pox                                 | Do do                                              |
| " 17                        | *                    | ...                             | ...          | ...                                                        | Unknown.                                           |
| " 18                        | *                    | ...                             | ...          | ...                                                        | Thomas Street, infected area.                      |
| " 19                        | *                    | ...                             | ...          | ...                                                        | Contracted disease from 18 1/2, Douglas Place.     |
| " 19                        | *                    | ...                             | ...          | ...                                                        | Do do                                              |
| " 21                        | *                    | ...                             | ...          | ...                                                        | Wandering about in infected streets.               |
| " 22                        | *                    | ...                             | ...          | ...                                                        | Contracted disease from his father (No 44).        |
| " 23                        | *                    | ...                             | ...          | ...                                                        | Do do                                              |
| " 28                        | *                    | ...                             | ...          | ...                                                        | Contracted disease from her sister in St. Pancras. |
| " 30                        | ...                  | ...                             | *            | ...                                                        | Wandering about in infected streets.               |
| Dec 1                       | *                    | ...                             | ...          | Dec 5. Haemorrhagic small-pox                              | Do do                                              |
| " 2                         | *                    | ...                             | ...          | ...                                                        | Douglas Place group.                               |
| " 2                         | *                    | ...                             | ...          | ...                                                        | Do do                                              |
| " 3                         | *                    | ...                             | ...          | ...                                                        | Contracted disease from his step-father.           |
| " 5                         | *                    | ...                             | ...          | ...                                                        | Do do sister.                                      |
| " 5                         | *                    | ...                             | ...          | ...                                                        | Thomas Street, infected area.                      |
| " 6                         | *                    | ...                             | ...          | ...                                                        | Wandering about in infected streets.               |
| " 6                         | *                    | ...                             | ...          | Dec 12. Confluent small-pox                                | Thomas Street, infected area.                      |
| " 7                         | *                    | ...                             | ...          | ...                                                        | Do do                                              |
| " 13                        | *                    | ...                             | ...          | ...                                                        | Contracted disease at his workshop (No 69).        |
| " 13                        | *                    | ...                             | ...          | ...                                                        | Contracted disease indirectly from Douglas Place.  |
| " 13                        | *                    | ...                             | ...          | ...                                                        | Contracted disease from her daughter (No 69).      |
| " 13                        | *                    | ...                             | ...          | ...                                                        | Unknown.                                           |
| " 13                        | *                    | ...                             | ...          | ...                                                        | Contracted disease from his sister (No 69).        |
| " 13                        | *                    | ...                             | ...          | ...                                                        | Do do her do                                       |
| " 13                        | *                    | ...                             | ...          | ...                                                        | Contracted disease from her workplace (No 69).     |
| " 15                        | ...                  | ...                             | *            | ...                                                        | Contracted disease indirectly from Douglas Place.  |
| " 18                        | *                    | ...                             | ...          | ...                                                        | Unknown.                                           |
| " 23                        | *                    | ...                             | ...          | ...                                                        | Wandering about in infected streets.               |
| " 25                        | *                    | ...                             | ...          | ...                                                        | Contracted small-pox from Douglas Place.           |
| " 25                        | *                    | ...                             | ...          | ...                                                        | Unknown.                                           |
| " 26                        | *                    | ...                             | ...          | ...                                                        | Contracted small-pox from Douglas Place.           |
| " 26                        | ...                  | ...                             | *            | Jan 6. Confluent small-pox                                 | Contracted disease from her workshop.              |
| " 25                        | *                    | ...                             | ...          | ...                                                        | Contracted small-pox from Douglas Place.           |
| " 27                        | *                    | ...                             | ...          | ...                                                        | Contracted disease at his workplace.               |
| " 27                        | *                    | ...                             | ...          | ...                                                        | Unknown.                                           |
| " 28                        | *                    | ...                             | ...          | Jan 2. Confluent small-pox                                 | Wandering about in infected streets.               |
| " 27                        | *                    | ...                             | ...          | ...                                                        | Contracted disease from her workplace              |



| No.         | Name. | Address.                    | Sex and Age. | Occupation.                     | Date of commencement of symptoms. | Date of Eruption. |
|-------------|-------|-----------------------------|--------------|---------------------------------|-----------------------------------|-------------------|
| 85          | H F   | Wharton Street, 38          | M 24         | Cabinet Maker                   | Dec. 24                           | Dec. 27           |
| 86          | F S   | Amwell Street, 54           | M 32         | Traveller                       | " 26                              | " 28              |
| 87          | D O   | Thomas Place, 10            | M 32         | Labourer                        | " 26                              | " 28              |
| 88          | J J   | New Street, 17              | M 20         | Porter                          | " 28                              | " 30              |
| <b>1902</b> |       |                             |              |                                 |                                   |                   |
| 89          | J G   | Wharton Street, 6           | M 38         | Clerk                           | Jan 4                             | Jan 5             |
| 90          | A H   | Jay's Buildings, 8          | M 34         | "                               | " 5                               | " 8               |
| 91          | A P   | Paton Street, 6             | F 19         | Domestic Servant                | " 6                               | " 9               |
| 92          | C P   | St. John Street Road, 24    | M 6          | "                               | " 6                               | " 9               |
| 93          | B K   | Goswell Road, 219           | M 17         | Tobacconist's Assistant         | " 8                               | " 9               |
| 94          | F M   | Jerusalem Buildings, 5      | M 25         | Carman                          | " 8                               | " 11              |
| 95          | A C   | Great Bath Street, 22       | M 25         | Cook                            | " 10                              | " 13              |
| 96          | E M   | Risinghill Street, 22       | F 13         | "                               | " 7                               | " 12              |
| 97          | G H   | Rosoman Street, 97          | M 41         | Silversmith's Porter            | " 8                               | " 13              |
| 98          | M B   | Aylesbury Place, 6          | F 20         | "                               | " 16                              | " 18              |
| 99          | J C   | Do 6                        | M 7          | "                               | " 16                              | " 18              |
| 100         | M S   | Southampton Street, 15      | F 17         | Wholesale Stationer's Assistant | " 19                              | " 20              |
| 101         | E P   | Ironmonger Street, 2        | F 24         | "                               | " 22                              | " 24              |
| 102         | A L   | Guest Street, 22, W         | F 6          | "                               | " 23                              | " 25              |
| 103         | E H   | Rosoman Street, 97          | F 41         | "                               | " 24                              | " 26              |
| 104         | F T   | Jerusalem Buildings, 5      | M 17         | Van Lad                         | " 16                              | " 24              |
| 105         | M B   | Galway Street, 45           | F 14         | Finisher of Underwear           | " 25                              | " 27              |
| 106         | W S   | Ironmonger Street, 17       | M 23         | Cook                            | " 25                              | " 28              |
| 107         | A G   | Golden Lane, 58             | F 21         | Dressmaker                      | " 25                              | " 28              |
| 108         | E L   | Lever Street 148            | F 28         | "                               | " 24                              | " 28              |
| 109         | A H   | Rosoman Street, 97          | M 2          | "                               | " 28                              | " 28              |
| 110         | E W   | Playhouse Yard, 10          | F 23         | Packer                          | " 25                              | " 28              |
| 111         | E M   | Myddelton Street, 65        | M 33         | Van Driver                      | " 27                              | " 28              |
| 112         | F D   | Eagle Dwellings, 16         | F 25         | "                               | " 25                              | " 28              |
| 113         | T M   | Lever Street, 5             | M 35         | Window Cleaner                  | " 25                              | " 28              |
| 114         | M R   | Galway Street, 5            | F 31         | Labourer                        | " 28                              | " 29              |
| 115         | G A   | Eagle Dwellings, 24         | F 25         | "                               | " 22                              | " 27              |
| 116         | H S   | Seabrooke Place, 7          | M 18         | Labourer                        | " 25                              | " 27              |
| 117         | L W   | City Road, 240              | F 23         | Box Maker                       | " 27                              | " 29              |
| 118         | L W   | Guinness' Buildings, 120    | F 23         | Office Cleaner                  | " 24                              | " 27              |
| 119         | L T   | Eagle Dwellings, 14         | F 25         | "                               | " 25                              | " 28              |
| 120         | M C   | Coldbath Buildings, 4       | F 16         | Ladies' Belt Maker              | " 26                              | " 30              |
| 121         | W P   | Roscoe Street, 19, D        | M 17         | Ostrich Feather Washer          | " 26                              | " 30              |
| 122         | E S   | Pichard Street, 4           | F 36         | Mantle Maker                    | " 27                              | " 30              |
| 123         | J K   | Mitchell Street, 28         | M 10         | "                               | " 26                              | " 29              |
| 124         | J C   | Old Street, 97              | M 46         | Pattern Maker                   | " 26                              | " 31              |
| 125         | J E   | Eagle Dwellings, 8          | M 28         | Commission Agent                | " 27                              | " 31              |
| 126         | G E   | Guinness' Buildings, 132, F | M 7 1/2      | "                               | " 28                              | " 29              |
| 127         | R S   | Peerless Street, 52         | F 21         | Cigar Maker                     | " 24                              | " 26              |
| 128         | E W   | Cottage Lane, 19            | F 40         | Blouse Maker                    | " 28                              | " 31              |
| 129         | P B   | Whitecross Street, 68       | M 8          | "                               | " 29                              | " 31              |
| 130         | T F   | Guinness' Buildings, 197    | M 20         | Porter                          | " 27                              | " 31              |
| 131         | E C   | Radnor Street, 47           | F 5          | "                               | " 26                              | " 29              |
| 132         | A C   | St. James' Walk, 30         | M 11         | "                               | " 28                              | Feb 2             |

| Date of Removal to Hospital. | Vaccinated in infancy. | Vaccinated during the last 10 years. | Unvaccinated. | Cases terminating fatally, with date and kind of Small-pox. | Source of Infection.                       |
|------------------------------|------------------------|--------------------------------------|---------------|-------------------------------------------------------------|--------------------------------------------|
| Dec. 28                      | *                      | ...                                  | ...           | Jan 3. Confluent small-pox                                  | Contracted disease from 31, Rodney Street. |
| " 29                         | *                      | ...                                  | ...           | "                                                           | Wandering about in infected streets.       |
| " 30                         | *                      | ...                                  | ...           | "                                                           | Infected lodging-house in Southwark.       |
| " 31                         | ...                    | ...                                  | *             | "                                                           | Wandering about in infected streets.       |
| Jan 6                        | *                      | ...                                  | ...           | Jan 11. Haemorrhagic small-pox                              | Wandering in infected street.              |
| " 8                          | *                      | ...                                  | *             | "                                                           | Previous case in house.                    |
| " 10                         | *                      | ...                                  | *             | "                                                           | Holborn Infirmary.                         |
| " 11                         | *                      | ...                                  | *             | "                                                           | Playing in infected areas.                 |
| " 11                         | *                      | ...                                  | *             | "                                                           | Previous case in house.                    |
| " 11                         | *                      | ...                                  | *             | "                                                           | Visited small-pox ships on 3 occasions.    |
| " 13                         | *                      | ...                                  | *             | "                                                           | declined to be re-vaccinated.              |
| " 13                         | *                      | ...                                  | *             | "                                                           | Wandering in infected streets.             |
| " 16                         | *                      | ...                                  | *             | "                                                           | Denmark Road, Islington (infected).        |
| " 18                         | *                      | ...                                  | *             | "                                                           | Unknown.                                   |
| " 19                         | ...                    | ...                                  | *             | "                                                           | Husband removed from Westminster.          |
| " 21                         | ...                    | ...                                  | *             | Jan 29. Confluent small-pox                                 | Contracted disease from No 98.             |
| " 25                         | *                      | ...                                  | *             | "                                                           | Contracted disease from her workplace.     |
| " 25                         | ...                    | ...                                  | *             | Feb 1. Confluent small-pox                                  | Wandering in infected streets.             |
| " 27                         | *                      | ...                                  | *             | "                                                           | Do do                                      |
| " 27                         | *                      | ...                                  | *             | "                                                           | Previous case in family.                   |
| " 28                         | *                      | ...                                  | *             | "                                                           | Do do                                      |
| " 28                         | *                      | ...                                  | *             | Feb 14. Confluent small-pox                                 | Wandering in infected streets.             |
| " 29                         | *                      | ...                                  | *             | Feb 4. Confluent small-pox                                  | Do do                                      |
| " 29                         | *                      | ...                                  | *             | "                                                           | Do do                                      |
| " 29                         | *                      | ...                                  | *             | "                                                           | Do do                                      |
| " 29                         | *                      | ...                                  | *             | "                                                           | Previous case in family.                   |
| " 29                         | *                      | ...                                  | *             | "                                                           | Wandering in infected streets.             |
| " 29                         | *                      | ...                                  | *             | "                                                           | Do do                                      |
| " 29                         | *                      | ...                                  | *             | "                                                           | Shoreditch infected area.                  |
| " 29                         | *                      | ...                                  | *             | "                                                           | Wandering in infected streets.             |
| " 30                         | *                      | ...                                  | *             | "                                                           | Do do                                      |
| " 30                         | *                      | ...                                  | *             | "                                                           | Shoreditch infected area.                  |
| " 30                         | *                      | ...                                  | *             | "                                                           | Infected common lodging-house.             |
| " 31                         | *                      | ...                                  | *             | "                                                           | Wandering in infected streets.             |
| " 31                         | *                      | ...                                  | *             | "                                                           | Do do                                      |
| " 31                         | *                      | ...                                  | *             | "                                                           | Shoreditch infected area.                  |
| " 31                         | *                      | ...                                  | *             | "                                                           | Lived in common lodging-house.             |
| " 31                         | *                      | ...                                  | *             | "                                                           | Shoreditch infected area.                  |
| " 1                          | *                      | ...                                  | *             | Feb 3. Confluent small-pox                                  | Do do                                      |
| " 2                          | *                      | ...                                  | *             | "                                                           | Do do                                      |
| " 2                          | *                      | ...                                  | *             | "                                                           | Wandering in infected streets.             |
| " 2                          | *                      | ...                                  | *             | "                                                           | Do do                                      |
| " 3                          | *                      | ...                                  | *             | "                                                           | Do do                                      |
| " 4                          | *                      | ...                                  | *             | "                                                           | Do do                                      |
| " 4                          | *                      | ...                                  | *             | "                                                           | Do do                                      |

| No. | Name. | Address.                        | Sex and Age.                     | Occupation.         | Date of commencement of symptoms. | Date of Eruption. |
|-----|-------|---------------------------------|----------------------------------|---------------------|-----------------------------------|-------------------|
| 133 | M G   | Gee Street, 27                  | F 27                             | Cleaner at Hospital | Jan 31                            | Feb. 3            |
| 134 | A C   | Galway Street, 27               | F 20                             | ...                 | Feb 4                             | " 6               |
| 135 | A C   | Do 27                           | F 3                              | ...                 | " 6                               | " 7               |
| 136 | J C   | Do 27                           | M 29                             | Shunter             | " 6                               | " 7               |
| 137 | S L   | Do 48                           | M 23                             | Servant             | " 7                               | " 9               |
| 138 | C B   | Whitecross Street, 68           | M 11 <sup>2</sup> / <sub>5</sub> | ...                 | " 8                               | " 9               |
| 139 | W C   | Bartholomew Square, 16          | M 5                              | ...                 | " 10                              | " 10              |
| 140 | E C   | Do do 16                        | M 27                             | ...                 | " 7                               | " 11              |
| 141 | J X   | Banner Street, 6...             | M 46                             | Horse Keeper        | " 7                               | " 11              |
| 142 | F A   | Seabrooke Place, 7              | M 12                             | ...                 | " 9                               | " 11              |
| 143 | H A   | Do 7                            | F 5                              | ...                 | " 9                               | " 12              |
| 144 | A A   | Do 7                            | M 3                              | ...                 | " 10                              | " 13              |
| 145 | H P   | Guinness' Buildings, 177        | F 28                             | ...                 | " 9                               | " 12              |
| 146 | A A   | Do 132                          | F 8                              | ...                 | " 12                              | " 13              |
| 147 | J K   | Mitchell Street, 28             | F 12                             | ...                 | " 12                              | " 13              |
| 148 | G K   | Do 28                           | M 15                             | ...                 | " 12                              | " 13              |
| 149 | L L   | Guest Street, 22, W             | F 40                             | ...                 | " 12                              | " 13              |
| 150 | A M   | Guinness' Buildings, 276        | M 18                             | Towel Maker         | " 8                               | " 14              |
| 151 | E W   | Baldwin Street, 34              | F 1 <sup>2</sup> / <sub>5</sub>  | ...                 | " 12                              | " 13              |
| 152 | W P   | Roscoe Street, 19, D            | M 41                             | Printer's Labourer  | " 13                              | " 14              |
| 153 | J J   | Ironmonger Street, 3            | M 33                             | Wood Box Maker      | " 12                              | " 14              |
| 154 | M H   | Guinness' Buildings, 144, F     | F 28                             | ...                 | " 12                              | " 15              |
| 155 | E W   | Guinness' Buildings, 50, C      | F 25                             | ...                 | " 13                              | " 16              |
| 156 | J H   | Do 149                          | M 4                              | ...                 | " 14                              | " 15              |
| 157 | S N   | Wynvatt Street, 40              | F 1 <sup>2</sup> / <sub>5</sub>  | ...                 | " 13                              | " 14              |
| 158 | F M   | Old Street, 97                  | M 25                             | Labourer            | " 12                              | " 16              |
| 159 | C C   | Radnor Street, 47               | M 32                             | Coachman            | " 13                              | " 16              |
| 160 | C C   | Do 47                           | M 3                              | ...                 | " 15                              | " 16              |
| 161 | F W   | Dufferin Street, 29, C          | M 47                             | Warehouse Porter    | " 12                              | " 16              |
| 162 | W R   | St. Clement's Buildings, 25     | M 10                             | ...                 | " 15                              | " 16              |
| 163 | J R   | Do do 25                        | M 3                              | ...                 | " 15                              | " 16              |
| 164 | S G   | Guinness' Buildings, 280        | M 9                              | ...                 | " 14                              | " 17              |
| 165 | J R   | Red Lion Market, 14             | M 11                             | ...                 | " 13                              | " 15              |
| 166 | J B   | Galway Street, 69               | M 4                              | ...                 | " 16                              | " 17              |
| 167 | A C   | St. James' Walk, 30             | F 46                             | Box Maker           | " 15                              | " 18              |
| 168 | I J   | Baldwin Street, 4               | M 4                              | ...                 | " 18                              | " 19              |
| 169 | F H   | Bartholomew Square, 16          | F 4                              | ...                 | " 18                              | " 20              |
| 170 | E J   | St. James' Walk, 30             | F 43                             | Box Maker           | " 17                              | " 19              |
| 171 | E L   | Baldwin Street, 53              | F 26                             | ...                 | " 15                              | " 21              |
| 172 | G H   | Union Place, 3, Glasshouse Yard | M 24                             | Driver              | " 13                              | " 20              |
| 173 | W S   | Guinness' Buildings, 136        | M 26                             | Pocket Book Maker   | " 9                               | " 24              |
| 174 | F R   | Lever Street, 51...             | M 51                             | Tailor              | " 24                              | " 26              |
| 175 | E G   | Guinness' Buildings, 320        | F 18                             | French Polisher     | " 25                              | " 27              |
| 176 | J B   | Galway Street, 28               | M 15                             | Van Guard           | " 26                              | " 28              |
| 177 | E S   | Collier Street, 1...            | F 16                             | Bookfolder          | " 23                              | " 26              |
| 178 | M S   | Baldwin Street, 60              | F 52                             | Box Maker           | " 25                              | March 1           |
| 179 | M T   | Noble Street, 22...             | F 24                             | ...                 | " 25                              | " 1               |
| 180 | G T   | Gloucester Street, 8            | M 19                             | Hawker              | " 25                              | Feb 28            |
| 181 | J E   | Pine Street, 14                 | M 50                             | Hatter              | " 26                              | March 1           |

| Date of Remission to Hospital. | Vaccinated in Infancy | Vaccinated during the last 10 years | Unvaccinated | Cases terminating fatally, with date and kind of Small-pox | Source of Infection.                                              |
|--------------------------------|-----------------------|-------------------------------------|--------------|------------------------------------------------------------|-------------------------------------------------------------------|
| Feb. 5                         | *                     | ...                                 | ...          | ...                                                        | Unknown.                                                          |
| " 9                            | ...                   | ...                                 | *            | ...                                                        | Dead child supposed to have been suffering from chicken-pox.      |
| " 9                            | ...                   | ...                                 | *            | Feb 19. Discrete small-pox                                 | Do do                                                             |
| " 9                            | *                     | ...                                 | ...          | ...                                                        | Do do                                                             |
| " 10                           | ...                   | ...                                 | *            | ...                                                        | Nursed a child in Shoreditch who had been removed with small-pox. |
| " 10                           | *                     | ...                                 | ...          | ...                                                        | Previous case in family.                                          |
| " 11                           | ...                   | ...                                 | *            | Feb 18. Confluent small-pox                                | Visited infected house at 27, Galway Street.                      |
| " 11                           | *                     | ...                                 | ...          | ...                                                        | Do do do                                                          |
| " 12                           | *                     | ...                                 | ...          | ...                                                        | Lived in common lodging-house.                                    |
| " 12                           | *                     | ...                                 | ...          | ...                                                        | Previous case in family.                                          |
| " 12                           | *                     | ...                                 | ...          | ...                                                        | Do do                                                             |
| " 13                           | ...                   | ...                                 | *            | Feb 19. Discrete small-pox                                 | Do do                                                             |
| " 13                           | ...                   | ...                                 | ...          | ...                                                        | Wandering in infected streets.                                    |
| " 14                           | *                     | ...                                 | ...          | ...                                                        | Do do                                                             |
| " 14                           | *                     | ...                                 | ...          | ...                                                        | Previous case in family.                                          |
| " 14                           | *                     | ...                                 | ...          | ...                                                        | Do do                                                             |
| " 14                           | *                     | ...                                 | ...          | ...                                                        | Wandering in infected streets.                                    |
| " 15                           | ...                   | ...                                 | *            | ...                                                        | Previous case in family.                                          |
| " 15                           | ...                   | ...                                 | *            | Feb 20. Confluent small-pox                                | Wandering in infected streets.                                    |
| " 15                           | *                     | ...                                 | ...          | ...                                                        | Previous case in family.                                          |
| " 15                           | *                     | ...                                 | ...          | ...                                                        | Wandering in infected streets.                                    |
| " 16                           | *                     | ...                                 | ...          | ...                                                        | Infected buildings.                                               |
| " 16                           | *                     | ...                                 | ...          | ...                                                        | Do                                                                |
| " 16                           | *                     | ...                                 | *            | Feb 16. Discrete small-pox                                 | Unknown.                                                          |
| " 16                           | *                     | ...                                 | ...          | ...                                                        | Wandering in infected streets.                                    |
| " 17                           | *                     | ...                                 | ...          | ...                                                        | Common lodging-house.                                             |
| " 17                           | *                     | ...                                 | ...          | Feb 24. Confluent small-pox                                | Previous case in family.                                          |
| " 17                           | *                     | ...                                 | ...          | ...                                                        | Do do                                                             |
| " 18                           | ...                   | ...                                 | *            | ...                                                        | Wandering in infected streets.                                    |
| " 18                           | ...                   | ...                                 | *            | Feb 24. Confluent small-pox                                | Do do                                                             |
| " 18                           | ...                   | ...                                 | *            | ...                                                        | Infected buildings.                                               |
| " 18                           | ...                   | ...                                 | *            | ...                                                        | Notified as chicken-pox.                                          |
| " 19                           | *                     | ...                                 | ...          | ...                                                        | Wandering in infected streets.                                    |
| " 20                           | ...                   | ...                                 | *            | ...                                                        | Previous case in family.                                          |
| " 20                           | ...                   | ...                                 | *            | ...                                                        | Wandering in infected streets.                                    |
| " 20                           | ...                   | ...                                 | *            | ...                                                        | Previous case in family.                                          |
| " 21                           | *                     | ...                                 | ...          | ...                                                        | Wandering in infected streets.                                    |
| " 22                           | *                     | ...                                 | ...          | ...                                                        | Shoreditch infected area.                                         |
| " 22                           | *                     | ...                                 | ...          | Feb 22. Haemorrhagic small-pox                             | Notified as typhus.                                               |
| " 25                           | *                     | ...                                 | ...          | ...                                                        | Infected buildings.                                               |
| " 26                           | *                     | ...                                 | ...          | ...                                                        | Unknown.                                                          |
| " 27                           | *                     | ...                                 | *            | ...                                                        | Infected buildings.                                               |
| " 28                           | *                     | ...                                 | ...          | ...                                                        | From 27, Galway street.                                           |
| March 1                        | *                     | ...                                 | ...          | ...                                                        | Unknown.                                                          |
| March 2                        | Un                    | kno                                 | wn           | March 1. Discrete small-pox                                | Contracted disease in visiting Dartford.                          |
| March 2                        | *                     | ...                                 | ...          | ...                                                        | Wandering in infected streets.                                    |
| March 2                        | *                     | ...                                 | *            | March 13. Confluent small-pox                              | Contracted disease in visiting Dartford.                          |
| " 2                            | *                     | ...                                 | ...          | ...                                                        | Wandering in infected streets.                                    |



| No. | Name | Address                       | Sex and Age | Occupation                        | Date of commencement of symptoms | Date of Eruption |
|-----|------|-------------------------------|-------------|-----------------------------------|----------------------------------|------------------|
| 182 | C W  | St. John Street, 114 ...      | M 20        | Working Manager ...               | Feb. 27                          | March 2          |
| 183 | M B  | Shrewsbury Court, 13 ...      | F 38        | Bookfolder ...                    | " 27                             | " 2              |
| 184 | S M  | Baldwin Street, 60 ...        | F 50        | "                                 | " 26                             | " 2              |
| 185 | J B  | Mitchell Street, 45 ...       | M 28        | Gilder ...                        | " 26                             | Feb. 27          |
| 186 | A P  | Margaret Street, 66 ...       | M 31        | Carman ...                        | " 28                             | March 3          |
| 187 | G A  | Wilmington Square, 28 ...     | M 24        | Brass Finisher ...                | " 28                             | " 3              |
| 188 | I J  | Baldwin Street, 4 ...         | M 28        | Carman ...                        | March 2                          | " 4              |
| 189 | C C  | Do 4 ...                      | M 28        | "                                 | " 2                              | " 4              |
| 190 | A G  | City Road, 146 ...            | M 9         | "                                 | " 1                              | " 4              |
| 191 | W G  | Do 146 ...                    | M 43        | General Shop Keeper ...           | " 1                              | " 4              |
| 192 | A H  | Aylesbury Street, 32 ...      | F 30        | "                                 | " 2                              | " 6              |
| 193 | G L  | Baldwin Street, 53 ...        | M 27        | Railway Porter ...                | " 4                              | " 7              |
| 194 | E P  | Margaret Street, 73 ...       | F 23        | "                                 | " 5                              | " 6              |
| 195 | R B  | Northampton Street, 44 ...    | F 21        | Box Maker ...                     | " 1                              | " 4              |
| 196 | C P  | Holborn Union Offices ...     | M 39        | "                                 | " 9                              | " 11             |
| 197 | F W  | Lever Street, 51 ...          | M 23        | Cigarette Maker ...               | " 10                             | " 12             |
| 198 | R W  | Pentonville Road, 189 ...     | M 14        | Box Maker ...                     | " 10                             | " 12             |
| 199 | R T  | Corporation Buildings, 37 ... | M 24        | Engineer ...                      | " 8                              | " 13             |
| 200 | M H  | Whitcross Street, 119 ...     | F 22        | "                                 | " 11                             | " 14             |
| 201 | M L  | Central Street, 86 ...        | M 47        | Caretaker's Wife ...              | " 13                             | " 14             |
| 202 | J H  | City Road, 146 ...            | M 42        | Carman ...                        | " 15                             | " 10             |
| 203 | E H  | Do 146 ...                    | F 14        | "                                 | " 15                             | " 17             |
| 204 | J B  | Baldwin Street, 24 ...        | M 18        | Porter ...                        | " 15                             | " 18             |
| 205 | J N  | Seward Street, 4 ...          | M 22        | Tailor ...                        | " 16                             | " 19             |
| 206 | J P  | Margaret Street, 73 ...       | M 31        | Coachman ...                      | " 18                             | " 21             |
| 207 | F W  | Roby Street, 8 ...            | M 15        | "                                 | " 19                             | " 21             |
| 208 | S B  | City Road, 240 ...            | F 55        | Charwoman ...                     | " 16                             | " 17             |
| 209 | A G  | Europa Place, 16 ...          | F 15        | "                                 | " 17                             | " 23             |
| 210 | G P  | Margaret Place, 73 ...        | M 21 dys    | "                                 | "                                | "                |
| 211 | F B  | Baldwin Street, 48 ...        | M 27        | Glass Beveller ...                | " 30                             | April 2          |
| 212 | H B  | Eagle Dwellings, 6 ...        | F 24        | "                                 | " 28                             | " 3              |
| 213 | L J  | White Lion Street, 25 ...     | M 23        | Optical Labourer ...              | April 7                          | " 10             |
| 214 | M L  | Central Street, 185 ...       | F 15        | Bookfolder ...                    | " 10                             | " 13             |
| 215 | F G  | Compton Buildings, 110 ...    | F 46        | "                                 | " 12                             | " 15             |
| 216 | W L  | Pentonville Road, 19 ...      | M 63        | Labourer ...                      | " 15                             | " 21             |
| 217 | J R  | Northampton Street, 34 ...    | M 9         | "                                 | " 19                             | " 21             |
| 218 | A G  | Galway Street, 25 ...         | M 22        | Machine hand ...                  | " 15                             | " 22             |
| 219 | H H  | Corporation Row, 36 ...       | F 21        | "                                 | " 28                             | " 26             |
| 220 | H T  | Red Lion Street, 50 ...       | M 20        | Printing Material Dealers' Porter | " 29                             | May 1            |
| 221 | H L  | Whitcross Street, 99 ...      | M 18        | Porter ...                        | May 3                            | " 3              |
| 222 | D G  | Withers' Place, 4 ...         | M 19        | Packing Case Maker ...            | " 5                              | " 7              |
| 223 | E W  | Do 4 ...                      | F 27        | Artificial Flower Seller ...      | " 7                              | " 7              |
| 224 | J N  | Red Lion Street, 50 ...       | M 21        | Hawker ...                        | " 13                             | " 15             |
| 225 | T C  | Elizabeth Place, 3 ...        | M 32        | Labourer ...                      | " 15                             | " 15             |
| 226 | T G  | Bastwick Street, 35 ...       | F 19        | Paper Sorter ...                  | " 12                             | " 14             |
| 227 | A W  | Margaret Street, 56 ...       | F 24        | Bookfolder ...                    | " 15                             | " 16             |
| 228 | E C  | Granville Square, 33 ...      | F 36        | "                                 | " 13                             | " 16             |
| 229 | N N  | Red Lion Street, 50 ...       | F 22        | "                                 | " 17                             | " 17             |
| 230 | M G  | Myddelton Square, 20 ...      | F 39        | Assistant at Library ...          | " 31                             | June 5           |
| 231 | C J  | Warren Street, 24 ...         | M 33        | "                                 | June 5                           | " 6              |

| Date of Removal to Hospital. | Vaccinated in infancy. | Vaccinated during the last 10 years. | Unvaccinated. | Cases terminating fatally, with date and kind of Small-pox. | Source of Infection.                                              |
|------------------------------|------------------------|--------------------------------------|---------------|-------------------------------------------------------------|-------------------------------------------------------------------|
| March 2                      | *                      | ...                                  | ...           | ...                                                         | Wandering in infected streets.                                    |
| " 2                          | *                      | ...                                  | ...           | ...                                                         | Visited Small-pox ships and declined vaccination.                 |
| " 3                          | *                      | ...                                  | ...           | ...                                                         | Wandering in infected streets.                                    |
| " 3                          | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 3                          | *                      | ...                                  | ...           | March 8. Discrete small-pox ...                             | Wandering in infected streets.                                    |
| " 4                          | *                      | ...                                  | ...           | ...                                                         | Unknown.                                                          |
| " 5                          | *                      | ...                                  | ...           | March 8. Confluent small-pox ...                            | Previous case in family.                                          |
| " 5                          | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 6                          | *                      | ...                                  | ...           | ...                                                         | No 178, 60, Baldwin Street.                                       |
| " 6                          | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 6                          | *                      | ...                                  | ...           | ...                                                         | Wandering in infected streets.                                    |
| " 7                          | *                      | ...                                  | ...           | ...                                                         | Previous case in family.                                          |
| " 7                          | *                      | ...                                  | ...           | March 11. Haemorrhagic small-pox                            | Wandering in infected streets                                     |
| " 8                          | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 12                         | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 12                         | *                      | ...                                  | ...           | ...                                                         | Previous case in house.                                           |
| " 13                         | *                      | ...                                  | ...           | ...                                                         | Wandering in infected streets                                     |
| " 14                         | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 14                         | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 16                         | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 17                         | *                      | ...                                  | ...           | ...                                                         | Previous case in house.                                           |
| " 17                         | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 17                         | *                      | ...                                  | ...           | ...                                                         | No 191, infected provision shop.                                  |
| " 19                         | *                      | ...                                  | ...           | ...                                                         | Unknown.                                                          |
| " 22                         | *                      | ...                                  | ...           | ...                                                         | Previous case in family.                                          |
| " 22                         | *                      | ...                                  | ...           | ...                                                         | Wandering in infected streets.                                    |
| " 23                         | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 23                         | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 7                          | *                      | ...                                  | ...           | March 22. Discrete small-pox ...                            | Previous case in family.                                          |
| April 2                      | *                      | ...                                  | ...           | ...                                                         | Engaged to person who was removed with small-pox from Shoreditch. |
| " 3                          | *                      | ...                                  | ...           | ...                                                         | Husband employed at Gore Farm Hospital.                           |
| " 10                         | *                      | ...                                  | ...           | ...                                                         | Wandering in infected streets.                                    |
| " 15                         | *                      | ...                                  | ...           | April 21. Confluent small-pox ...                           | Contracted disease from her workshop.                             |
| " 17                         | *                      | ...                                  | ...           | ...                                                         | Unknown.                                                          |
| " 22                         | *                      | ...                                  | ...           | ...                                                         | Wandering in infected streets.                                    |
| " 22                         | *                      | ...                                  | ...           | ...                                                         | Wandering in infected streets.                                    |
| " 25                         | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 28                         | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 28                         | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| May 3                        | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 5                          | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 9                          | *                      | ...                                  | ...           | ...                                                         | Associated with No. 221.                                          |
| " 15                         | *                      | ...                                  | ...           | ...                                                         | Do do                                                             |
| " 15                         | *                      | ...                                  | ...           | ...                                                         | Previous case in house.                                           |
| " 16                         | *                      | ...                                  | ...           | ...                                                         | Associated with No 221.                                           |
| " 17                         | *                      | ...                                  | ...           | ...                                                         | Wandering in infected streets.                                    |
| " 18                         | *                      | ...                                  | ...           | ...                                                         | Visited infected house at Clapton.                                |
| " 18                         | *                      | ...                                  | ...           | ...                                                         | Unknown.                                                          |
| " 19                         | *                      | ...                                  | ...           | ...                                                         | Previous case in house.                                           |
| " 20                         | *                      | ...                                  | ...           | ...                                                         | Notified as chicken-pox.                                          |
| June 6                       | *                      | ...                                  | ...           | ...                                                         | Mother removed with small-pox from Islington.                     |

| No  | Name | Address                | Sex and Age | Occupation               | Date of commencement of symptoms | Date of Eruption |
|-----|------|------------------------|-------------|--------------------------|----------------------------------|------------------|
| 232 | E K  | Rahere Street, 39      | F 20        | Tinfoil Sorter           | June 18                          | June 21          |
| 233 | G B  | Mitchell Street, 19    | M 4         | ...                      | 23                               | 25               |
| 234 | C B  | Do 19                  | F 14        | ...                      | July 4                           | July 4           |
| 235 | W T  | Galway Street, 6       | M 39        | Potman                   | June 30                          | 1                |
| 236 | M D  | Mitchell Street, 19    | F 16        | Box Maker                | July 3                           | 7                |
| 237 | A B  | President Street, 33   | F 37        | ...                      | 5                                | 9                |
| 238 | F T  | Central Street, 159    | M 30        | Carman                   | 6                                | 10               |
| 239 | H O  | Do 159                 | M 28        | ...                      | 7                                | 8                |
| 240 | W O  | Do 159                 | M 13        | ...                      | 10                               | 11               |
| 241 | C W  | Mitchell Street, 19    | F 20        | ...                      | 6                                | 11               |
| 242 | C W  | Do 19                  | F 11        | ...                      | 7                                | 10               |
| 243 | L W  | Do 19                  | F 9         | ...                      | 6                                | 11               |
| 244 | W O  | Central Street, 159    | M 34        | Sells Artificial Flowers | June 19                          | June 21          |
| 245 | J S  | President Street, 33   | F 44        | ...                      | 22                               | 24               |
| 246 | E S  | Do 33                  | F 14        | ...                      | July 8                           | July 11          |
| 247 | A O  | Central Street, 159    | F 14        | Cardboard Packer         | 9                                | 10               |
| 248 | P S  | President Street, 33   | M 9         | ...                      | 13                               | 13               |
| 249 | L S  | Do 33                  | M 4         | ...                      | 12                               | 14               |
| 250 | M P  | Mitchell Street, 17    | F 30        | Box Maker                | 10                               | 13               |
| 251 | E F  | Aylesbury Street, 37   | M 21        | Brass Finisher           | 10                               | 11               |
| 252 | S H  | Central Street, 37     | M 6         | ...                      | 13                               | 14               |
| 253 | G B  | Bastwick Street, 46    | M 15        | Printer's Errand Boy     | 9                                | 15               |
| 254 | A W  | Norman's Buildings, 9  | M 17        | ...                      | 12                               | 15               |
| 255 | F T  | Mitchell Street, 23    | M 26        | Printer                  | 15                               | 17               |
| 256 | E G  | Lever Street, 95       | F 12        | ...                      | 23                               | 25               |
| 257 | R W  | Mitchell Street, 15    | F 25        | Servant                  | 27                               | 28               |
| 258 | F L  | Central Street, 37     | M 39        | Publican                 | 26                               | 27               |
| 259 | T B  | Bastwick Street, 46    | M 21        | Engraver                 | 26                               | 28               |
| 260 | T B  | Do 46                  | M 4         | ...                      | 26                               | 27               |
| 261 | J M  | Do 20                  | M 24        | Labourer                 | 29                               | 29               |
| 262 | E G  | Do 22                  | F 8         | ...                      | 25                               | 28               |
| 263 | J E  | President Place, 2     | M 15        | ...                      | 27                               | 29               |
| 264 | F Y  | Bastwick Street, 44    | M 8         | ...                      | 26                               | 29               |
| 265 | C C  | Gee Street, 65         | F 20        | ...                      | 26                               | 30               |
| 266 | J D  | Bastwick Street, 29    | M 40        | Dock Labourer            | 29                               | 31               |
| 267 | H B  | Do 46                  | F 6         | ...                      | Aug 7                            | Aug 8            |
| 268 | H B  | Do 46                  | M 13        | ...                      | 7                                | 8                |
| 269 | C P  | Central Street, 37     | F 8         | ...                      | 6                                | 10               |
| 270 | E B  | Bastwick Street, 53    | F 14        | ...                      | 12                               | 13               |
| 271 | A M  | Do 44                  | F 41        | ...                      | 11                               | 14               |
| 272 | A B  | Do 53                  | F 44        | ...                      | 16                               | 18               |
| 273 | H M  | Compton Buildings, 199 | F 30        | ...                      | Nov 15                           | Nov 19           |
| 274 | C M  | Do 199                 | M 34        | Saw Piercer              | Dec 4                            | Dec 7            |
| 275 | E S  | Myddelton Street, 58   | M 34        | Book Edge Gilder         | 24                               | 26               |

| Date of Removal to Hospital | Vaccinated in Infancy | Vaxed during the last 10 years | Unvaccinated | Cases terminating fatally, with date and kind of small-pox | Source of Infection                                               |
|-----------------------------|-----------------------|--------------------------------|--------------|------------------------------------------------------------|-------------------------------------------------------------------|
| June 22                     | *                     | ...                            | ...          | ...                                                        | Visited brother at small-pox ships, and declined re-vaccination.  |
| July 30                     | ...                   | ...                            | *            | July 2. Confluent small-pox                                | Unknown.                                                          |
| July 6                      | ...                   | ...                            | *            | ...                                                        | Previous case in house.                                           |
| July 7                      | ...                   | ...                            | *            | July 17. Confluent small-pox                               | Removed from the Highgate Infirmary.                              |
| July 8                      | *                     | ...                            | ...          | ...                                                        | Previous case in house.                                           |
| July 10                     | *                     | ...                            | ...          | ...                                                        | Contracted disease from No 244.                                   |
| July 11                     | *                     | ...                            | ...          | ...                                                        | Do do                                                             |
| July 11                     | *                     | ...                            | ...          | July 14. Confluent small-pox                               | Do do                                                             |
| July 11                     | *                     | ...                            | ...          | ...                                                        | Do do                                                             |
| July 11                     | *                     | ...                            | ...          | ...                                                        | Previous case in house.                                           |
| July 11                     | *                     | ...                            | ...          | ...                                                        | Do do                                                             |
| July 11                     | *                     | ...                            | ...          | ...                                                        | Do do                                                             |
| July 11                     | *                     | ...                            | ...          | ...                                                        | Visited small-pox ships with No 232, and declined re-vaccination. |
| July 12                     | *                     | ...                            | ...          | ...                                                        | Contracted disease from No 244.                                   |
| July 12                     | *                     | ...                            | ...          | ...                                                        | Previous case in house.                                           |
| July 14                     | *                     | ...                            | ...          | ...                                                        | Do do                                                             |
| July 14                     | *                     | ...                            | ...          | ...                                                        | Previous case in family.                                          |
| July 14                     | *                     | ...                            | ...          | ...                                                        | Do do                                                             |
| July 14                     | *                     | ...                            | ...          | ...                                                        | 5 cases removed from next door.                                   |
| July 14                     | *                     | ...                            | ...          | ...                                                        | Contracted disease from No 233.                                   |
| July 15                     | *                     | ...                            | ...          | July 19. Confluent small-pox                               | Mitchell Street infected area.                                    |
| July 15                     | *                     | ...                            | ...          | ...                                                        | Do do                                                             |
| July 16                     | *                     | ...                            | ...          | ...                                                        | Contracted disease from No 236.                                   |
| July 18                     | *                     | ...                            | ...          | ...                                                        | Contracted disease from No 19, Mitchell Street.                   |
| July 26                     | *                     | ...                            | ...          | ...                                                        | Contracted disease from No 238.                                   |
| July 28                     | *                     | ...                            | ...          | ...                                                        | Nursed No 252.                                                    |
| July 29                     | *                     | ...                            | ...          | ...                                                        | Previous case in house.                                           |
| July 29                     | *                     | ...                            | ...          | ...                                                        | Do do                                                             |
| July 29                     | *                     | ...                            | ...          | July 30. Haemorrhagic small-pox                            | Bastwick Street infected area.                                    |
| July 29                     | *                     | ...                            | ...          | ...                                                        | Do do                                                             |
| July 29                     | *                     | ...                            | ...          | ...                                                        | President Street infected area.                                   |
| July 30                     | *                     | ...                            | ...          | ...                                                        | Bastwick Street infected area.                                    |
| July 30                     | *                     | ...                            | ...          | ...                                                        | Mitchell Street infected area.                                    |
| Aug 5                       | *                     | ...                            | ...          | Aug 5. Haemorrhagic small-pox                              | Bastwick Street infected area.                                    |
| Aug 8                       | *                     | ...                            | ...          | Aug 13. Haemorrhagic small-pox                             | Previous case in house.                                           |
| Aug 8                       | *                     | ...                            | ...          | ...                                                        | Do do                                                             |
| Aug 11                      | *                     | ...                            | ...          | ...                                                        | Do do                                                             |
| Aug 13                      | Un                    | kno                            | wn           | Aug 20. Confluent small-pox                                | Bastwick Street infected area.                                    |
| Aug 16                      | *                     | ...                            | ...          | ...                                                        | Previous case in house.                                           |
| Aug 18                      | *                     | ...                            | ...          | ...                                                        | Bastwick Street infected area and previous case in family.        |
| Nov 22                      | *                     | ...                            | ...          | ...                                                        | Probably from unrecognised case of small-pox.                     |
| Dec 7                       | *                     | ...                            | ...          | ...                                                        | Previous case in house.                                           |
| Jan 1, '03                  | *                     | ...                            | ...          | ...                                                        | Contracted from No 274.                                           |





