

BLACKWELL

RURAL DISTRICT COUNCIL.

ANNUAL REPORT

For

1899.

By

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Medical Officer of Health.

Mansfield :

“Reporter” Co., Ltd., Printers, Church Street.

To the Chairman and Members
OF
The Blackwell Rural District Council.

GENTLEMEN,

I beg to submit to you my Report on the Health and Sanitary Condition of the District for the year ending December 31st, 1899.

The following table is given to show the Parishes, areas, inhabited houses, and population of the District, estimated to the middle of the year 1899; number of births and number of deaths.

| PARISHES. | Acres. | In- habited Houses. | Popula- tion. | Births. | Deaths. |
|-----------------------|--------|---------------------------|------------------|---------|---------|
| Ault Hucknall | 4429 | 284 | 2313 | 52 | 19 |
| Blackwell | 1739 | 764 | 4217 | 176 | 51 |
| Glapwell | 774 | 18 | 74 | 3 | 0 |
| Pinxton | 1253 | 575 | 2571 | 92 | 40 |
| Pleasley | 3293 | 1288 | 1863 | 317 | 131 |
| Scarcliffe | 3954 | 470 | 1937 | 127 | 34 |
| South Normanton | 1934 | 938 | 5224 | 203 | 103 |
| Tibshelf | 2371 | 614 | 3098 | 122 | 49 |
| Upper Langwith | 1492 | 50 | 348 | 7 | 3 |
| | 21239 | 5001 | 21645 | 1099 | 430 |

BIRTHS. The number of births registered during the year was 1,099, against 1,044 for the year previous, thus showing an increase of 55 for the period now under consideration, and being the highest number ever recorded in a single year.

| 1st Quarter. | 2nd Quarter. | 3rd Quarter. | 4th Quarter. |
|--------------|--------------|--------------|--------------|
| 294 | 260 | 259 | 286 |

The numbers for the seven preceding years were :

| 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 808 | 844 | 793 | 947 | 931 | 942 | 1044 | 1099 |

There was an excess of births over deaths, which amounted to 669, a total corresponding very closely with that recorded for the year 1898, which was 661.

The birth-rate, which was equal to 50·7 per 1000 of estimated population, is 0·8 per 1000 higher than the rate assigned for the previous year. The rate for England and Wales for 1899 was 29·26 per 1000.

DEATHS. The total number of registered deaths was 430, furnishing a death-rate of 19·8 per 1000 of the estimated population.

The returns show an increase of 47 deaths over the number recorded for 1898.

The numbers registered during each quarter of the year were as follows :

| 1st Quarter. | 2nd Quarter. | 3rd Quarter. | 4th Quarter. |
|--------------|--------------|--------------|--------------|
| 76 | 102 | 125 | 127 |

The numbers recorded for the seven preceding years were :

| 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 341 | 297 | 305 | 334 | 396 | 363 | 383 | 430 |

The rate of mortality in children under five years of age is 61 per cent. of the deaths at all ages.

The mortality of infants and young children is high, particularly of children under 5 years of age, as the annexed table shows :

| | Deaths under 1 year. | | Deaths under 5 years. | | Deaths over 65 years. |
|------------|-------------------------|-----|--------------------------|-----|--------------------------|
| 1895 | 124 | ... | 183 | ... | 39 |
| 1896 | 136 | ... | 218 | ... | 59 |
| 1897 | 153 | ... | 216 | ... | 43 |
| 1898 | 177 | .. | 210 | ... | 59 |
| 1899 | 189 | ... | 262 | ... | 55 |

The rate for England and Wales was 18·3

The Nottingham death rate was..... 19·6

Appended is a summary of some of the chief causes of death which have taken place in the District during the last five years :

| Deaths. | 1895 | 1896 | 1897 | 1898 | 1899 | Total. |
|-------------------------|------|------|------|------|------|--------|
| Measles | 16 | 43 | 5 | 1 | 44 | 109 |
| Scarlet Fever..... | 0 | 8 | 4 | 4 | 0 | 16 |
| Diphtheria | 6 | 1 | 1 | 1 | 9 | 18 |
| Whooping Cough | 7 | 9 | 19 | 4 | 3 | 42 |
| Typhoid Fever | 0 | 5 | 9 | 10 | 12 | 36 |
| Erysipelas | 0 | 2 | 0 | 0 | 0 | 2 |
| Diarrhœa | 19 | 27 | 26 | 42 | 52 | 166 |
| Phthisis | 17 | 16 | 16 | 23 | 13 | 85 |
| Respiratory Diseases .. | 46 | 69 | 71 | 67 | 79 | 332 |
| Heart Disease | 24 | 28 | 25 | 24 | 26 | 127 |
| Injuries | 21 | 15 | 15 | 13 | 15 | 79 |

To diseases of the respiratory system must be assigned the greatest number of deaths. By far the majority took place amongst children during the early years of life, and were chiefly caused by Bronchitis. Acute diseases of the Lungs are specially prevalent amongst those who live in heated and overcrowded rooms.

In considering the diseases belonging to this class, it is well to bear in mind that in the course of certain epidemics—Whooping Cough and Measles particularly—deaths are not infrequently assigned to diseases of the respiratory system, when in reality they are caused by the prevailing epidemic.

The number of deaths caused by Pulmonary Consumption is put down at 85. I cannot help thinking that some of these are due to other causes, on account of the very early age to which some of the children have succumbed. The lungs may possibly have been secondarily affected, but the primary organs attacked were to be found in the abdomen.

INFANT MORTALITY. The number of deaths among infants under one year in this District was 189 during the year, which corresponds to a death-rate of 171·97 per 1000 births, the highest rate recorded for the last eight years at least. The rate for England and Wales for the corresponding period was 163, and for the rural districts of England 124. The average for the last eight years in your own district is 151·58.

Many of the diseases of mankind are entirely preventable—some are so to a limited degree, whilst all are influenced by the exercise in life of judgment and self-control. The diseases most prevalent during infant life are Bronchitis, Broncho-pneumonia, and Diarrhœa, the two former occurring most

frequently during the winter and early spring, the latter when the temperature is high, generally about August. These diseases are in some measure preventable, and the prevalence of them ought therefore to be much lessened.

Insufficient clothing and improper food, combined with parental inexperience and neglect, are causes responsible for a high rate of infant mortality.

ZYMOTIC DISEASES AND RATES OF MORTALITY. The seven principal zymotic diseases from which the zymotic death rate is derived, have produced 122 deaths during the past year. This is practically twice as many as occurred in each of the two preceding years, and as far as I am able to ascertain has never yet been exceeded.

The following are the actual figures for the past six years :

| | | |
|------|-------|------------|
| 1893 | ..... | 37 deaths. |
| 1894 | ..... | 31 ,, |
| 1895 | ..... | 48 ,, |
| 1896 | ..... | 93 ,, |
| 1897 | ..... | 64 ,, |
| 1898 | ..... | 62 ,, |
| 1899 | ..... | 122 ,, |

The zymotic death-rate works out at 5.63 per 1000 of the estimated population, as compared with 2.96 for the year 1898

The rate for England and Wales for 1899 was 2.19 per 1000.

„ Nottingham „ 3.4 „

Appended are tables showing the monthly distribution of cases of Notifiable Diseases during 1899, and the mortality in each case :

| Month. | Scarlet Fever. | Typhoid Fever. | Diph- theria. | Puerperl Fever. | Erysi- pelas. | Total. |
|-----------------|-------------------|-------------------|------------------|--------------------|------------------|--------|
| January | 3 | 3 | 2 | — | 5 | 13 |
| February | 3 | 8 | 2 | — | 1 | 14 |
| March | 6 | 1 | — | — | 0 | 7 |
| April | 9 | 5 | — | — | 5 | 19 |
| May | 2 | 1 | 1 | — | 4 | 8 |
| June | 19 | 1 | — | — | 2 | 22 |
| July | 24 | 16 | — | — | 1 | 41 |
| August | 28 | 25 | — | 1 | 3 | 57 |
| September | 23 | 51 | 1 | — | 0 | 75 |
| October | 34 | 29 | 1 | — | 2 | 66 |
| November | 22 | 4 | 1 | — | 7 | 36 |
| December | 15 | 3 | 2 | — | 4 | 24 |
| | 188 | 147 | 10 | 1 | 34 | 382 |

| | Cases Notified. | Deaths. | Rates of Mortality. |
|---------------------|--------------------|---------|------------------------|
| Scarlet Fever..... | 188 | 2 | ·08 |
| Diphtheria | 10 | 9 | ·41 |
| Typhoid Fever .. . | 147 | 12 | ·55 |
| Puerperal Fever ... | 1 | 0 | 0 |
| Erysipelas | 34 | 0 | 0 |
| Whooping Cough ... | — | 3 | ·13 |
| Measles | — | 44 | 2·03 |
| Diarrhœa | — | 52 | 2·31 |

SMALL POX. This disease, though not seen in your district since 1893, is now showing signs of approach; cases having been notified in the neighbouring counties of Yorkshire and Lincolnshire. This fact imposes a certain responsibility on every individual in the locality. The anticipation of an outbreak of Small Pox ought very largely to prevent its occurrence, for in Vaccination we possess a very simple and ready means of meeting the foe, should it at any time assail us.

Daily, the advantage accruing from Vaccination are being pressed home to us with increasing force. Inoculation against other diseases than Small Pox was practically unknown a few years back, but now a process somewhat similar to Vaccination is applied to many other diseases, viz., Plague, Cholera, Typhoid Fever, etc., with very promising results. We may take it as practically proved that an attack of certain diseases confers a degree of immunity from subsequent attacks. Year by year fresh light is being thrown on this subject; the number of workers in this special field of enquiry is now very large, and all the conclusions arrived at go to show that Vaccination is sound in principle and successful in practice.

The latest Vaccination Act has now been in force over 12 months, and there are signs even in strongly anti-vaccination districts that the opponents of this measure are gradually caving in.

The course taken by the Government in introducing the recent Act (1898), has had the salutary effect of robbing the anti-vaccinators, grumblers, and public agitators of all ground of complaint.

The measure is now on its trial, and it is to be hoped that by the end of the five years the intelligence of the public will have sufficiently increased as not to again necessitate the introduction of any compulsory clause.

The measures now taken by the Government are so exacting, and the facilities for the procurement of lymph so extensive, that it is impossible to obtain lymph otherwise than absolutely pure.

SCARLET FEVER. This disease has been more or less prevalent in the District throughout the whole year, but particularly during the latter half. During the first six months 42 cases were notified, and 146 cases from July to December, making a total of 188. Two deaths occurred.

The quarterly returns were as follows :

| 1st Quarter. | 2nd Quarter. | 3rd Quarter. | 4th Quarter. |
|--------------|--------------|--------------|--------------|
| 12 | 30 | 75 | 71 |

Eighty-five occurred in children under 5 years of age, and 103 in persons of 5 years and upwards.

Blackwell and Tibshelf were the parishes in which the fever was most felt, the former having a total of 73, and the latter 72. Many of the adjacent Derbyshire parishes appear to have suffered badly ; those of your own district compare very favourably with others in the county.

It is seldom that Scarlet Fever is absent from any of the parishes for any great length of time. The following is a yearly record of cases notified, with deaths since 1892 :

| Year. | No. of Cases. | | No. of Deaths. |
|-----------|---------------|-------|----------------|
| 1892..... | 64 | ..... | 6 |
| 1893..... | 117 | ..... | 2 |
| 1894..... | 55 | ..... | 2 |
| 1895..... | 53 | ..... | 0 |
| 1896..... | 230 | ..... | 8 |
| 1897..... | 127 | ..... | 4 |
| 1898..... | 152 | ..... | 4 |
| 1899..... | 188 | ..... | 2 |

The case mortality, or proportion of deaths to cases notified, for the last eight years work out at 2·84. The average case mortality for the country generally is about 4·2 per cent., but this varies in different years and epidemics. It will be noticed that the year 1892 gave a fatality of 9·37 per cent.

The infected houses of the district are now systematically disinfected with formic aldehyde.

TYPHOID FEVER. In seven out of the nine contributory parishes Typhoid Fever occurred during the year.

The total number of cases notified was 147, of which 130 occurred at Shirebrook.

Of the 17 cases reported from other parts of the district there is little to say, beyond the fact that a careful inspection of the premises made in each case was not able to throw any light as to the source of the disease.

The first case of Typhoid Fever ever notified from Shirebrook was on November 23, 1895; since then, the numbers have increased annually, as the following returns show :—

| Year. | No of Cases. | | | Deaths. |
|-------|--------------|-----|-----|---------|
| 1895 | ... | 1 | ... | 0 |
| 1896 | ... | 3 | ... | 0 |
| 1897 | ... | 51 | ... | 5 |
| 1898 | ... | 75 | ... | 5 |
| 1899 | ... | 130 | ... | 7 |
| | | — | | — |
| | | 260 | | 17 |

The disease, though never entirely absent from the parish during the year, can scarcely be said to have assumed an epidemic character until about the middle of July. The following tables show the age, sex, mortality, and the monthly returns of the cases notified :—

| | No. of Cases. | Houses Invaded. | Ages. | Cases. | Deaths. |
|---------------|------------------|-----------------|---------|--------|---------|
| January | 1 | 1 | Under 5 | 10 | 1 |
| February..... | 6 | 3 | 5 to 10 | 28 | ... |
| March | 1 | 0 | 10—15 | 14 | 1 |
| April | 4 | 2 | 15—20 | 17 | ... |
| May | 0 | 0 | 20—25 | 18 | 1 |
| June..... | 1 | 1 | 25—30 | 18 | 1 |
| July | 12 | 11 | 30—35 | 11 | 2 |
| August | 25 | 12 | 35—40 | 5 | 1 |
| September ... | 51 | 33 | 40—45 | 4 | ... |
| October | 26 | 23 | 45—50 | 4 | ... |
| November ... | 3 | 2 | 50—60 | 1 | ... |
| December ... | 0 | 0 | | | |
| | — | — | | — | — |
| | 130 | 88 | | 130 | 7 |
| | | Males..... | 68 | | |
| | | Females..... | 62 | | |

130

The epidemic we are now considering, unlike its predecessors, was very general in character. It will be remembered that the former outbreak of fever was confined almost exclusively to New Bulwell—on the present occasion the three parts of Shirebrook were very equally invaded, as shown by the appended details:—

| New Bulwell. | | Old Shirebrook. | | Colliery Village. | |
|-------------------|------------------------------|--------------------|------------------------------------|----------------------|-------------------------------|
| No. of Houses. | No. of Houses infected | No. of Houses. | No. of Houses infected | No. of Houses. | No. of Houses infected. |
| 41 | Morris Street ... 7 | 53 | Main Street 5 | 72 | Central Drive ... 16 |
| 48 | Ashbourn Street 6 | 20 | Simpsondale Ter. 4 | 86 | Church Drive ... 10 |
| 51 | Portland Road... 7 | 13 | Avondale Terrace. 6 | 20 | Field Drive 2 |
| 85 | Station Road ... 5 | 20 | Nicholson's Row 5 | 64 | Recreation Drive 2 |
| 37 | Clumber Street 4 | 47 | Byron Street ... 4 | 24 | Prospect Drive... 0 |
| 15 | Welbeck Terrace 0 | 41 | Warren Terrace 2 | --- | --- |
| 14 | Cavendish Street 0 | 12 | York Road 2 | 266 | --- |
| --- | --- | 12 | Gt. N. Railway Hotel Yard ... 0 | --- | --- |
| 291 | 29 | 8 | Beech Terrace... 0 | --- | --- |
| | | 8 | Lewis' Buildings 0 | | |
| | | 20 | Back Lane 0 | | |
| | | --- | --- | | |
| | | 254 | 28 | | 30 |

| Localities. | Table showing the fortnightly invasion of Houses between July 25th and November 28th. | | | | | | | | | | |
|--------------------|---|--------|---------|--------|---------|--------|---------|---------|---------|---------|----|
| | July 25 | Aug. 8 | Aug. 22 | Sept 5 | Sept 19 | Oct. 3 | Oct. 17 | Oct. 31 | Nov. 14 | Nov. 28 | |
| Old Village..... | 6 | 2 | 0 | 0 | 4 | 7 | 5 | 3 | 1 | 0 | 28 |
| New Bulwell | 2 | 0 | 1 | 1 | 5 | 7 | 6 | 4 | 0 | 0 | 26 |
| Colliery Village.. | 0 | 2 | 6 | 5 | 6 | 7 | 0 | 2 | 1 | 0 | 29 |
| | 8 | 4 | 7 | 6 | 15 | 21 | 11 | 9 | 2 | 0 | 83 |

As some of the cases notified may be regarded as doubtful, the elimination of such, or even a portion of them, will materially facilitate matters.

The only two courses open likely to throw any light on the subject are:—

- A An inquiry into the duration of the cases ; and
- B The number of deaths accruing therefrom.

An attempt was made to ascertain the number of days some of the patients were actually ill. This was found to be exceedingly difficult, and could only be carried out to a limited degree.

The periods named below were calculated from the time medical aid was sought until the patient was allowed to take solid food :

| No. of Cases. | | Duration of Illness. |
|---------------|-------|----------------------|
| 1 | ..... | 1 day. |
| 1 | ..... | 2 days. |
| 1 | ..... | 4 „ |
| 4 | ..... | 5 „ |
| 1 | ..... | 6 „ |
| 6 | ..... | 7 „ |
| 2 | ..... | 8 „ |
| 4 | ..... | 9 „ |
| 7 | ..... | 10 „ |
| 5 | ..... | 12 „ |
| 6 | ..... | 14 „ |
| 2 | ..... | 15 „ |
| 2 | ..... | 16 „ |
| 3 | ..... | 18 „ |
| 15 | ..... | 21 „ |
| 4 | ..... | 28 „ |
| 10 | ..... | over 28 „ |

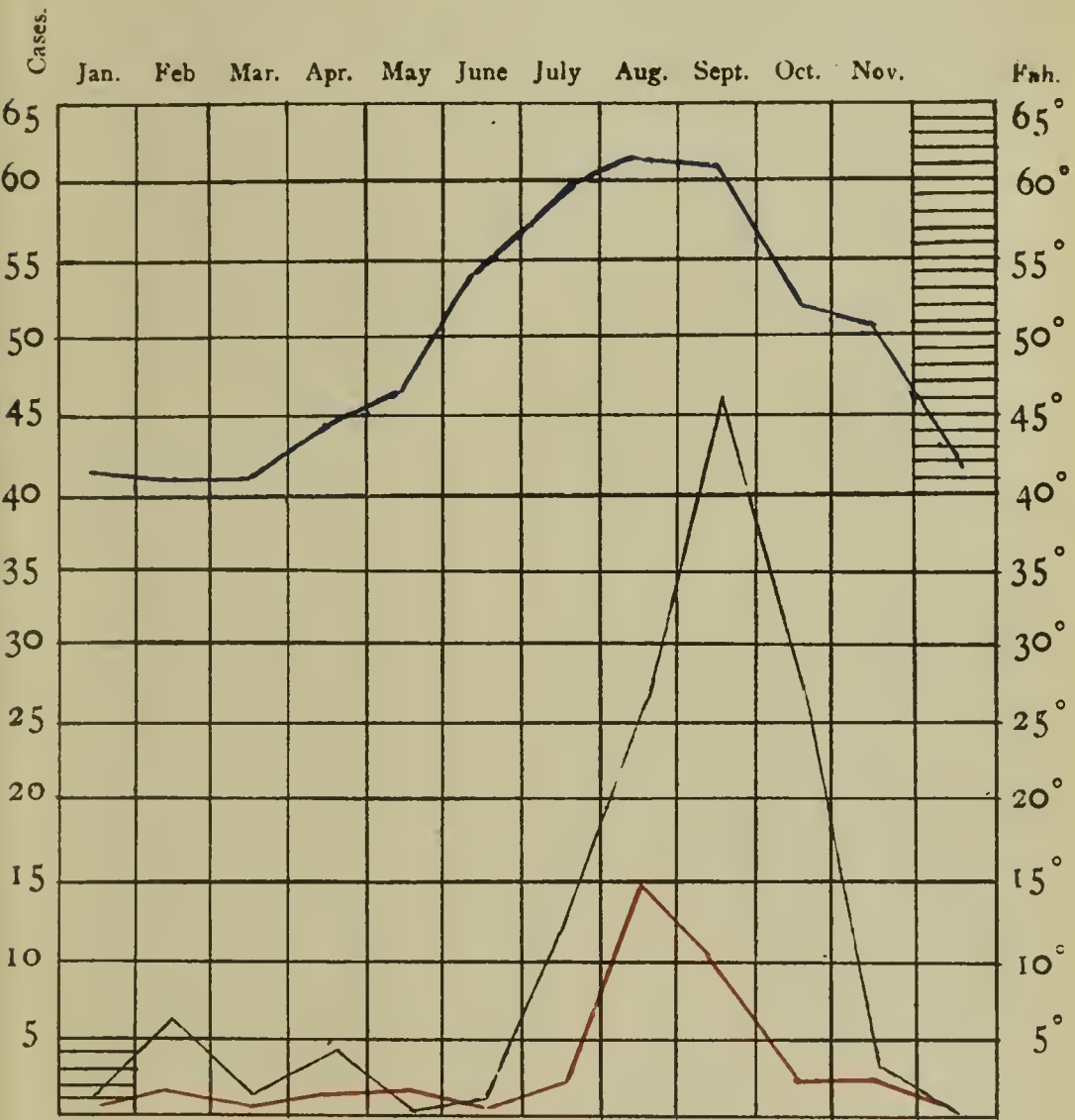
Epitomised the results stand as follows :—

| | | | | | | | |
|----|---------|-----|------|---------|----------|---|-------|
| 14 | persons | ill | from | 1 | to | 7 | days. |
| 24 | „ | „ | „ | 7—14 | „ | „ | „ |
| 22 | „ | „ | „ | 14—21 | „ | „ | „ |
| 10 | „ | „ | „ | over 28 | „ | „ | „ |
| 8 | ill | at | time | of | enquiry. | | |

Discarding all cases with a duration below 14 days, the actual number of persons attacked was reduced 48·4 per cent.

The number of deaths which took place was 7, which equals a case mortality of 5·3—the average mortality for England and Wales is about 17·5. There can be no doubt that epidemics of Typhoid Fever vary in severity, but a variation between 5·3 and 17·5 is excessively high, and open to question.

Chart illustrating the relations of the number of deaths from Diarrhoea to the number of Typhoid Fever cases notified during 1899, and to the Earth Temperature taken 4 feet below the ground.



— Black == Typhoids.
 — Red == Deaths from Diarrhoea.
 — Blue == Ground Temperature.

During the course of the epidemic now under consideration, and particularly when the notifications received were most numerous, epidemic diarrhœa was exceedingly prevalent; the number of deaths which took place during August and September was excessive, and appear to bear some relation to the number of cases of Typhoid Fever notified.

| | Deaths from Diarrhœa. | | Typhoid Cases Notified. |
|---------------|--------------------------|-------|----------------------------|
| January | 0 | ..... | 1 |
| February ... | 1 | ..... | 6 |
| March | 0 | ..... | 1 |
| April | 1 | ..... | 4 |
| May | 1 | ..... | 0 |
| June | 0 | ..... | 1 |
| July | 2 | ..... | 12 |
| August | 14 | ..... | 25 |
| September .. | 9 | ..... | 51 |
| October | 2 | ..... | 26 |
| November ... | 2 | ..... | 3 |
| December ... | 0 | ..... | 0 |
| | — | | — |
| | 32 | | 130 |

| | |
|---|----|
| Deaths from Diarrhœa for Shirebrook alone | 32 |
| “ “ for whole District, not including Shirebrook | 20 |
| | — |
| Total | 52 |

For some years past the mortality from epidemic diarrhœa in Shirebrook has been unduly high, as the following figures taken from the four preceding years show :—

| Year. | No. of Deaths from Diarrhœa in entire District. | No. of Deaths from Diarrhœa in Pleasley only. |
|---------------|---|---|
| 1895 | 19 | 6 |
| 1896 | 43 | 9 |
| 1897 | 26 | 15 |
| 1898 | 42 | 18 |
| 1899 | 52 | 32 |
| | — | — |
| | 182 | 80 or 44 % on whole neighbourhood. |

WATER SUPPLY. The source of the Water Supply was inspected, chemical analyses of the water were made from time to time, when the results found were always satisfactory.

A bacteriological examination of the water supply was made by Mr. W. C. C. Pakes, bacteriologist to Guy's Hospital, London, which gave negative results.

MILK SUPPLY. The milk was obtained from local farmers, who either sold it themselves or disposed of it to milk-sellers for general distribution. There were 11 purveyors of milk in the parish, which I have numbered instead of mentioning names.

The various sources from which the milk was obtained were visited, and were all, if not within the parish, only a short distance away. The conditions under which the cows were kept were anything but satisfactory; light, adequate provision for drainage, and ventilation were matters very little heeded. All this only goes to show the paramount importance of instituting a more rigid supervision over the cowsheds and dairies of the district,

Returns showing the milk supply to the three component parts of Shirebrook, the whole epitomised with the percentage of the invaded houses on the total number of houses supplied :

| Milk Sellers. | New Bulwell. | | Old Village. | | Colliery Village | | Whole Village. | | Per Cent. on Whole. |
|---------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|---------------------|
| | Houses Supplied. | Houses Invaded. | Houses Supplied. | Houses Invaded. | Houses Supplied. | Houses Invaded. | Houses Supplied. | Houses Invaded. | |
| 1 | 20 | 4 | 38 | 7 | 146 | 5 | 208 | 16 | 8 |
| 2 | 72 | 10½ | 50½ | 8½ | 44 | 1 | 166 | 20 | 12 |
| 3 | 124 | 8 | 6 | 2 | — | — | 130 | 10 | 7 |
| 4 | 60½ | 4½ | 34½ | 2½ | — | — | 95 | 7 | 7 |
| 5 | — | — | 43 | 3 | 25 | 2 | 43 | 5 | 11 |
| 6 | — | — | 5 | 3 | 30 | 19 | 35 | 22 | 63 |
| 7 | — | — | 54 | 2 | — | — | 54 | 2 | 3½ |
| 8 | — | — | 23 | 1 | — | — | 23 | 1 | 4½ |
| 9 | 14 | 2 | — | — | — | — | 14 | 2 | 13 |
| 10 | — | — | — | — | 13 | 0 | 13 | 0 | 0 |
| 11 | — | — | — | — | 8 | 3 | 8 | 3 | 35½ |

Nos. 1 and 2 appear to be the only purveyors who supplied milk to the three parts of the parish. Several supplied two of the component parts, whilst many limited their sale to one district only.

There appears to be some degree of uniformity in two parts of the parish between the total houses supplied and the number invaded in Nos. 4, 5, and 6, whilst in Nos. 1 and 2 there is a certain consistency in the supply for New Bulwell and the Old Village, but when we come to the Colliery Village that uniformity is lost.

There was relatively a much larger incidence of fever on the consumers of No. 6 than any other. It should be pointed out that whilst Nos. 1 and 2 supplied the whole village from the first, very few cases were reported either from the Old Village or New Bulwell, until the epidemic was fairly established at the Colliery Village.—*Vide* page 19

I think the above evidence is sufficient to prove that the milk supply has not been the principal agent in causing the spread of Enteric Fever in Shirebrook.

DISPOSAL OF REFUSE. All the houses at New Bulwell and the Colliery Village are provided with pail closets; the pails in all cases were made of galvanised iron.

In the Old Village there is no regular system in use; some of the houses adopt the pail system, while others make use of privies and privy-middens.

There are only three or four W.C.'s in the place.

The Scavenging was let by contract, at an annual sum of £200, which worked out at 4s. 11d. per house.

The pails were removed from the houses at New Bulwell twice a week, at the Colliery Village every day.

During the time of the epidemic specially numbered pans were provided for the reception of the infected excreta. The infected houses were scavenged separately, and the typhoid stools disinfected and buried in an isolated part of the parish, sufficiently far away from any water supply ever likely to be contaminated.

The house refuse from New Bulwell and the Old Village was sent away every morning by train into another county altogether, and there utilised for agricultural purposes.

The contents of the pails from the Colliery Village was spread on land belonging to the Colliery Co., and the scavenging of this part of Shirebrook was undertaken by the Company, as a sub-contract. The only fault I had to find with the work was that it was done too frequently, and that the refuse was deposited too near to the dwelling-houses. The pails were emptied daily, which greatly increased the risks of local pollution by slopping.

DRAINAGE. It will be recollected that it is only three years ago since the Blackwell District Council made application to the Local Government Board for permission to borrow the sum of £8,538 for purposes of sewerage and sewage disposal for the parish of Pleasley.

The Shirebrook apportionment amounted to considerably more than half that sum, for it was even then anticipated that Shirebrook might possibly, within the near future, become a place of considerable proportions, and provision was consequently made for dealing with a population of from 7,000 to 8,000. Startling as was the outlook, it must be admitted that the calculations then made were not over estimated

The houses at New Bulwell and the Old Village all discharge their slop water on to trapped gullies. At the Colliery Village open drains have been permitted (conditionally), which discharge their contents on to so-called coal filters, which are in close proximity to the dwelling-houses, and which, during certain seasons of the year, become offensive.

These filters receive the urine and slop water alike, and afford a convenient receptacle for all kinds of materials, from cabbage stalks and potatoe peelings to old boots and mustard tins. There is absolutely no purification whatever taking place in the sewage during its passage through these so-called filters.

The sewage finds its way ultimately to the outfall works, where it is treated by chemical precipitation and land irrigation.

There still remains a portion of the sewage from the South part of the Colliery Village which requires to be dealt with, and which is at the present moment finding its way on to land adjoining. I beg strongly to urge on the Council the necessity of dealing with this matter, more particularly as the source of the Shirebrook water supply is within dangerous distance of being polluted. Fortnightly meetings of the Council have necessitated short, and I fear somewhat disjointed, reports. I have therefore thought it wise in my Report for the year to endeavour to lay the whole subject of the epidemic before you.

Having now done so, it only remains to consider the likely sources of the infection, and the most probable causes of dissemination.

Regarding the water supply it may be pointed out that 786 houses obtain their water from a common source. The number of infected houses amounted to 86, or 11 per cent. of the whole.

There were isolated groups of houses scattered here and there, all of which derived their water from the common supply, in which fever never existed.

It may here be indicated that as a rule water-borne typhoid does not cease until the existing water supply is cut off, and a fresh one provided, but in this particular epidemic we observe the somewhat sudden disappearance of the fever without any change whatever in the water supply being made.

Chemical and bacteriological examinations of the water both failed to provide any positive evidence of sewage or filth contamination.

A perusal of the Spot Map, which was prepared by the Surveyor and marked by myself, appears to indicate a certain degree of grouping of the invaded houses, more particularly in the Colliery Village and Old Shirebrook, indeed it was not uncommon to find four or five infected houses, if not actually adjoining, in very close proximity to each other. In Church Drive Nos. 74, 76, 78, and 80 were somewhat simultaneously attacked; with that exception any aggregation which occurred took place piecemeal. This fact rather suggests a local dissemination from multiple centres, either by direct contact or by means of polluted earth, for it has now been satisfactorily proved that the Typhoid bacillus may grow outside the human intestines—in garden earth, and particularly in soils highly polluted with organic animal matter. How long it is capable of retaining its vitality under such conditions has not yet been accurately worked out, but the idea is gaining support that the period may be a lengthened one.

The connection between epidemic diarrhœa and Typhoid Fever cannot be altogether discarded. Conditions favourable to the growth and distribution of the organism or organisms of diarrhœa, certainly appear to have favoured the growth and dissemination of the specific bacillus of Typhoid Fever, and as summer diarrhœa is now supposed to be caused by a microbe which only takes on an active form when the ground temperature has reached a certain height, so, if the germ of Typhoid Fever is capable of a saprophytic existence, surely the organism of the one is as capable of diffusion as that of the other.

Certain houses, streets, and even neighbourhoods appear to harbour Typhoid Fever for years together, and in such cases

the recrudescence usually occurs about the same time each year. Through the kindness of the Shirebrook Colliery Co., who placed at the disposal of the Joint Hospital Board, five cottages, we were enabled on the 3rd of October to open an Isolation Hospital, with accommodation for from 20 to 25 patients. The total number of cases admitted for treatment was 17, several of these were discharged after only a few days residence in hospital as not showing sufficient signs of fever to warrant their detention any longer.

With the opening of the hospital the epidemic rapidly ceased ; this was a coincidence, of course.

The houses in which fever had existed were disinfected, bedding, &c., were subjected to the influence of high pressure steam, and the drains were liberally flushed with water, to which Carbolic Powder was plentifully added.

A printed form of instructions was issued, detailing the necessary steps to be taken for the prevention of the spread of the disease.

Dr. S. Monckton Copeman, one of the Local Government Board Inspectors, twice visited the district during the course of the epidemic.

DIPHTHERIA AND MEMBRANEOUS CROUP. In my former reports I have treated Diphtheria and Membraneous Croup as one and the same disease, and I purpose adopting the same course on this occasion, as evidence to the contrary has now almost vanished.

The number of cases notified during the year was 10, as against 16 for the preceding year.

The number of deaths due to these diseases was 9, and they all occurred in children under five years of age. Out of the 16 recorded cases for the year previous only one death took place.

The predisposing causes of these diseases are bad sanitary surroundings, and where the disease occurs it is not infrequent to find some defect in the drainage system of the premises. These diseases have been very prevalent in many parts of the county during the year, and some of our larger towns have suffered very considerably as a consequence. School attendance appears to have some influence in accentuating the incidence of these diseases.

The actual cause of the disease is due to a bacillus, and the disease may certainly be controlled by the injection of an antitoxin.

MEASLES. The past has been essentially an epidemic year for Measles in this district.

The actual number of cases which have occurred it is quite impossible to estimate, but the number of fatalities we do know, and they have amounted to 44. With the exception of Glapwell, which has only a population of 86, every other parish in the district has had to record a death, and in the case of South Normanton the deaths amounted to 23. In the other parishes the mortality was as follows:—Blackwell 2, Tibshelf 5, Pinxton 4, Pleasley 5, Ault Hucknall 1, Scarcliffe 3, Langwith 1, Glapwell 0.

WHOOPIING COUGH. To this disease three deaths were assigned.

DIARRHŒA. Diarrhœa is the name of a symptom, not of a disease. It is rather a generic term, for it includes a number of maladies, such for example as enteritis, gastro-enteritis, dysentery.

These diseases are most fatal at the extremes of life, particularly during the first year.

Diarrhœa being eminently an infantile disease, may be regarded for all practical purposes as synonymous with epidemic or summer diarrhœa.

The numbers occurring in each quarter of the year were as follows :

| 1st Quarter. | 2nd Quarter. | 3rd Quarter. | 4th Quarter. |
|--------------|--------------|--------------|--------------|
| 3 | 5 | 37 | 7 |

The earth temperature middle of each quarter, and taken 4 feet below surface of ground :

| | | |
|-------------|-------|----------------|
| 1st Quarter | ..... | 40·4 deg. Fah. |
| 2nd ,, | ..... | 46·4 ,, |
| 3rd ,, | ..... | 61·5 ,, |
| 4th ,, | ..... | 49·4 ,, |

Age incidence. Out of a total of 52 deaths :

| | | |
|----|------------|----------------|
| 18 | took place | under 3 months |
| 14 | ,, | ,, 6 ,, |
| 3 | ,, | ,, 9 ,, |
| 4 | ,, | ,, 12 ,, |
| 13 | ,, | over 12 ,, |

Note that 32 out of the 52 deaths occurred at Shirebrook.

It appears, therefore, from the temperature just given, that the prevalence of the disease bears a marked relationship to the temperature of the ground 4 feet below the surface.

It is generally believed that this disease is due to the development and dissemination of a specific microbe, which only takes on an active form when the temperature of the earth has risen to a certain height.

Artificially fed children succumb more readily to this malady than breast fed.

Milk in hot weather rapidly undergoes putrefaction, set up by the introduction of decomposing matter.

Milk is a substance in which germ life grows very readily, therefore the importance of placing it in a well ventilated larder immediately it leaves the hands of the milkman, cannot be too rigidly insisted upon.

During the summer months, whenever diarrhœa is prevalent, the precaution of first boiling the milk should never be omitted.

It has been suggested as a means of preventing the spread of summer diarrhœa that the weaning of children should not take place during the very hot weather.

PHTHISIS. Until quite recently it has been the custom to look upon Pulmonary Consumption as an hereditary disease, readily transmitted from parent to offspring, and entirely outside the scope of human interference, but comparatively recent investigations have proved that such is not the case.

The disease is now known to be due to the introduction into the lungs and subsequent development of a specific micro-organism; having advanced thus far, and ascertained the true cause of the disease, we are in a position to discuss certain means for effectually preventing its spread.

For all practical purposes they may shortly be dealt with under two headings, viz. :—

- (a) The germ itself.
- (b) The soil on which it falls.

(a) It is obvious that the destruction of the germ would ultimately lead to the extinction of the disease; this, therefore, should form the first line of attack.

Every person suffering from Pulmonary Phthisis emits from the lungs during each act of expectoration countless numbers of these microscopic, though none the less poisonous, germs (bacilli). The phlegm of consumptives, if not collected in a suitable vessel, spittoon, or paper, and destroyed, dries up and becomes converted into dust, which readily diffuses itself throughout the house. The inhalation of this infected dust is one of the channels through which infection takes place; the moral, therefore, is never to spit on floor, rugs, or carpets.

(b) The lungs of healthy people are, to a very large extent, germ proof, therefore it is not to that class of people I am now particularly appealing, but there is unfortunately a section of the community whose lungs, though not actually diseased, may be considered weak, and especially predisposed to the growth and development of the Tubercle bacillus, and into whose lungs the germ when once introduced, finds suitable soil on which to grow.

It is obvious, therefore, that placing the lungs in the most healthy condition possible is only second in importance to the destruction of the germ itself.

The lungs of people are rendered weak, and their powers of resistance against disease greatly diminished, by living unnatural and unhealthy lives.

The following may be considered some of the more common predisposing causes of Phthisis :—

- (1) The breathing of impure air, particularly air which has been breathed over and over again.
- (2) Dampness and darkness of the dwellings, and
- (3) Chronic alcoholism.

Environment therefore plays a very important part in the development of Consumption, likewise any condition which helps to lower the physical tone may be looked upon as a predisposing cause of this malady.

The hereditary tendency to Tuberculosis may be greatly neutralised by observing certain well-defined laws of health, such, for instance, as : Daily exercise in the open air, the avoidance of undue exposure to changeable or inclement weather, and the choice in life of such occupations as will give free ventilation to the chest.

Early attention to such details as have been indicated above counts for much in the management of children in families predisposed to Phthisis.

The outdoor treatment of Consumption as carried out in the various Sanatoria, not alone in this country, but throughout Europe and America, affords the best known means of combatting this disease when once established. At present the number of such institutions is too small to be able to cope with this disease on anything like an universal scale, but the good results obtained by this method of treatment need only to be more widely known to ensure the support of those who out of their abundance are well able to give.

Pulmonary Tuberculosis is a disease very rarely found in young children, and particularly in infants under one year of age, but there are other forms of Tubercular disease to which artificially-fed children are particularly liable. These maladies are characterised by wasting, and are often spoken of as Marasmus, Consumption of the Bowels, Scrofula, Brain Fever, all vague and ill-defined terms. Recent investigations into a large number of milk supplies throughout the country have shown very conclusively that the cause of such conditions as mentioned is not far to seek; vast quantities of milk highly contaminated with the Tubercle bacillus are being sold daily to the public without any regard to the far-reaching consequences arising therefrom.

Cattle stalled in dark, damp, badly-drained and imperfectly ventilated houses readily develop Tuberculosis, which in most cases attacks the udder; hence the contamination of the milk with the germs of consumption.

Fortunately this germ is quickly killed by heat; the milk only needs to be boiled to render infection through this channel impossible; the precaution of first boiling the milk before it is consumed cannot be too strongly recommended.

INFLUENZA. We have been hoping since 1889-90 that each seasonal recurrence of this disease would be its last, but, unfortunately, I have again to place on record that its appearance has made itself felt during 1899 with little of its ancient severity mitigated.

The actual number of deaths primarily assigned to this disease may not be large, but the number of complications arising therefrom has in some towns raised the death rate to a phenomenal height. The disease is particularly infectious in the early stages, and the length of infection varies in every case.

DISINFECTION. Some of the infectious diseases, and probably all are due to the invasion of the body by living micro-organisms. The object of disinfection is to destroy those micro-organisms either before or immediately after leaving the human body.

Substances innumerable have been suggested, and all manner of plans devised for the carrying out of this object, and, needless to say, large sums of money unnecessarily expended in the process.

For some time past all houses in the district infected with Scarlet Fever or Typhoid Fever have been disinfected with the vapour of formic aldehyde. This work up to now has been carried out entirely by the Inspector of Nuisances, which has made a considerable demand on his time.

A high-pressure steam disinfector has been purchased for the whole district.

Two hand-carts, painted in distinctive colours, have been obtained for the conveyance of infected and disinfected clothing.

Large quantities of disinfectants have been supplied gratis, to all applicants, throughout the whole area, at a considerable cost to the Council.

SEWERAGE AND SEWAGE DISPOSAL. Very little new work has been done in this department during the year, but several matters of importance have occupied the attention of the Council.

It has been decided, and the Surveyor has been instructed to prepare plans for the reorganisation of the South Norman-ton sewage outfall.

The method of treatment decided upon is to obviate chemical precipitation, and trust to the solution of the suspended matter, often after well screening, to the action of

bacteria, in large open tanks, containing coarse particles of coke, about the size of walnuts.

The effluent from such bacteria tanks to be passed through large filters, probably coal, and finally discharged into the stream without further interference. It is proposed to hold back the effluent by means of Adams' Automatic Syphons. The whole of the sewage of the parish will be dealt with by means of this scheme.

At Shirebrook, on account of the phenomenal growth of houses, it is proposed to spend an additional sum of £5,000 on sewerage and sewage disposal works; in constructing a new main sewer from the centre of the village to the sewage outfall, as the existing sewer is quite inadequate to deal with the present volume of sewage.

In constructing a new 9in. main 1,200 yards in length, connecting Wood Lane with the main sewer in the centre of the village.

In increasing the capacity of the existing tanks, by raising them 12 inches in height.

In laying down filters, with automatic syphon gear attached, capable of holding back the effluent.

The sewage from the Northern portion of the Shirebrook Colliery Village has been connected with the main system.

The Sough Lane tank at Pinxton requires attention. Large volumes of water find their way into it, which causes an almost constant overflow of sewage.

The advisability of inaugurating some method for the additional purification of the sewage at Tibshelf and Pinxton has also occupied the attention of the Council.

Analyses of tank and filter effluents have been made from time to time. Appended are the analytical data of the last estimations made :—

EXPRESSED IN PARTS per 100,000.

| LOCALITIES. | Total Solids. | Free Ammonia. | Organic Ammonia. | Nitrogen as Nitrate and Nitrites. | Chemicals | REMARKS. |
|--|---------------|---------------|------------------|-----------------------------------|-----------|--|
| Tibshelf Tank Effluent | 100 | ·096 | ·036 | 2·85 | 6·50 | } Considerable putrefaction must have taken place in the sewers. |
| " Filter Effluent | 110 | ·080 | ·050 | 2·00 | 6·00 | |
| Shirebrook Tank Effluent | 56 | ·48 | ·12 | ·80 | 4·40 | } Note deterioration of effluent after passing over land. |
| " Effluent after passing over land | 64 | ·72 | ·19 | <i>nil.</i> | 4·70 | |
| West Houses Tank Effluent | 36 | ·18 | ·05 | ·42 | 2·00 | } No purification after passing over land. |
| " Effluent after passing over land | 36 | ·16 | ·06 | ·33 | 2·00 | |
| Langwith Tank Effluent | 92·0 | 1·36 | ·16 | ·35 | 10·0 | } The small amount of Free Ammonia present was confirmed by a second analysis. The explanation is probably found by the fact that large volumes of water are used for cleansing the filter beds. |
| " Filter Effluent | 48·0 | <i>trace.</i> | ·06 | ·50 | 2·0 | |
| Doe Lea Tank Effluent | 100 | 2·40 | ·26 | ·58 | 7·5 | |
| " Filter Effluent | 64 | <i>trace.</i> | ·06 | ·65 | 3·0 | |

During the year 36 Tons of Chemicals have been used at Tibshelf and Shirebrook, at a cost of £103.

The adoption of the biological method of sewage purification would obviate this unnecessary expenditure of money.

On March 29th a deputation, consisting of two Members of the Council, the Surveyor, and the Medical Officer of Health interviewed the Local Government Board concerning the undesirability of procuring more land at Shirebrook for the further purification of sewage by irrigation.

The matter was carefully gone into, and it was shown that the land adjoining the outfall works was totally unfit for irrigation purposes.

The levels were of such a nature that the only land available for wide irrigation was limited. Nine trial holes made showed that the soil adaptable for downward filtration did not exceed more than a few inches in depth.

The subsoil was equally unsuitable, consisting, as it did, of dense red clay.

The land generally throughout the valley was found to be water-logged for many months during the year.

Numerous analyses of the effluent made, showed that after passing over and through the land, the effluent was actually in a worse condition, than when it left the tanks.

The conclusion arrived at by the Surveyor and Medical Officer of Health was, that if further purification is to be accomplished (which is very much needed), the only means of gaining that end is by laying down large filters, holding up the effluent, and regulated by an automatic syphon gear.

WATER SUPPLY. Analyses have been made of the various public Water Supplies throughout the district. The quality of the water in every case remained unimpaired.

Twenty-two samples of water from private supplies have been analysed, and it was found requisite in six cases to advise the closing of wells.

Pinxton has been provided with an entirely new supply from Basford, at a cost of £1,600.

PLEASLEY. At Shirebrook considerable extensions of new mains have been made, as the new streets have been formed.

At New Houghton the Stanton Ironworks Co. have increased their storage capacity by erecting two additional iron tanks.

SOUTH NORMANTON. A fresh main has been laid to Carter Lane and Birchwood Lane, at a cost of about £40.

Many complaints have been made during the year of the unsatisfactory manner in which South Normanton has been supplied with water. The Sutton-in-Ashfield Urban Council have been written to, but no satisfactory explanation was ever obtained.

For more detailed particulars of Water Supply see various parishes.

MILK SUPPLY. In my article on Phthisis, I spoke of the advisability of boiling milk as a means of preventing the spread of tuberculosis through that channel.

The effect boiling has on milk is certainly to diminish its vitilising properties, but of the two evils we must choose the lesser; yet milk ought to be sufficiently pure and free from contamination, as not to need any interference whatever.

No one would ever dream of drinking milk contaminated with Diphtheria, Scarlet Fever, or Typhoid Fever—the very fact of a suspicion of any such contamination ought to make every one of us hesitate before taking it—yet, as a matter of fact, we know that a large percentage of the milk supplied to the community contains the tubercle bacillus, without which Consumption *could never occur*.

It is very advisable that cattle should be inspected periodically by duly qualified persons.

The compulsory registration of milk-shops, and their systematic inspection might, with great advantage, be carried out by every Sanitary Authority in the country.

As a preliminary, I recommend that a new register be made of the Dairies and Cowsheds of your district.

It may be pointed out, the Local Government Board have altered Article 15 of the Dairies and Cowsheds Order, so as to include “such diseases of the udder of the cow as shall be certified by a Veterinary Surgeon to be tuberculous.

This is an important addition, and it enables us to prohibit the sale of milk from any cow with a tuberculous udder.

INQUESTS. The Coroner held 22 inquests in the district during the year.

The age periods were :

| | | | | | |
|---------------|----------|-----------|------------|------------|--------------|
| Under 1 Year. | 1—5 yrs. | 5—15 yrs. | 15—25 yrs. | 25—65 yrs. | 65 & upwards |
| 1 | 3 | 2 | 2 | 13 | 1 |

The following are the assigned causes of death:—

| | | | | | |
|-------------------|-----|-----|-----|-----|-------|
| Accident | ... | ... | ... | ... | 10 |
| Heart Disease | ... | ... | ... | ... | 3 |
| Drowned | ... | ... | ... | ... | 2 |
| Suicide | ... | ... | ... | ... | 3 |
| Burn | ... | ... | ... | ... | 1 |
| Over-laid (child) | ... | ... | ... | ... | 1 |
| Fall | ... | ... | ... | ... | 1 |
| Run over | ... | ... | ... | ... | 1 |
| | | | | | <hr/> |
| | | | | | 22 |

The number of uncertified deaths was 7.

| Causes. | | Age Periods. | |
|---------------|-------|-------------------|-------|
| Convulsions | ... 4 | 0—1 years | ... 6 |
| Debility | ... 1 | 65 yrs. & upwards | 1 |
| Senile Decay | ... 1 | | — |
| Heart Failure | ... 1 | | 7 |
| | <hr/> | | |
| | 7 | | |

SCAVENGING. With the exception of a few isolated parts scavenging of the entire district is now complete.

The cost of such work and the price per house are given below:

| Parish. | Cost. | | Cost per House. |
|----------------------|-------|-----|---------------------|
| South Normanton... | £170 | ... | 3s. 7½d. per house. |
| Pinxton | £150 | ... | 5s 2½d. ,, |
| Pleasley— | | | |
| Shirebrook | £200 | ... | |
| Pleasley Village... | £150 | | |
| | <hr/> | | |
| | £350 | ... | 5s. 5d. ,, |

| | | |
|----------------------|---|--|
| Doe Lea— | } | Undertaken privately by Colliery Cos. |
| Ault Hucknall | | |
| 135 houses | | |
| Langwith, 48 ,, | | |
| Blackwell, 250 ,, | | |
| Tibshelf (partially) | | |
| 160 houses | | |

It will be seen, therefore, that the sum paid by the Council during 1899 for scavenging alone amounted to £670.

That amount does not, by any means, represent the whole cost involved in such work, as already pointed out there are four parishes in the district in which the scavenging is undertaken privately, and consequently at no cost to the Council.

A detailed description of the work done by the public scavengers will be found under the heading of each parish.

The following report shows the work done by the Inspector of Nuisances during the year :—

| DWELLING-HOUSES. | | | | | BAKE-HOUSES. | | SLAUGHTER HOUSES. | | | Total Number of Inspections made. |
|-------------------|------------------------------------|----------------------------|---------------------|----------------------------------|---------------------|------------------------|---------------------|------------------------|--|-----------------------------------|
| Number Inspected. | Informal Notices to Repair Houses. | Number of Houses Repaired. | Number Disinfected. | Inspections of Work in Progress. | Number on Register. | Number of Inspections. | Number on Register. | Number of Inspections. | Number of Notices served for Infringements of Byelaws. | |
| 3860 | 57 | 54 | 54 | 54 | 6 | 30 | 29 | 120 | 7 | 4748 |

ANNUAL REPORT
ON SEPARATE PARISHES OF DISTRICT
FOR YEAR 1899.

BLACKWELL.

| | | | | | | |
|---|-----|-----|-----|-----|-----|-------|
| Area in Acres | ... | ... | ... | ... | ... | 1739 |
| Present Population | ... | ... | ... | ... | ... | 4217 |
| Population in 1891 census | ... | ... | ... | ... | ... | 3140 |
| Average number of persons per house, 1891 | | | | | | 5·4 |
| Present number of inhabited houses | ... | ... | ... | ... | ... | 764 |
| Birth-rate, 1898 | ... | ... | ... | ... | ... | 43·8 |
| „ 1899 | ... | ... | ... | ... | ... | 41·7 |
| Death-rate, 1898 | ... | ... | ... | ... | ... | 9·8 |
| „ 1899 | ... | ... | ... | ... | ... | 12·1 |
| Zymotic death-rate | ... | ... | ... | ... | ... | 1·6 |
| Infant death-rate, 1898 | ... | ... | .. | ... | ... | 113·6 |
| „ „ 1899 | ... | ... | ... | ... | ... | 125·0 |

The number of Births registered during the year was 176. Strange to say, the same number has occurred during three years in succession.

The quarterly returns were as follows :—

| | | | |
|--------------|--------------|--------------|--------------|
| 1st Quarter. | 2nd Quarter. | 3rd Quarter. | 4th Quarter. |
| 50 | 34 | 45 | 47 |

The number of registered Deaths at all ages was 51.

There has been an outbreak of Scarlet Fever in the parish; the number of cases notified was 73, the number of deaths accruing therefrom none.

This fact speaks well for the general sanitary condition of the surroundings.

The following is an extract made from my report to the Local Government Board on November 27th, 1899, showing the localities invaded, the number of houses attacked, the age distribution, and the incidence of the disease on school attendance:—

| Months. | Blackwell. | Newton. | Westhouses. | B. Winnings. |
|---------------|------------|---------|-------------|--------------|
| April..... .. | 0 | 4 | 4 | 0 |
| May | 0 | 0 | 0 | 0 |
| June | 11 | 1 | 2 | 0 |
| July | 10 | 2 | 2 | 0 |
| August..... | 13 | 0 | 1 | 0 |
| September ... | 6 | 0 | 1 | 0 |
| October | 7 | 2 | 1 | 1 |
| November 10th | 2 | 1 | 0 | 0 |
| | — | — | — | — |
| | 49 | 10 | 11 | 1 |

| | |
|--|----|
| Number of Houses invaded—Blackwell ... | 20 |
| Westhouses .. | 10 |
| Newton ... | 8 |
| B. Winnings | 1 |

Age incidence—

| | |
|---------------------------|----|
| Under 1 year | 1 |
| 1 and under 3 years | 9 |
| 3 ,, 5 years | 16 |
| 5 ,, 7 ,, | 14 |

| | | | | | | |
|----------------|---|----|---|-----|-----|----|
| 7 | „ | 13 | „ | ... | ... | 25 |
| 13 and upwards | | | | ... | ... | 6 |
| | | | | | | — |
| | | | | | | 71 |

Percentage of cases corresponding to school period 77

| | | | | | |
|---|---|-------|---|---|-------|
| „ | „ | under | „ | „ | 14·5 |
| „ | „ | over | „ | „ | 8·5 |
| | | | | | — |
| | | | | | 100·0 |

The cases were largely confined to Blackwell proper; indeed, so few were the cases in other parts of the parish, as not to become more than sporadic.

There were 30 primary cases; the rest were of secondary infection. The children attended the Blackwell Colliery school.

Cases of Measles and Whooping Cough occurred in the parish, but as they are not included in the schedule for notification, it is impossible to estimate the degree of prevalence.

The effluents from the Westhouses sewage outfall have been analysed.

The analytical data obtained were as follows :—

| | | | | In Parts per 100,000. | |
|-----------------------------------|-----|-----|-----|-----------------------|--------------------------|
| | | | | Tank. | After passing over land. |
| Total Solids | ... | ... | ... | 36 | 36 |
| Free Ammonia | ... | ... | ... | ·18 | ·16 |
| Organic Ammonia | ... | .. | .. | ·05 | ·06 |
| Nitrogen as Nitrates and Nitrites | | | | ·42 | ·33 |
| Chlorides | ... | ... | ... | 2·00 | 2·00 |

SOUTH NORMANTON.

| | | | | | | |
|---|-----|-----|-----|-----|-----|-------|
| Area in Acres | ... | ... | .. | .. | .. | 1934 |
| Present Population | ... | ... | ... | ... | ... | 5224 |
| Population 1891 census | ... | ... | ... | ... | ... | 4192 |
| Average number of persons per house, 1891 | | | | | | 5.4 |
| Present number of inhabited houses | ... | ... | | | | 938 |
| Death-rate, 1898 | .. | ... | ... | ... | ... | 15.9 |
| „ 1899 | ... | ... | ... | ... | ... | 19.7 |
| Zymotic death-rate | ... | ... | ... | ... | ... | 6.7 |
| Birth-rate, 1898 | ... | ... | ... | ... | ... | 42.6 |
| „ 1899 | ... | ... | ... | ... | ... | 38.8 |
| Infant death-rate, 1898 | | ... | ... | ... | ... | 179.7 |
| „ „ 1899 | | ... | ... | ... | ... | 206.9 |

The number of Births registered during each quarter of the year was as follows :—

| 1st Quarter. | 2nd Quarter. | 3rd Quarter. | 4th Quarter. |
|--------------|--------------|--------------|--------------|
| 66 | 53 | 39 | 45 |
| Total 203. | | | |

The number of deaths recorded was 103, showing an increase of 22 on the previous period for 1898.

The two most striking features brought to light on a perusal of the above statistics, are the very high Zymotic death-rate, and the marked increase in the infant mortality.

Perhaps this is not to be wondered at, when it is remembered that Measles was prevalent in the parish during the year. Out of a total of 103 deaths at all ages, 42 occurred in infants under 1 year of age, whilst 27 took place over 1 year but under 5 years.

There were 13 cases of sickness notified during the year, viz., Scarlet Fever 7, Croup 1, Typhoid Fever 1, Erysipelas 3. The total number of deaths resulting from the above was 4.

The epidemic of Measles was responsible for no less than 23 deaths, whilst Bronchitis, which is so frequent a concomitant of measles, was a cause of no less than 19 deaths in children under 5 years of age.

WATER SUPPLY. The intermittent character of the Water Supply during the year has been a source of great anxiety to the representatives of the parish, and the officers of the Council alike. The cutting off of the Newton supply has considerably improved matters, and I can see no reason why the supply in future should fail, if the Sutton-in-Ashfield Urban Council faithfully carry out the conditions of their contract.

I am strongly of the opinion, that a large quantity of water is running to waste, somewhere between the storage reservoir and the seat of distribution. The coal measures are riddled with fissures, and subsidence is not by any means an uncommon coincidence; these facts are sufficient to produce damage to the mains, with concealment of the results.

Analyses have been made of the public supply, and the results were always satisfactory.

SCAVENGING. This work is done under the supervision of the Inspector of Nuisances, and from whom I have obtained the following particulars:—

| Quarters. | Closets. | Ashpits. | Cesspools. | Loads, |
|-----------|----------|----------|------------|--------|
| 1st | 2494 | 475 | 55 | 525 |
| 2nd | 2773 | 506 | 49 | 511 |
| 3rd | 2748 | 481 | 47 | 450 |
| 4th | 3132 | 567 | 51 | 519 |
| | 11147 | 2029 | 202 | 2005 |

The work continues to be done by contract, at a sum of £170 per annum, which works out at the rate of 3s. 7½d. per house.

SEWAGE—OUTFALL. I have already referred to this question under the heading of Sewerage and Sewage disposal, page 31. I take this opportunity of recommending that the work be proceeded with without further delay, particularly as the existing conditions are very far from satisfactory.

PINXTON.

| | |
|--|-------|
| Area in Acres | 1253 |
| Present Population | 2571 |
| Population 1891 census | 2426 |
| Average number of persons per house, 1891 | 5.1 |
| Present number of inhabited houses | 575 |
| Death-rate, 1898 | 17.1 |
| ,, 1899 | 15.5 |
| Zymotic death-rate, 1899 | 2.3 |
| Birth-rate, 1898 | 35.1 |
| ,, 1899 | 35.7 |
| Infant death-rate, 1898... .. . | 136.3 |
| ,, ,, 1899 | 119.5 |

The number of Births during the year was 92, against 88 for the year previous. The quarterly returns were as follows :

| 1st Quarter. | 2nd Quarter. | 3rd Quarter. | 4th Quarter. |
|--------------|--------------|--------------|--------------|
| 28 | 27 | 26 | 11 |

Total 92.

The number of Deaths registered was 40; for the year previous, 43.

The parish has experienced exceptional freedom from diseases of an infectious character.

The total number brought under the notice of the Medical Officer of Health was only 5, viz., Scarlet Fever 1, Typhoid Fever 3, Erysipelas 1.

The Typhoid Fever cases were situated in the following localities, and were notified according to the dates mentioned:—January 25th, 1, Pool Close; May 24th, 1, Upper Birchwood; December 13th, 1, 35, Kirkstead Road. None of the cases terminated fatally.

SCAVENGING. The cost of scavenging amounts to £150, and is done by contract; the sum when worked out equals 5s. 2½d. per house.

| Quarters. | Closets. | Ashpits. | Cesspools. | Loads. |
|-----------|----------|----------|------------|--------|
| 1st | 1732 | 428 | 20 | 417 |
| 2nd | 1711 | 470 | 25 | 432 |
| 3rd | 1993 | 496 | 30 | 444 |
| 4th | 1884 | 430 | 29 | 452 |
| | 7320 | 1824 | 104 | 1745 |

WATER SUPPLY. The new scheme for supplying the parish with water from Basford, at a cost of £1600, is approaching completion. A new supply was badly needed, the attainment of which will add greatly to the comfort and convenience of a large section of the inhabitants of the parish.

SEWAGE DISPOSAL. Numerous inspections of the sewage works have convinced me that little or no contamination of the Erewash takes place from this source. The Sewage after first passing through two settling tanks (which are too

small for the volume of sewage) is allowed to flow through three roughing filters, and afterwards to find its way by gravitation through carriers over the adjacent land, which is in cultivation as garden allotments. At times the demand for sewage is so great by the garden holders that it is permitted to pass directly from the tanks on to the land without first entering the filters.

Four new streets, viz. :—Kirkstead Road, Redgate Street, North Street, and Wilson Street have been under the Private Streets Act, 1892.

TIBSHELF.

| | | | | | |
|---|-----|-----|-----|-----|-------|
| Area in Acres | ... | ... | ... | ... | 2371 |
| Present Population | . | .. | ... | ... | 3098 |
| Population in 1891 | ... | ... | ... | ... | 2679 |
| Average number of persons per house in 1891 | | | | | 5·8 |
| Present number of inhabited houses | ... | ... | ... | ... | 614 |
| Death rate, 1899 | ... | ... | ... | ... | 15·8 |
| „ 1898 | ... | ... | ... | ... | 18·4 |
| Zymotic death rate, 1899 | ... | ... | ... | ... | 4·8 |
| Birth rate, 1899 | ... | ... | ... | ... | 39·3 |
| „ 1898 | ... | ... | ... | ... | 33·23 |
| Infant death rate, 1899 | ... | ... | ... | ... | 155·7 |
| „ „ 1898 | ... | ... | ... | ... | 150·7 |

The number of births registered during the year was 122, precisely the same number as was recorded for the year previous.

The following are the quarterly returns :—

| | | | |
|--------------|--------------|--------------|--------------|
| 1st Quarter. | 2nd Quarter. | 3rd Quarter. | 4th Quarter. |
| 30 | 32 | 25 | 35 |

Total 122.

For several years past there has been a remarkable degree of uniformity in the annual number of births registered, as the annexed figures show :—

| Year. | | | Number. |
|-------|-----|-----|---------|
| 1896 | ... | ... | 138 |
| 1897 | ... | .. | 123 |
| 1898 | ... | ... | 122 |
| 1899 | ... | ... | 122 |

DEATHS. The number of deaths from all causes was 49, showing a decrease of 7 on the previous year.

Nineteen deaths occurred in children under the age of 1 year, and eight at an age over 65 years.

Some of the chief causes of death were :—Diphtheria (2), Typhoid Fever (1), Measles (5), Diarrhœa (7), Phthisis (3), Pneumonia (4), Heart Disease (5), Cancer (3). The rest to other diseases.

INFECTIOUS DISEASES. With the exception of Scarlet Fever the number of diseases of an infectious character brought under notice of the Medical Officer of Health was small, amounting only to six, viz., Diphtheria (2), Typhoid (2), Erysipelas (2).

There was an outbreak of Scarlet Fever in the parish during the year, which became epidemic towards the end of July.

Appended is a return of the cases as reported during each month of the year :—

| Month. | | | | Number |
|-----------|-----|-----|-----|--------|
| January | ... | ... | ... | 0 |
| February | ... | ... | ... | 0 |
| March | ... | ... | ... | 2 |
| April | ... | ... | ... | 0 |
| May | ... | ... | ... | 1 |
| June | ... | ... | ... | 2 |
| July | ... | ... | ... | 9 |
| August | ... | ... | ... | 14 |
| September | ... | ... | ... | 15 |
| October | ... | ... | ... | 12 |
| November | ... | ... | ... | 10 |
| December | ... | ... | ... | 7 |
| | | | | — |
| | | | | 72 |

Age distribution—

| | | | | |
|--------------------------|-----|-----|-----|----|
| Under 1 year | ... | ... | ... | 0 |
| 1 year and under 3 years | ... | ... | ... | 13 |
| 3 „ „ 5 „ | ... | ... | ... | 21 |
| 5 „ „ 7 „ | ... | ... | ... | 14 |
| 7 „ „ 12 „ | ... | ... | ... | 12 |
| 12 years and upwards | ... | ... | ... | 12 |
| | | | | — |
| | | | | 72 |

The epidemic was confined almost exclusively to children residing in the upper part of the village and attending the top school.

The number of houses invaded was 49.

On November 4th I wrote a letter to the Managers, recommending the closure of the top school, which was promptly complied with.

The somewhat rapid cessation of the epidemic in that locality after the schools were closed evidently justified the course taken.

The character of the epidemic must have been mild in type, as not a single death occurred from that disease.

The infected houses were disinfected after the termination of the cases, and particular attention was called to the cleansing of such parts of the invaded houses as would admit of scrubbing with soft soap and water.

WATER SUPPLY. The parish is now well supplied with water, and no complaints have been lodged during the year.

Five samples of water have been taken for analysis from private supplies, when it was found necessary to condemn two.

SEWERAGE. An additional filter has been added to those previously in existence.

Samples of the effluent taken from time to time show that a very considerable degree of purification is taking place in the filter beds, the quality of the effluent being of such a standard as to admit of its being discharged directly into the stream.

SCAVENGING. The number of houses left for private scavenging after the Colliery Co. has undertaken that of their own houses, amounts to about 400.

It is felt by many of the ratepayers of the parish that public scavenging is much needed, and I am of the opinion that it would aid considerably in improving the health of the village, and I therefore take this opportunity of recommending that that course be adopted.

PLEASLEY.

| | | | | | |
|---|-----|-----|-----|-----|-------|
| Area in Acres | ... | ... | ... | ... | 3293 |
| Present Population | ... | ... | ... | ... | 1863 |
| Population in 1891 census | ... | ... | ... | ... | 1499 |
| Average number of persons per house, 1891 | | | | | 3·7 |
| Present number of inhabited houses | ... | ... | ... | ... | 1288 |
| Number of inhabited houses in 1891 | ... | ... | ... | ... | 396 |
| Death-rate, 1899 .. | ... | .. | ... | ... | 70·3 |
| „ 1898... | ... | ... | .. | ... | 50·7 |
| Zymotic death-rate, 1899 | ... | ... | ... | ... | 26·7 |
| „ „ 1898 | ... | ... | ... | ... | 18·2 |
| Birth-rate, 1899 ... | ... | ... | ... | ... | 170·1 |
| „ 1898 ... | ... | ... | ... | ... | 137·4 |
| Infant death-rate, 1899 ... | .. | ... | ... | ... | 230·2 |
| „ „ 1898 ... | ... | ... | ... | ... | 228·9 |

A perusal of the above figures at first sight appears somewhat phenomenal, but when it is taken into consideration that the actual population of the parish is now bordering upon 9,000, the matter bears an entirely different complexion.

Most of the above calculations are based on an estimated population as ascertained by the census returns of 1881—1891. The last census showed a population of only 1,499.

The great increase which has taken place in the parish is at Shirebrook, which can now boast of a population of about 7,000, and a total of 1,000 inhabited houses.

BIRTHS. The number of births registered during the year amounted to 317, showing an increase of 21·4 on the year previous.

The quarterly returns were as follows :—

| | Males. | Females. | Total. |
|-------------|--------|----------|--------|
| 1st quarter | 31 | 45 | 76 |
| 2nd „ | 26 | 46 | 72 |
| 3rd „ | 45 | 40 | 85 |
| 4th „ | 43 | 41 | 84 |
| | — | — | — |
| | 145 | 172 | 317 |

For Shirebrook alone—

| | Males. | Females. | Total. |
|-------------|--------|----------|--------|
| 1st quarter | 25 | 33 | 58 |
| 2nd „ | 23 | 38 | 61 |
| 3rd „ | 38 | 30 | 68 |
| 4th „ | 37 | 34 | 71 |
| | — | — | — |
| | 123 | 135 | 258 |

DEATHS. The number of deaths registered for the whole parish was 131, of which total Shirebrook contributed no less than 103, leaving only 28 for distribution over the other component parts of the parish, including Pleasley proper, New Houghton, and Stony Houghton, &c. The appended figures, illustrating the returns of births and deaths for the last four years will assist in showing the rapid growth which has taken place in the neighbourhood.

| Year. | Births. | Increase of. | Deaths. | Increase of |
|-------|---------|--------------|---------|-------------|
| 1896 | 144 | — | 83 | — |
| 1897 | 196 | 52 | 73 | — |
| 1898 | 249 | 53 | 102 | 29 |
| 1899 | 317 | 68 | 131 | 29 |

The number of cases of infectious diseases notified to the Medical Officer of Health during the year was as follows:—Scarlet Fever 22, Membraneous Croup 7, Typhoid Fever 130, Puerperal Fever 1, Erysipelas 6.

The cases of Scarlet Fever which occurred in the parish were distributed as follows:—Pleasley, 1; Shirebrook, 13; New Houghton, 8.

Fortunately, the disease never assumed an epidemic character, although cases were notified during every month of the year.

The teachers of the various schools were promptly acquainted with every case as it occurred. This, combined with a ready acquiescence on the part of the teachers in excluding from school all children from invaded houses, has no doubt materially assisted in preventing a wide-spread epidemic.

TYPHOID FEVER. For full particulars see general report.

SCAVENGING. Appended is a return showing the amount of work done during the year in this department:—

| | Closets. | Ashpits. | Cesspools. |
|-------------|----------|----------|------------|
| 1st quarter | 9,279 | 299 | 6 |
| 2nd „ | 9,587 | 310 | 5 |
| 3rd „ | 10,150 | 312 | 4 |
| 4th „ | 11,936 | 320 | 5 |
| | <hr/> | <hr/> | <hr/> |
| | 40,952 | 1241 | 20 |

On the 29th September the contract for Scavenging undertaken by Messrs. Moore terminated; it was found necessary, therefore, to make new arrangements.

A small Committee, consisting of the Chairman and three members, together with the officers of the Council, was formed to consider the matter and report on the best means of undertaking the work. The Committee finally recommended that the Parish be divided into 4 districts, and tenders asked for. Tenders were eventually obtained for 3 districts, and no tender being obtained for the fourth, it was decided that the Council do the work themselves.

No. 1 CONTRACT includes Pleasley, New Houghton, and Stony Houghton, comprising 380 houses, and is undertaken by Mr. S. H. Downs at a cost of £100.

No. 2 CONTRACT includes 320 houses at Shirebrook Colliery, and is undertaken by the Colliery Company at a cost of £150.

No. 3 CONTRACT includes Shirebrook proper, containing 230 houses, and is undertaken by Mr. J. W. Richardson, for the sum of £175.

No. 4 DISTRICT includes New Bulwell, and contains 360 houses. This is the portion of work undertaken by the Council, and approximately costs £180 per annum.

SEWERAGE AND SEWAGE DISPOSAL.

Vide General Report.

WATER SUPPLY. There has been a plentiful supply during the year, and from the numerous analyses that have been made the purity of the water has remained unimpaired.

A bacteriological examination was undertaken by Dr. W. C. C. Pakes, Guy's Hospital, London, who was unable to isolate any organisms which gave the morphological and cultural reactions of the Typhoid bacillus.

AULT HUCKNALL.

| | |
|---|-------|
| Area in Acres | 4,429 |
| Present Population | 2,313 |
| Census in 1891 | 1,388 |
| Average number of persons per house in 1891 | 5·4 |
| Present number of inhabited houses | 284 |
| Death-rate, 1899 | 8·2 |
| „ „ 1898 | 7·8 |
| Zymotic death-rate | ·8 |
| Birth-rate, 1899... .. | 22·4 |
| „ „ 1898... .. | 28·0 |
| Infant death-rate, 1899... .. | 76·9 |
| „ „ 1898... .. | 81·9 |

The number of Births registered during the year was 52, as against 61 for year previous. The registered deaths amounted to 19. Five occurred in children under 5 years of age, and 14 in periods over that age.

One case of Scarlet Fever, and one case of Erysipelas were brought under the notice of the Medical Officer of Health during the year.

WATER SUPPLY. Analyses of the water made during the year showed no signs of pollution.

SEWAGE OUTFALL. The manner in which the sewage is dealt with at this outfall is so satisfactory as to need no further comment.

SCARCLIFFE.

| | | | | | |
|--|-----|-----|-----|-----|-------|
| Area in Acres | ... | ... | ... | ... | 3,954 |
| Present Population | ... | ... | ... | ... | 1,937 |
| Population 1891 Census | ... | ... | ... | ... | 1,156 |
| Average number of persons per house, 1891... | | | | | 5.0 |
| Present number of inhabited houses | ... | ... | ... | ... | 470 |
| Death-rate, 1899 | ... | ... | ... | ... | 17.5 |
| „ „ 1998 | ... | ... | ... | ... | 21.4 |
| Zymotic death-rate, 1899 | ... | ... | ... | ... | 3.6 |
| Birth-rate, 1899... | ... | ... | ... | ... | 65.5 |
| „ „ 1898 .. | ... | ... | ... | ... | 65.3 |
| Infant death-rate, 1899... | ... | ... | ... | ... | 125.9 |
| „ „ 1898.. | ... | ... | ... | ... | 201.6 |

The vital statistics of this parish, as given above, form no true criterion of the actual state of affairs.

The population of the Hamlet of Hillstown did not enter into the Census of 1891, hence we have an abnormally low population. The actual population cannot be far short of 3,000. This fact should be borne in mind when trying to interpret the above statistics.

The number of births registered during the year was 127, as against 119 for the year 1898.

The registered deaths amounted to 34. Sixteen occurred in children under one year of age.

LANGWITH.

| | | | | | | |
|--|-----|-----|-----|-----|-----|-------|
| Area in Acres | ... | ... | ... | ... | ... | 1,492 |
| Present Population | ... | ... | ... | ... | ... | 348 |
| Population of 1891 Census | ... | ... | ... | ... | ... | 274 |
| Average number of persons per house, 1891... | | | | | | 3·2 |
| Present number of inhabited houses | ... | ... | ... | ... | ... | 50 |
| Death-rate, 1899 | ... | ... | ... | ... | ... | 8·6 |
| „ „ 1898 | ... | ... | ... | ... | ... | 11·8 |
| Birth-rate, 1899... | ... | ... | ... | ... | ... | 20·0 |
| „ „ 1898... | ... | ... | ... | ... | ... | 26·5 |
| Infant death-rate, 1899 | ... | ... | ... | ... | ... | 285·4 |
| „ „ 1898 | ... | ... | ... | ... | ... | 111·1 |

Seven births and three deaths were recorded during the year.

Two cases of Typhoid Fever were notified during the year.

I am indebted to MR. PHILIP SHACKLOCK, Chemist, Mansfield, for the accompanying particulars:—

RAINFALL FOR THE YEAR 1899.

| <i>Month.</i> | <i>Total Depth.</i> | <i>Greatest fall in 24 hours.</i> | | <i>Number of days on which rain fell.</i> | |
|----------------|-------------------------|---------------------------------------|--------------|---|-----|
| | | <i>Depth.</i> | <i>Date.</i> | | |
| JANUARY | 3·22 | ·44 | 15 | 28 | |
| FEBRUARY | 2·09 | ·61 | 13 | 18 | |
| MARCH | 1·04 | ·32 | 8 | 13 | |
| APRIL | 3·03 | ·42 | 29 | 23 | |
| MAY | 3·54 | ·89 | 24 | 18 | |
| JUNE | 2·11 | ·56 | 18 | 9 | |
| JULY | 1·28 | ·31 | 22 | 13 | |
| AUGUST.. .. . | ·55 | ·11 | 28 | 13 | |
| SEPTEMBER .. | 3·03 | ·77 | 29 | 20 | |
| OCTOBER | 3·18 | 1·08 | 1 | 12 | |
| NOVEMBER.. .. | 1·95 | ·45 | 7 | 15 | |
| DECEMBER.. .. | 2·69 | ·63 | 28 | 18 | |
| Total .. | | | | 27·71 | 200 |

The rainfall for the year is 1·86 inches below the average of the last 29 years.

REMARKS ON THE YEAR.

| | <i>Mean Max.</i> | <i>Mean Min.</i> | <i>Mean Average</i> |
|--|----------------------|----------------------|-------------------------|
| JANUARY.—Barometer very uneven during the month. Temperature much above the average. Frosts on eight nights only. Generally mild weather and damp. High winds during the whole month, especially on the 12th, a gale lasting 24 hours, and doing much damage. Thunder and lightning on the 16th. Rainfall one inch above the average, winds E. and N.E. The gale was from S.W. | 45·2 | 34·8 | 40·0 |
| FEBRUARY.—The Barometer was highest the beginning and end of the month and low in the middle. Beautiful bright sunny healthy days with cold frosty nights. Rainfall below the average. S. and S.W. winds predominated. | 47·8 | 33·3 | 40·5 |

| | <i>Mean Max.</i> | <i>Mean Min.</i> | <i>Mean Average</i> |
|---|----------------------|----------------------|-------------------------|
| MARCH.—Atmospheric pressure fairly even during the whole month. A cold month, frost on 15 nights in the screen and 19 on the ground. Rainfall an inch below the average. Winds W. and N.W., very little cold easterly March winds. | 52·0 | 34·2 | 43·1 |
| APRIL.—Barometer low during the month. Temperature below the average, generally damp, cold, and sunless. Rainfall 1 inch above the average. Winds S.S.W. | 52·8 | 38·8 | 45·8 |
| MAY.—The third successive May with a temperature below the average. Frost on two nights. Rainfall 1·24 inches above the average. Winds E. and N.E. until the 14th, then S.S.W. | 58·3 | 40·5 | 46·9 |
| JUNE.—High Barometer until the 17th, then uneven. The inch of rain which fell on the 18th and 19th was very acceptable, no rain having fallen for 24 days. Heavy thunderstorm on the 28th with vivid lightning. Rainfall below the average. | 71·8 | 49·8 | 60·8 |
| JULY.—Barometer high and even with the exception of a slight depression on the 12th and 13th. The weather was hot with a lot of sunshine. The maximum in the shade was above 80 degrees on 6 days. Rainfall 1·53 inches below the average. Winds S.E. and E. also N.W. | 72·3 | 54·8 | 63·5 |
| AUGUST.—A beautiful fine hot month, almost tropical. The maximum was above 80 degrees on 10 days, the highest reading was 88·3 on the 25th. Rainfall 2½ inches below the average; one thunderstorm bringing the much-needed rain at the end of the month. Prevalent winds E. and N.E. | 76·3 | 52·1 | 64·2 |
| SEPTEMBER.—The glorious summer weather which commenced at the end of May came to an abrupt termination the second week in September; the remainder of the month was wet, cold, and miserable. Rainfall ½-inch above the average. Winds W.S.W. | 63·9 | 47·1 | 55·5 |
| OCTOBER.—High Barometer. Temperature above the average, frost on 4 nights. Over an inch of rain fell on the 1st, then fine and dry to the 24th. S. and S.W. winds predominated. | 57·6 | 38·5 | 48·0 |

| | <i>Mean Max.</i> | <i>Mean Min.</i> | <i>Mean Average</i> |
|--|----------------------|----------------------|-------------------------|
| NOVEMBER.—An open mild November, with frost on 2 nights only, high winds on the 3rd and 4th, foggy in the middle of the month, especially thick on the 18th. Rainfall nearly an inch below the average. Winds S E and E. | 51 7 | 40 8 | 46 2 |
| DECEMBER —Barometer high until the 28th, then very low with heavy gale and rains. Temperature below the average, 21½ degrees of frost on the 13th and 15 degrees on the 27th, on the former date the ground showed 26 degrees. Prevailing winds E. and E. S E. | 39 3 | 29 3 | 34 3 |

I am, Gentlemen,

Yours obediently,

J. O. LITTLEWOOD, M.O.H., D.P.H.

